

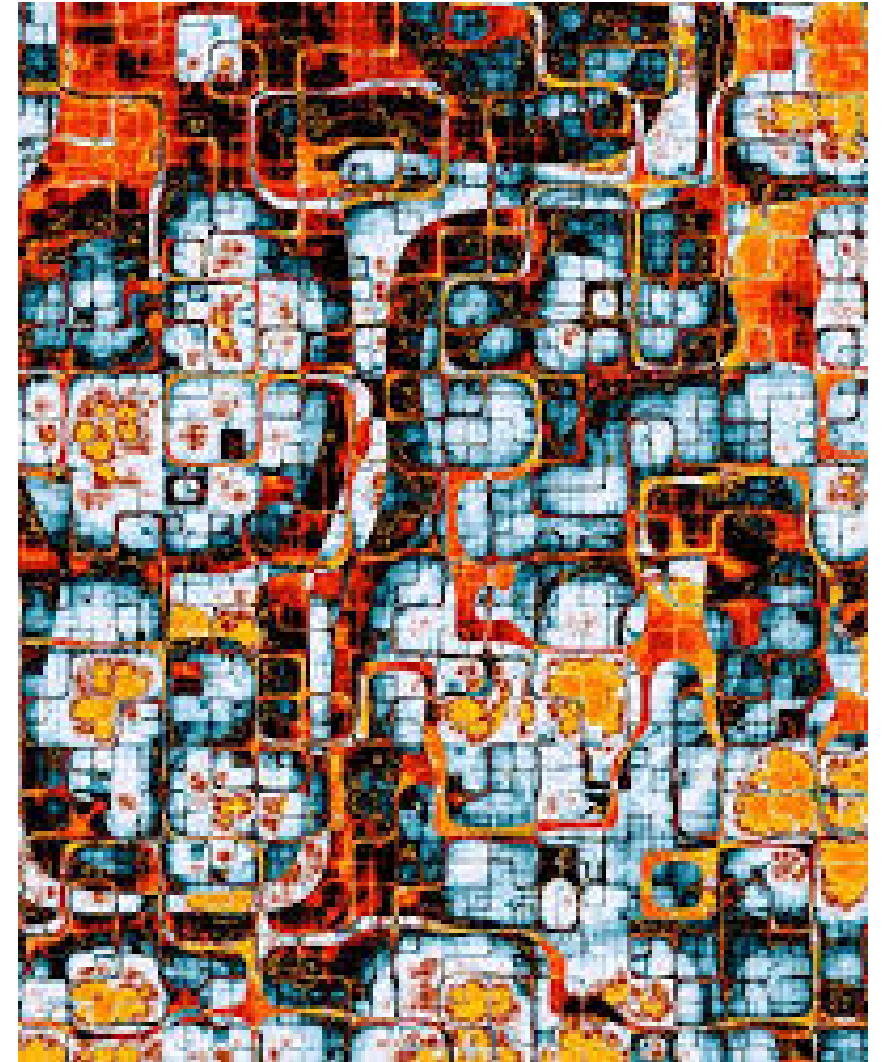
2016 IPOPs International Young Researchers' Conference
September 21st-22nd 2016, Paris, France

Population dynamics and ethnic geographies in urban areas: How do migration and natural change impact population composition and segregation?

Lena Imeraj⁽¹⁾, Nissa Finney⁽²⁾ & Sylvie Gadeyne⁽¹⁾

⁽¹⁾ Vrije Universiteit Brussel, Belgium

⁽²⁾ University of St Andrews, Scotland



Urban Geography, Bill Beath, 2009

INTRODUCTION

Increasingly ethnic diverse European/Western societies

In Belgium:

- Overall increase of migrant population
- Particularly in urban areas

	1991	2001
	1,400,859	1,830,736
	14.04%	17.78%

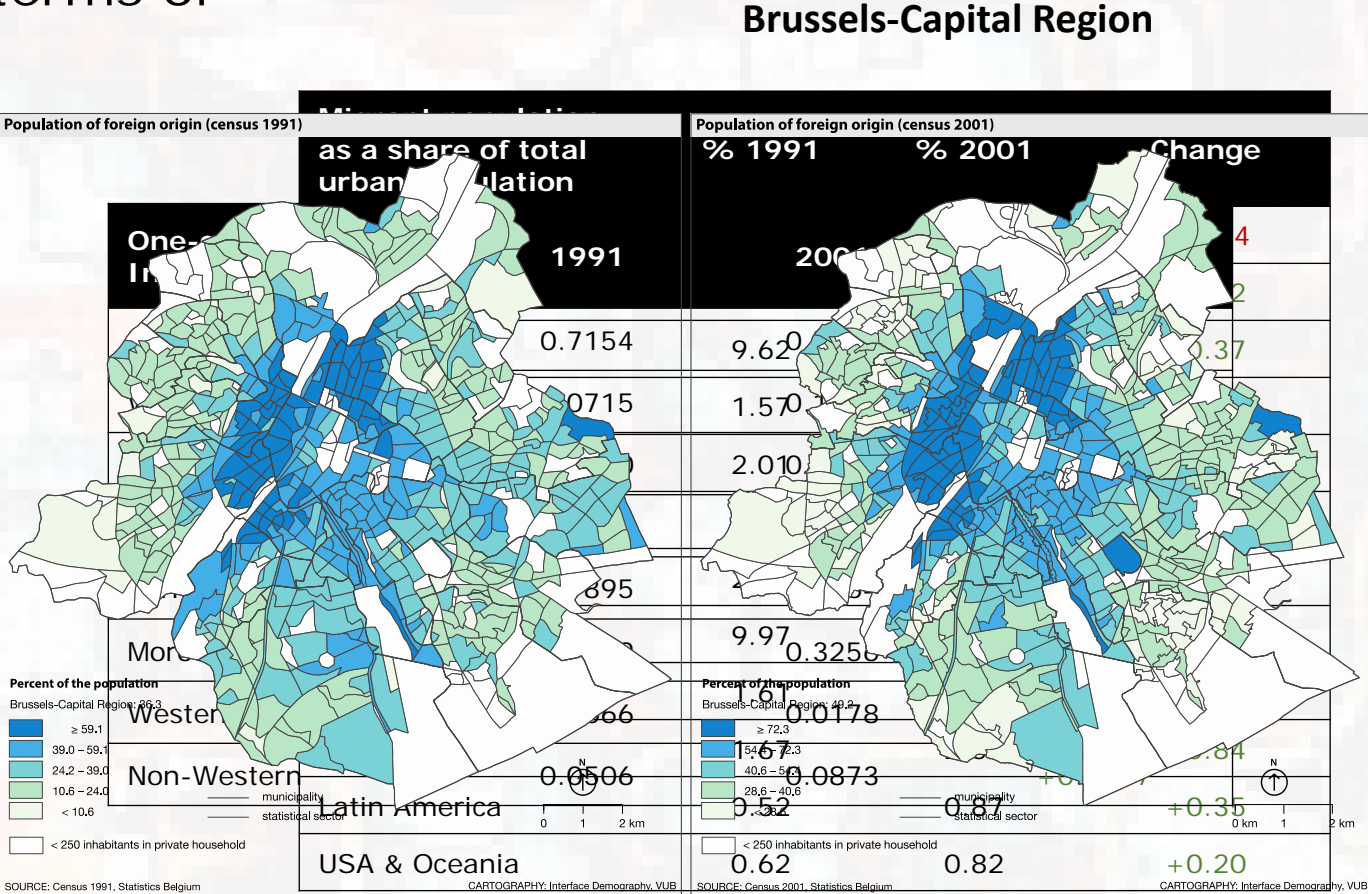
	1991	2001
Brussels	36.36%	49.20%
Antwerp	16.09%	24.37%
Ghent	9.61%	15.01%
Charleroi	27.47%	32.27%
Liège	29.21%	36.27%
Rest Belgium	10.64%	13.04%



INTRODUCTION

Changing urban population in terms of

- 1) ethnic composition,
- 2) ethnic geography,
- 3) and/or ethnic segregation.



BACKGROUND & FRAMEWORK

Rapidly growing body of research focussing on

- the measurement of segregation, and
- the visualisation of urban geographies.

Less attention has been paid to underlying dynamics driving these population changes.

Demographic components:

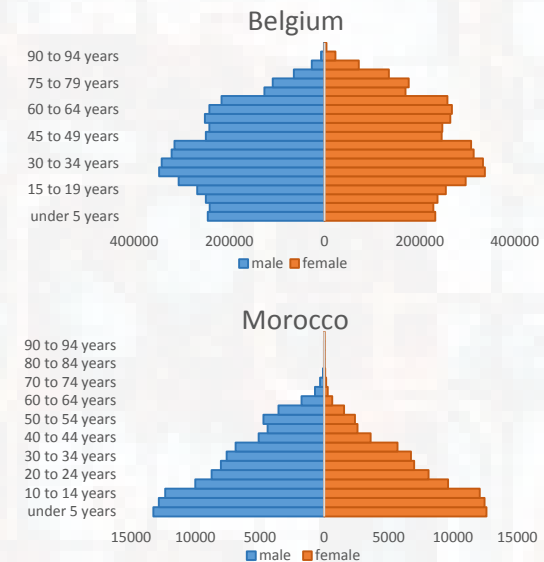
- Migration (international and internal)
- Natural change (births and deaths)



BACKGROUND & FRAMEWORK

Natural growth matters to ethnic population change and geography (Johnson & Lichter 2008, Finney & Simpson 2009)

- Growing stock of migrant population
- Young age composition of migrant population



- Continuous international immigration + diversification (Castles 2006)
- Classic pattern of white suburbanisation (Pais, South & Crowder 2009)

RESEARCH QUESTIONS

- 1) To what extent do migration and natural growth each contribute to urban population change in Belgian urban (metropolitan) areas between 1991 and 2001?
 - o Variability between native and/or migrant populations
 - o Variability between urban areas
- 2) Can we link the observed contributions of demographic components to changing ethnic composition and segregation in Belgian urban areas between 1991 and 2001?



DATA & METHODS

Linked 1991 and 2001 census

Individual level data

Detailed information on residence (statistical sector, LAU-2 units) and migrant background + migrant generation

Additional: demographic information + socio-economic information



DATA & METHODS

ENTREES	EXITS
Births (B)	Deaths (D)
International in-migrants (IN)	International out-migrants (OUT)
Internal in-migrants (in)	Internal out-migrants (out)

Population change between 1991 and 2001 then equals

$$\Delta_{2001 \text{ vs. } 1991} = [B + IN + in] - [D + OUT - out]$$

Calculated for all migrant populations and for all urban areas



DATA & METHODS

Ethnic segregation indices:

- 1) One-group segregation (Isolation Index, Entropy Index, Gini Index)
- 2) Two-group segregation (Index of Dissimilarity)
- 3) Multigroup segregation (Multigroup Dissimilarity Index, Multigroup Gini Index, Information Theory Index (Theil), Normalized Exposure, Relative Diversity)
- 4) Location Quotient

Calculated for all migrant populations and for all urban areas in 1991 and 2001



DATA & METHODS

Migrant populations (including second generation migrants)

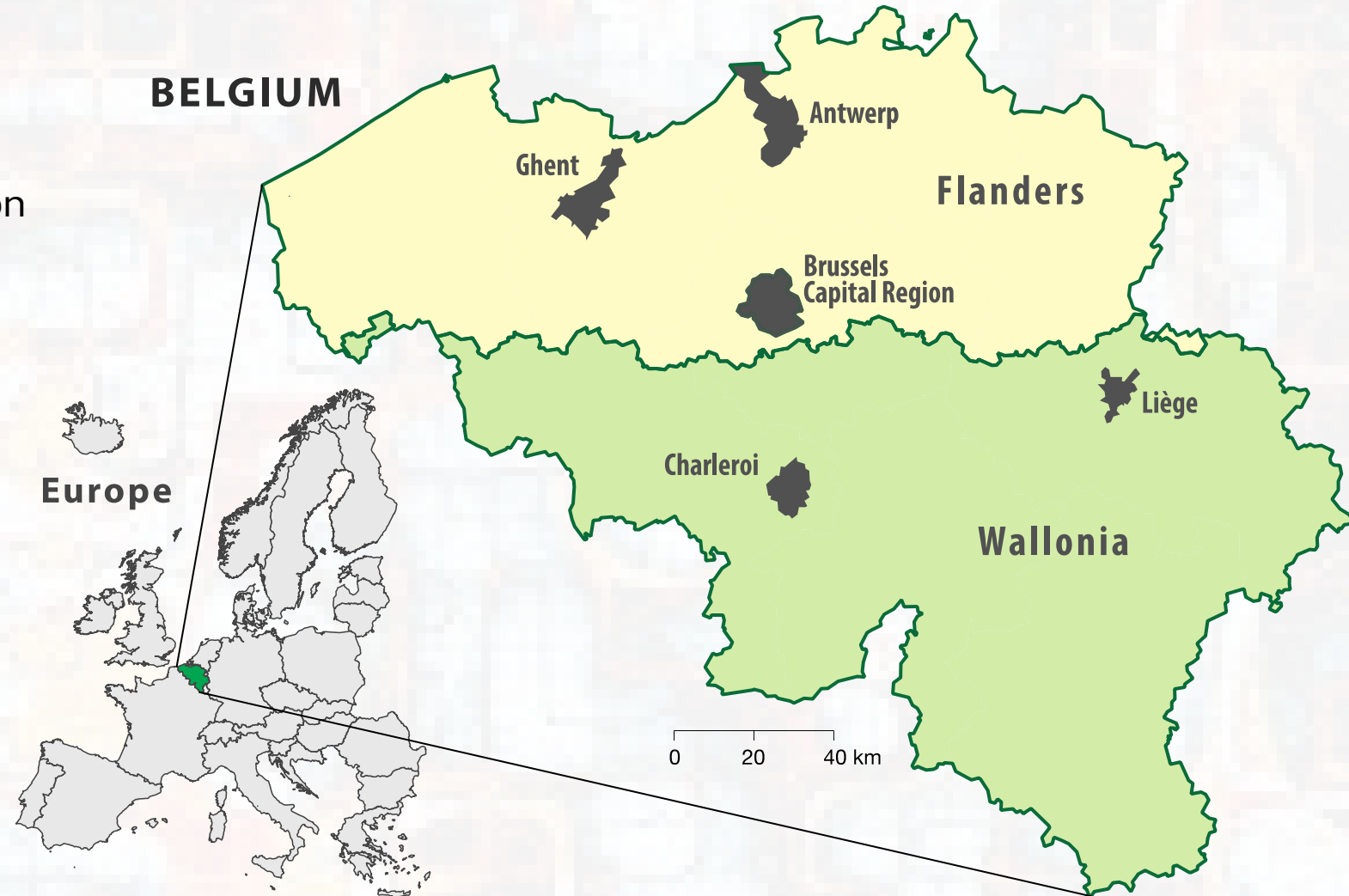
- Belgium
- Neighbouring countries (Netherlands, Germany, Luxemburg, France)
- South-Europe
- North-Europe
- East-Europe
- Other West-European countries
- Turkey
- Maghreb countries (predominantly Morocco)
- Sub-Saharan Africa
- Middle-East - Asia
- Latin-America
- USA & Oceania
- Foreign, unknown origin



DATA & METHODS

Urban areas in Belgium

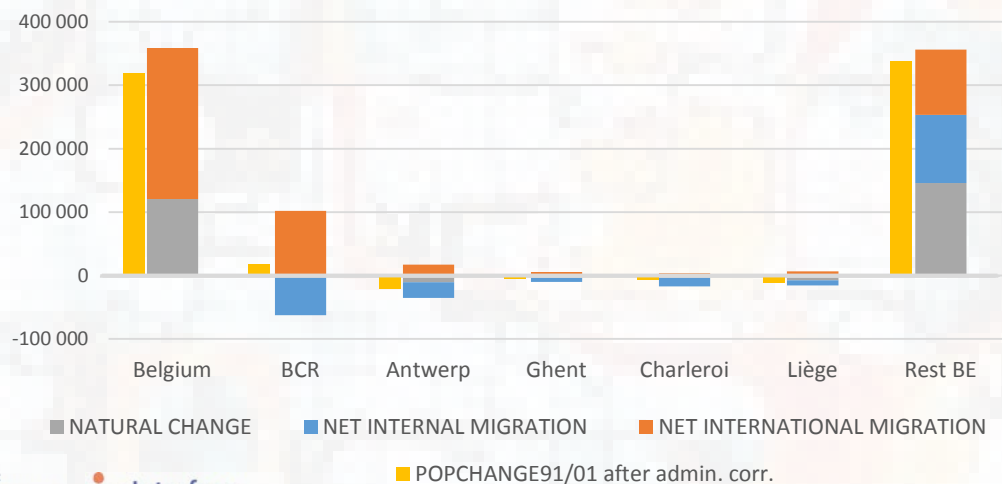
- Brussels-Capital Region
- Antwerp
- Ghent
- Charleroi
- Liège



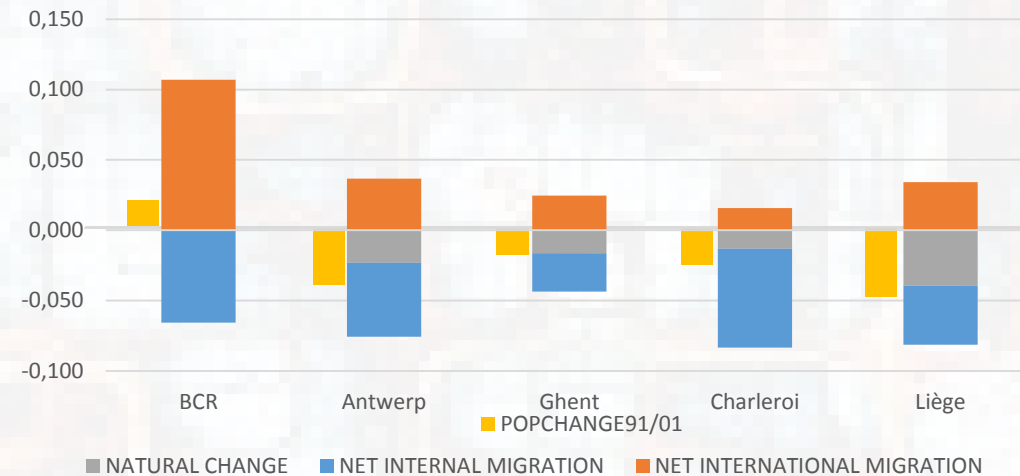
RESULTS – Population change in urban areas

	Pop1991	Pop2001	PopChange91/01	PopChange91/01 as % of respective subPop91
Belgium	9,978,681	10,295,724	+317,043	+3.18
Brussels-Capital Region (BCR)	954,045	973,347	19,302	+2.02
Antwerp	467,518	447,604	-19,914	-4.26
Ghent	230,246	225,417	-4,829	-2.10
Charleroi	206,214	200,364	-5,850	-2.84
Liège	194,596	184,584	-10,012	-5.15
Rest BE	7,926,062	8,264,408	338,346	+4.27

Population change, N, 1991-2001

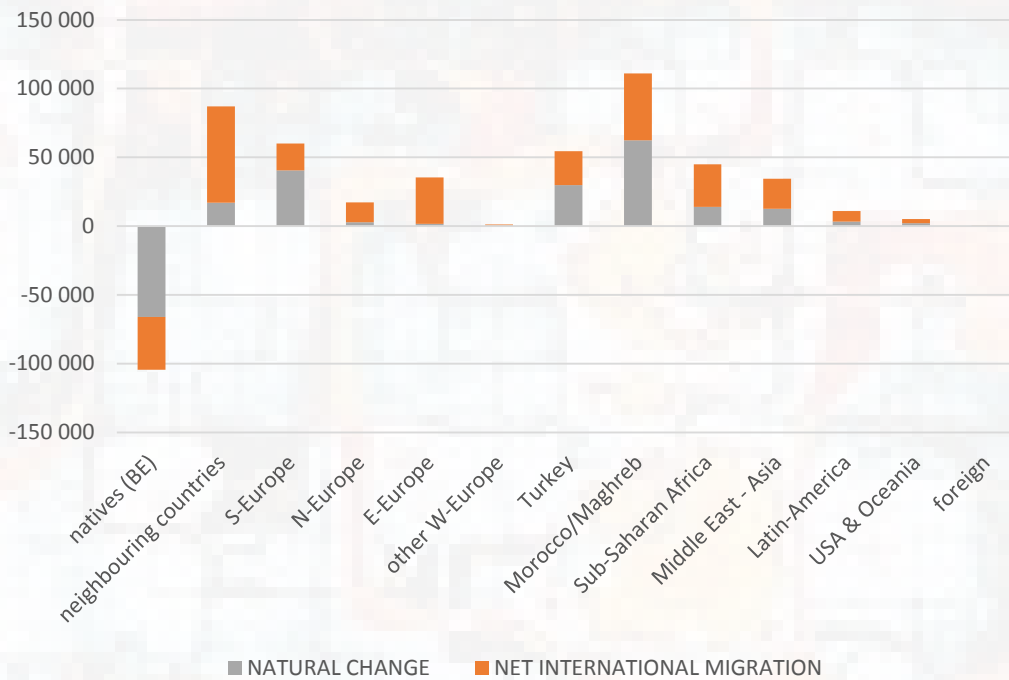


Population change as % of 1991 urban population, 1991-2001

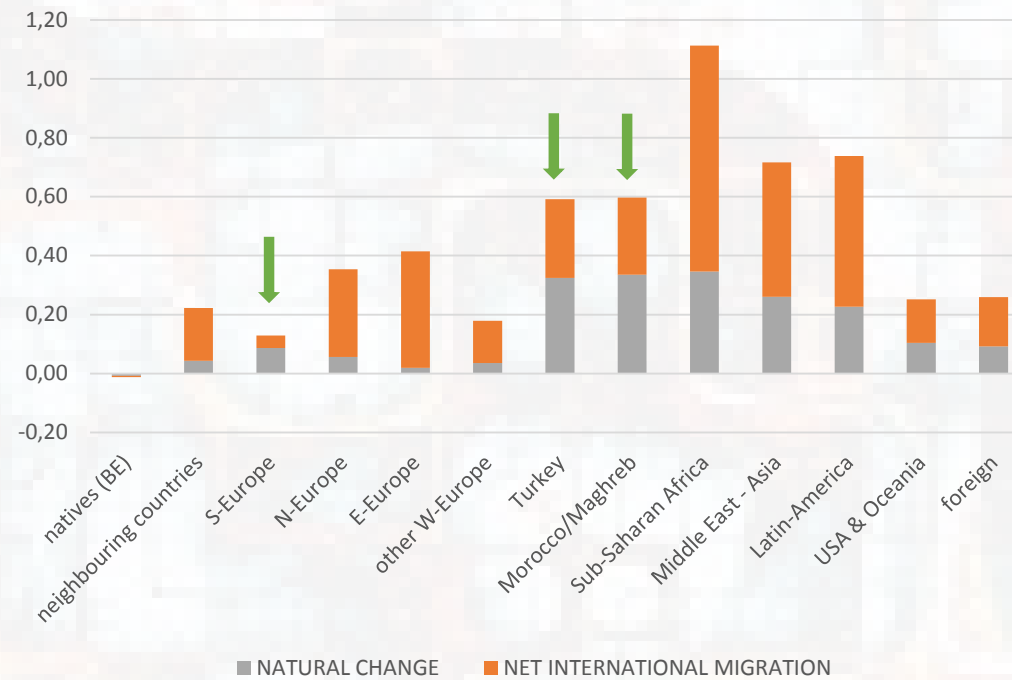


RESULTS – Population change by migrant group

Population change in migrant groups, N, Belgium, 1991-2001



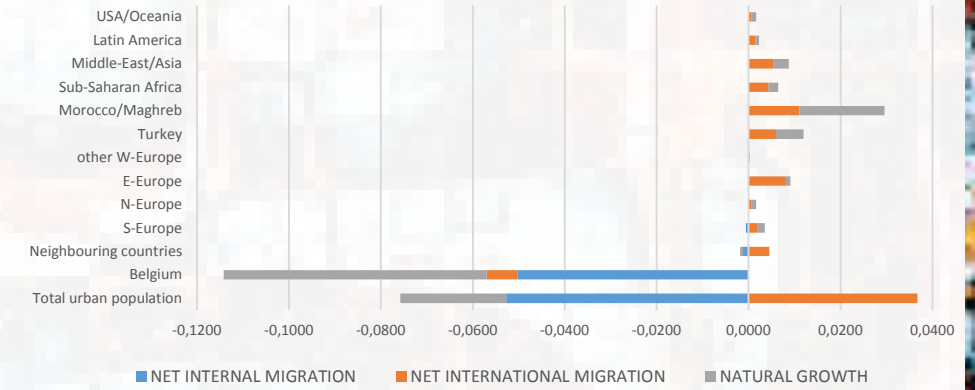
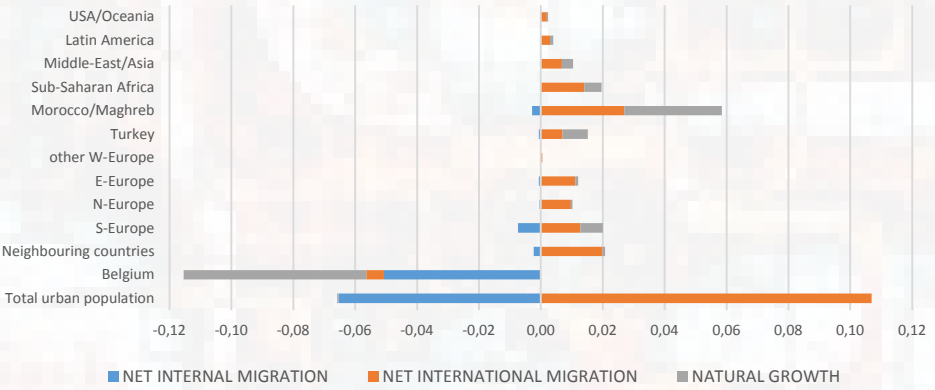
Population change in migrant groups, % of own-group population, Belgium, 1991-2001



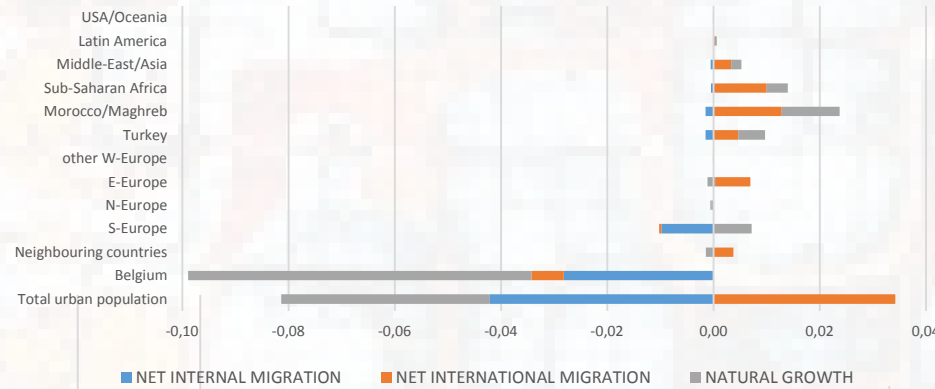
RESULTS – Urban population change by migrant group

Brussels-Capital Region

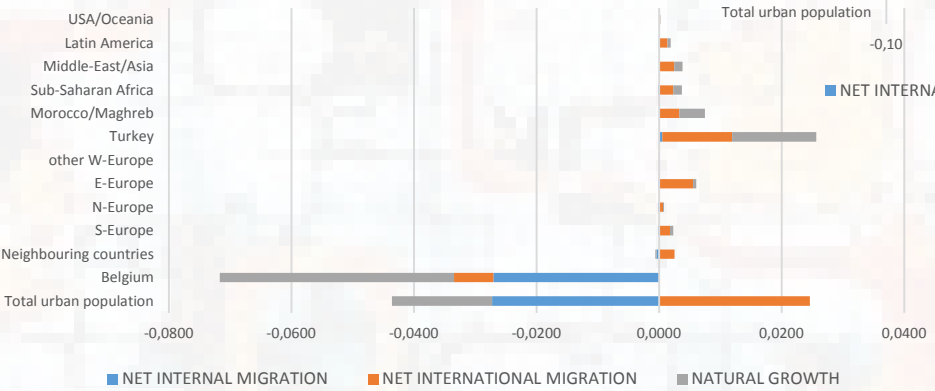
Antwerp



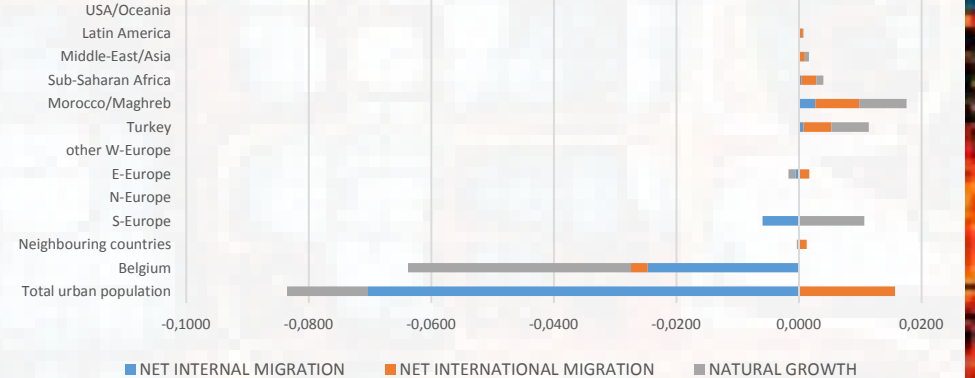
Liège



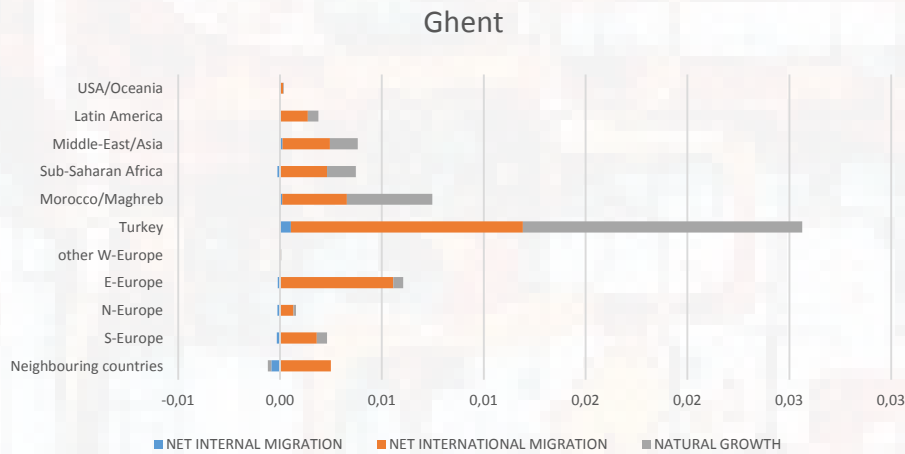
Ghent



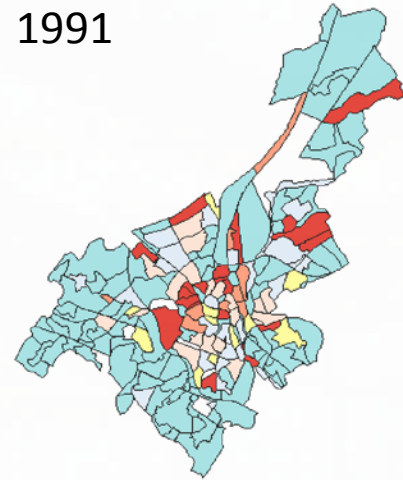
Charleroi



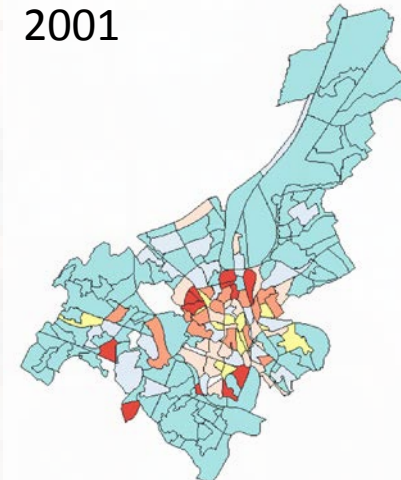
RESULTS – Population change and segregation



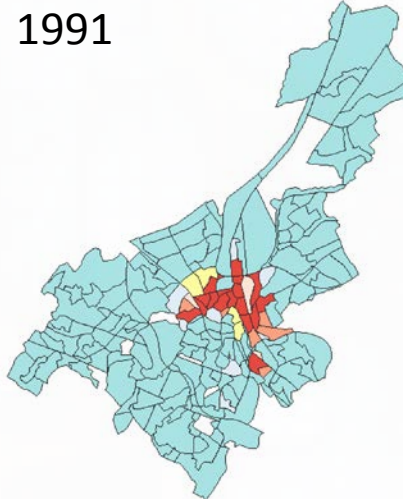
1991



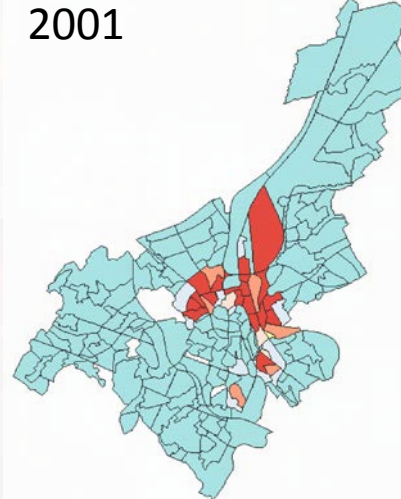
2001



1991



2001



Migrant group	Isolation Index 1991	Isolation Index 2001
Belgium	0.9184	0.8700
S-EUR	0.0102	0.0136
E-EUR	0.0083	0.0191
Turkey	0.1860	0.2426
Morocco	0.0483	0.0536

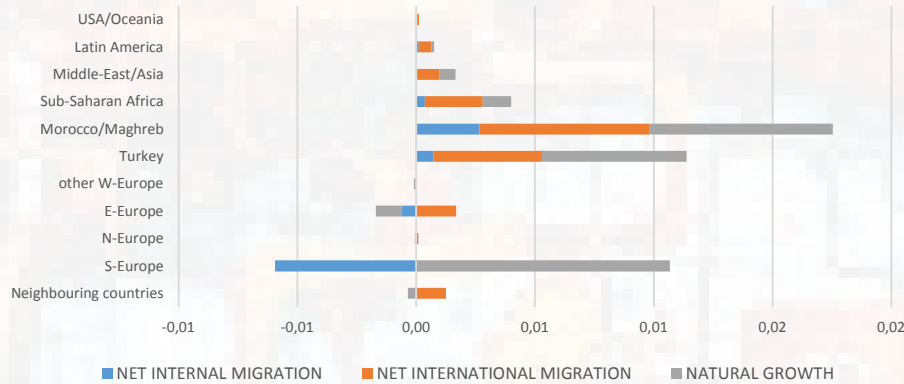
$$\text{Isolation Index} = \sum_{i=1}^n \left[\left(\frac{x_i}{t_i} \right) \left(\frac{x_i}{X} \right) \right]$$

$$\text{Location Quotient} = \left[\left(\frac{x_i}{t_i} \right) / \left(\frac{X}{T} \right) \right]$$

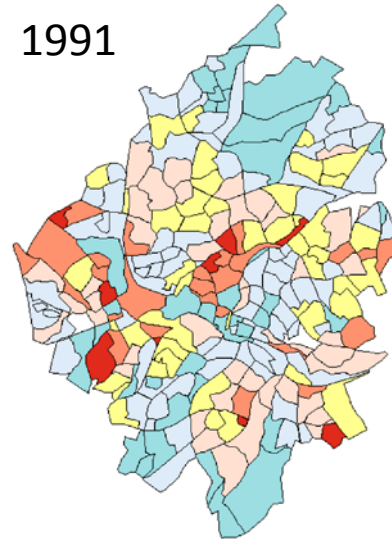


RESULTS – Population change and segregation

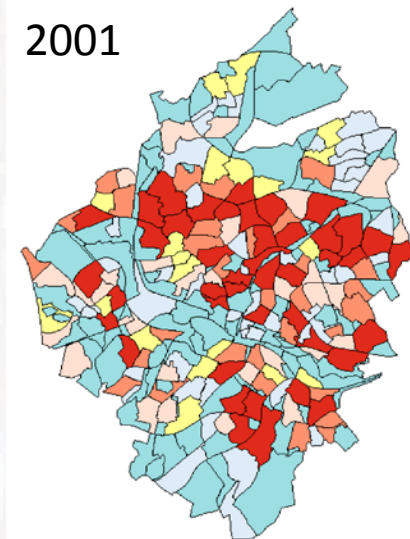
Charleroi



1991



2001



Migrant group	Isolation Index 1991	Isolation Index 2001
Belgium	0.7274	0.6895
S-EUR	0.2117	0.2039
E-EUR	0.0197	0.0203
Turkey	0.0940	0.1035
Morocco	0.0495	0.0694

$$\text{Location Quotient} = \left[\frac{(x_i/t_i)}{(X/T)} \right]$$

$$\text{Isolation Index} = \sum_{i=1}^n \left[\frac{(x_i/t_i)}{(X/T)} \right]$$

PRELIMINARY CONCLUSION

- Contribution of demographic components to urban area population change very diverse
 - Clear between city variability
 - Clear variability between different migrant populations
- Native population is 'lost' from all urban areas.
- Like for natives, some established migrant groups show a negative net internal migration (integration?)
- International in-migration most important for the Brussels-Capital Region and for 'new' migrant populations.
- Natural growth contributes considerably to population change, mainly in urban areas with established migrant populations.
- Link between the contribution of demographic components and change in segregation not straightforward (for now).



LIMITATIONS & FUTURE RESEARCH

- Further unravel the impact of demographic components upon segregation levels and patterns
- Segregation perhaps more dependent on residential moves within the urban area?
- Update to more recent period (2001-2011)
- Decadal approach ignores population changes in-between two time points
- Comparison of metropolitan and regional cities
- Urban change reflected in suburban change, i.e. do migrant population eventually suburbanise as much as their white counterparts?
- ...



2016 IPOPs International Young Researchers' Conference
September 21st-22nd 2016, Paris, France

Population dynamics and ethnic geographies in urban areas: How do migration and natural change impact population composition and segregation?

Lena Imeraj⁽¹⁾, Nissa Finney⁽²⁾ & Sylvie Gadeyne⁽¹⁾

⁽¹⁾ Vrije Universiteit Brussel, Belgium

⁽²⁾ University of St Andrews, Scotland

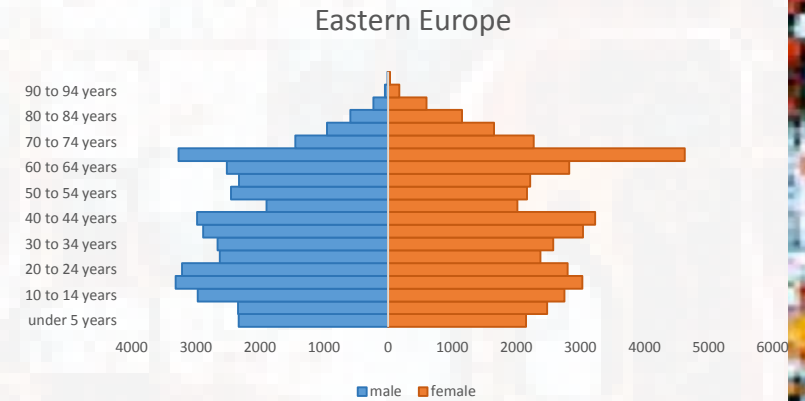


Urban Geography, Bill Beath, 2009

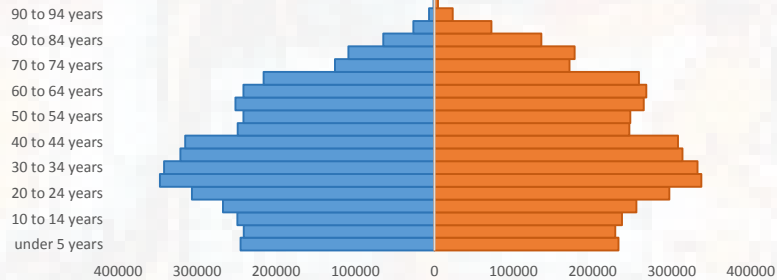
RESULTS

Lifecycle – demographic components

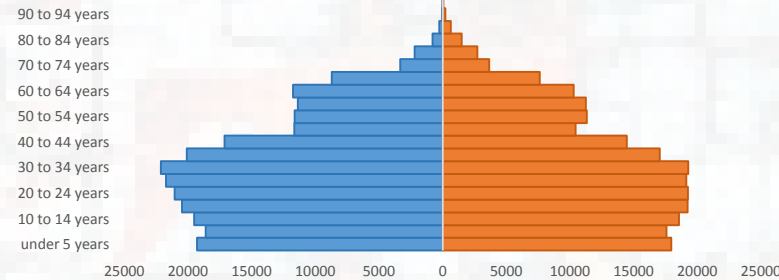
Age composition



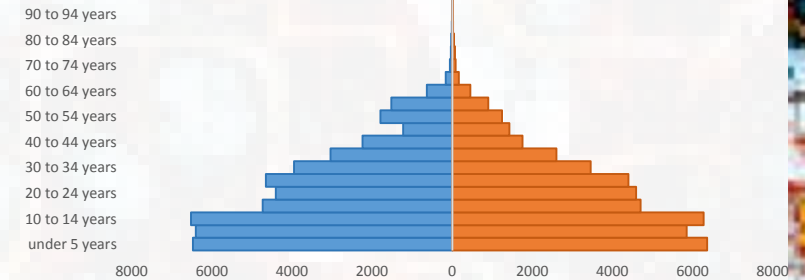
Belgium



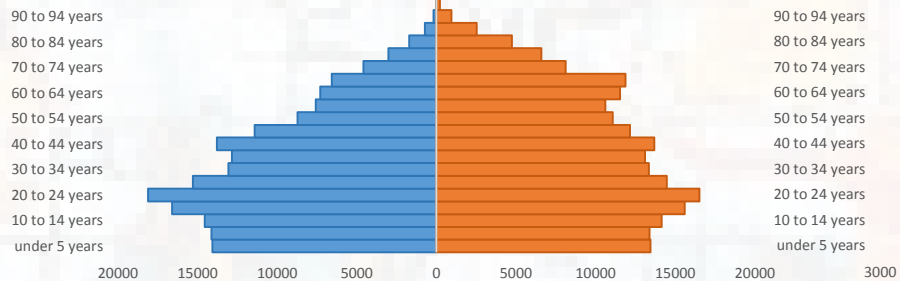
Southern Europe



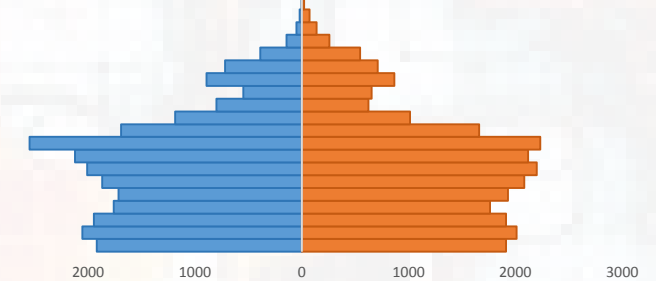
Turkey



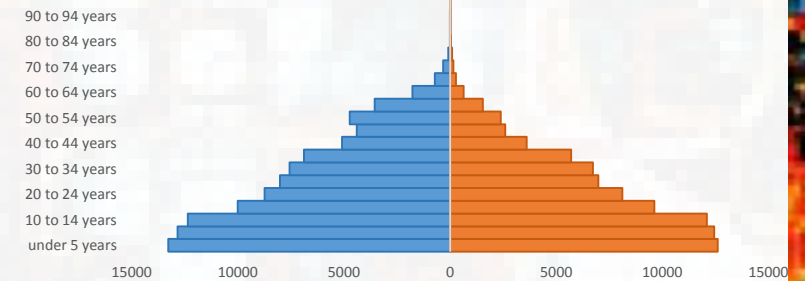
Neighbouring countries



Northern Europe



Morocco

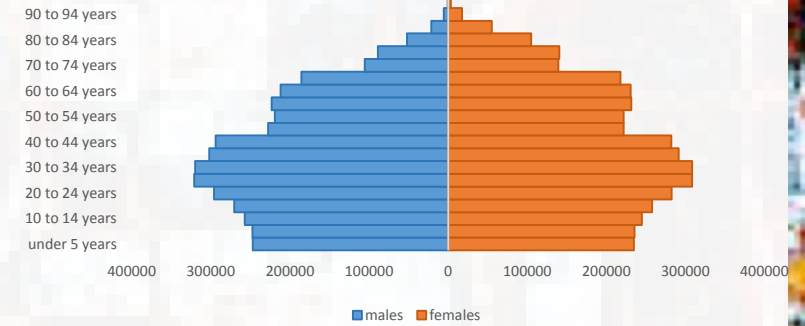


RESULTS

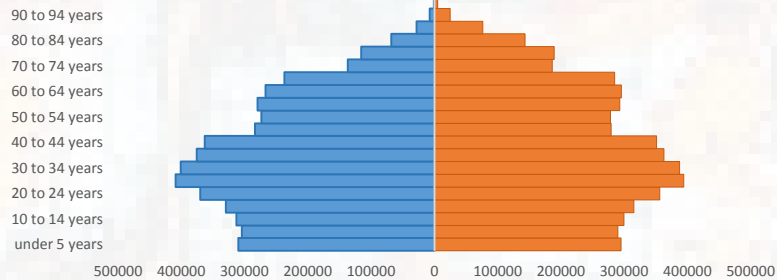
Lifecycle – demographic components

Age composition

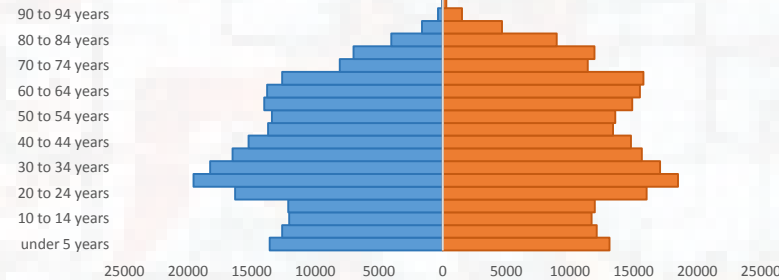
Non-urban areas, 1991



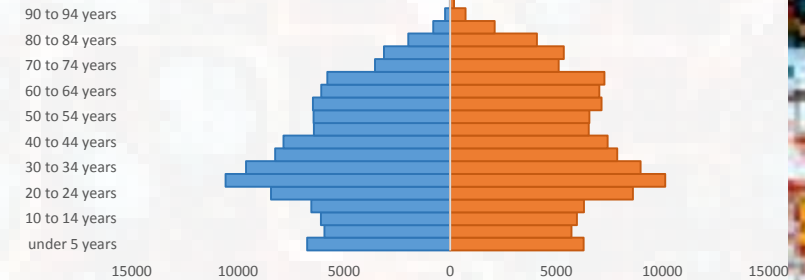
Belgium, 1991



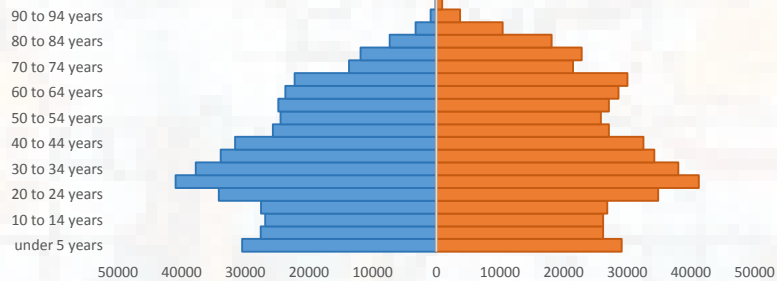
Antwerp, 1991



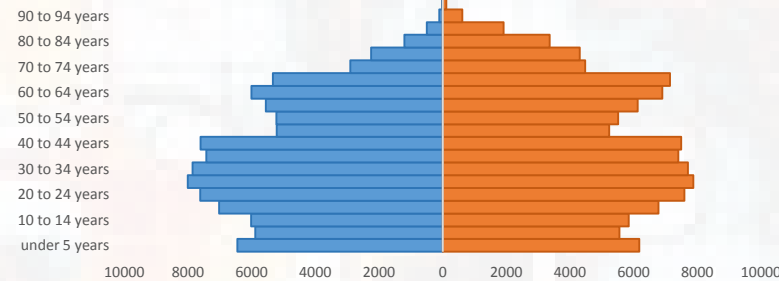
Ghent, 1991



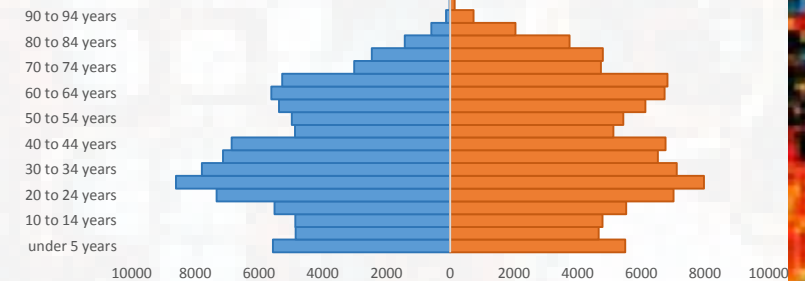
Brussels-Capital Region, 1991



Charleroi, 1991



Liège, 1991



RESULTS - BELGIUM

	1991	Births	IN	Deaths	OUT	2001	Change N	Change % ¹	Change % ²
TOTAL	9,978,681	1,212,807	471,141	1,016,066	223,788	10,295,724	317,043	3.2	
Belgian	8,577,822					8,464,988	-112,834	-1.131	-1.3
Neighbour.	392,363					471,887	79,524	0.797	20.3
S-Eur.	463,927					516,156	52,229	0.523	11.3
N-Eur.	49,115					59,717	10,602	0.106	21.6
E-Eur.	85,248					119,946	34,698	0.348	40.7
Other W-Eur.	6,485					7,600	1,115	0.011	17.2
Turkish	92,321					144,930	52,609	0.527	57.0
Moroc.	186,051					293,954	107,903	1.081	58.0
African	40,390					83,284	42,894	0.430	106.2
Middle East	48,198					80,437	32,239	0.323	66.9
Latin Am.	14,993					25,754	10,761	0.108	71.8
USA & Ocean.	20,709					25,959	4,886	0.049	23.6
Foreign	1,059					1,476	408	0.004	38.5

Note: Relative change expressed as a percentage of the 1991 (1) total population and (2) respective subpopulation in Belgium