A photograph of a modern outdoor plaza at night. The plaza is paved with light-colored bricks and features several wooden planters filled with colorful flowers. In the foreground, there are wooden benches. The background shows a modern building with large windows and a glass entrance. The sky is dark blue, and the plaza is illuminated by numerous string lights hanging from the ceiling. The overall atmosphere is warm and inviting.

**Estonian population and regional
development during the last 30 years**
Back to the small town?

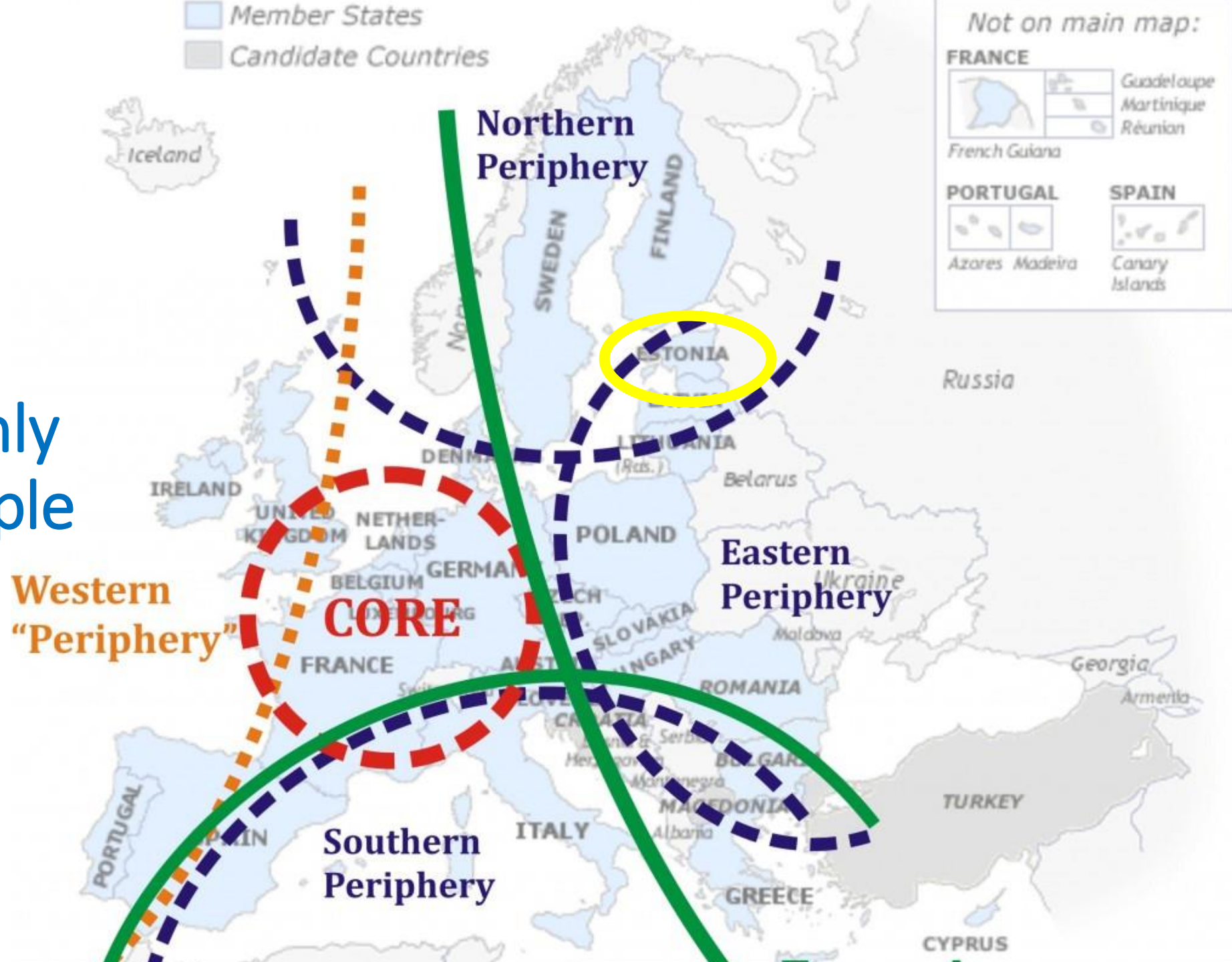
First presented at SETTLE Congress
<https://ersa.org/events/settle-international-congress/>

*Garri Raagmaa
Tartu University
garri@ut.ee
+372 527 8899*

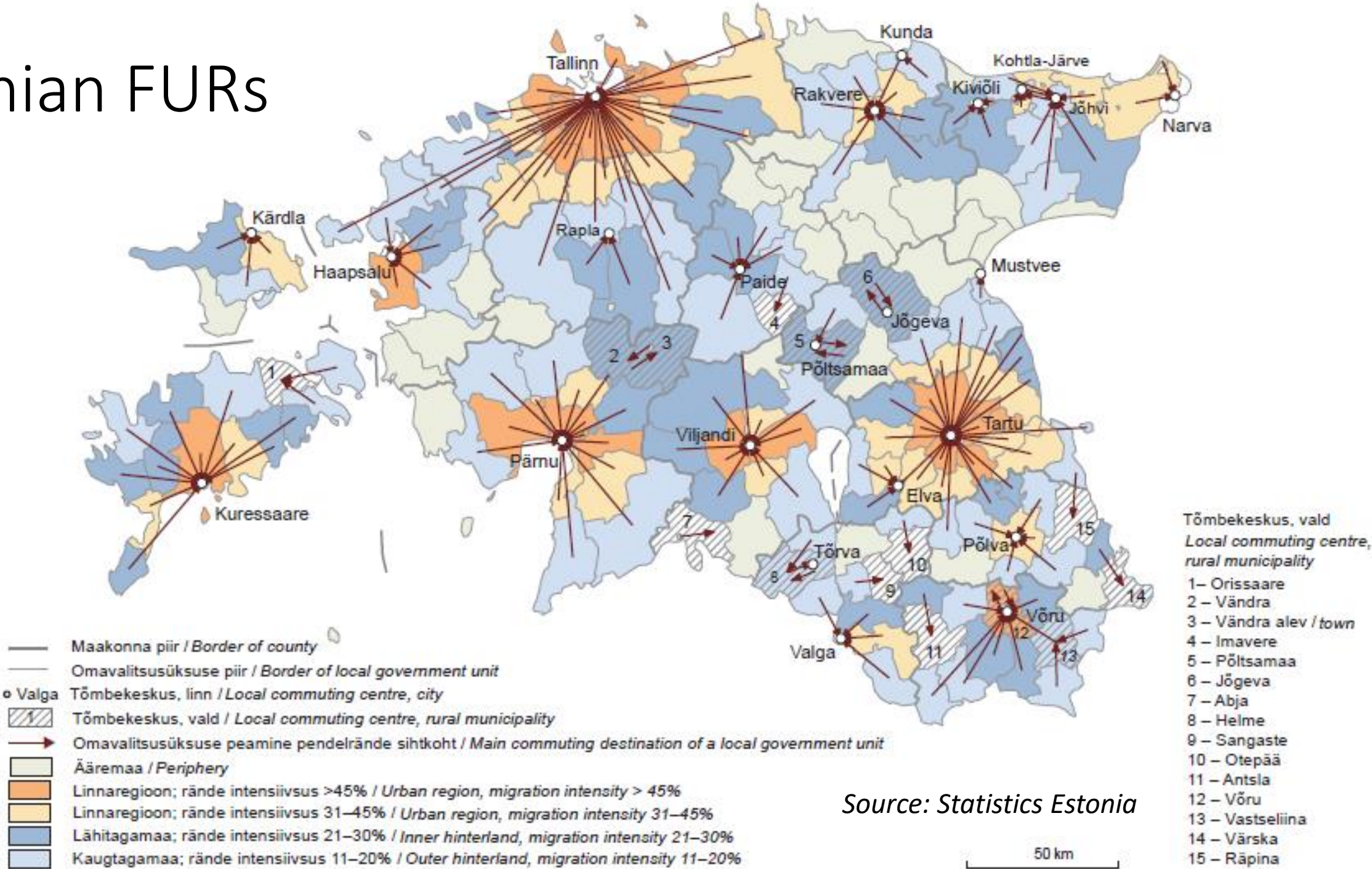
30 years ago... 10-20 years ago ...and now

- The employment of primary and secondary industries declined, and massive urbanization started in the 1990s.
- Typical spatial patterns emerged:
 - (1) depopulating rural and
 - (2) old-industrial areas contrasting with
 - (3) sprawling suburbs around the capital Tallinn.
- urban growth accelerated after the EU accession in the 2000s, and the financial crisis caused mass (100 000+) emigration.
- However, the Estonian population has grown due to the returnees and expanding start-up and export industries since 2015.
- Families live in multiple places thanks to distance work boosted by the Covid19. Several rural localities gain population again. But...

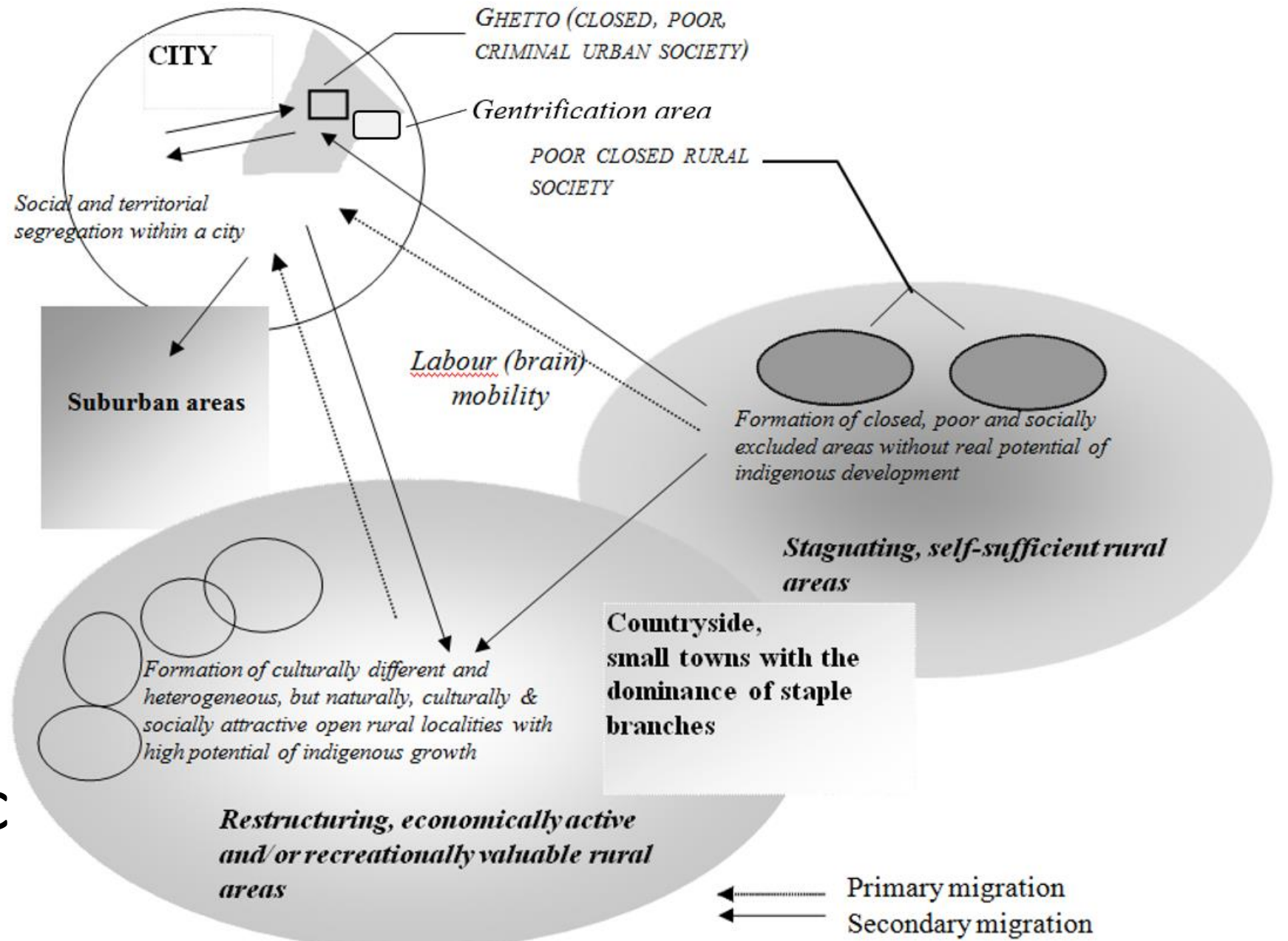
Northern and Eastern peripheries of Europe
ESTONIA has only 1.3 Million people



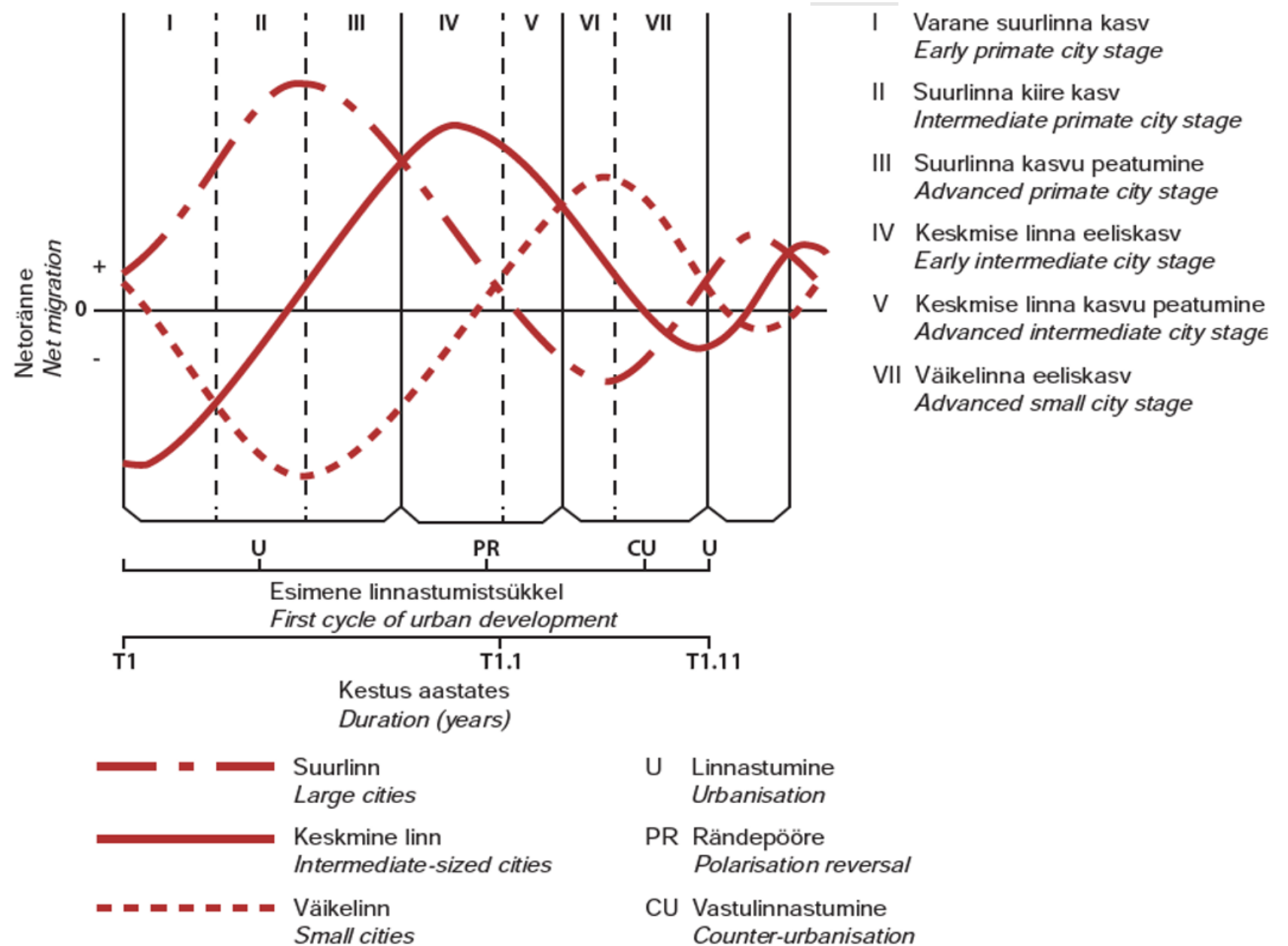
Estonian FURs



Principal migration reversal model for rural areas depending on their economic and social restructuring

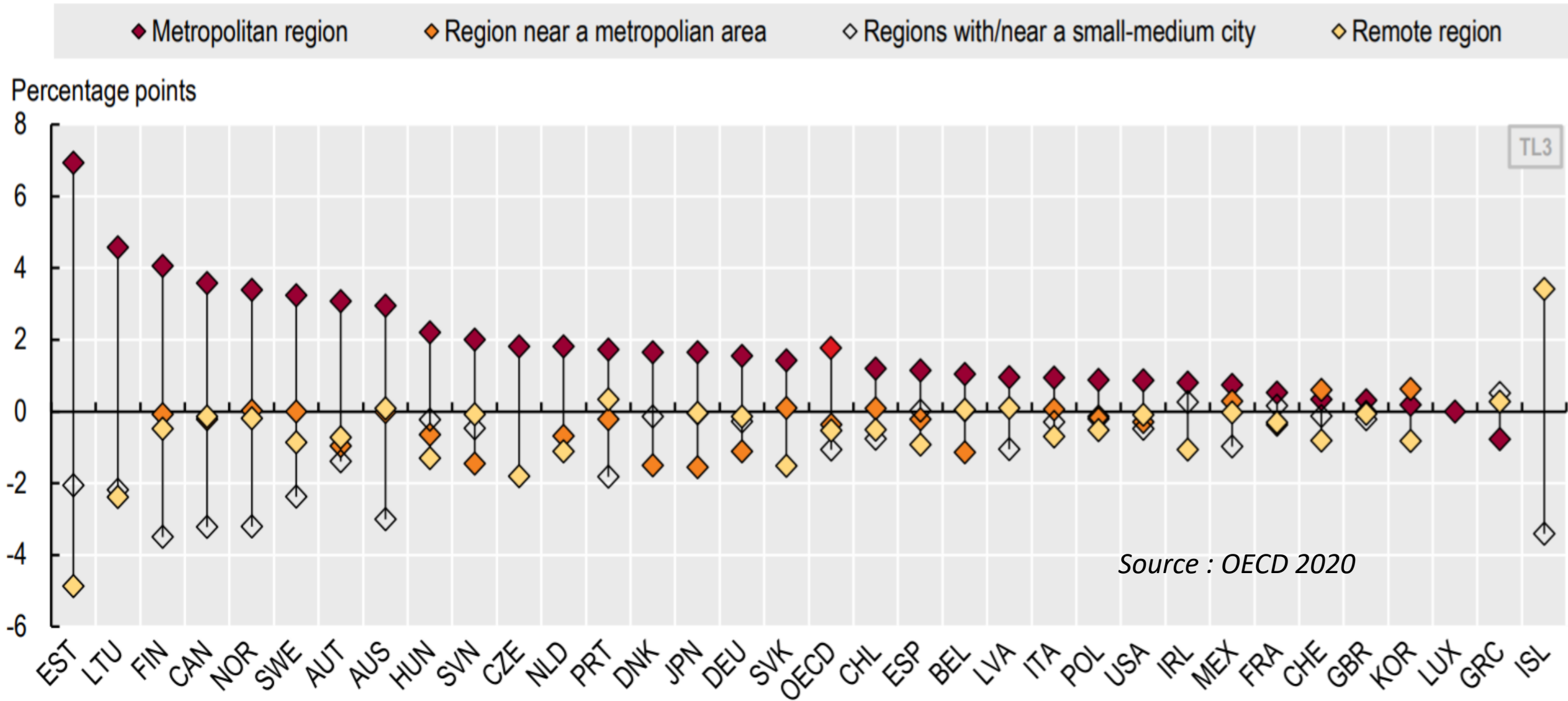


Differential urbanization model

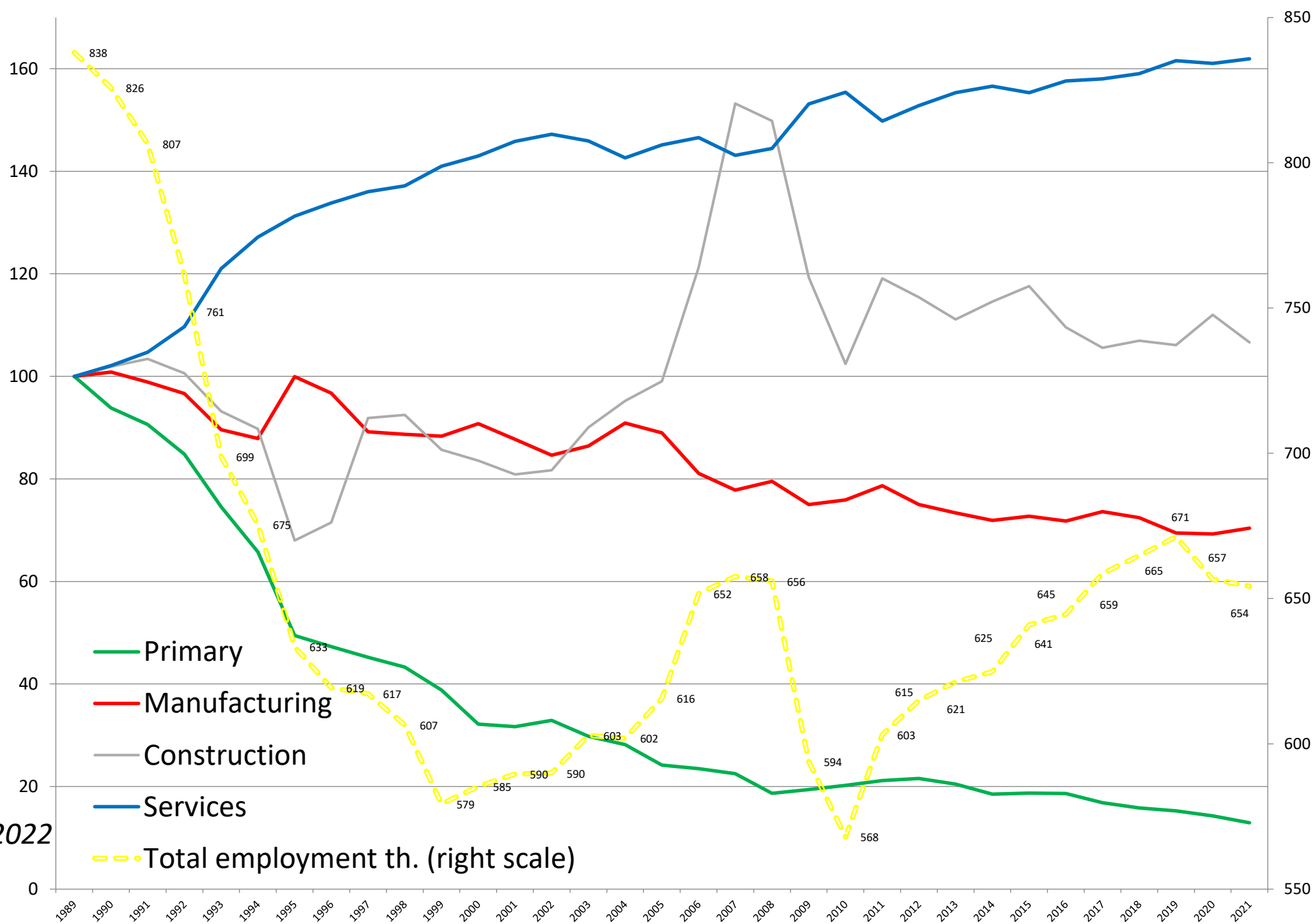


Source: Geyer & Kontuly 1993

Change in the share of population by type of regions (TL3), 2000-19

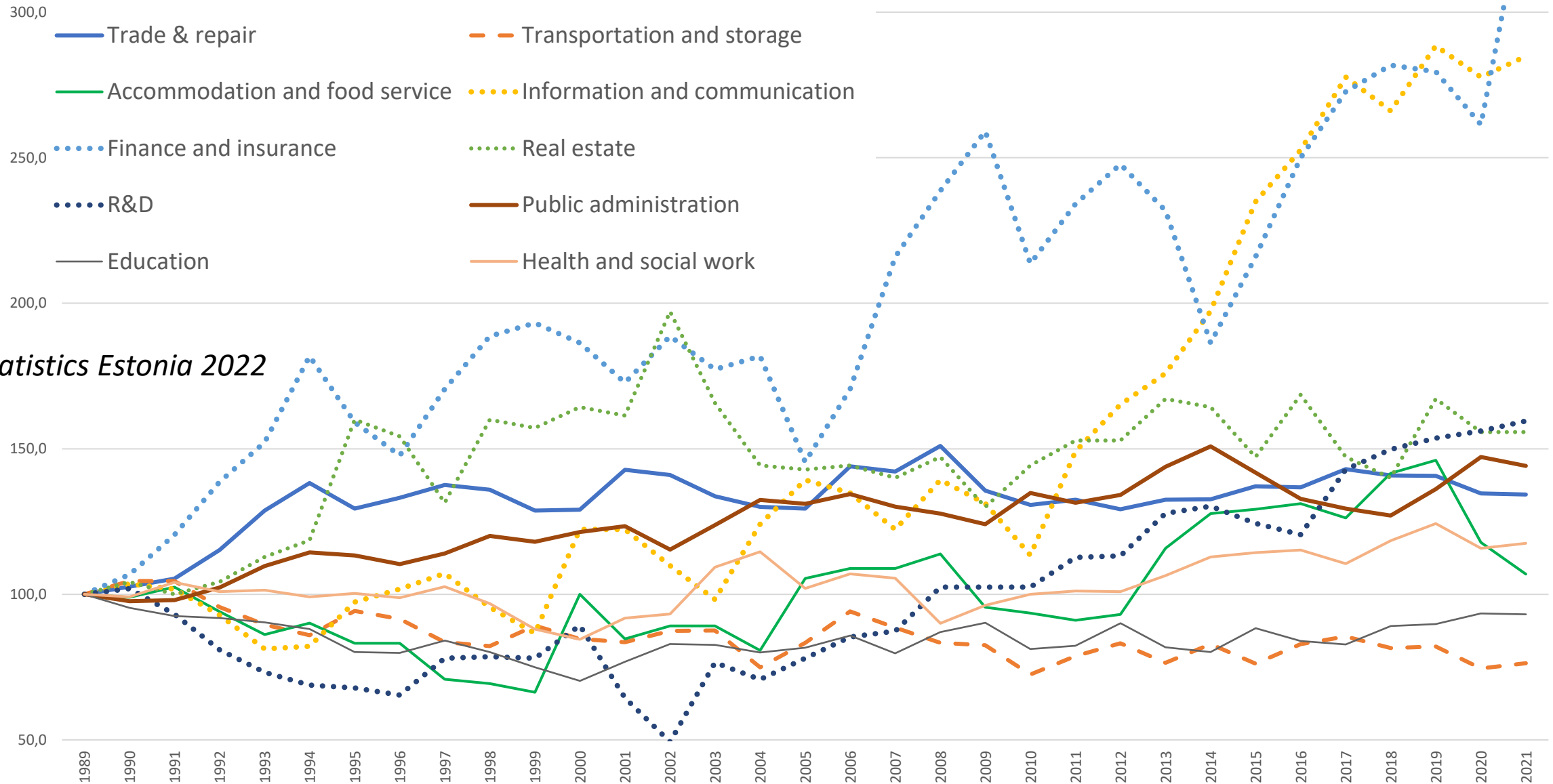


Estonian employment structure by main sectors and total employment 1989-2021. 1989=100%.

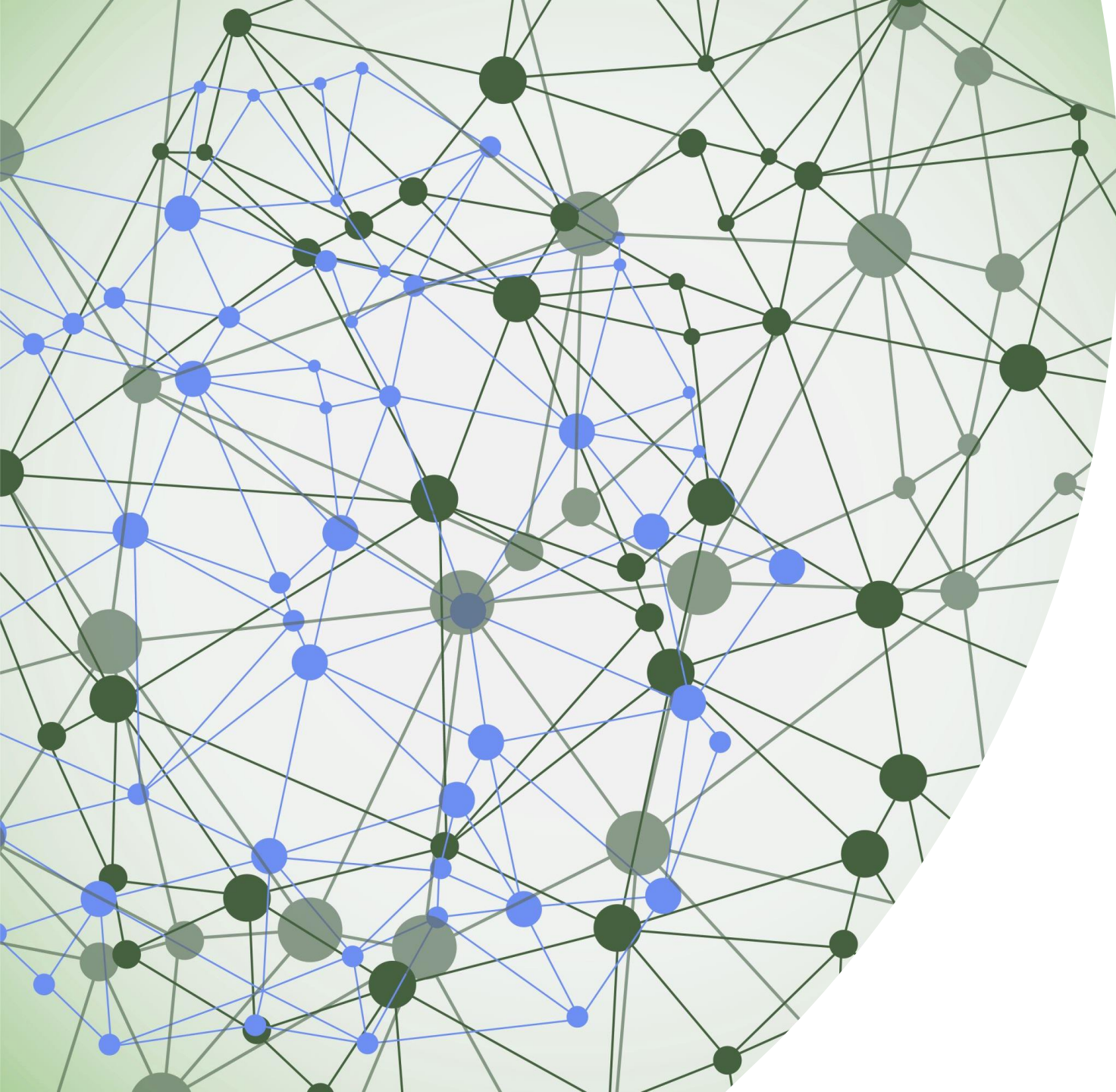


Source: Statistics Estonia 2022

The employment change in service industry subsectors 1989-2021. 1989 = 100%



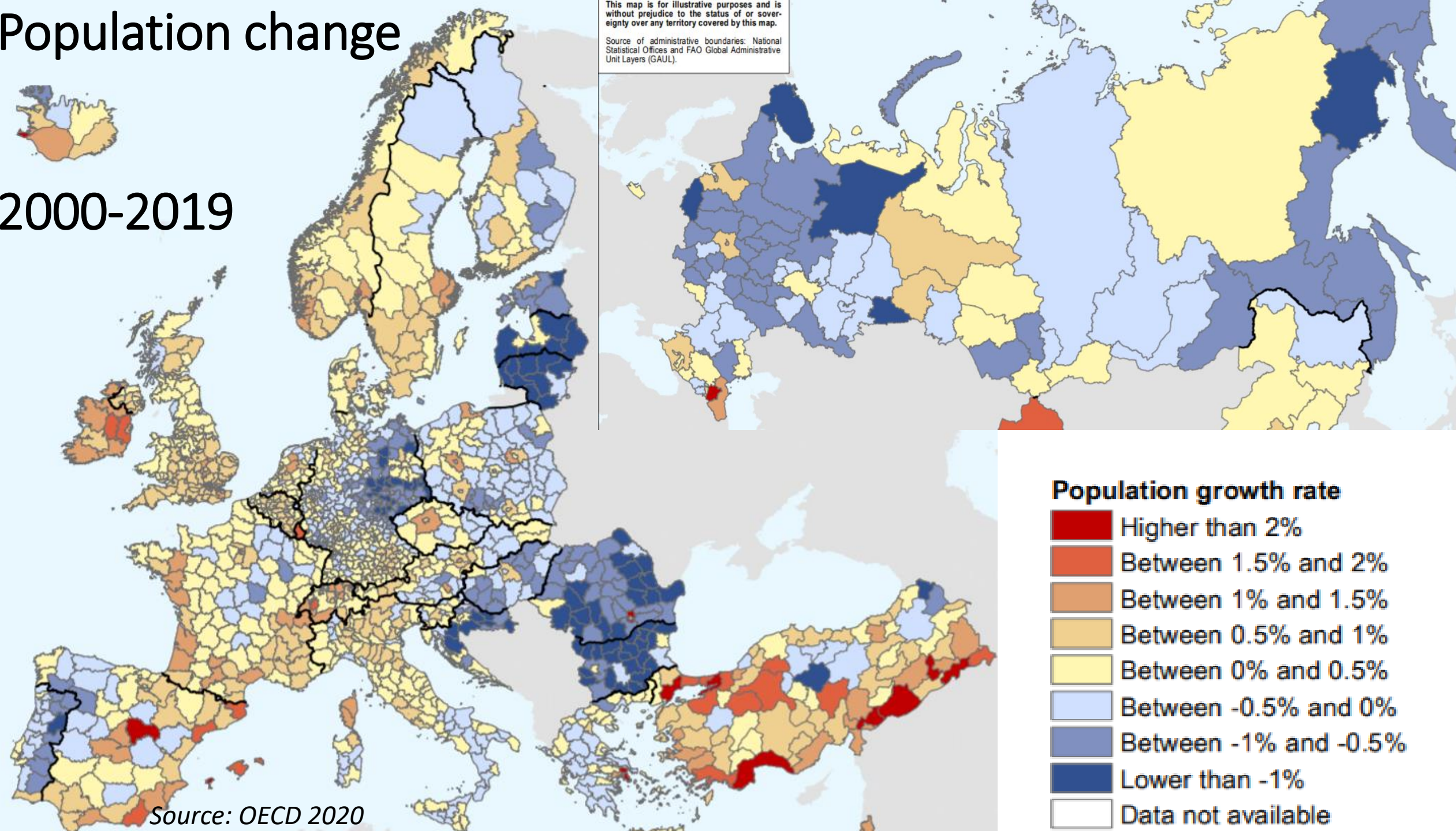
Source: Statistics Estonia 2022



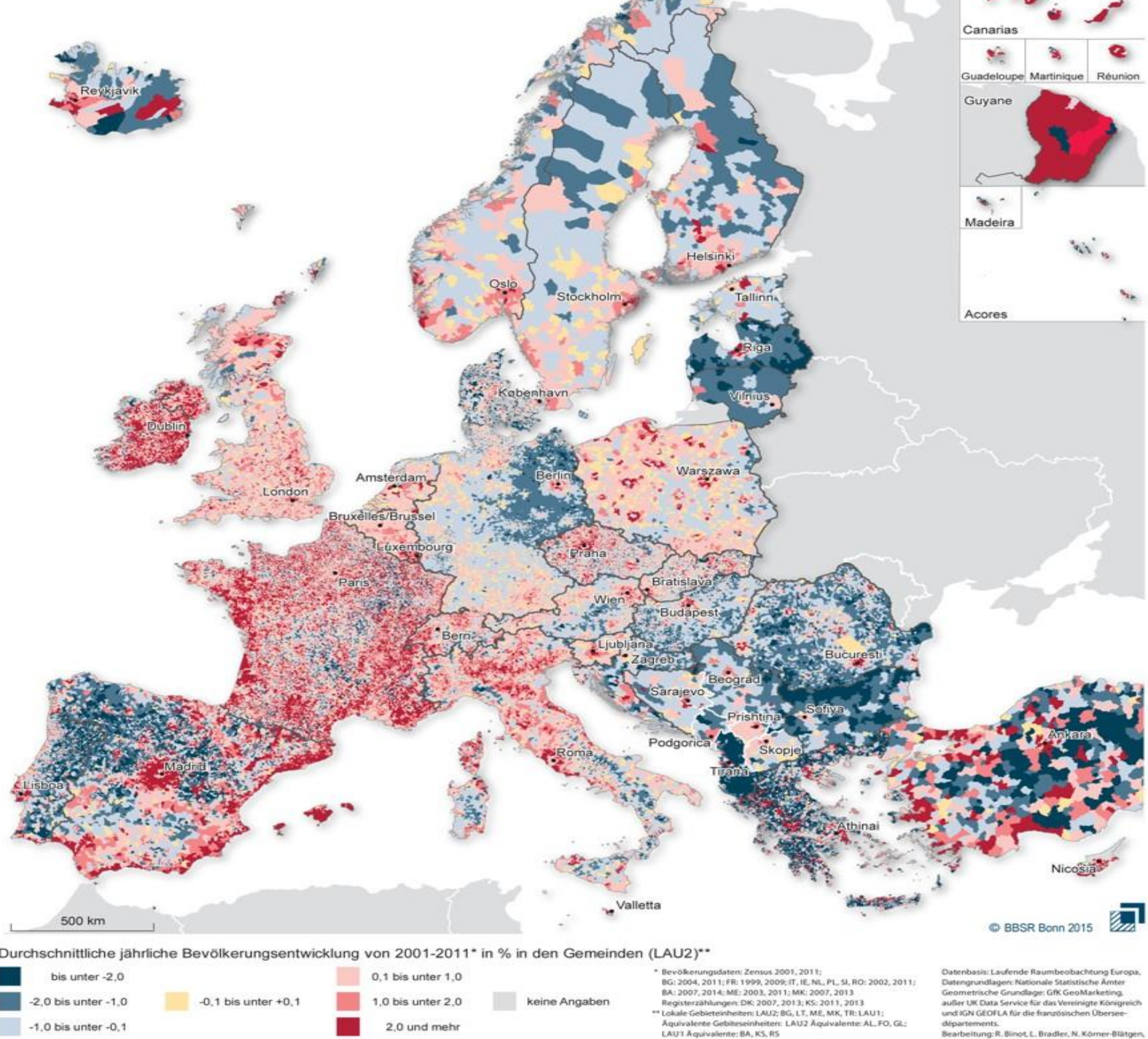
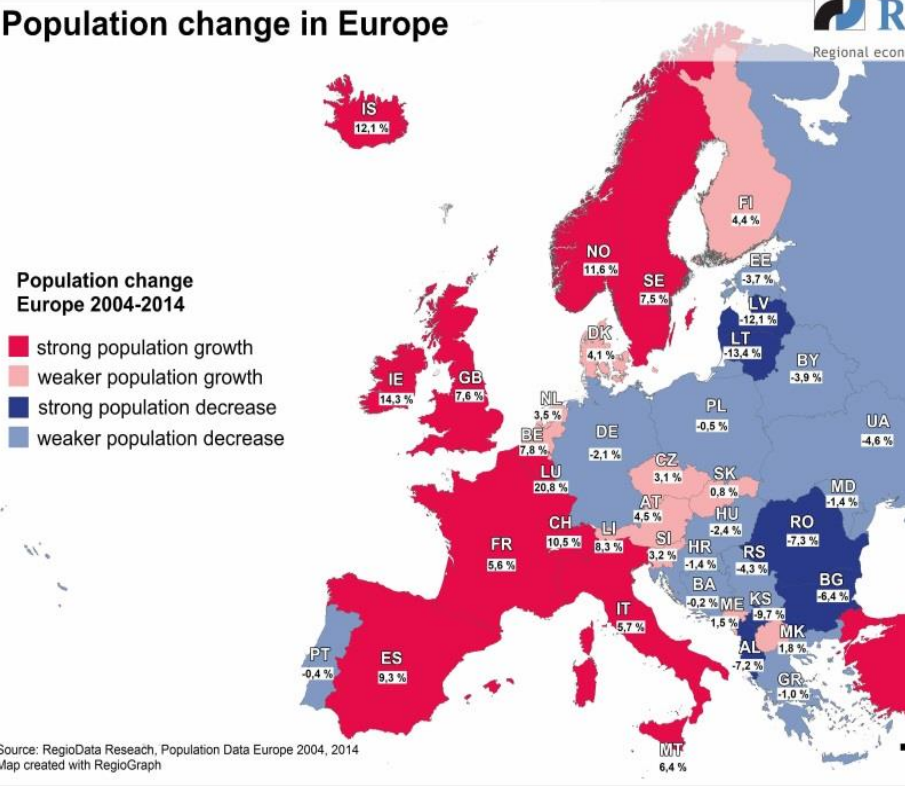
Urbanization –
not
everywhere
and any time
the same

Population change

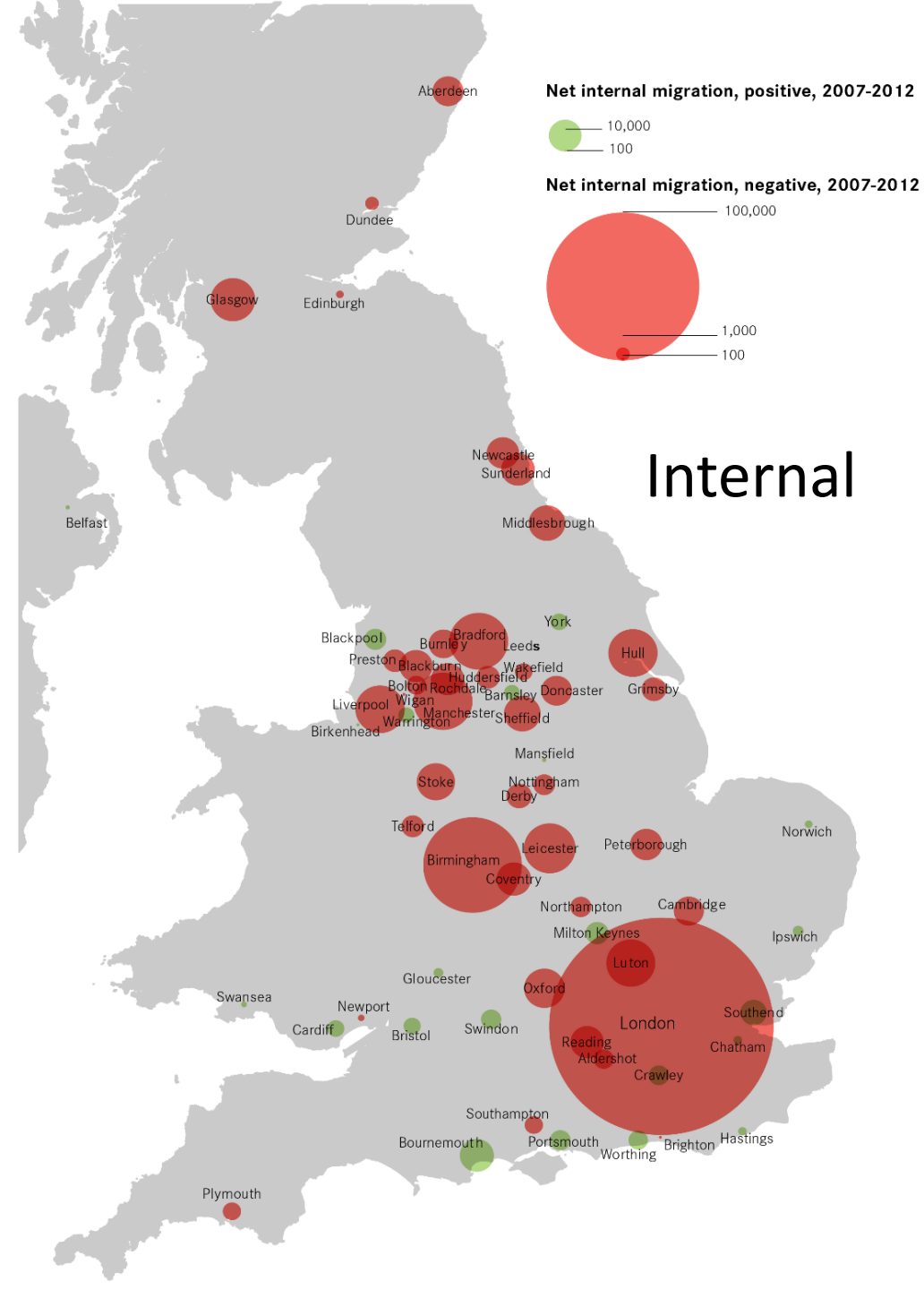
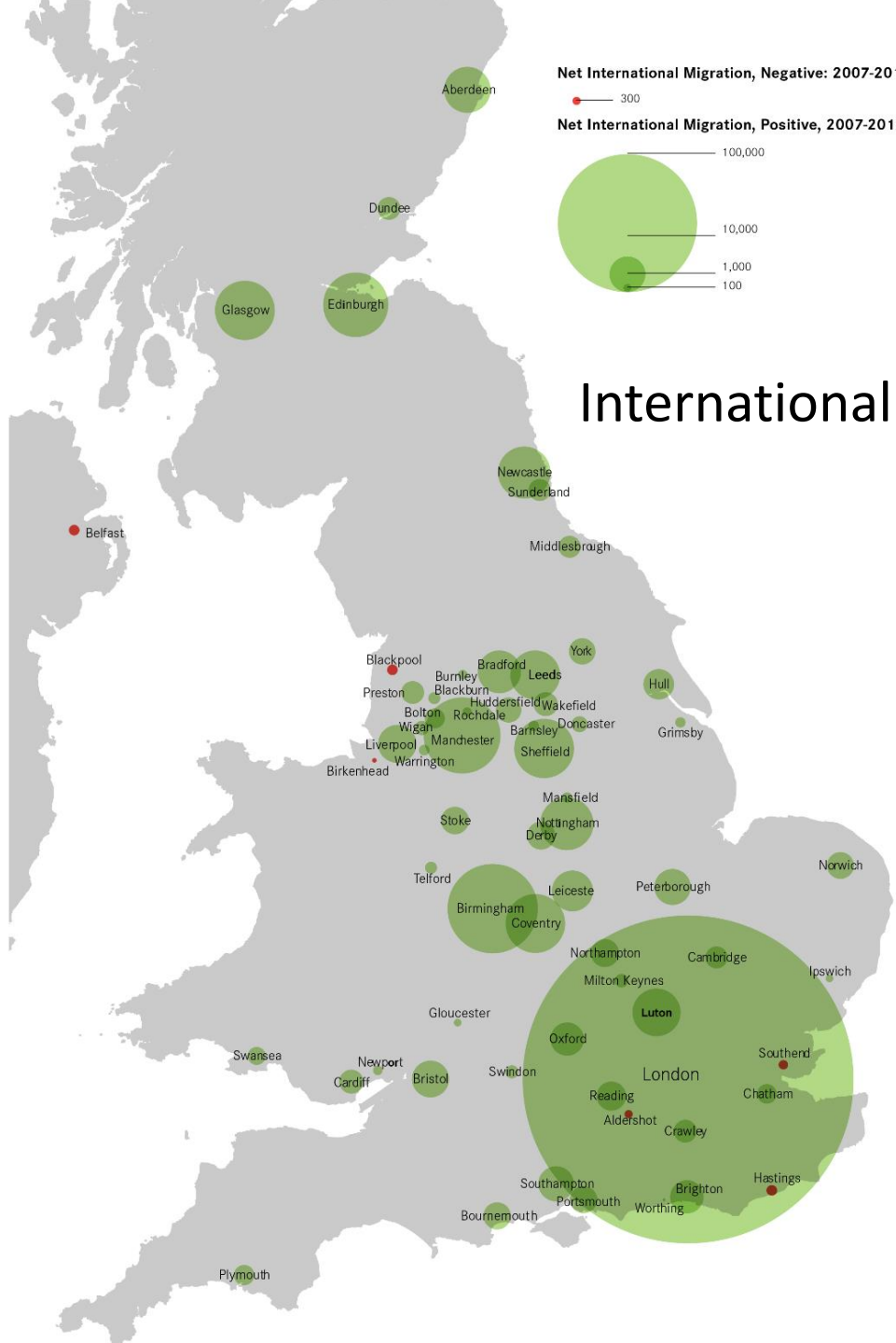
2000-2019



Population change in European countries and LAU2 units 2001-2011



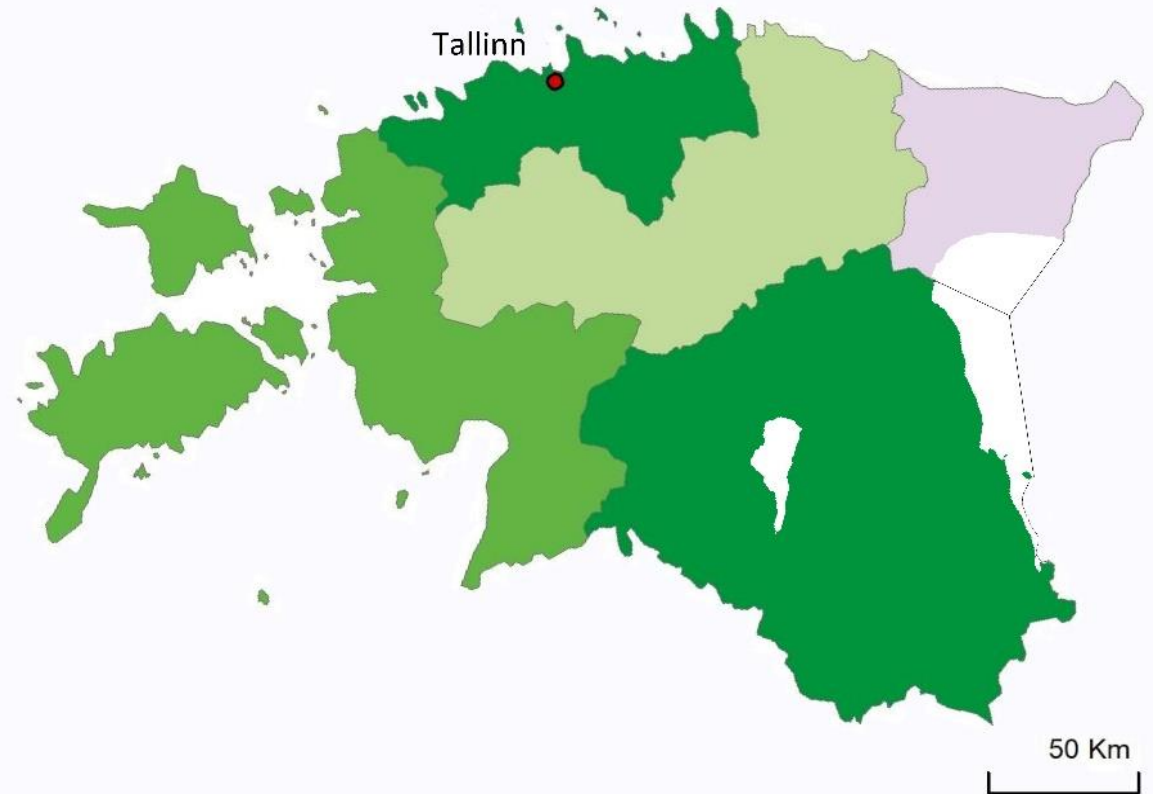
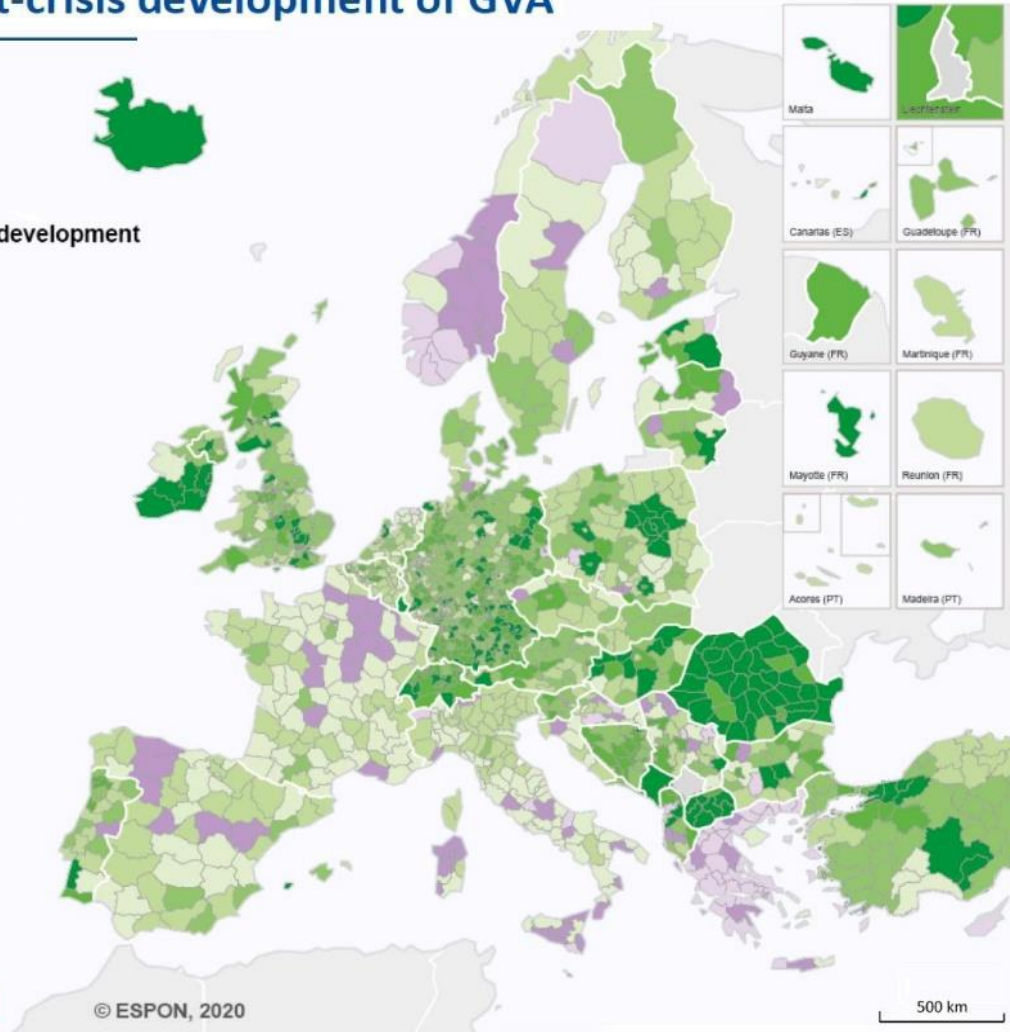
British cities are losing their native population, replaced by immigrants. International and internal migration flows 2007-2012 in the UK.



CEE countries are catching up economically – people will return to their homes

Recent post-crisis development of GVA

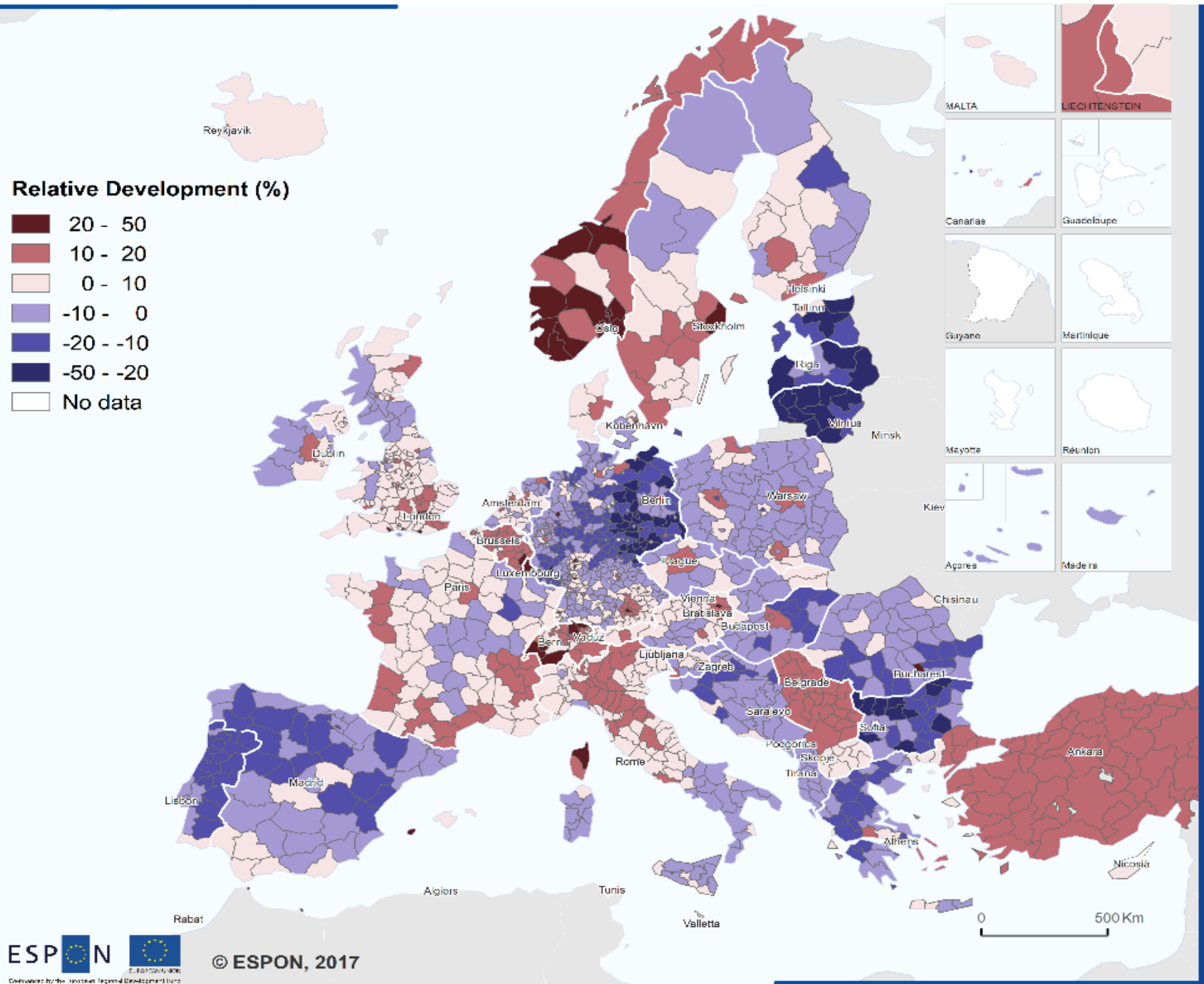
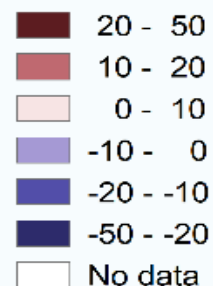
Gross value added development in % 2012–2016



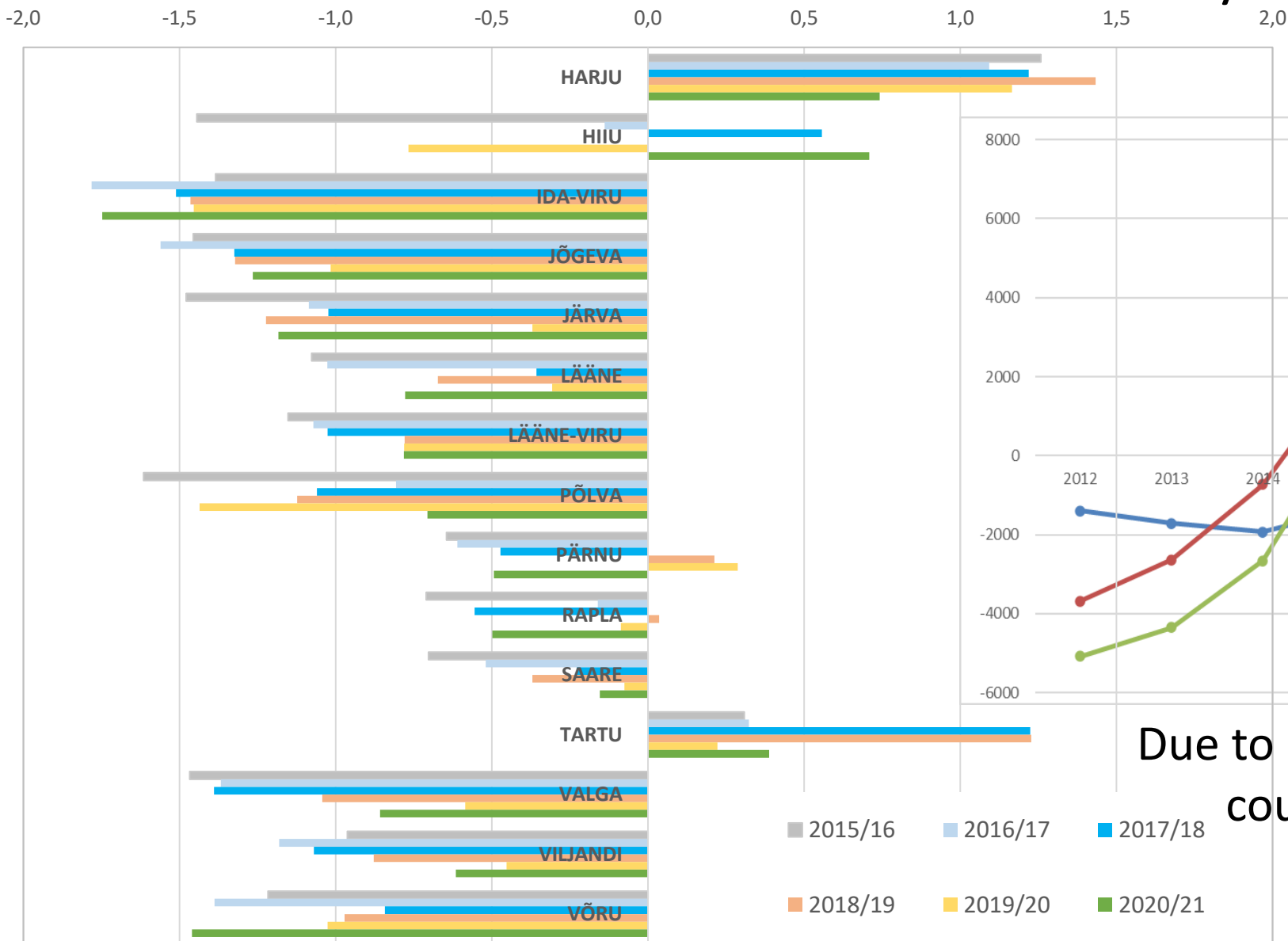
Therefore, do not trust linear forecast's!
Long term migration flows probably do not continue. Quite a number of workers will return to their home countries. And now 5+ million Ukrainians came in.

Population development 2014 - 2030

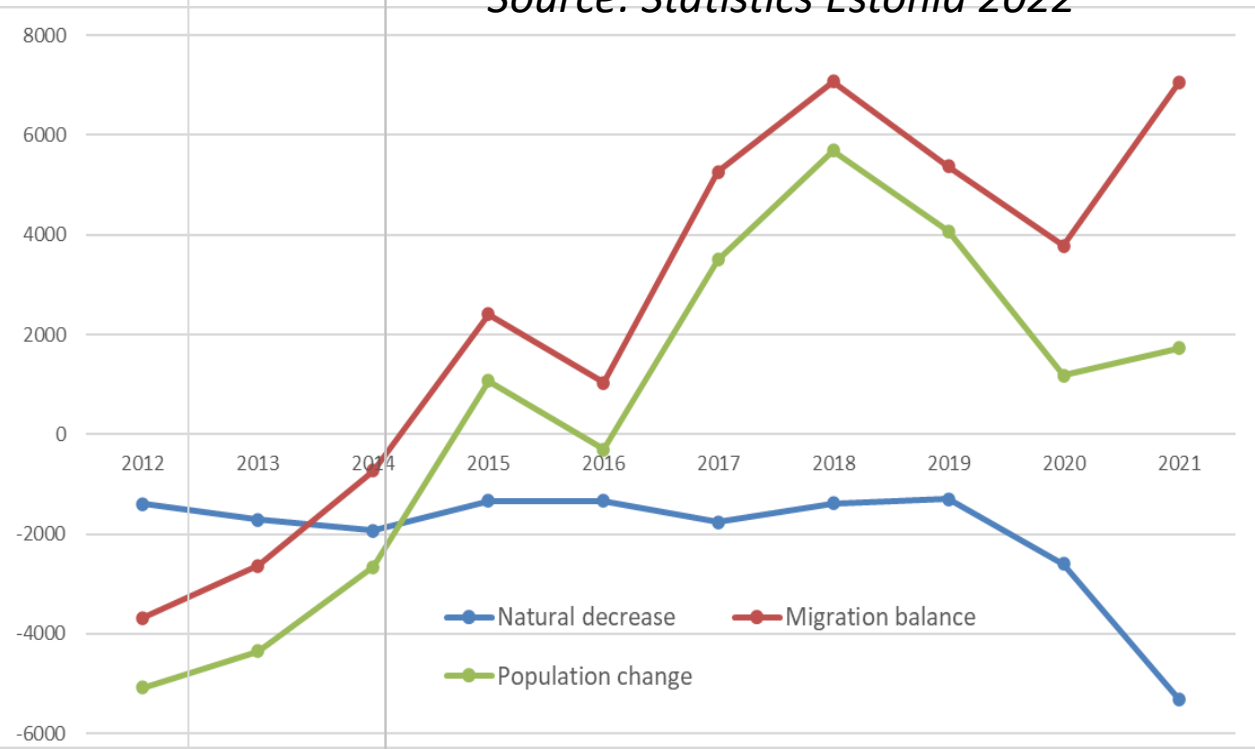
Relative Development (%)



Population change in Estonian counties 2015-21 & main country indicators (small figure)



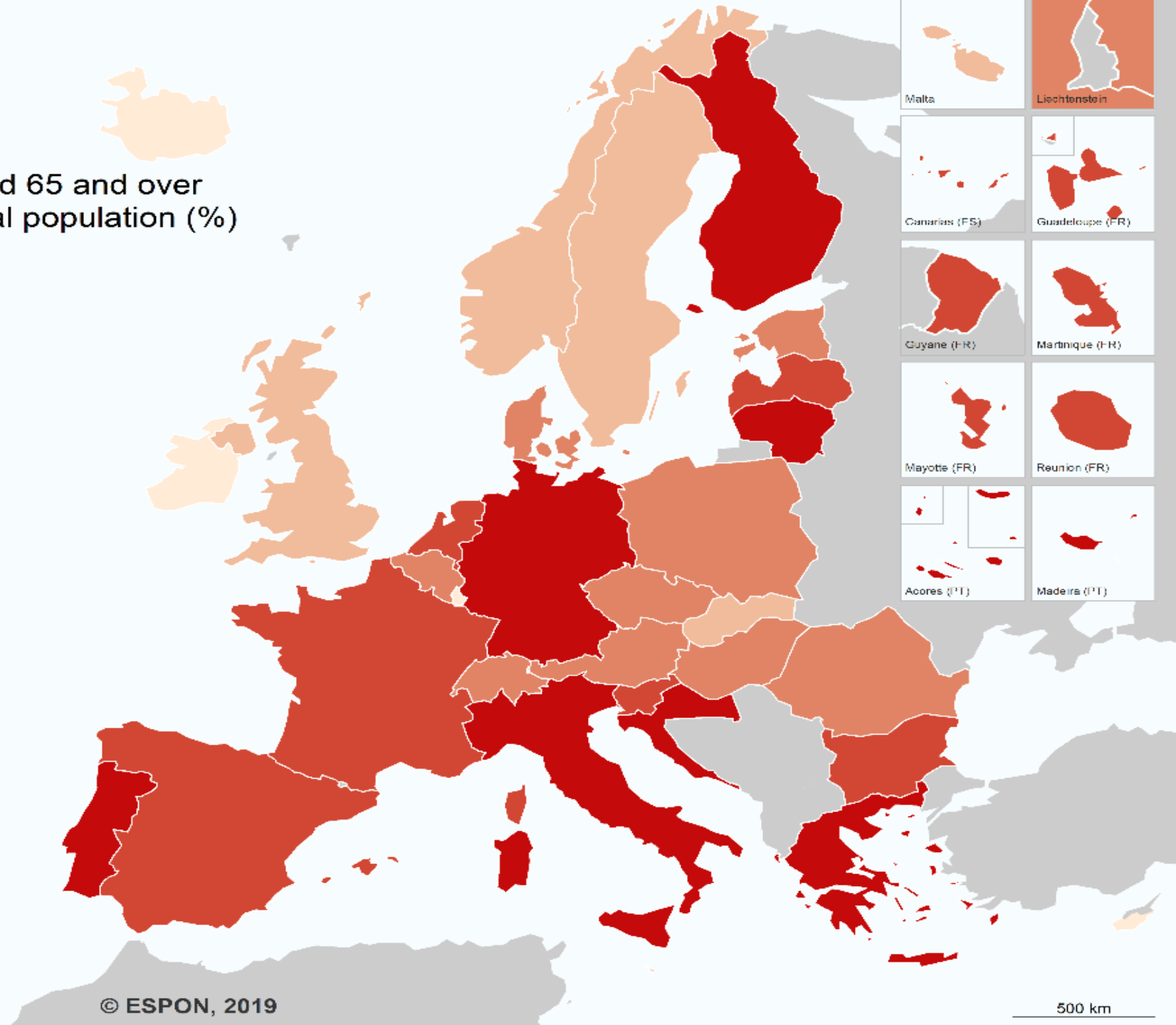
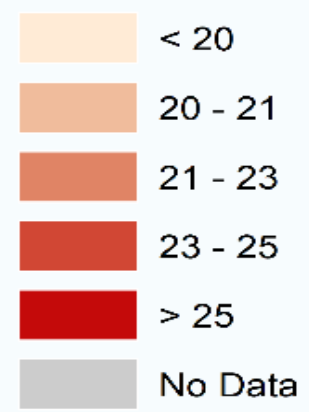
Source: Statistics Estonia 2022



Due to migration reversal several remote counties decline less extensively and some turned to positive track

By 2030, nearly 24% of the population in the European Union is expected to be 65 or older.

Population aged 65 and over as share of total population (%)

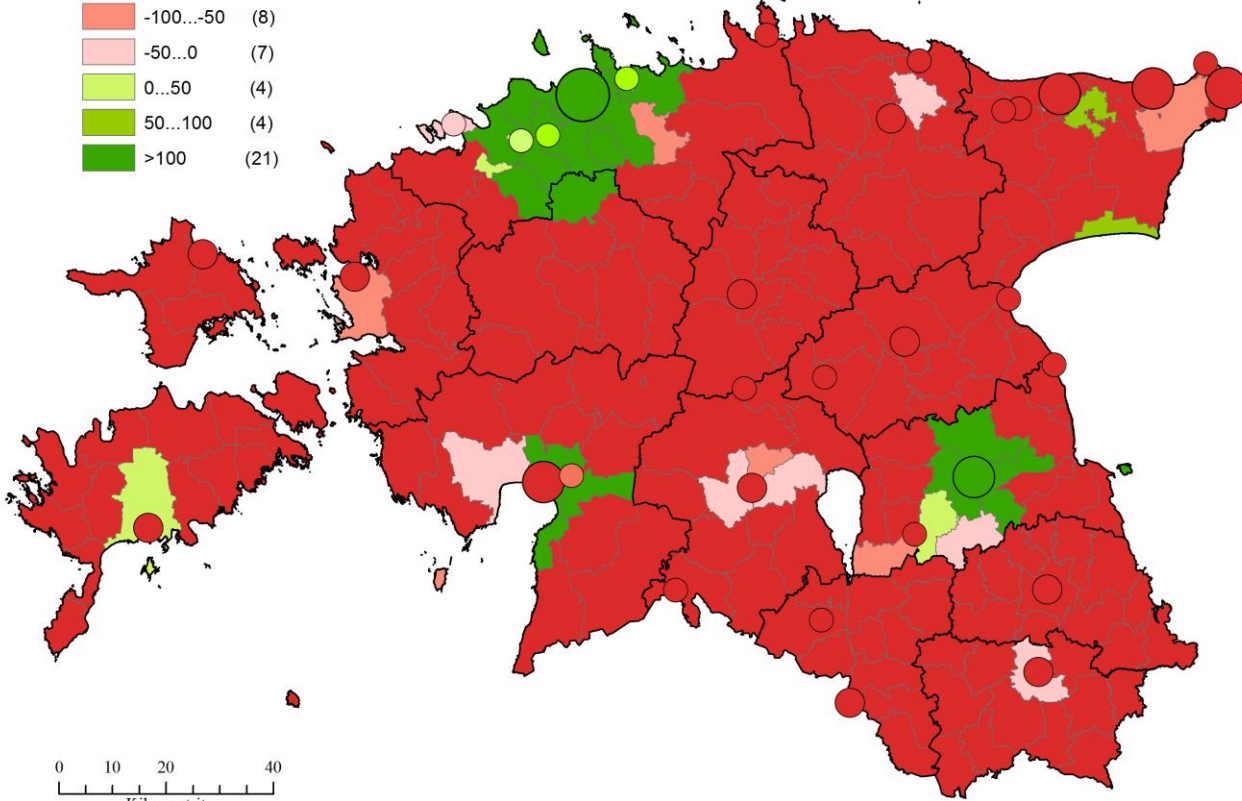
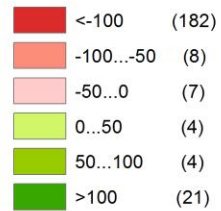


Young move to the cities.

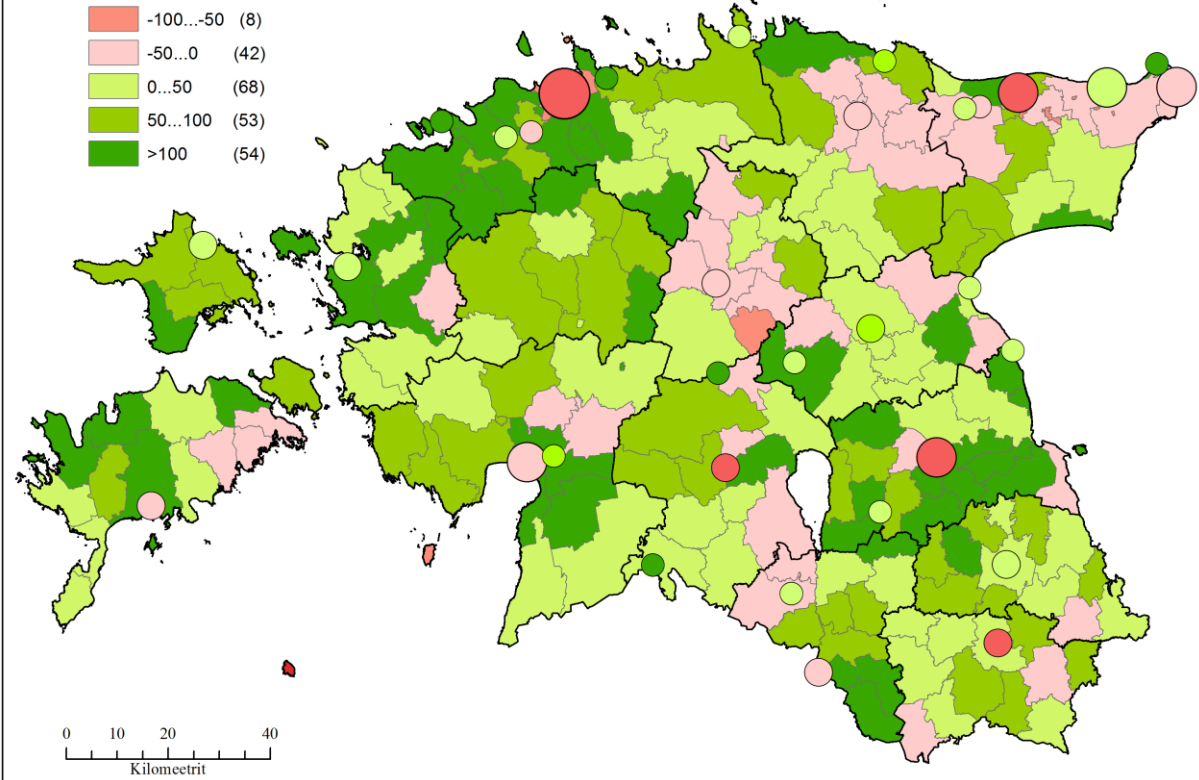
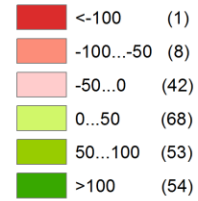
Elderly to the opposite.

Population change of youth and work leavers in Estonia 2000-2011. Census data.

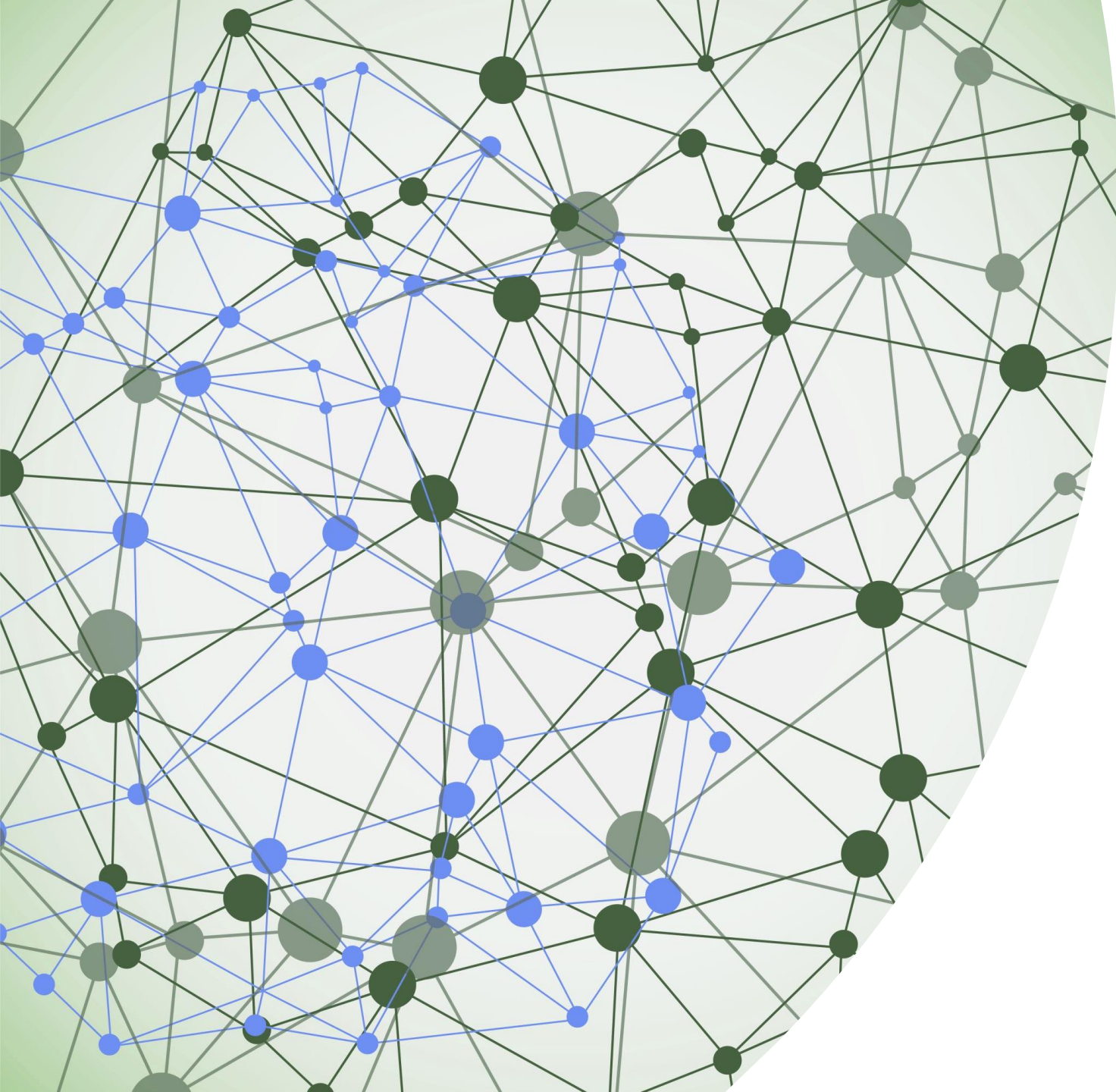
Youth migration rate in Estonian municipalities 2000-2011 (‰)



Work leavers migration rate in Estonian municipalities 2000-2011



Source: Statistics Estonia, Census 2011 data, compiled by Kadri Leetmaa.



Climate change
and shift to
green energy
production will
create new
industrial and
population
geography

We're facing global economic recession prior to the Green energy growth period

1st Kondratieff wave

1780 – 1830
Steam engine, textile industry

2nd Kondratieff wave

1830 – 1880
Railway, steel

3rd Kondratieff wave

1880 – 1930
Electric engineering

4th Kondratieff wave

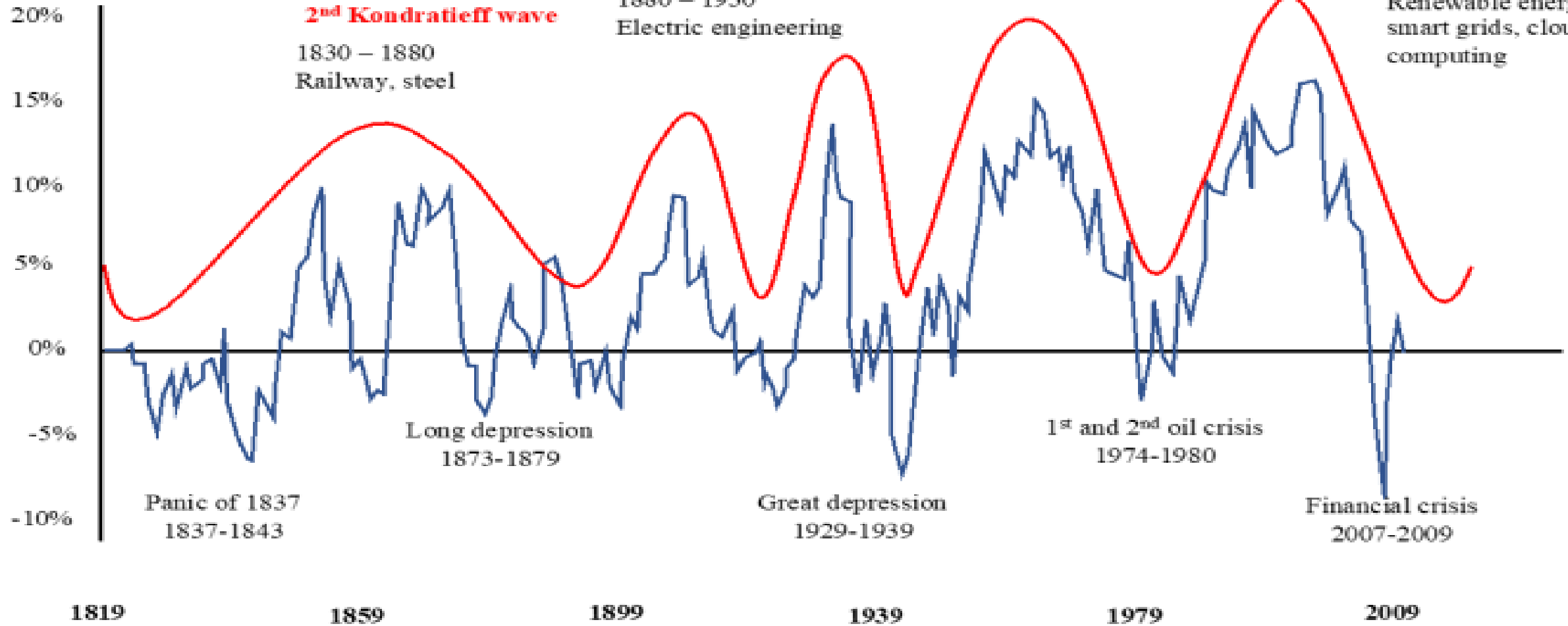
1930 – 1970
Automobiles, petrochemicals

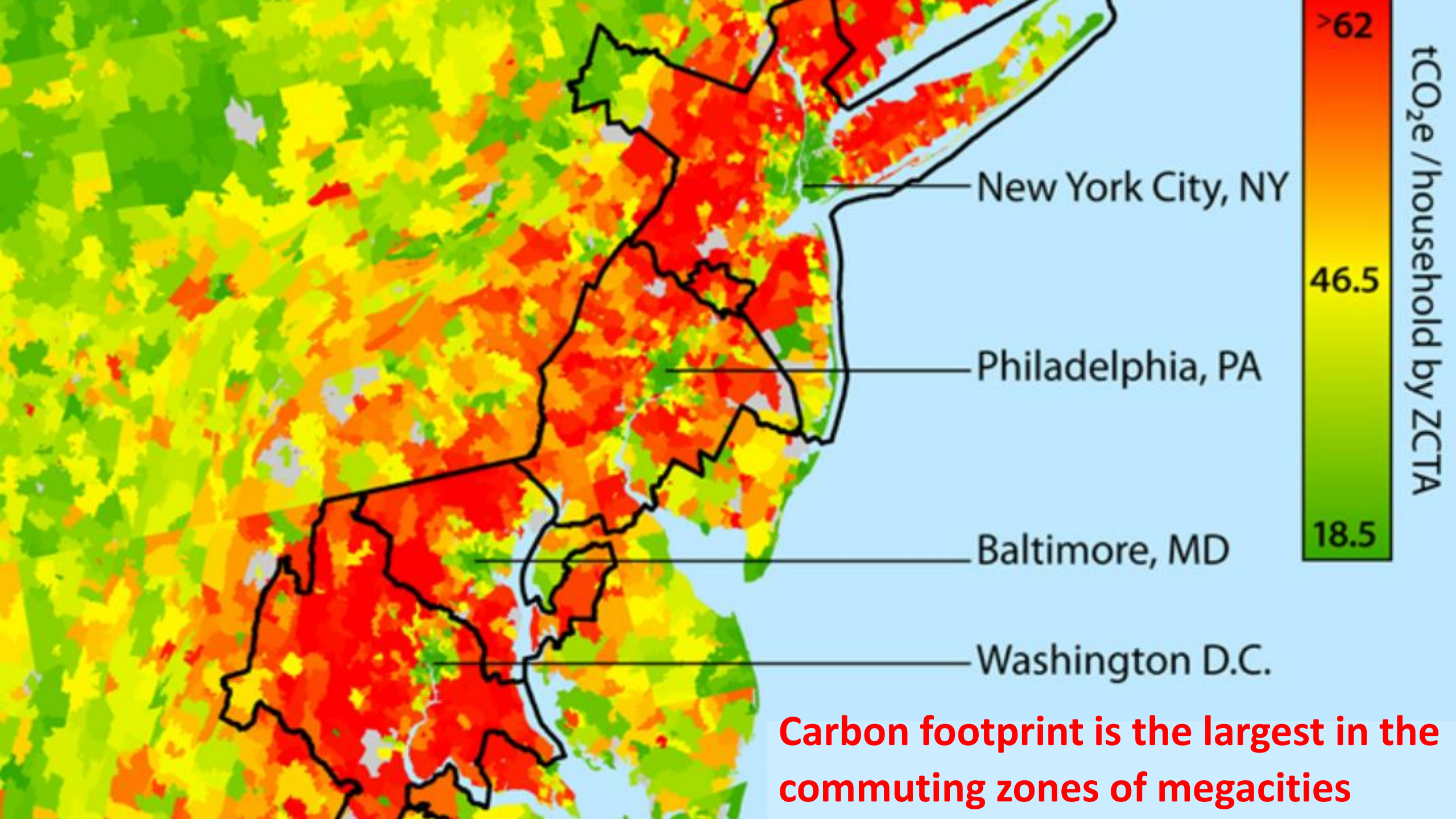
5th Kondratieff wave

1970 – 2010
Information technology

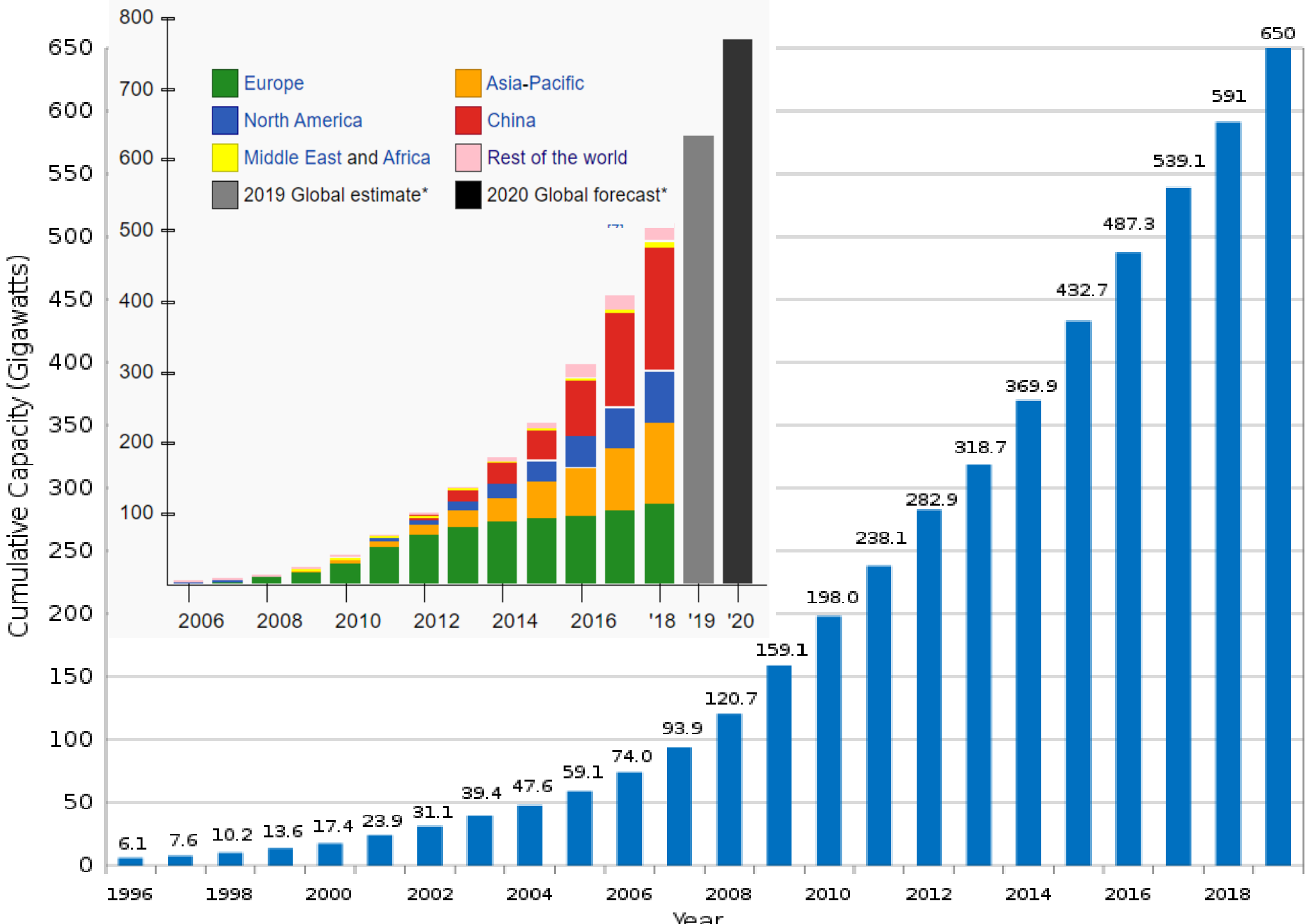
6th Kondratieff wave

2010 – 20XX
Renewable energies, smart grids, cloud computing





Windmills
and solar
panels
(small
figure)
installed
global
capacity
(GW)



Where to produce green energy here?
Centre of Tokyo



Plenty of space and biomass available
in SE-Estonia, Sõmerpalu

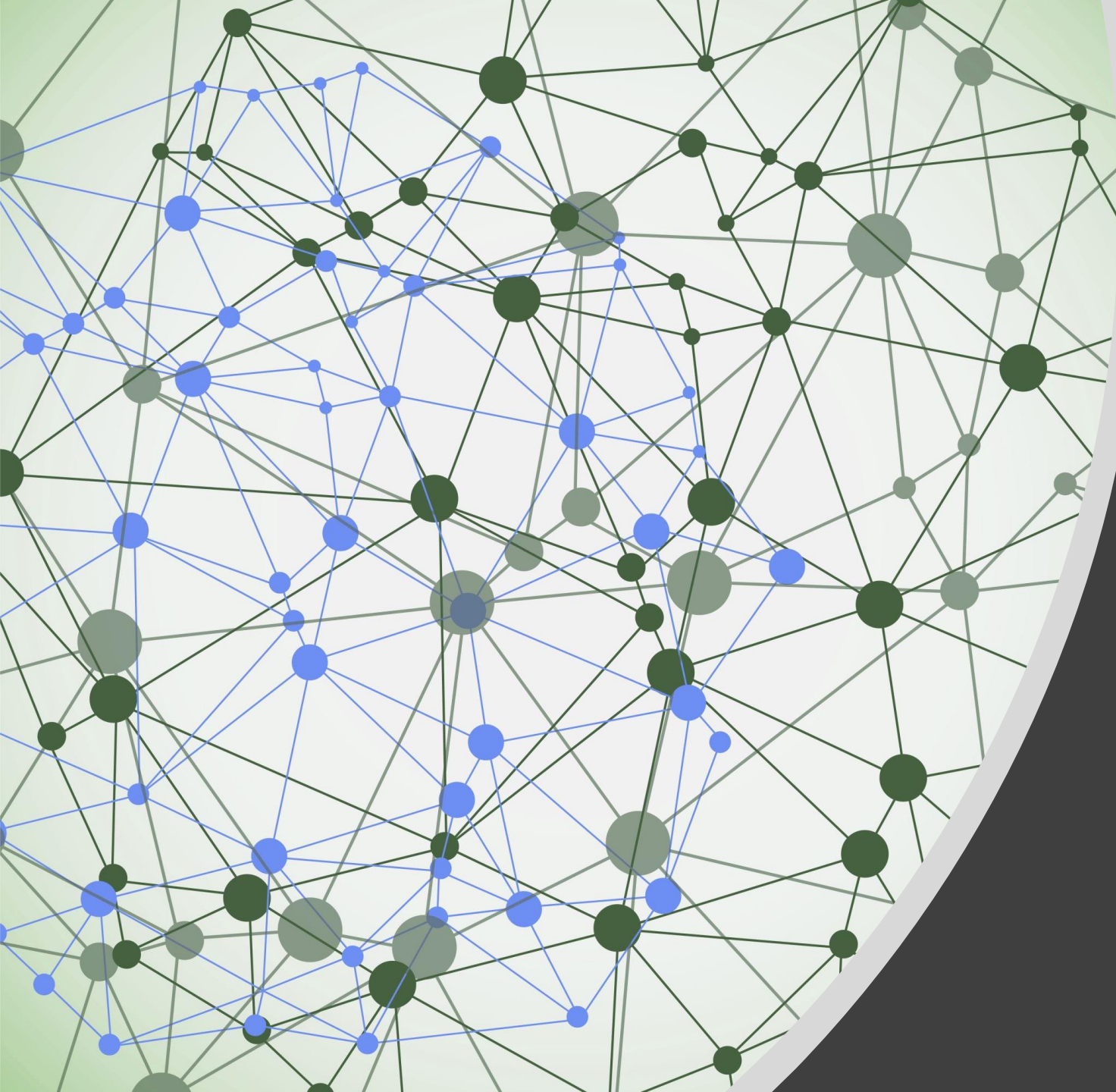


Estonian West Coast potential for
14 GW capacity in 20 years



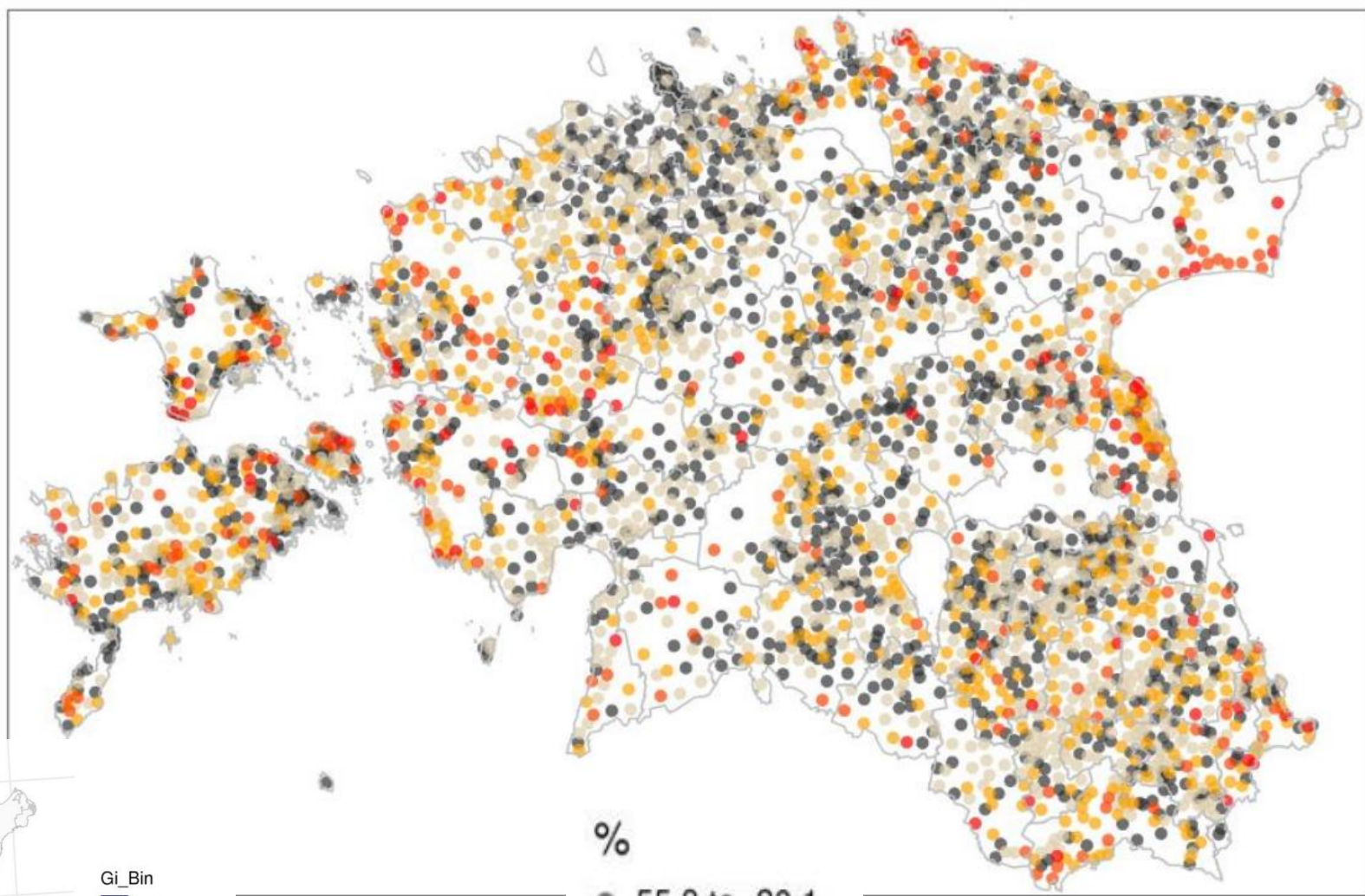
Manufacturing comeback to Europe

- The green-energy production needs much more physical space than oil/gas-based power generation.
 - **This can not be developed in high-density environments.**
- Now, when the value chains are shortened and stable cheap energy supply is more relevant than ever; we may expect growing **investments in the green energy sector and raw material-rich regions** – this means European peripheries.
- This has been supported by a trade **war** with China and the recent hot Western war with Russia – the manufacturing production returns to Europe.



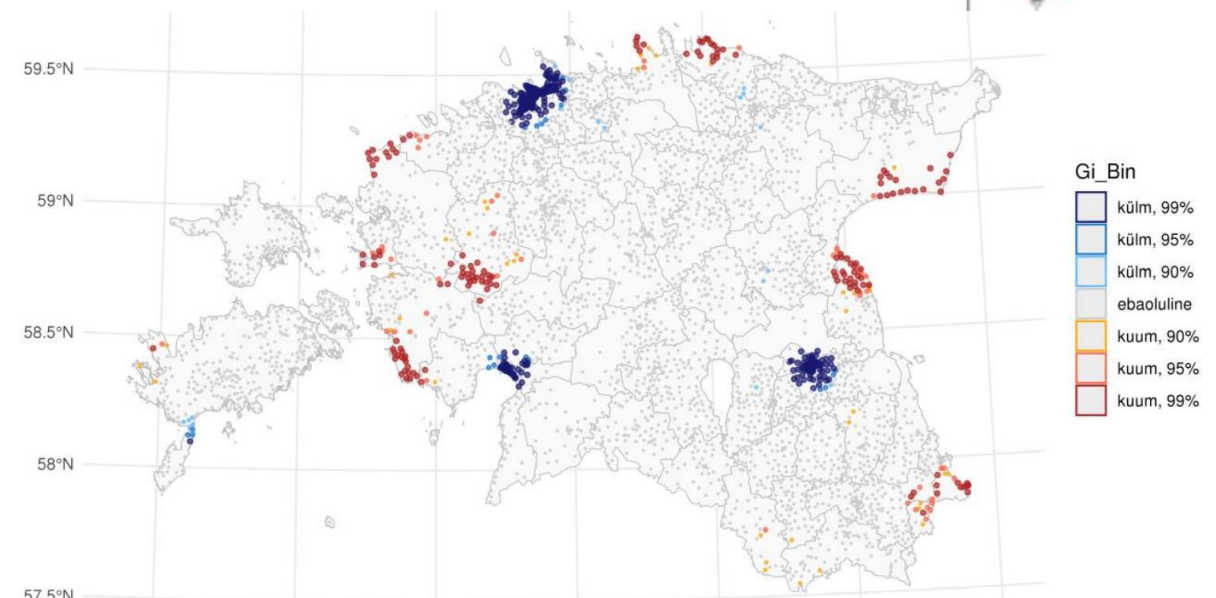
COVID19 –
Catalyst of digital
breakthrough
and spatial
deconcentration
proceses

Change in electricity consumption by ZIP-code in March 2020. Small figure reflects the same data using hot spot analysis.



- %
- -55.9 to -20.1
 - -20.1 to -0.7
 - -0.7 to 7.9
 - 7.9 to 14.9
 - 14.9 to 25.1
 - 25.1 to 41.9
 - 41.9 to 73.6
 - 73.6 to 168.1

Source: Elektrilevi, compiled by Anto Aasa



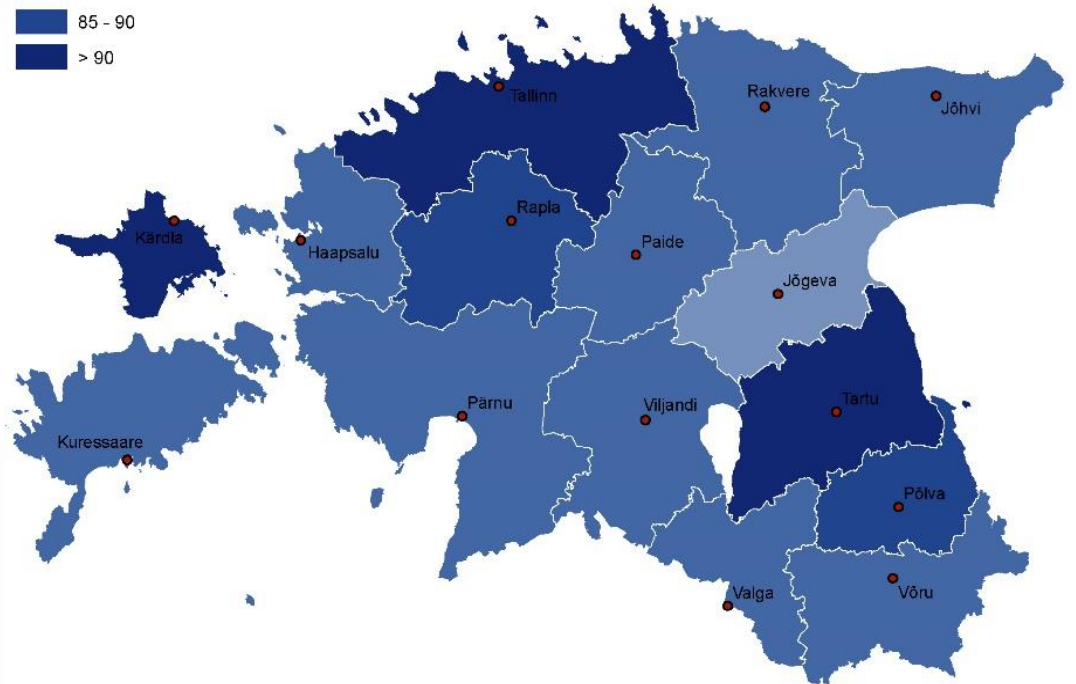
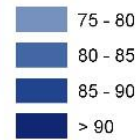
- Gi_Bin
- külm, 99%
 - külm, 95%
 - külm, 90%
 - ebaoluline
 - kuum, 90%
 - kuum, 95%
 - kuum, 99%

Opportunity for a distance work

Rapid evacuation of population needs second houses.
But long term distance work requires good internet connections too.

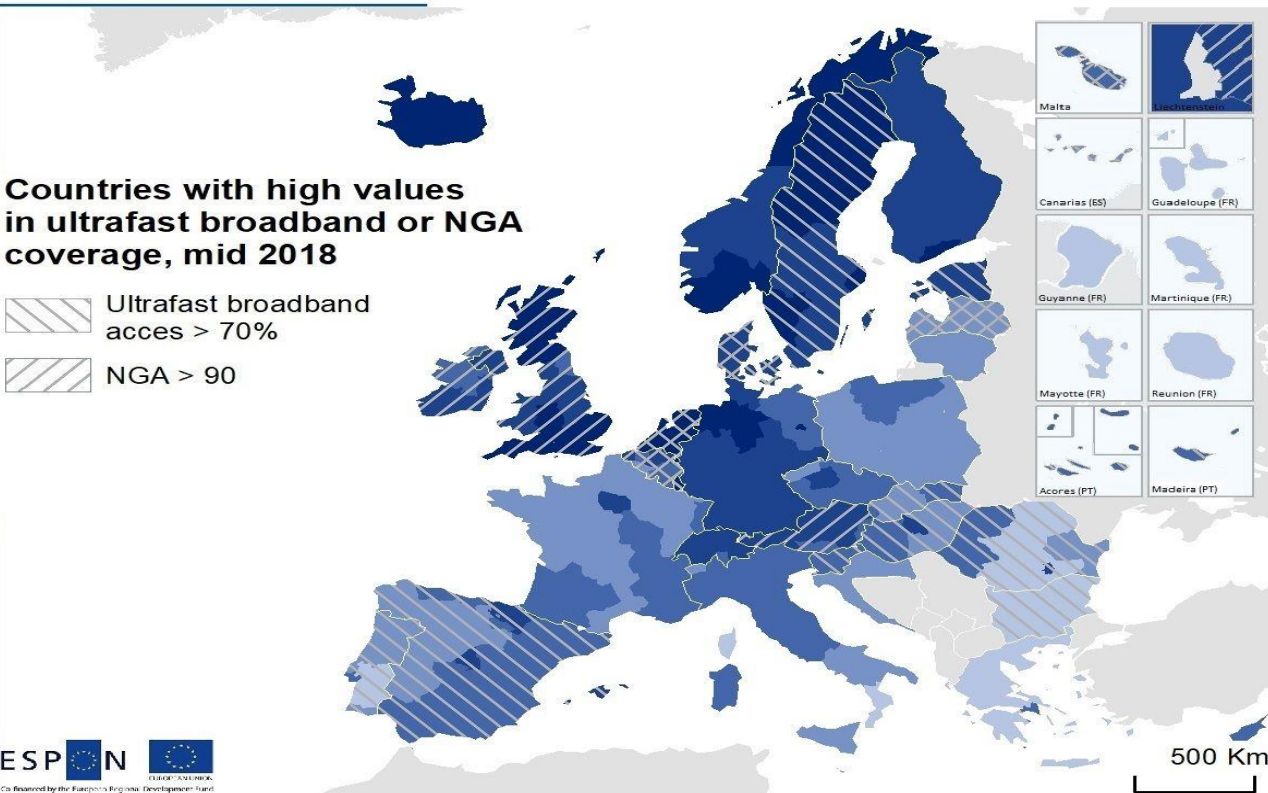
Broadband access in households

Proportion of household with broadband access, 2017 (% share of all private household)



Regional level: LAU 1 (2020)
Origin of data: Statistics Estonia (IT20), 2017

Broadband access in households and high speed internet coverage



Countries with high values in ultrafast broadband or NGA coverage, mid 2018



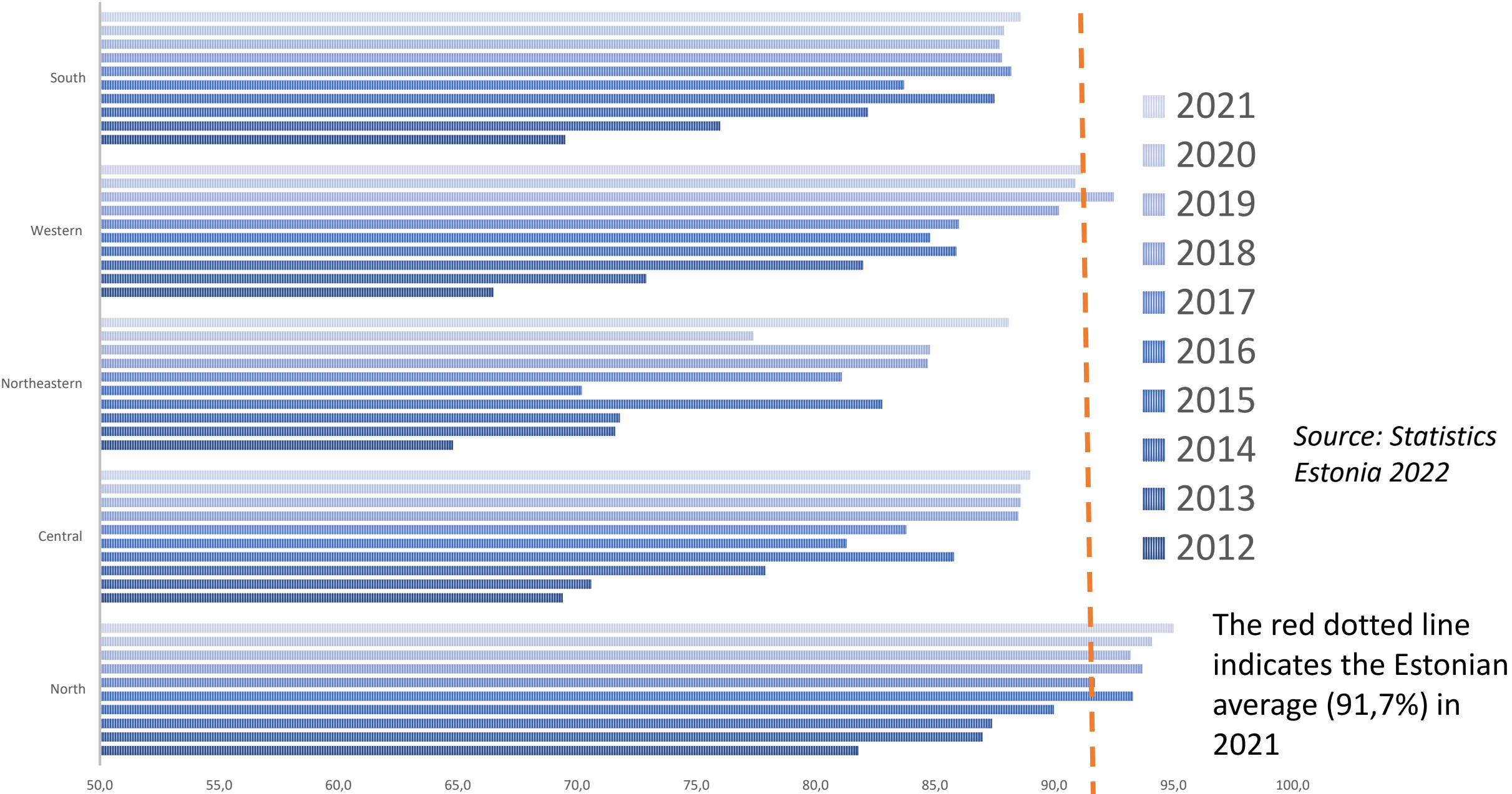
Proportion of households with broadband access, 2017 (% share of all private households)*



Regional level: NUTS 2 / 1 / 0
Source: ESPON SOET (2019)
Origin of the data: Eurostat, DESI index, 2019
* The availability of broadband is measured by the percentage of households that are connectable and thus refers to coverage.



Broadband access of households (%) in Estonian NUTS 3 regions.



Distance workers in Estonian counties 2019 and 2020 second quarter

50

40

30

20

10

0

Tartu

Hiiu

Harju

Rapla

Lääne

Põlva

Jõgeva

Viljandi

Saare

Järva

Lääne-Viru

Võru

Pärnu

Valga

Ida-Viru

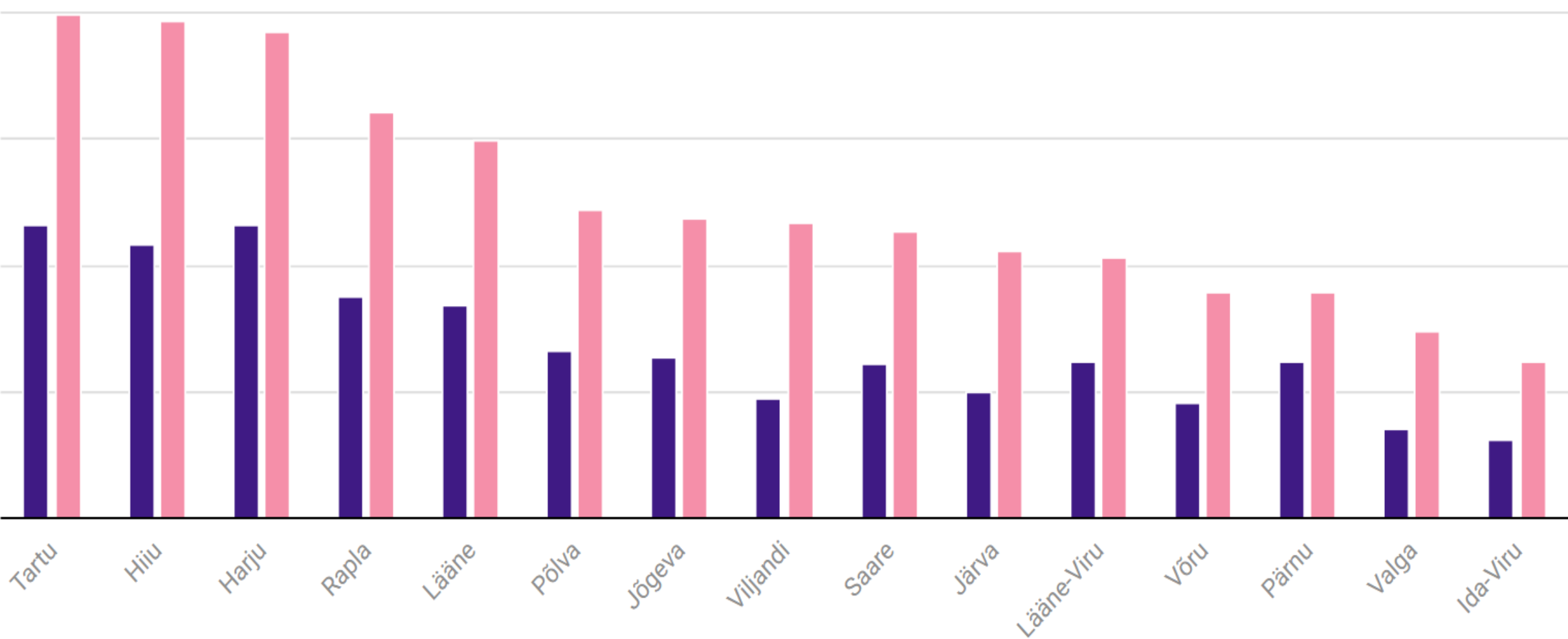


2019. aasta

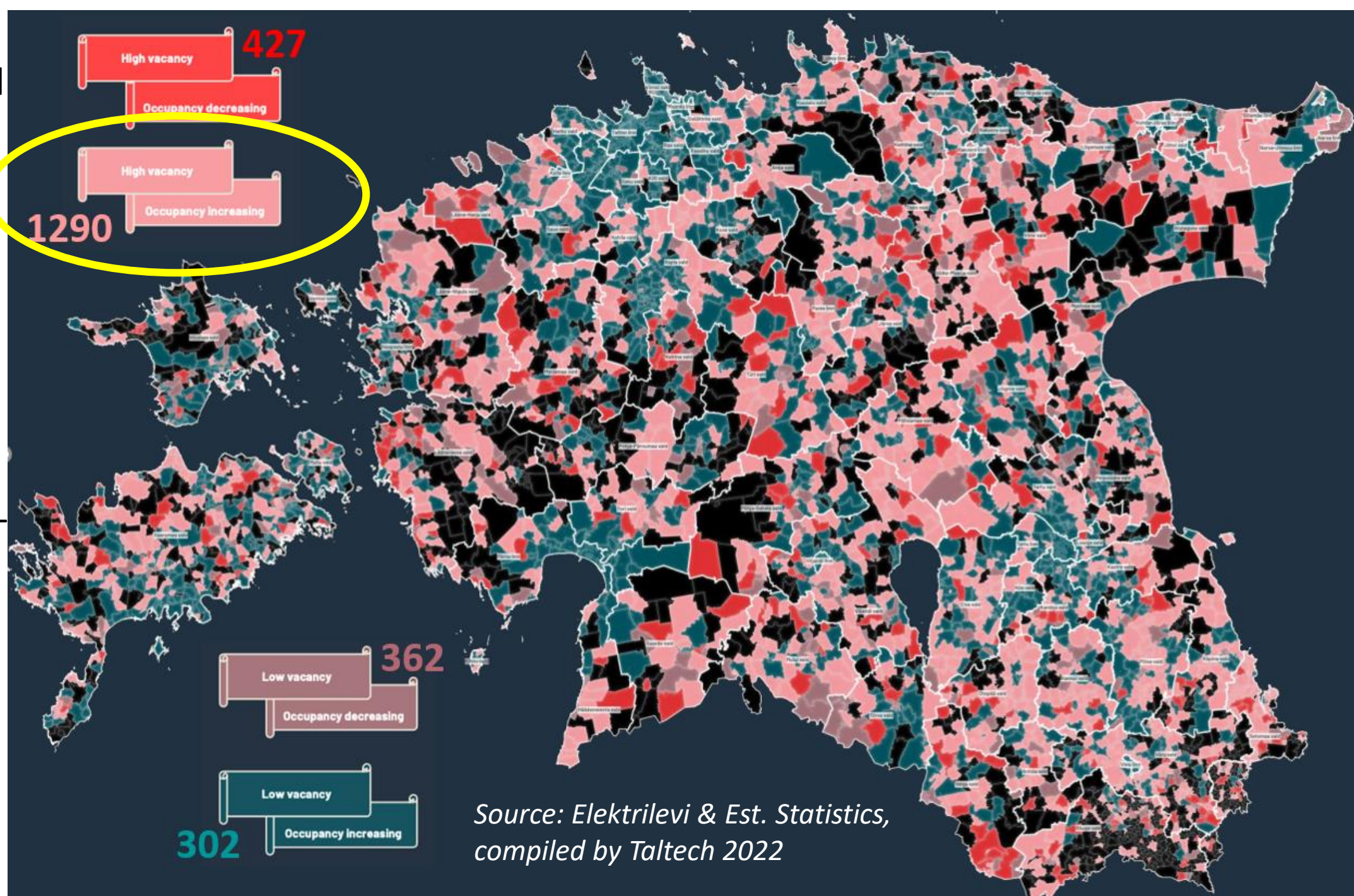


2020. aasta II kvartal

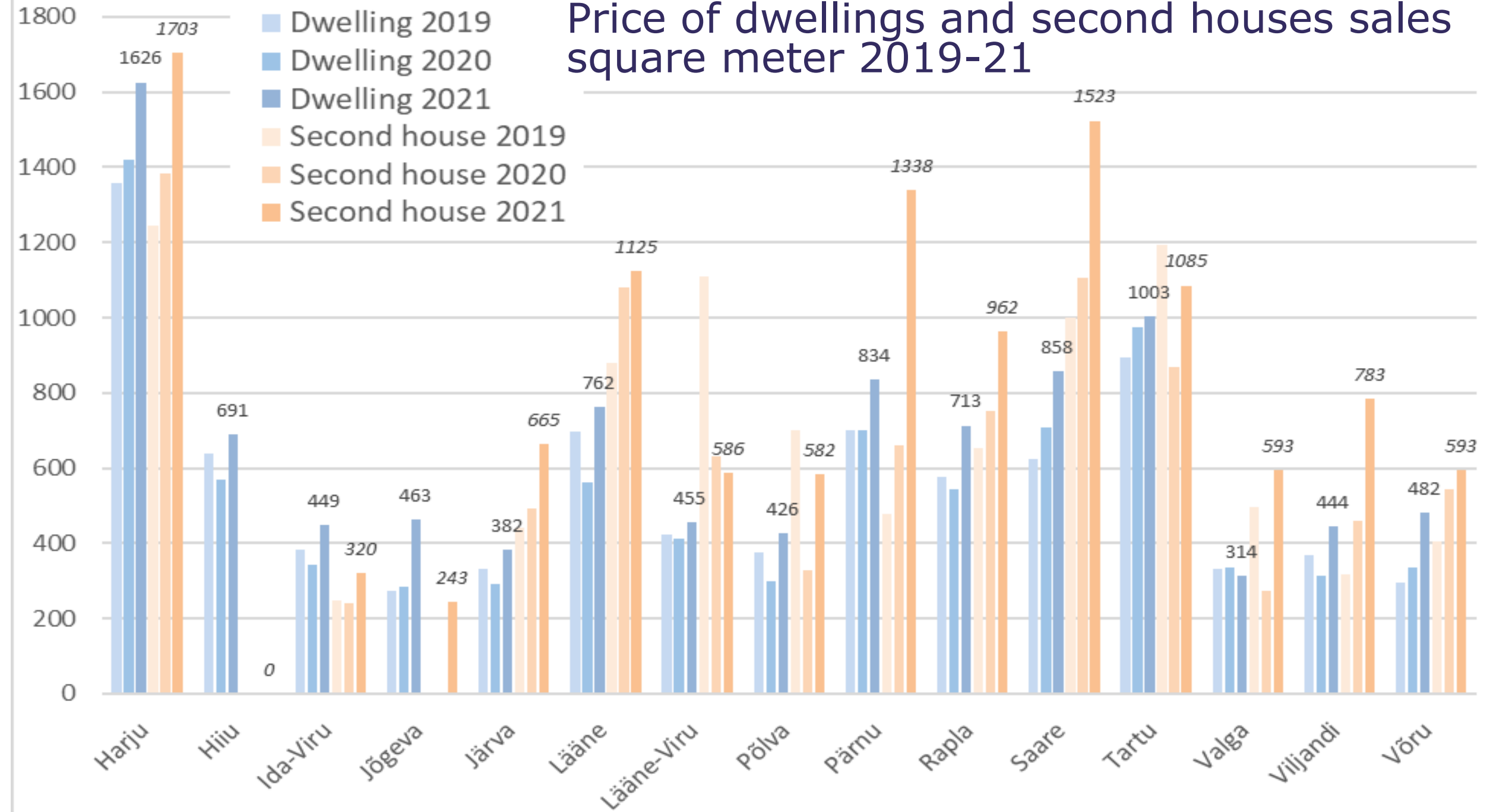
Source: Estonian Statistics 2020



Housing vacancy based on electricity consumption in 2019 and occupancy (fulfillment/emptying) trajectory based on the population register (2013-2020) of Estonian towns and villages (except less than five inhabitants' units).



Price of dwellings and second houses sales square meter 2019-21



Conclusion: older people rush back to „better“ rural life

- Economic restructuring & loss of jobs – main reasons for the rural decline.

HOWEVER

- **Countries with a positive national migration balance generally have a growing rural population**, except in the most remote areas.
- International migrants choose cities, while natives are spread out when aging.
- The direction of rural-urban migration depends on age structure: while City lights attract young, work leavers tend to choose a better and cheaper **environment** – the countryside.
- As Eastern European countries are catching up economically, many guest workers return.
 - **2015 was the turning point for Estonia.**

Conclusion 2: Green Deal and multilocality

- Climate change and shifting **to green energy production will probably create a slightly different industrial and population geography.**
 - This has been supported by a trade **war** with China and the recent real hot Western war with Russia – the manufacturing Industry returns to (Eastern) Europe.
- There is **growing Mobility and multilocality of the wealthy population**, which has not been considered in migration studies.
 - The second housing has been extended remarkably, especially in the peripheries of Europe.
 - Covid doubled distance work, turning the second house into a primary for many families.
- As a result of industrial rebirth, growing population, aging, and multilocality, one can expect somewhat better days for rural areas; the most remote and socially closed localities will continue to decline.
- **Rural development patterns tend to be increasingly diverse in the future**, where in close vicinity, one can find declining and again growing villages.



Square! Positively shrinking
<https://positivelyshrinking.ee/>

Pawet Po