

Conference of the Hungarian Regional Science Association

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Spatial integration of Central Eastern European cities through air transportation, multi-national companies and trade network links since 1989

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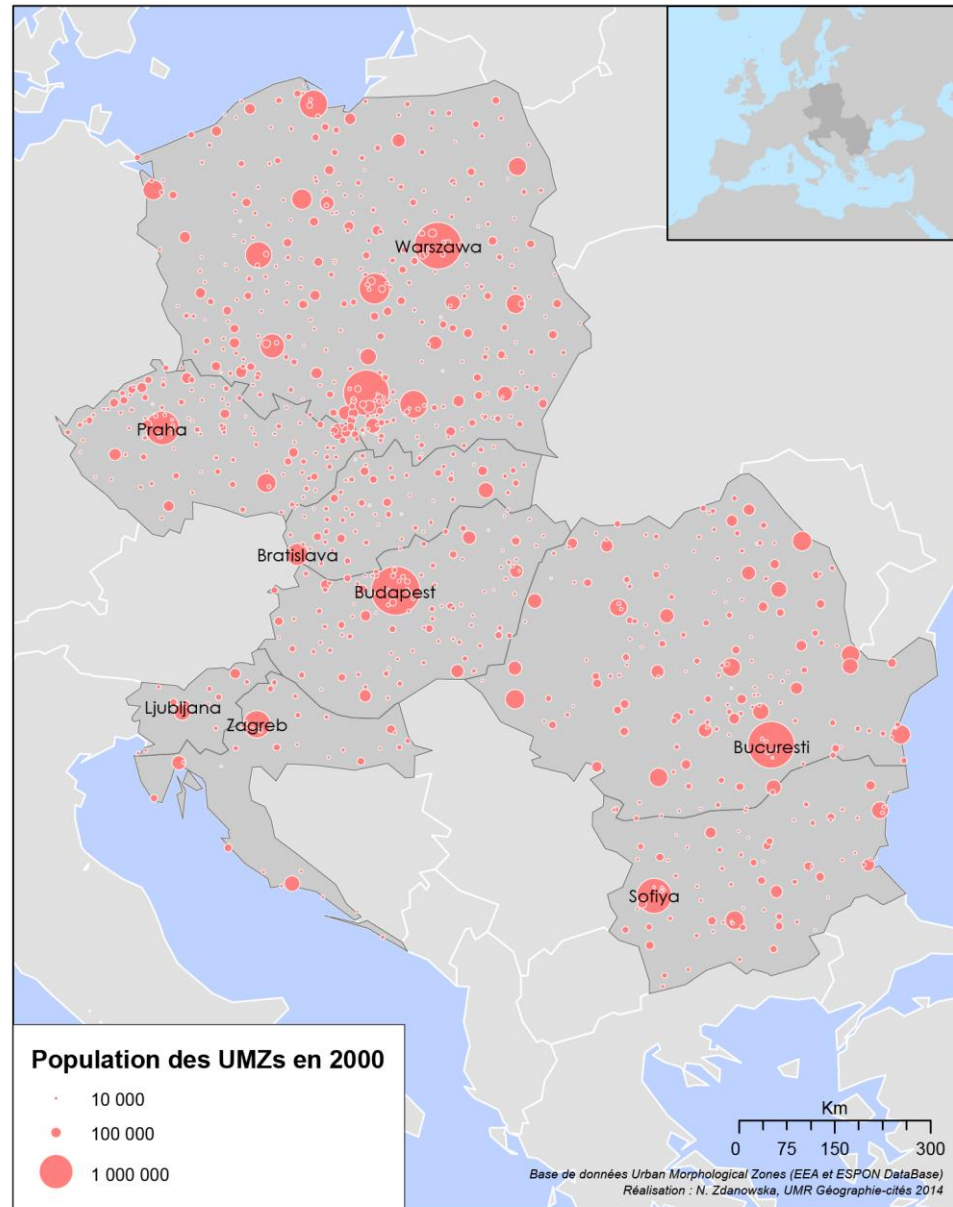


Thesis project

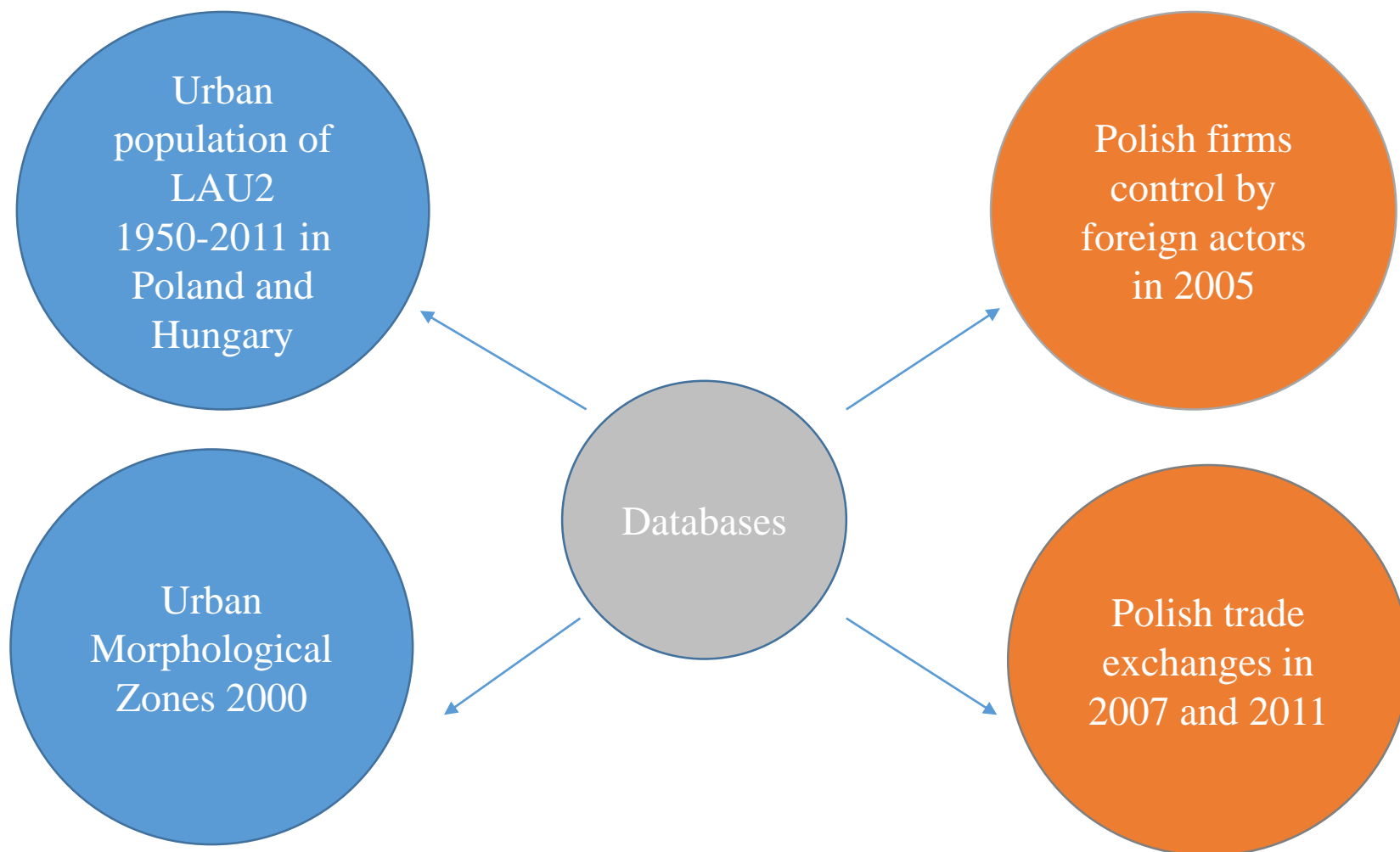
Problem: How post-socialist cities, part of the European Union since 2004, have adapted to their new geographical and economic situation after 1990, bearing in mind the seemingly permanent changes to the map of Europe during the XXth century?

- **Purpose:** Evaluate Central Eastern European cities' levels of integration or implementation regarding spatial interactions with other worldwide cities (Pumain et Saint-Julien, 2001), marked by air transportation, trade and multi-national company networking in the last twenty years.
- **Three main entries for analysis:** Population, multinational firms/trade and air flows.
- **Methodology:**
 1. Top-down approach (using harmonized databases)
 2. Bottom-up approach (exploitation of databases elaborated by national experts)

Urban Morphological Zones in 2000



Methodology



I. Population

1. Construction of a multi-communal definition of agglomeration

➤ Main concern: build an evolutive database

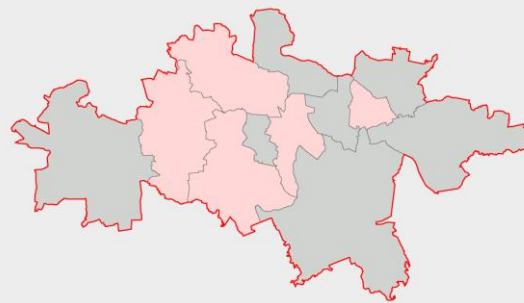
Retropolation of agglomerations in 2000



■ LAU 2 (gminny) composant l'UMZ en 2002
□ Délimitation de l'UMZ

Time t

One UMZ in 2000



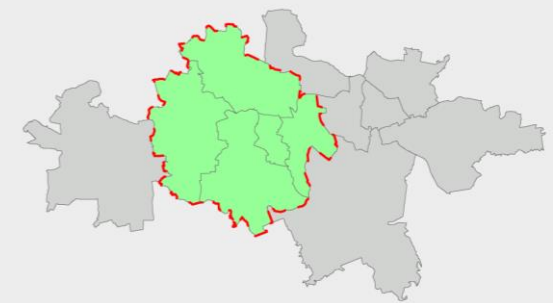
■ LAU 2 (gminny) composant l'UMZ en 2002
■ LAU 2 correspondant au critère

METHODE

Sélection de certaines LAU2 composant l'UMZ selon un critère (seuil de population, de densité, etc.).

Time t-1

Selection of urban communes



■ LAU 2 incluses dans l'UMZ rétropolée
□ Enveloppe définitive de l'UMZ rétropolée

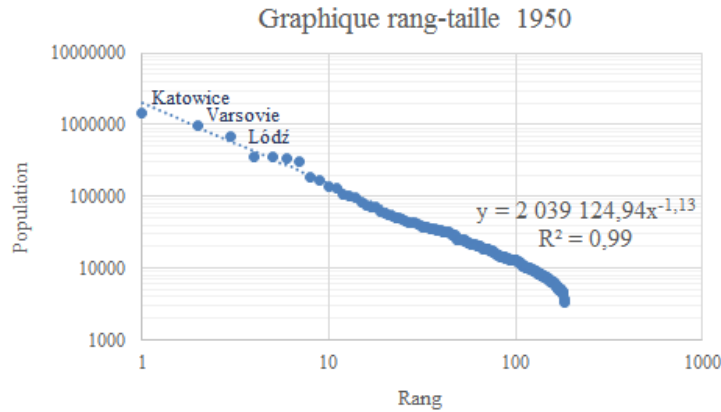
METHODE

Somme des populations contenues dans l'enveloppe de l'UMZ rétropolée, délimitée lors de l'étape précédente.

Time t-1

Aggregation of communes in one UMZ in 1960

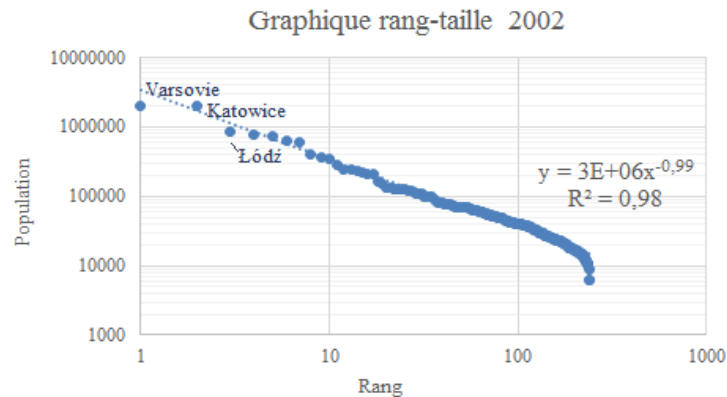
Urban hierarchy analysis



Zdanowska, N., 2014, UMR Géographie-Cités

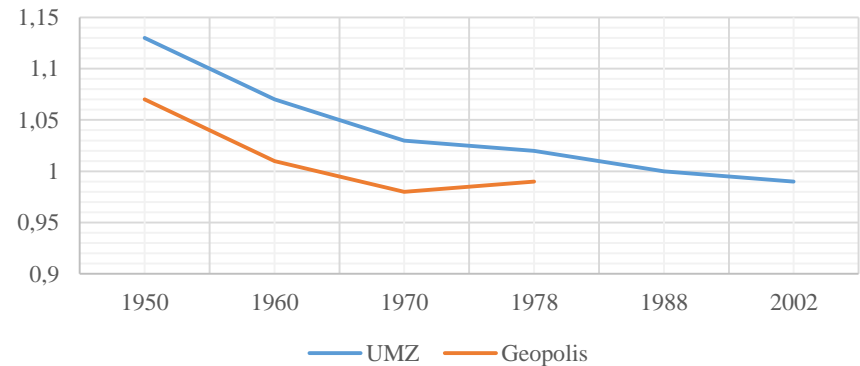
UMZ retropolated database			Geopolis database *		
	Slope value (absolute value)	R ²		Slope value (absolute value)	R ²
1950	1,13	0,99	1950	1,07	0,99
1960	1,07	0,98	1960	1,01	0,99
1970	1,03	0,98	1970	0,98	0,99
1978	1,02	0,98	1980	0,99	0,99
1988	1,00	0,98			
2002	0,99	0,98			

** Moriconi-Ebrard, F., 1994*



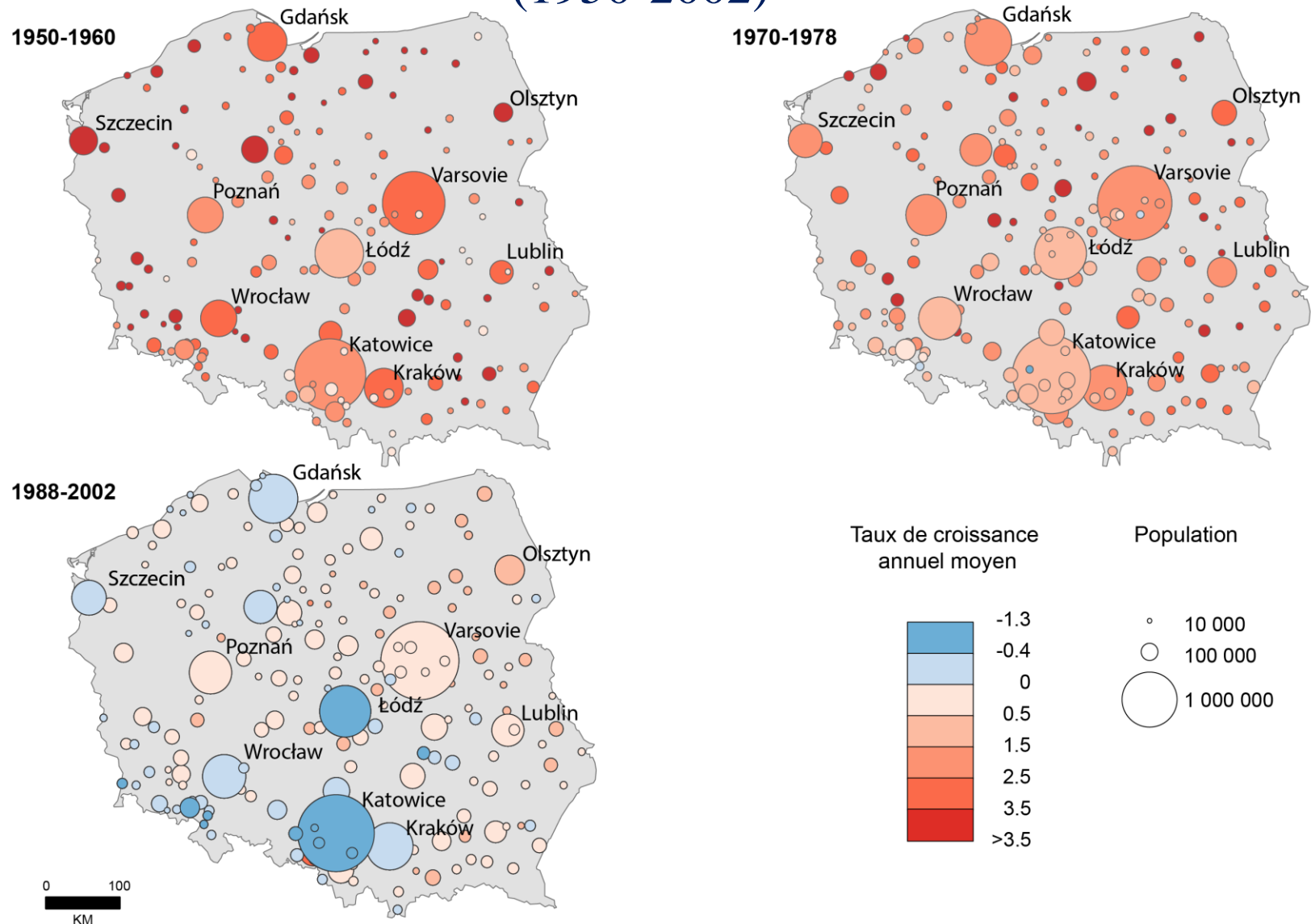
Zdanowska, N., 2014, UMR Géographie-Cités

Evolution of the regression line slope value (in absolute value)

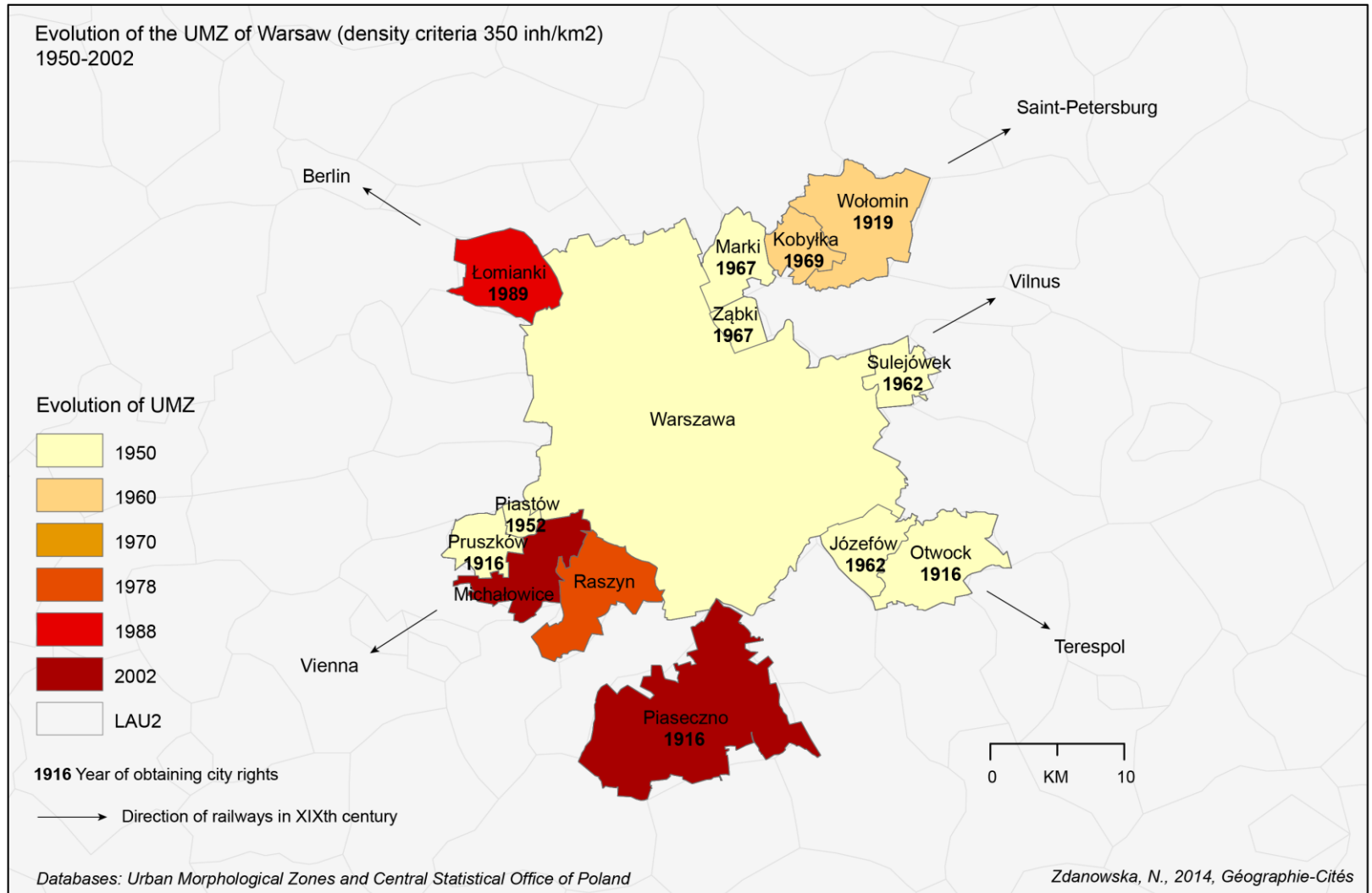


Source: *Urban Morphological Zones 2000* (Agence Européenne de l'Environnement); data of the Central Statistical Office of Poland

Average annual growth rate of retropolated polish UMZ superior to 10 000 inhabitants (1950-2002)

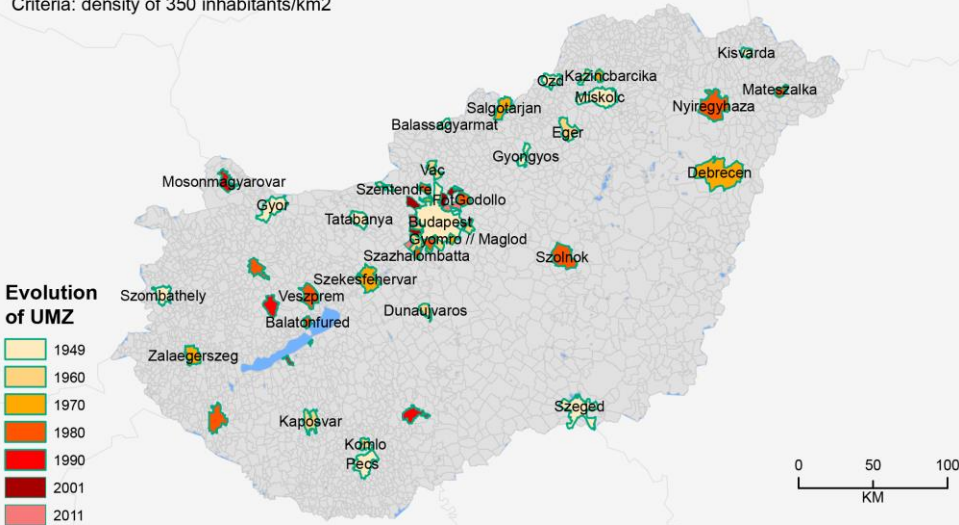


Database confirmation



Hungary: first results (to be confirmed)

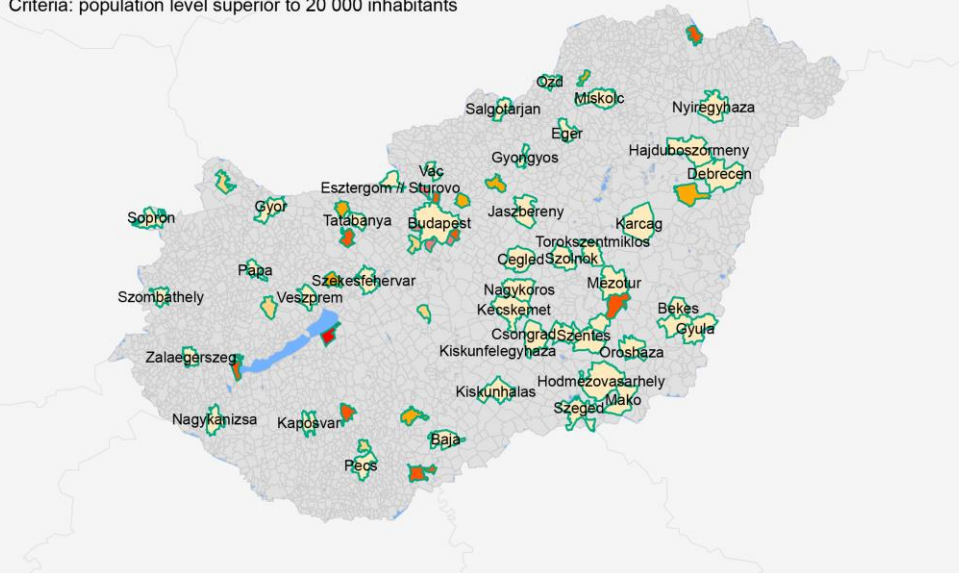
Evolution of Hungarian Urban Morphological Zones (1950-2001)
Criteria: density of 350 inhabitants/km²



Database: Urban Morphological Zones and Hungarian Statistical Office

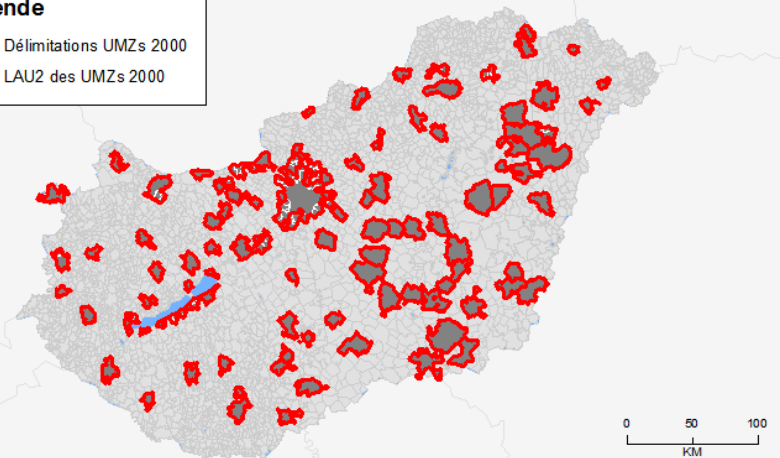
Zdanowska, N., 2014, UMR Géographie-Cités

Evolution of Hungarian Urban Morphological Zones (1950-2001)
Criteria: population level superior to 20 000 inhabitants



Légende

- Délimitations UMZs 2000
- LAU2 des UMZs 2000

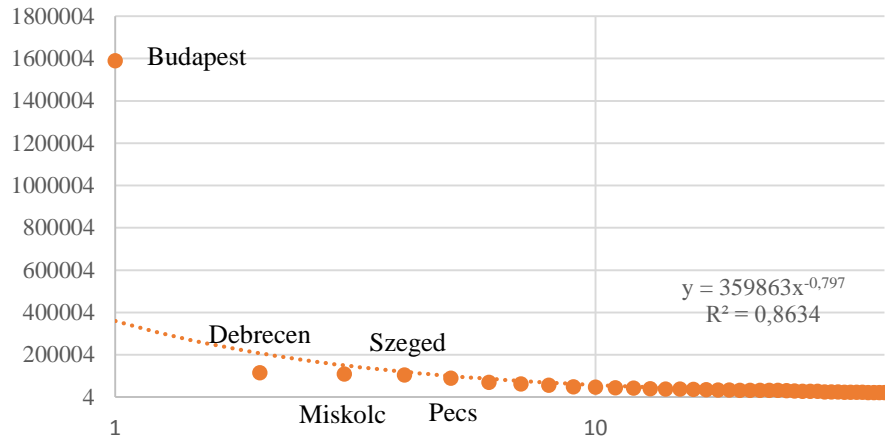


Database: Urban Morphological Zones and Hungarian Statistical Office

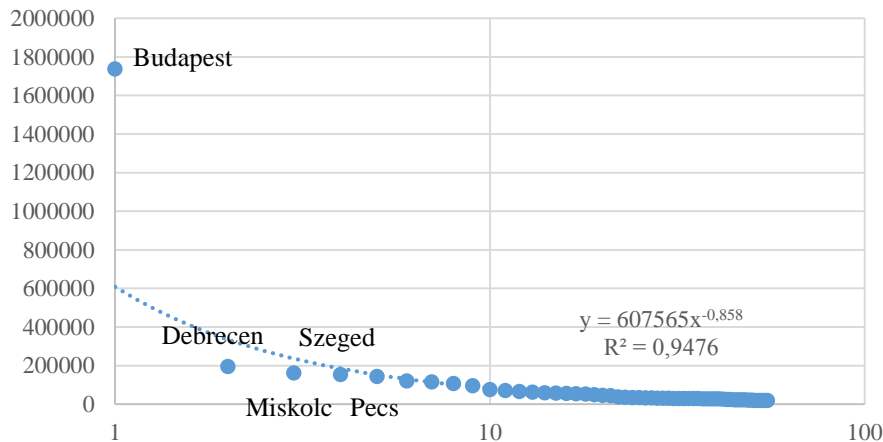
Zdanowska, N., 2014, UMR Géographie-Cités

Rank-size distribution Hungary

Rank size distribution 1950



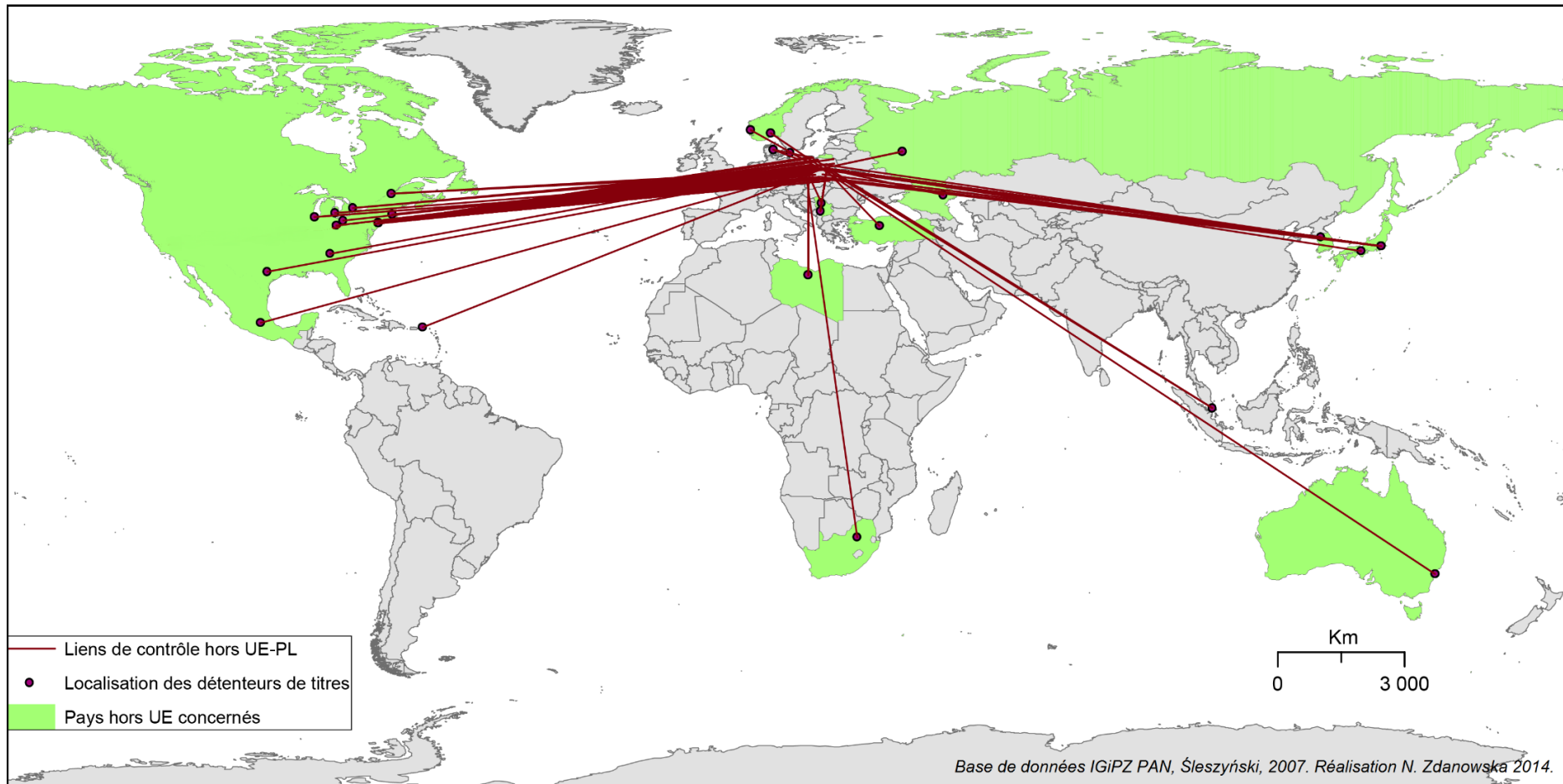
Rank size distribution 2011



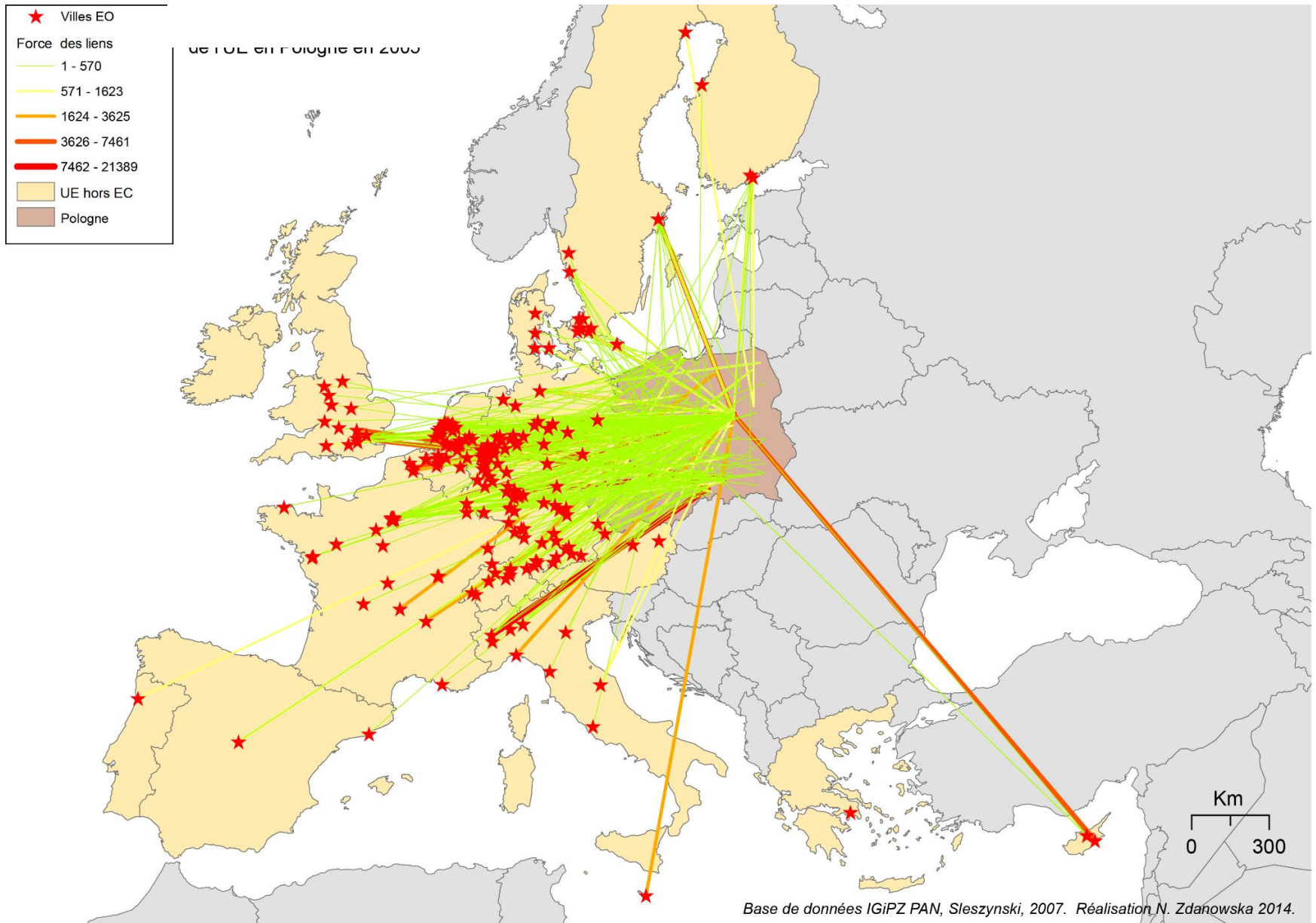
Source: *Urban Morphological Zones 2000* (Agence Européenne de l'Environnement); data of the Central Statistical Office of Hungary

II. Firms

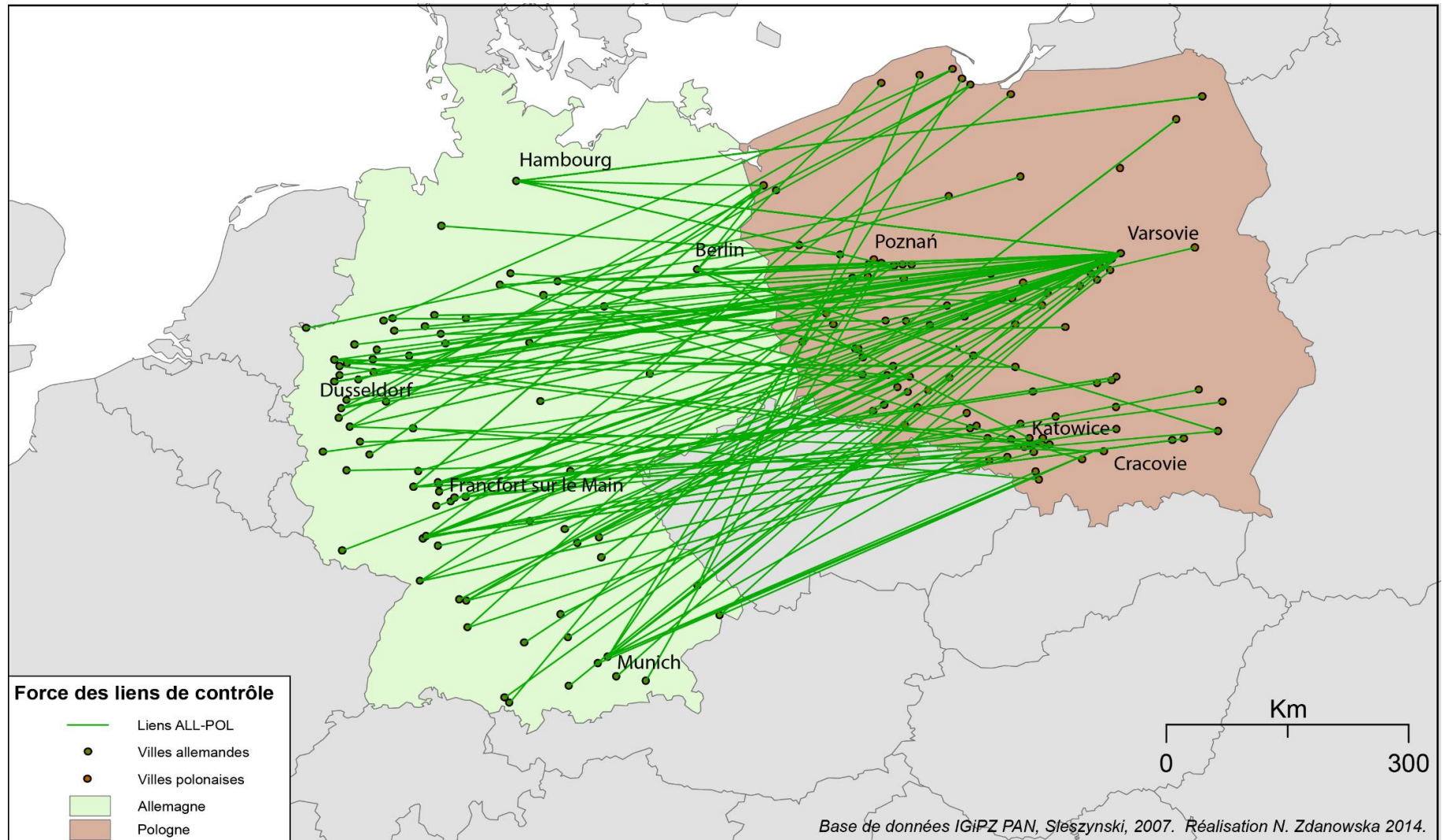
Foreign holder control over the Polish economic management centers outside European Union in 2005



Foreign holder control (EU) over the Polish economic management centers in 2005

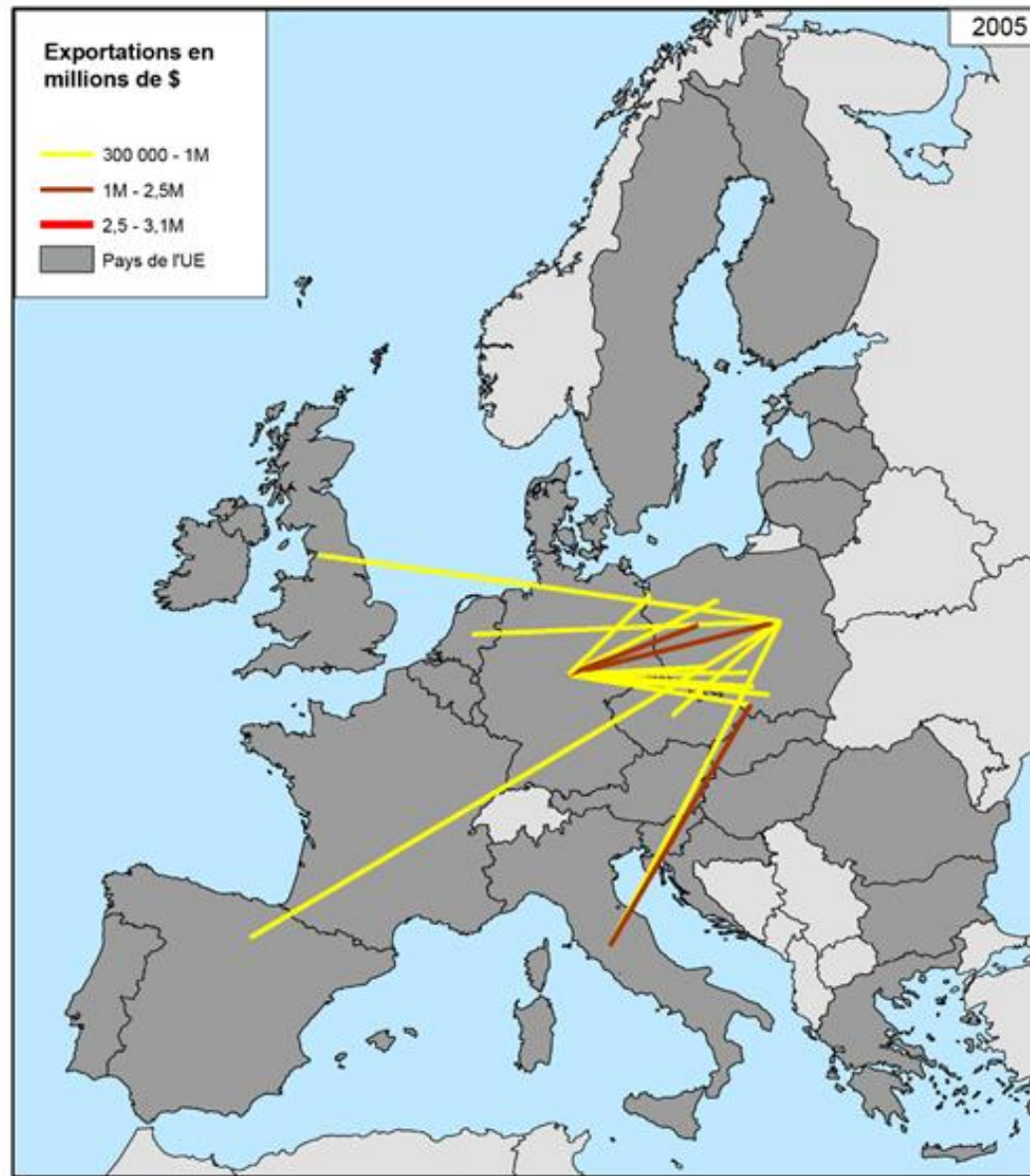


German holders control over the Polish economic management centers in 2005



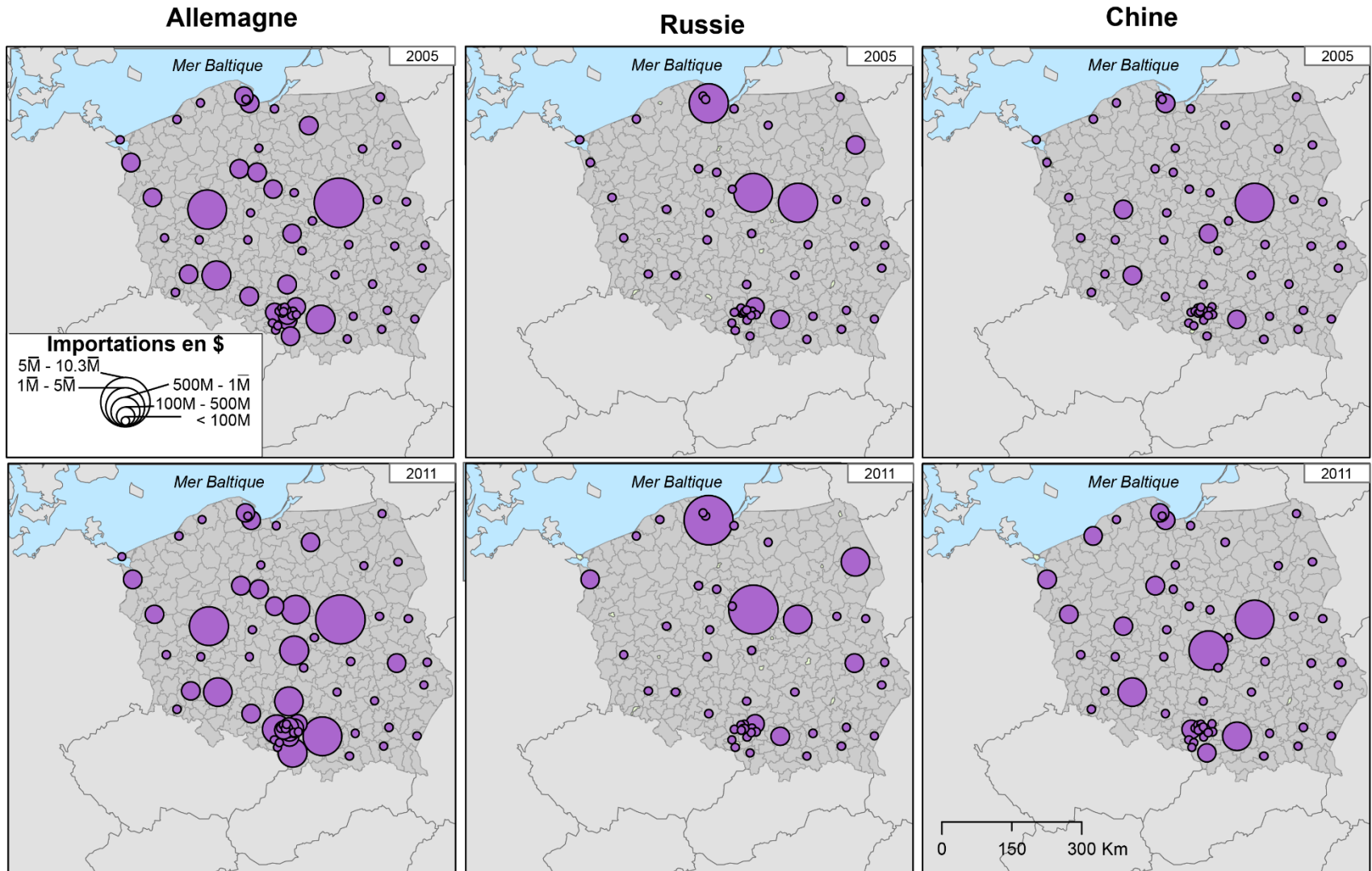
III. Trade

Polish exports over 300 millions US dollars to UE countries in 2005



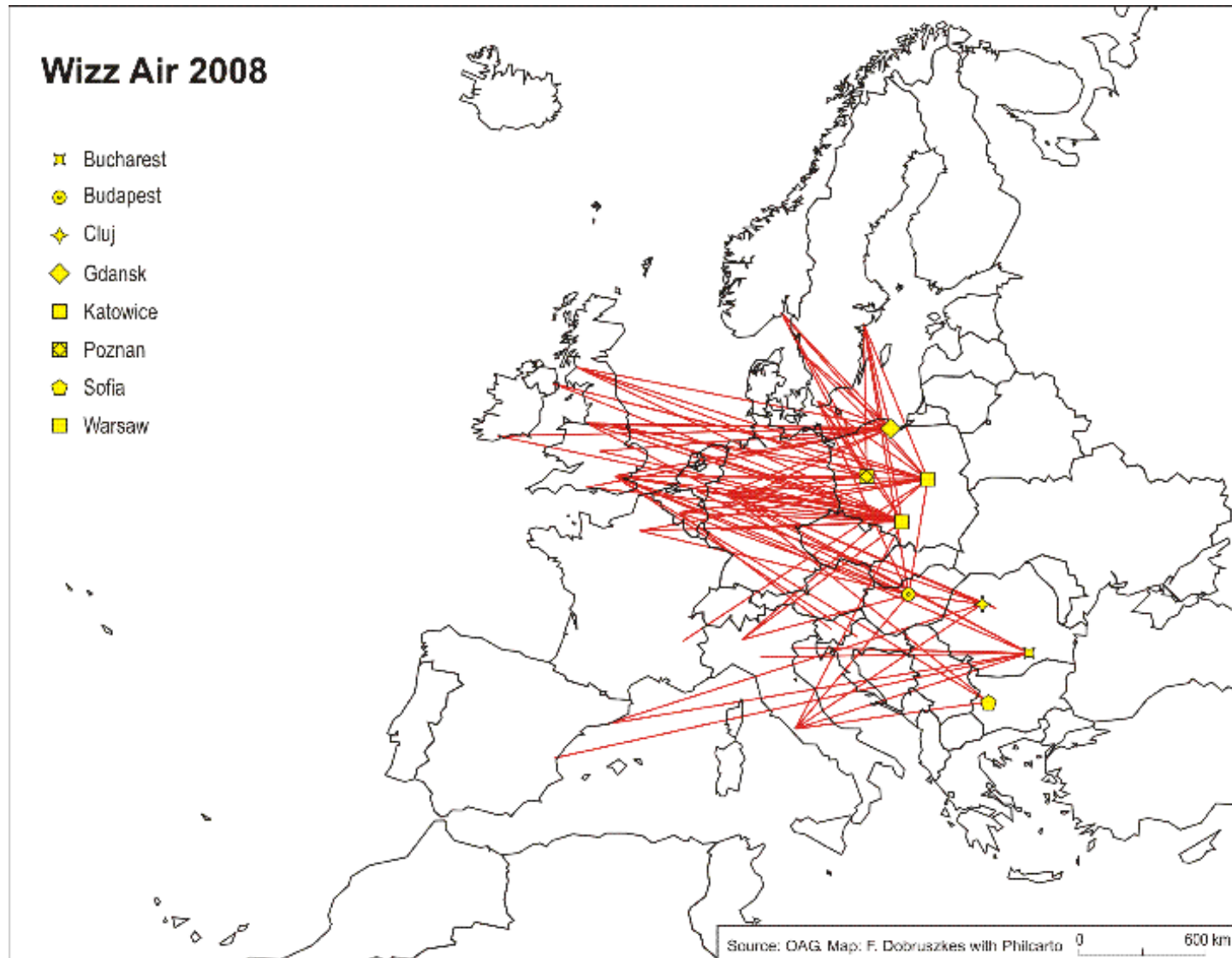
Base de données Handel Zagraniczny (Commerce International), Ministère des Finances
et IGiPZ PAN. Réalisation N. Zdanowska 2014

Main import partners in 2005 and 2011 in millions US dollars



IV. Air transportation

Air connexions between Central and Eastern Europe cities and western cities by *low-cost* networks in 2008



Conclusion

Main challenges

- Different definitions of cities in Central and Eastern Europe
- Variation of the average size of LAU2 particular to each national context of examined countries between 1950-2014 (administrative reforms)
- Existence of any Hungarian national databases on firms, trade and air transportation?

Thank you for your attention and
remarks