



# **Luxembourg**

## **An Emerging Cross-border Metropolitan Region**

**Christophe Sohn (ed.)**



P.I.E. Peter Lang

In the context of European integration, the relative opening of state borders offers new opportunities for border cities and regions no longer necessarily confined to the boundaries of national territories. The development of cross-border relations at the local and regional levels brings to the fore the emergence of cross-border metropolitan regions as privileged sites of territorial restructuring.

Drawing on the results of the METROLUX research project, this book examines the establishment of a cross-border metropolitan region in Luxembourg and its surrounding area. In the first section, the primary focus is on the economic and symbolic attributes that characterize the process of metropolisation and their potential advantages and limits. The second part of the volume investigates the cross-border interdependencies at work, principally in terms of home–work mobility. Finally, the third part analyses the governance initiatives undertaken and the power issues at stake in the political construction of a cross-border metropolitan region.

Primarily derived from research by geographers, this work combines conceptual reflection with empirical analysis and is a new contribution to the understanding of an atypical area of scholarship emerging from the geographic margins and the academic backstage.

***Christophe Sohn*** is a senior researcher at the CEPS/INSTEAD public research centre in Luxembourg and head of the research unit "Cross-border Metropolitan Integration". He holds a doctorate in urban geography from the University of Strasbourg.





# **Luxembourg**

## **An Emerging Cross-border Metropolitan Region**



P.I.E. Peter Lang

Bruxelles · Bern · Berlin · Frankfurt am Main · New York · Oxford · Wien



**Christophe SOHN (ed.)**

# **Luxembourg**

**An Emerging Cross-border  
Metropolitan Region**

Supported by the National Research Fund, Luxembourg (FNR/11/AM4/22).



Cover picture: Gérard Borre, [www.photonair.com](http://www.photonair.com).

No part of this book may be reproduced in any form, by print, photocopy, micro-film or any other means, without prior written permission from the publisher.

All rights reserved.

© P.I.E. PETER LANG S.A.

Éditions scientifiques internationales

Brussels, 2012

1 avenue Maurice, B-1050 Brussels, Belgium

[www.peterlang.com](http://www.peterlang.com) ; [info@peterlang.com](mailto:info@peterlang.com)

ISBN 978-90-5201-798-3

D/2012/5678/18

ISBN 978-3-0352-6124-0 (eBook)

Printed in Germany

*Library of Congress Cataloging-in-Publication Data.*

Luxembourg : an emerging cross-border metropolitan region / Christophe Sohn (ed.).

p. cm. Includes bibliographical references and index.

ISBN 978-90-5201-798-3 (alk. paper)

1. Metropolitan areas--Economic aspects--Luxembourg. 2. Municipal government--Luxembourg--International cooperation. 3. Globalization--Economic aspects--Luxembourg. 4. Luxembourg--Economic integration. 5. Borderlands--Luxembourg.
6. Luxembourg--Boundaries. 7. Regional economics. I. Sohn, Christophe.

HT334.L8L89 2012 307.76'4094935--dc23 2012002320

*CIP also available from the British Library, GB.*

Bibliographic information published by "Die Deutsche Nationalbibliothek"

"Die Deutsche Nationalbibliothek" lists this publication in the "Deutsche Nationalbibliografie": detailed bibliographic data is available on the Internet at [<http://dnb.de>](http://dnb.de).



# Table of Contents

<b>Lists of Tables, Maps and Figures .....</b>	<b>9, 10, 12</b>
<b>List of Abbreviations .....</b>	<b>13</b>
<b>Acknowledgements .....</b>	<b>15</b>

## **INTRODUCTION**

### **The Concept of the Cross-border**

<b>Metropolitan Region and its Relevance to Luxembourg.....</b>	<b>17</b>
---	-----------

*Christophe Sohn*

## **PART 1**

### **METROPOLITAN CENTRALITIES**

#### **CHAPTER 1**

<b>Regional Growth of the Knowledge Economy in Luxembourg.....</b>	<b>41</b>
--	-----------

*Olivier Walther*

#### **CHAPTER 2**

<b>Financial Services Clustering in Luxembourg City.....</b>	<b>65</b>
--	-----------

*Olivier Walther and Christian Schulz*

#### **CHAPTER 3**

<b>“Not always as sexy as New York...” International Perceptions and Representations of Luxembourg City.....</b>	<b>91</b>
--	-----------

*Ralf Bläser, Michaela Gensheimer and Christian Schulz*

## **PART 2**

### **CROSS-BORDER INTERDEPENDENCIES**

#### **CHAPTER 4**

<b>Mapping the Structuring of a Cross-border Metropolis. The Functional Urban Region of Luxembourg.....</b>	<b>119</b>
---	------------

*Antoine Decoville and Christophe Sohn*

#### **CHAPTER 5**

<b>Local Mobility and Cross-border Peri-urbanisation.....</b>	<b>141</b>
---	------------

*Philippe Gerber, Olivier Klein and Samuel Carpentier*

<b>CHAPTER 6</b>	
<b>Residential and Cross-border Mobility.</b>	
<b>A Catalyst of Social Polarisation? .....</b>	<b>161</b>
<i>Sébastien Lord and Philippe Gerber</i>	
<b>CHAPTER 7</b>	
<b>Metropolitan Regions and</b>	
<b>Cross-border Demographic Integration .....</b>	<b>185</b>
<i>Olivier Walther</i>	
 <b>PART 3</b>	
<b>GOVERNANCE STAKES AND STRATEGIES</b>	
<b>CHAPTER 8</b>	
<b>Governance of the Greater Region and</b>	
<b>Cross-border Metropolitan Management .....</b>	<b>207</b>
<i>Christian Lamour and Franz Clément</i>	
<b>CHAPTER 9</b>	
<b>The Role of City Networks</b>	
<b>in Cross-border Metropolitan Governance .....</b>	<b>229</b>
<i>Eric Auburtin</i>	
<b>CHAPTER 10</b>	
<b>The Challenges of the Spatial</b>	
<b>Development Policy in Luxembourg .....</b>	<b>249</b>
<i>Antoine Decoville</i>	
<b>CHAPTER 11</b>	
<b>Building a Cross-border Metropolitan Region.</b>	
<b>The Political Stakes of Scalar Restructuring .....</b>	<b>265</b>
<i>Christophe Sohn and Olivier Walther</i>	
<b>CONCLUSION</b>	
<b>Luxembourg, the Emergence of a Paradoxical Metropolis .....</b>	<b>279</b>
<i>Bernard Reitel</i>	
<b>References .....</b>	<b>291</b>
<b>Notes on Contributors .....</b>	<b>311</b>

## List of Tables

1.1	Manufacturing and services sectors .....	45
1.2	High-technology manufacturing and knowledge-intensive services sectors.....	48
1.3	Distribution of jobs by rank of urban units, 2005 .....	50
1.4	Persons in employment by category, 1994-2008 .....	51
1.5	Jobs linked to the knowledge economy, 1994-2008 .....	53
1.6	Employment linked to the knowledge economy by urban units, 2008 .....	54
1.7	Distribution of jobs by real place of work in Luxembourg City, 2005 .....	58
2.1	Concentration and dispersion forces .....	72
2.2	Evolution of employment in the financial sector, 2000-2007 .....	76
3.1	Publications and respective number of articles in the sample .....	94
4.1	Comparison of spatial units of analysis.....	123
4.2	Characteristics of the functional urban region as a function of the proportion of commuters, 2008 .....	126
4.3	Proportion of commuters and border effects, 2008 .....	127
4.4	Spatial expansion of the area of influence, 1994-2008 .....	132
4.5	Average distance between home and work of metropolitan and non-metropolitan commuters (in km) .....	138
5.1	The different geographical mobilities .....	144
6.1	Available data on salaried employees according to country of residence in 2002 .....	170
6.2	Residential movements of employees by country of residence in 2002 .....	172
6.3	Details of salaried employees who changed municipality of residence between 2002 and 2008 by country of residence in 2002 .....	173
6.4	Factors influencing residential mobility of employees working in Luxembourg and resident in the Greater Region .....	176
6.5	Factors influencing residential mobility of salaried employees working and residing in Luxembourg.....	178
6.6	Factors influencing the residential mobility of salaried cross-border commuters working in Luxembourg.....	181
7.1	Moran's I values, 1960-2000 .....	197
7.2	Moran's I values, 1960-1980, 1980-2000, and 1960-2000 .....	198
C.1	Stages in Luxembourg's economic development.....	283

## List of Maps

1.1	Employment by location of head office of enterprises and proportion of high-technology and knowledge-intensive employment, 2008.....	56
1.2	Location of jobs linked to the knowledge economy in Luxembourg City, 2005* .....	59
2.1	Location of the financial establishments in Luxembourg, 2005* .....	78
4.1	Commuter attraction area of the agglomeration of Luxembourg, 2008.....	125
4.2	Density of commuters working in the agglomeration of Luxembourg by place of residence, 2008* .....	129
4.3	Spatial expansion of the area of influence of the agglomeration of Luxembourg, 1994-2008* .....	131
4.4	Relative changes to density of commuters to the Luxembourg agglomeration, 1994-2008* .....	134
4.5	Place of residence of metropolitan commuters, 2008* .....	136
5.1	Net migration within the cross-border metropolitan region of Luxembourg, 2005-2008* .....	149
5.2	Main orientations of home/work flows, 2008 .....	155
5.3	Main orientations of residential flows, 2005-2008.....	157
6.1	Four working hypotheses on the residential mobility within the Greater Region .....	167
7.1	Cross-border demographic dynamics, 1980-2000* .....	194
7.2	Moran significance map for population growth, Luxembourg, Basel and Geneva, 1960-2000 .....	201
7.3	Moran significance map for population growth, Luxembourg, 1960-1980, 1980-2000, 2000-2008 .....	202
8.1	Territory of the Greater Region and urban polarity.....	208
8.2	Institutional powers and the area of cooperation within the Greater Region in 1980* .....	213
8.3	Institutional powers associated with Greater Region cooperation in 1995* .....	215
8.4	Areas of cooperation within the Greater Region, 2000-2006* .....	217
8.5	Areas of cooperation within the Greater Region, 2007-2013* .....	218

9.1 The Greater Region in its European context, 2003\* ..... 236

9.2 The QuattroPole and LELA+ city networks..... 239

10.1 Luxembourg from the point of view  
of spatial development: regional divisions and central places ..... 257

\* *See colour section.*

## List of Figures

1.1	Bibliographic research into cross-border metropolitan regions in SCOPUS .....	23
1.1	Employment at head office and place of work in Luxembourg and Esch-sur-Alzette, 2005 .....	46
1.2	Proportion of jobs linked to the knowledge economy by location of head office of enterprises, 1994-2008 .....	57
2.1	Evolution of the number of banks and of their balance sheets, 1960-2008 .....	75
2.2	Employment in the financial sector by nationalities, 1960-2007 .....	77
2.3	General advantages of a Luxembourg City location .....	79
2.4	General disadvantages of a Luxembourg City location .....	83
2.5	What would be the best location(s) if your enterprise should move? .....	85
2.6	Which types of firms do you have the most important inter-relationships with? .....	88
3.1	Temporal distribution of the sample .....	95
3.2	Thematic priorities of the articles.....	95
4.1	Change in the number of commuters as a function of territories constituting the area of influence of the agglomeration of Luxembourg .....	132
5.1	Residential mobility of those in active employment in 2005 and 2008 .....	146
5.2	People in active employment in 2005 and in 2008 and place of work .....	148
5.3	Residential balance of main towns, 2005-2008.....	150
5.4	Methodological insert.....	154
7.1	Density and distance from metropolitan centre.....	190
7.2	Densities between Luxembourg and Arlon, and Luxembourg and Lorraine, 1960, 1980, 2000 .....	195
7.3	Densities between Geneva and Pays de Gex, and Basel and Jettingen, 1960, 1980, 2000 .....	196
7.4	Rates of demographic growth between Luxembourg and Trier, 1960-1980 and 1980-2000 .....	199

## List of Abbreviations

BMVBS	Bundesministerium für Verkehr, Bau und Stadtentwicklung [German Ministry of Transport, Infrastructure and Urban Development]
CA2M	Communauté d’agglomération de Metz Métropole [Metropolitan Area of Metz]
CBD	Central Business District
CBPMR	Cross-border polycentric metropolitan region
CEO	Chief Executive Officer
CESGR	Conseil économique et social de la Grande Région [Economic and Social Committee for the Greater Region]
CES Lorraine	Conseil économique et social de Lorraine [Economic and Social Committee for Lorraine]
CPI	Conseil parlementaire interrégional [Interregional Parliamentary Council]
CSSF	Commission de surveillance du secteur financier [Committee on Financial Sector Supervision]
DATAR	Délégation interministérielle à l’Aménagement du territoire et à l’Attractivité régionale [French Interministerial Delegation for Territorial Planning and Regional Action]
ECSC	European Coal and Steel Community
EEC	European Economic Community
EGTC	European Grouping of Territorial Cooperation
ESDP	European Spatial Development Perspective
ESPON	European Spatial Planning Observation Network
EU	European Union
IFC	International financial centre
IGSS	Inspection générale de la sécurité sociale [General Inspectorate for Social Security]
INSEE	Institut national de la statistique et des études économiques [French National Institute of Statistics and Economic Studies]
IVL	Integratives Verkehrs- und Landesentwicklungskonzept [Integrated Transport and Spatial Development Concept]

M&A	Mergers and acquisitions
MERCOSUR	Mercado Comun del Sur [Southern Common Market]
MOT	Mission opérationnelle transfrontalière [Transfrontier Operational Mission]
NAFTA	North American Free Trade Agreement
OCSTAT	Office Cantonal de la Statistique [Cantonal Office of Statistics Geneva]
OECD	Organisation for Economic Co-operation and Development
PED	Pôle européen de développement [European Development Pole]
PFS	Professional of the financial sector
RFO	Regional Framework Operation.
SMOT	Schéma stratégique de mobilité transfrontalière [Transborder Mobility Strategic Scheme]
STATEC	Institut national de la statistique et des études économiques du Grand-Duché du Luxembourg [Luxembourgish National Institute of Statistics and Economic Studies]
UCI	Undertakings for collective investment



## Acknowledgements

The idea for this book emerged at the end of the METROLUX (2007-2009) research project dedicated to the analysis of metropolitan issues and forms of governance in Luxembourg and its bordering territories.

This project – coordinated by the CEPS/INSTEAD public research centre, and with the support of the *Fonds National de la Recherche* (FNR) – specifically examined the establishment of a cross-border metropolitan region. Its aim was to analyse the economic dimension of this process, via the metropolitan attributes specific to Luxembourg; its spatial dimension linked to the cross-border scale of the regional integration process; and its political dimension resulting from the necessity of finding modes of governance capable of meeting the challenges of metropolisation within a borderland context.

Drawing on the results of the METROLUX project, the book also integrates work carried out in other research programmes, with the aim of offering a varied and coherent analysis of the different aspects of cross-border metropolisation in Luxembourg. Primarily derived from the investigations of geographers, this work combines conceptual reflection with empirical analysis. It constitutes a new contribution to the understanding of an atypical object of scholarship emerging from the geographic margins and the academic backstage.

The creation of such a work is, by definition, the result of joint collaboration. I would therefore like to sincerely thank first of all my colleagues in Luxembourg, France and Germany, for having agreed to act as authors for this project. This book is above all the fruit of their research. My thanks are also due to Emilie Menz, the editorial director at P.I.E. Peter Lang for her support and patience. Thanks also to FNR for the granting of financial assistance to support this publication and to Pierre Hausman, director of CEPS/INSTEAD, for having agreed to pay for the translation of this work. Finally, I would like to warmly thank the public authorities in Luxembourg and abroad who agreed to provide the data necessary for our research, as well as the many people who have dedicated their time to answering our questions and sharing with us their experiences and analyses.

Christophe Sohn  
Luxembourg, July 2010



## INTRODUCTION

# **The Concept of the Cross-border Metropolitan Region and its Relevance to Luxembourg**

Christophe SOHN

The acceleration of the globalisation of economic and cultural exchange over recent decades has resulted in a profound restructuring of the geographical framework at the political and economic levels (Scott 1998). This spectacular spatial mutation has led to two distinct phenomena which are nonetheless interrelated.

Firstly, the concentration of people, resources and high-order services within large metropolises has been accompanied by a networking of these “global cities” to harness flows of labour, capital and information (Sassen 2001, Taylor 2004). Facing growth, international exchange and the arrival of a regime of flexible accumulation, the metropolises offer points of anchorage favourable to networks of commerce and communication. They constitute the new bases of the development of the information economy (Castells 1989), which are now organised as an archipelago (Veltz 1996). Such a spatial reorganisation of the economy and society leads to a redefinition of the traditional prerogatives of the state vis-à-vis the urban centres and a revival of cities – or more precisely metropolitan regions – as territorial actors (Brenner 2004, Le Galès and Harding 1998).

Secondly, the consolidation of regional integration mechanisms such as the EU and, to a lesser extent, NAFTA and MERCOSUR, has led to increased permeability of state borders in certain regions of the world. This relative opening up of borders has contributed to a larger process of territorial restructuring at different levels, of which the region is an essential one (Agnew 2000, Scott 2001). Such an increase in cross-border relations can be manifested in an intensification of economic exchange between bordering regions, the development of institutional cooperation or restructuring at the level of culture or identity (Perkmann and Sum 2002).

Despite the coexistence of the two phenomena – the close links they have with globalisation and the “new regionalism” that they promote –

they have different geographies and thus rarely confront each other. However, by taking the example of Luxembourg, which is characterised by the emergence of a cross-border metropolitan region, this study examines the intersection of these two dynamics. It aims to explain the connections between metropolisation and borders, as well as the characteristics of a spatial object that remains unrecognisable, despite being emblematic of the dialectical relations between the global and the local.

The first part of this introduction aims to specify the object of study by addressing the geographical realities that constitute it and critically examining the concepts used to understand it. While an attempt to summarise current thinking on the question remains incomplete, given the emergent character of the dynamics in question, it nonetheless allows for a better definition of the “cross-border metropolitan region”. In the second part, these conceptual considerations are used to analyse the nature of the phenomena of cross-border metropolisation occurring in Luxembourg and in the bordering regions and to examine the characteristics of these. The final part sets out the structure of the book and examines the individual contributions.

## **Origin and development of the concept of the cross-border metropolitan region**

Consideration of the issues surrounding cross-border metropolitan regions leads to reflection on the relations between the two objects that characterise the former: the city, in a broader sense, and the national border. As emphasised by the analyses of Saez, Leresche and Bassand (1997), as well as the work of Reitel *et al.* (2002), consideration of such a relationship is not only recent but in many ways counterintuitive. After presenting the foundations of this, this part attempts to describe the characteristics of the metropolitan phenomenon in a cross-border context. The analysis proceeds by means of an examination of the way in which the concept of the cross-border metropolitan region has been understood in academic literature. Finally, a definition of the concept is proposed.

### ***Between city and border: a relationship that is not self-evident***

As a component of the nation state, the border has long evoked the idea of periphery or outermost extremity, of closure and emptiness, while the city has always been associated with the idea of centrality (economic, political and cultural), of accumulation and connectedness. The approach to borders taken by regional studies, and economic geography referred to by Van Houtum (2000) as the “flow approach”, is emblematic of this vision, with borders seen as barriers generating

distortions in markets and border regions considered as economically disadvantaged areas that are not conducive to urban development. While from the point of view of political geography, the two objects bear the mark of state, their purposes differ: the border symbolises the limit of sovereignty while the city is part of the imposition of power (Reitel *et al.* 2002).

These classical understandings refer to a spatial reality in which the border zone is a marginal space from the point of view of economic and social development (see in particular Christaller 1933 and Lösch 1940). This situation is associated above all with the desire of states not to develop economic and social systems at the margins of their territory that are difficult to control and likely to generate covetousness (Saez and Bassand 1997). To this can be added the military imperatives that confer on borderlands the status of military buffer zones (Foucher 1991). These conditions, which accompanied the formation of modern states from the 16<sup>th</sup> century onwards, explain why the major cities and, *a fortiori*, the capital cities, are only rarely located close to an international border. While borders are generally not highly urbanised, two exceptions should be noted. First, there are cities that predate the establishment of a border and some of these have been able to benefit, legally or illicitly, from cross-border differentials and advantages they have been able to extract in order to develop and become relatively important urban centres (for example, Basel, Lille and Geneva). Second, there are border towns that have been created *de novo* by state decree. Numerous fortified locations have thus been built in order to strengthen the defensive function of a border and proclaim the power of a sovereign state (Denys 2002). In some cases – although these are rare – the creation of a border town following the imposition of a new border was done for economic or administrative reasons and not strictly military ones (such as Haparanda on the Sweden-Finland border). Whatever their origin, all the border cities remain places that are not only located close to a border but also are dependent on the border for their very existence (Buursink 2001).

### ***New articulations resulting in a shift in perspective***

Following the relativisation of the role of the state in economic and social regulation, and the exercise of political power (Jessop 2004), new perspectives have arisen regarding the relationship between city and border. The development of functional urban systems, though discontinuous, is no longer limited by national borders but rather increasingly concerns multi-national areas (Herzog 1990). This involves an effect linked to the opening up of borders and the intensification of economic and cultural relations. The border has changed from a “barrier” to an “interface” or “junction” (Strassoldo 1970, Courlet 1988, O’Dowd

2003) and the border regions have thus changed from being areas disadvantaged by their peripheral location to being potentially prosperous zones of socio-economic contact (Hansen 1977, Ratti and Reichman 1993, Martinez 1994, Clement 1997, van Geenhuizen and Ratti 2001). For the cities, this porosity of state borders – with regard to the circulation of goods, capital, services and people – constitutes an opportunity to take advantage of cross-border differentials (in particular in relation to tax and regulation) and to exploit the positive benefits that these represent for firms and workers. These changes occurred in different parts of the world over recent decades, but according to different time frames and modalities depending on the geopolitical and regional contexts. While the perspective arising from open borders is still particularly relevant in Europe, the post 9/11 rebordering process and the present border security regimes in North America have made it more difficult for stakeholders to take advantage of the borders and their differentials.

Within the EU, the rise of transborder urban spaces has led to cooperation that uses the border to strengthen the links between neighbouring countries and develop new modes of governance. Initially, these cross-border arrangements were conducted at the level of cross-border agglomerations and helped to resolve the local problems resulting from the proximity of the border such as trans-shipment within transportation systems or planning a joint infrastructure. It is only since the start of the 1990s that formal cross-border cooperation on a metropolitan scale emerged, in particular around European cities such as Basel (*Eurodistrict Trinational de Bâle*), Geneva (*Projet d'Agglomération franco-valdo-genevois*), Copenhagen-Malmö (Øresund Committee) and Lille (Lille-Kortrijk-Tournai Eurometropolis). The development of these formal arrangements is linked to the promotion of legal tools and financial incentives dedicated to cross-border networking (e.g. INTERREG). Cross-border metropolitan cooperation involves not only a change of scale, but also a change of register as the strategic functions of metropolises such as economic competitiveness, the strengthening of the interconnections of major transport networks, territorial planning and international influence are concerned.

The existence of a metropolitan dimension to certain border regions has also been taken into account by the states in their regional development policies and strategic visions. In many cases, this has involved a complete reversal of perspective in that the national authorities responsible for spatial planning had long considered the national borders to be an insuperable limit. Thus, in France, the Interministerial Delegation for Territorial Planning and Regional Action (Délégation interministérielle à l'Aménagement du territoire et à l'Attractivité régionale, DATAR) has included eight cross-border metropolises (out of a total of 16 sites)

within its call for metropolitan cooperation launched in 2004 and intended to consolidate the influence of French metropolises at the European level. In a similar way, the German Ministry of Transport, Infrastructure and Urban Development (*Bundesministerium für Verkehr, Bau und Stadtentwicklung*) has developed a planning strategy for the country that includes a section dedicated to metropolitan areas and promotes the development of cross-border metropolitan networks (BMVBS 2011). In Switzerland, the Federal Statistical Office recognises two cross-border metropolitan areas in its territory: Geneva-Lausanne and Basel. Last but not least, and relevant for this book, the Luxembourgish government and its regional partners within the Greater Region (Lorraine, Rhineland-Palatinate, Saarland and Wallonia) have also decided to promote the development of a cross-border polycentric metropolitan region (see Sohn and Walther, Chapter 11). To these state initiatives aiming to foster the economic competitiveness of these new peripheral centres, one should add the interest that central governments have in maintaining a certain level of control over their border regions undergoing the process of metropolisation.

The cross-border metropolitan regions are also subject to growing interest from the European bodies that see them as new economic and political units able to address specific issues in terms of governance. While the European Spatial Development Perspective (ESDP) does not specifically target cross-border metropolitan regions, the strategic orientation document does state that “co-operative cross-border city networks can provide a means of overcoming development disadvantages in border areas” (European Commission 1999: 21). More recently, the issue of cross-border metropolises has been addressed in a specific way within the framework of the EU’s programmes promoting territorial cooperation. It must be noted that in relation to the objective of promoting a polycentric Europe, the cross-border metropolitan regions represent new zones of global economic integration able to counterbalance the economic hegemony of the “pentagon”: the space between London, Hamburg, Munich, Milan and Paris, which includes almost 32% of the population and 43% of the GDP of Europe. For the European Spatial Planning Observation Network (ESPON), this interest is reflected in particular in the launch in 2009 of the METROBORDER project, which aims to improve the governance of polycentric metropolitan regions in Europe and in particular within the Upper Rhine and the Greater Region.

In summary, it should be emphasised that alongside economic and social interactions, political initiatives and their spatial manifestations, the emergence of cross-border metropolitan regions also takes place as for any spatial object as a discursive construction (Mondada 2000).

After this brief presentation of some elements of the discourse of the actors responsible for spatial development and its planning, a closer examination of the way in which cross-border metropolitan regions are understood within the academic discourse is necessary.

### ***The place of cross-border metropolitan regions within academic discourses***

An attempt to trace the emergence, development and place within the academic literature of a spatial concept leads to the delicate question of the relationships between a set of geographical configurations that share a certain number of joint characteristics, the way in which it is understood and the words used to refer to it. A comparative examination of these elements and their interaction allows some details to be discerned about the construction (which remains ever incomplete) of an object of knowledge. It is also necessary to use a body of publications representative of the richness of scientific work and remain aware that such an exercise must inevitably remain subjective.

A systematic bibliographic analysis based on SCOPUS data relating to the notion of the “cross-border metropolitan region” leads to an initial observation that the publications that understand this as a separate spatial category remain rare; there have been just 11 since 1990 (see figure I.1). Of these, attention should be given to the pioneering work of Herzog (1991) with its notion of the “cross-border metropolis”. As a comparison, the older concept of the border city is present in 89 publications. However, articles concerning the process of the urbanisation of border zones and the resulting problems in terms of transportation, spatial planning and the environment are much more numerous (n=136). However, in the majority of cases (n=111), the cross-border context is associated with a generic understanding of cities, which covers highly disparate urban realities, from border towns to major metropolises. The limited number of studies on cross-border urban regions as a spatial object is reflected in the absence of a specific term. However, such a lexical variation must be interpreted with care. In certain cases, this reflects primarily the existence of differences in discursive practices within socio-cultural networks of thought (Bailly 1999). While the Europeans speak readily of the “metropolitan region”, Anglophone researchers have generally preferred the term “city region”, which, at this level of analysis, refers to the same thing. In other cases, differences of vocabulary reflect objectively distinct geographical realities, in particular in relation to the size of the cities in question. It is true that a small metropolis with several thousand inhabitants such as Basel, Geneva or Luxembourg must be distinguished from megacities such as Hong Kong, Singapore or San Diego-Tijuana, which exert



influence over transnational sub-systems of several million inhabitants, despite the existence of a common denominator to these two categories of objects associated with the presence of national borders.

**Figure I.1 – Bibliographic research  
into cross-border metropolitan regions in SCOPUS**

The bibliographic searches were based on articles and reviews published since 1970 in social and human science publications indexed by SCOPUS (over 5,300 titles). The results reflect the situation as of December 2009.

The first analysis was based on the concept of the “cross-border metropolitan region” as a spatial object. The aim was thus to identify publications that make explicit use of this term or a set of terms using synonyms or related words. In the absence of the specific term, it was necessary to expand the searches to include all the expressions commonly used. Thus, the cross-border dimension was included via three terms: *cross-border*, *transborder* and *transfrontier*. In the same way, the concept of “metropolitan region” was addressed using five different terms: *city region*, *metropolitan area*, *metropolitan region*, *urban region* and *metropolis*.

The second analysis aimed to document the existence of academic articles relating to a process of urbanisation or metropolisation of cross-border regions using the co-existence of the terms cited above within a single publication. In this case, it was not the “cross-border metropolitan region” as a spatial object being investigated but rather the consideration of a context.

While the SCOPUS bibliographic database includes publications in various languages, the searches used only the English terms. As all references indexed in SCOPUS include abstracts and keywords in English, the linguistic bias is limited. Furthermore, in order to prioritise those publications that are most relevant to the issues examined, the searches used only titles, abstracts and keywords.

An examination of the geographical foundations of studies carried out shows a tendency towards diversification in terms of case studies. From 1980-90, the cases of Geneva (Switzerland-France) and Basel (Switzerland-Germany-France) in Europe, and El Paso-Ciudad Juarez (United States-Mexico) and San Diego-Tijuana (*ibid.*) in North America, primarily drew the attention of researchers (see Bailly 1987, Scott 1989, Gildersleeve 1978 and Herzog 1990). These are the most striking examples of cross-border economic integration: the concentration of capital industry and tertiary activities within urban border regions, accompanied by a growth in cross-border flows of workers, goods and information. In the case of the Swiss agglomerations, this economic and social interdependence gave rise to the development of cross-border alliances, which conferred to these areas the role of a laboratory for territorial and institutional restructuring at the margins of states (Leresche, Joye and Bassand 1995, Lotscher 1991, Jouve 1996). Over the following decade, the number and diversity of case studies increased, taking into account the reinforcement of cross-border metropolitan integration and the interest aroused by this phenomenon. In

Europe, the cross-border cooperation taking place in Copenhagen-Malmö (Denmark-Sweden), Lille (France-Belgium), Strasbourg (France-Germany) and Vienna-Bratislava (Austria-Slovakia) were the object of academic studies (see Hansen and Serin 2007, Baert 2008, Reitel 2006, 2007, Jasso 2007). In North America, the case of Detroit-Windsor (United States-Canada) was added to the potential cross-border metropolises located on the border between the US and Mexico (Brunet-Jailly 2000). Finally, in Asia, certain studies of the city-states of Hong Kong and Singapore also participated in this trend (Chen 2005, Fau 1999). For the former, the intensification of economic relations with mainland China, and the new perspectives in terms of cross-border cooperation in the Pearl River Delta, allow the emergence of a “cross-boundary global city region” to be observed (Shen 2004, Yang 2005, 2006). In the second case, the establishment of cooperation between Singapore, Johor (Malaysia) and the Riau archipelago (Indonesia) from 1989 onward gave birth to a cross-border economic region known as the “Sijori Growth Triangle” (Van Grunsven 1995).

In conclusion, it should be emphasised that the increase in the number and diversity of analyses relating to cross-border metropolitan regions certainly reflects a strengthening of transborder urban space integration in different parts of the world. The growth of these studies also reflects increased interest in the areas formerly considered as peripheral which, in accordance with changes resulting from globalisation and efforts to construct cross-border polities, are now seen in a new light. That said, given the variety of case studies and the concepts used to address them, the academic discourse appears to be somewhat confused, which ultimately poses the question of how clarification of the concepts used can be achieved.

### ***The usefulness of defining the “cross-border metropolitan region”***

Given a multifaceted object for which it is not easy to see the totality of possible configurations, nor the meaning that these should be given, it is debatable whether a definition can be elaborated. Would it not be better to leave the area of discussion open in order not to risk excluding certain phenomena of potential interest? Furthermore, how can one take into account the diversity of configurations and contexts in a definition that would necessarily render thought more rigid? While such arguments have good grounds, they are nevertheless strictly limited in their ability to place the object within a larger framework in order to analyse its specific characteristics. Indeed, offering a definition allows one to understand both that which is shared and that which proves different (Lévy 1997). In our approach, the differentiation relates to two different

levels. First of all, there are differences between cross-border metropolitan regions and other urban configurations – in other words the specificity of the object and the interest in its study. Second, there are differences between case studies that lead us to investigate in the second part of this introduction the characteristics unique to Luxembourg as a cross-border metropolitan region.

In his pioneering work on San Diego-Tijuana, Herzog defines the cross-border metropolis as an “urbanized area fused into a single functional spatial domain that transcends the international border” (Herzog 1990: 139). This definition constitutes a good starting point. It takes into account the change of scale in the assessment of the urban space and adopts a dynamic understanding of the process at work. Such an approach appears, however, insufficient to evaluate the specific character of the complex object that is the cross-border metropolitan region. On the one hand, its descriptive dimension linked to a particular case study does not appear able to integrate the full diversity of existing spatial configurations. The geographical form of cross-border metropolitan regions can be subject to great variations as a function of monocentric or polycentric configurations of a region, the position of a border in relation to the metropolitan centre or centres and the scale of the urban system in question (metropolis or megalopolis), (see in particular Vandermotten 2010). On the other hand, this focus on form does not tell us much about the processes at work and their underlying mechanisms.

In order to explain the nature of the object, some additional considerations must be raised. On a global scale, a cross-border metropolitan region is a dense arrangement of knowledge, capital and labour, functionally integrated within the world economy and its transnational networks. Such global embeddedness is reflected by the concentration of metropolitan functions such as decision-making and control (regulation), innovation and competition, gateway and symbolic activities (Akademie für Raumforschung und Landesplanung 2007, Korcelli-Olejniczak 2007). On a regional scale, a process of cross-border integration is at play. According to Lee (2009), integration is defined as “the creation and maintenance of intense and diverse patterns of interaction and control between formerly more or less separate social spaces”. Before moving forward, three clarifications must be made. First, the interactions that underlie cross-border regional integration are not limited to the economic sphere, but also concern other flows or transactions like migration, political trust, institutional ties, cultural exchanges (Väyrynen 2003). Second, the existence of such interaction across a border does not necessarily mean that the territories converge. Some relationships can be highly asymmetric and can be fed by strong differentials. If the possible convergence of the territories that interact across

the border should be considered insofar as it raises the issue of their social and territorial cohesion, this dimension is not a prerequisite for defining a metropolitan region, whether domestic or cross-border. Third, the existence of strong functional interactions does not necessarily result in strong institutional integration (Sohn, Reitel and Walther 2009). Also, the creation of formal cross-border institutions or political alliances may take place despite relatively weak economic interdependencies or functional exchanges. As for any region, cross-border metropolitan regions are politically and socially constructed (Perkmann 2003).

However, what makes the object specific is the active role of the border in the coupling between the different scales of integration at play described above. The central hypothesis that underlines our thought is that the relative opening of borders represents new opportunities for border city-regions to reinforce their position into the global economy and strengthen their cooperative regional identity. While it is of course not a matter of minimising the barrier effects and the obstacles that borders can give rise to, it is necessary to recognise, following Hansen (1977, 1981), that the border context may also offers advantages. At the economic level, the exploitation of a border can strengthen the competitiveness of the metropolis via utilisation of differentials (especially in terms of salary costs and fiscal regulations) in a context marked by the relative porosity of borders and their increased permeability in terms of goods, capital, services, knowledge and people. The border can also represent a political resource for the actors in border regions engaged in the construction of territorial coalitions and alliances that transcend institutional divisions and offer them new perspectives. Finally, the resource can be symbolic in nature, when the border is used as an object of recognition in order to strengthen the international image of the metropolis and its influence (Reitel 2006, Sohn 2010). On the basis of these considerations, a cross-border metropolitan region can be defined as a region-level urban configuration inserted into the networks of globalisation and whose economic, cultural or political structuring is significantly linked to the existence of cross-border interactions.

Focusing on the case of Luxembourg and its surrounding territories, the analyses developed in this book will mainly address the economic and political dimensions of the process of cross-border metropolitan integration.

## **Luxembourg: a cross-border metropolitan region?**

Seeking to analyse the phenomenon of cross-border metropolisation using the example of Luxembourg may lead to surprises. The approach thus requires several clarifications. With some 90,000 inhabitants, Luxembourg is not one of the major European cities. However, the

city's international influence and economic attractiveness far exceed those that would be predicted on the basis of its limited number of inhabitants. Of the 180 agglomerations included in the comparative analysis of European cities, Luxembourg takes the 51<sup>st</sup> place (Rozenblat and Cicille 2003). In his analysis of global city networks based on relations between advanced producer service (APS) firms, Taylor (2000: 15) refers to "relatively strong evidence of world city formation" for Luxembourg.

First, we attempt to find out a little bit more about the origin of the metropolisation of Luxembourg and its specific characteristics. This initial investigation of the cross-border metropolitan region leads us to then question the relevance of the concept of metropolis to the case of Luxembourg. The final part will examine the role of borders within the dynamic of metropolisation and the resulting challenges.

### ***A process of cross-border metropolisation driven by the state***

The emergence of the metropolitan functions that allowed Luxembourg to insert itself into global and financial economic networks originated in the 1970s when the state, anxious to deal with the expected decline in the traditional steel industry, decided to attract financial institutions via attractive tax and regulations (Bauler 2001). In a post-industrial world increasingly subject to the vagaries of global commercial flows, it appeared to the country's rulers to be essential to develop service activities and gain access to external markets, and finance appeared an effective means of doing this. The success of this niche policy was reflected in economic growth greatly above the average of European countries and was accompanied by strong specialisation in financial services for businesses. In 2005 the financial sector alone accounted for 19% of domestic employment, 31% of tax intake and 38% of the added value (Deloitte 2006). As the main beneficiary of this concentration of the activities most susceptible to agglomeration, Luxembourg City became home to the majority of knowledge-intensive jobs. The economic attractiveness of the city centre is such that Luxembourg City is today one of the rare European urban centres to have a ratio of jobs to residents of over 1.5. As the national capital and the home of such European institutions as the Court of Justice, Court of Auditors and the European Investment Bank, the city can also boast a central political and symbolic role that gives it a certain status on the international stage (see Trausch 1994, 2003).

Centred on the urban agglomeration of Luxembourg, the metropolisation is above all a matter of the state and not of the capital city, which plays only a secondary role within this process (Sohn and Walther 2009). It is the state, on the strength of its sovereign power, that is at the

origin of the development of the metropolitan functions. Financial services, insurance, logistics and, more recently, research and development, are strategic sectors that benefit from consistent political support from the central government. It is also the state that pilots urban planning measures intended to give the city both functional and symbolic metropolitan attributes. The development of the Kirchberg Plateau – which houses the European district, the Central Business District and, more recently, Luxembourg's major cultural infrastructural projects such as the Museum of Modern Art (MUDAM) and the Philharmonic concert hall – was planned and implemented by the state via an urban development fund. This influence of the state can also be seen in the development of the cultural influence of the capital, as shown by the organisation of the Luxembourg and Greater Region European Capital of Culture 2007 event. The initiative in giving this event a cross-border dimension by involving the Greater Region was taken by the Luxembourgish Prime Minister in order to strengthen the city's role as a cultural centre on the regional and European level (Sohn 2009a). This predominant role of the state within the process of metropolisation should be seen in the context of the territorial situation of Luxembourg. The small size of the country (2,586 km<sup>2</sup>) and the proximity of the national and local scales serve to reinforce the state's capacity for action. In addition, the overlapping political nature of a bi-polar territorial structure (local and central governments) and the institutional fragmentation do not favour the autonomy of the country's 116 municipalities (Decoville 2008). In the absence of inter-municipal cooperation, the city, confined within its administrative limits, has only limited room for manoeuvre. The City of Luxembourg's status as national capital is accompanied, as is usual, by closer state supervision than applies to other cities.

***An emerging “metropolis”,  
or the predominance of process over form***

Use of the term “metropolis” (“*métropole*”) brings up first of all the delicate question of the definition of a “model which has not yet reached maturity” (Lévy 1995: 57). Etymologically, the term means the “mother city, founder of colonies.” This meaning thus refers to the notion of a centre that controls and influences a large area. In practice, the term has long been used to refer to the main city of a country or region: an economic and administrative capital. This initial observation leads to two traditional meanings. The first relates to the functions of command and control concentrated in metropolises, which thus constitute their essential element. This concerns both decision-making functions relating to economic and cultural activities, reflected in the concentration of com-

pany headquarters and higher services, and the presence of a political and administrative authority such as a national or regional government. The second meaning, which follows from the first, emphasises the criterion of demographic size and is based on the observation that the larger the city, the greater its territorial influence will tend to be. The explanation relates to the fact that the advantages conferred by a metropolitan setting (size of local market, economies of urbanisation) lead to a significant concentration of the functions most susceptible to agglomeration in the largest cities (Fujita and Thisse 2002).

In light of these meanings, the case of Luxembourg appears at first glance to be problematic. While the growth of the financial centre and the presence of European institutions indicate a concentration of high value-added activities and command powers within the capital, this centralisation of metropolitan functions nonetheless fails to mask the fact that Luxembourg City does not have all the characteristics of a metropolis. The city does not have all the functions that are shared by the major metropolises, and the activities relating to culture and innovation appear to be behind, despite efforts in recent years to strengthen these strategic areas. In terms of demographic size, the agglomeration of Luxembourg, with its 130,000 inhabitants, is far from reaching international standards, with most authors agreeing that critical mass is reached at 500,000 to one million inhabitants (see Lacour and Puissant 1999). However, the size of a metropolis is necessarily relative to the dimensions of the country in which it is located (Pumain *et al.* 2006). Thus, qualification as a metropolis can vary as a function of the geographical and historical context within which an urban framework is found. Is it then necessary to consider Luxembourg as a special case?

On reflection, it is not so much the specificity of the case that raises a question but more the conceptual framework used to understand it. While the concept of metropolis remains associated with major urban agglomerations (from the mother city in ancient Greece to the large post-industrial city), the concept of metropolisation as a “contemporary form of the process of urbanisation” (Ascher 2003: 614) is much more fertile. It is ultimately a question of a process. Following Krätke (2007: 5), “metropolisation is a paraphrase for the increasing concentration of economic development potentials of the research-intensive industries and knowledge-intensive services on metropolitan regions and urban agglomerations”. Over the course of globalisation, metropolisation does not restrict itself to the main urban centres but also concerns smaller urban entities (Julien 1995a). From this point of view, the case of Luxembourg underlines the limited interest of approaches that focus on population thresholds or the presence of activities and services that make a city into a metropolis, putting the emphasis instead on the

economic, political, cultural and territorial dynamics that underlie the process of metropolisation.

To speak of metropolisation is above all to emphasise the ability of certain cities to adapt to the imperatives of globalisation and their insertion into globalised economic networks. It is also to emphasise the idea that being a metropolis is not a fixed and immutable characteristic but is rather subject to risk and possible alteration towards new forms of spatial structuration, on the basis of socio-economic, geopolitical or technological transformations. Given the incomplete nature of Luxembourg's metropolitan status, it is necessary to stress the still uncertain aspect of the dynamics at work. The very high specialisation of functions could represent a risk, as the durability of the activities driving growth is not certain over the medium and long term. Facing the uncertainties of a globalised economy, the metropolis is built up over the long term on the basis of feelings of belonging, shared values and reputation. Finally, mention of the term metropolisation is used to underline transformation of the forms and scales of urban spaces with the dilution of the urban areas beyond the built-up agglomeration contributing to the formation of huge functional ensembles (Ascher 1995).

### ***Borders as resources for metropolitan development***

In Luxembourg, metropolisation is accompanied by heavy functional integration of the German, Belgian and French bordering areas. Driven by the needs of a fast-growing financial sector, a heavy influence has been exerted over peripheral areas since the 1980s, in particular via the recruitment of cross-border workers. While there were less than 12,000 such workers in 1980, the number of employees from Lorraine (France), Rhineland-Palatinate or Sarreland (Germany) and Wallonia (Belgium) reached 146,000 in 2008 (STATEC 2009a). This cross-border mobility linked to employment is remarkable, both in absolute terms and in relation to the number of jobs available, as 44% of salaried positions in Luxembourg are occupied by cross-border workers. As a comparison, there were 52,600 cross-border workers in Geneva in 2008 and 40,000 between San Diego and Tijuana in 1998 (OCSTAT 2009, Bae 2003). When one examines the whole of the functional area of the agglomeration of Luxembourg defined on the basis of home-work commuters, the functional urban region includes almost a million inhabitants, which is almost double the population of the country (see Decoville and Sohn, Chapter 4).

In addition to the cross-border dimension of the metropolitan region, the decisive role of national borders within the dynamics of economic integration at work should also be underlined. The proximity of the borders allows Luxembourg to recruit skilled workers without having to