



The Geography of Income Inequalities in OECD Countries

Evidence from national register data

Sebastian Königs & Anna Vindics (ELS) and
Marcos Diaz Ramirez & Paolo Veneri (CFE)

III/LIS Comparative Economic Inequality Conference

24 February 2023



Motivation and background

Geographic disparities in living standards have been high on the policy agenda

Limited comparative research on geographic income inequalities

- Focused mostly on **GDP/capita** or labour market outcomes – much less so on **incomes**
- OECD work on regional income inequalities (e.g. Piacentini, 2014) has largely used **survey data**, which usually do not allow for very granular analysis
- Available academic studies on regional / local income disparities for **single countries**

This project

- Compiles data on **regional median incomes** and **inequality** for OECD countries based on administrative (mostly tax) data
- Studies regional disparities across **small (TL3/NUTS3) regions**, **local area units** (LAUs – “municipalities”), and for **functional urban areas** (FUAs)



This work is co-financed by the European Union
EC-OECD grant “Dimensions of Inequality”



Data collection: where do we stand?

#	Income definition	Country	Observation period	Observation unit	Small regions (TL3)	Functional urban areas (FUA)	Municipalities (LAU)
1		Australia	2002-2019	Individual	x	x	
2		Austria	2008-2018	Individual	x	x	x
3	Disposable income	Canada	2011; 2016	Equivalised household	x		
4		Czech Republic	2005-2021	Equivalised household	x		
5		Denmark	2010-2020	Equivalised household	x	x	x
6		Finland	1995-2020	Equivalised household	x	x	x
7		Japan	2009	Household	x		
8		Latvia	2005-2020	Equivalised household	x		
9		Luxembourg	2016-2020	Equivalised household	(x)	(x)	x
10		Norway	2005-2019	Equivalised household	x	x	x
11		Portugal	2015-2010	Household	x	x	x
12		Slovak Republic	2016-2017	Equivalised household	x	x	
13		Spain	2015-2019	Equivalised household			x
14	Sweden	2011-2020	Equivalised household	x	x	x	
15	Total income	Belgium	2005-2018	Equivalised household	x	x	x
16		Switzerland	2001-2018	Equivalised household	x		x
17	Employment income	Hungary	2009-2020	Individual	x	x	
18		Italy	2007 & 2018	Individual	x		
19		Slovenia	2008-2020	Individual	x		

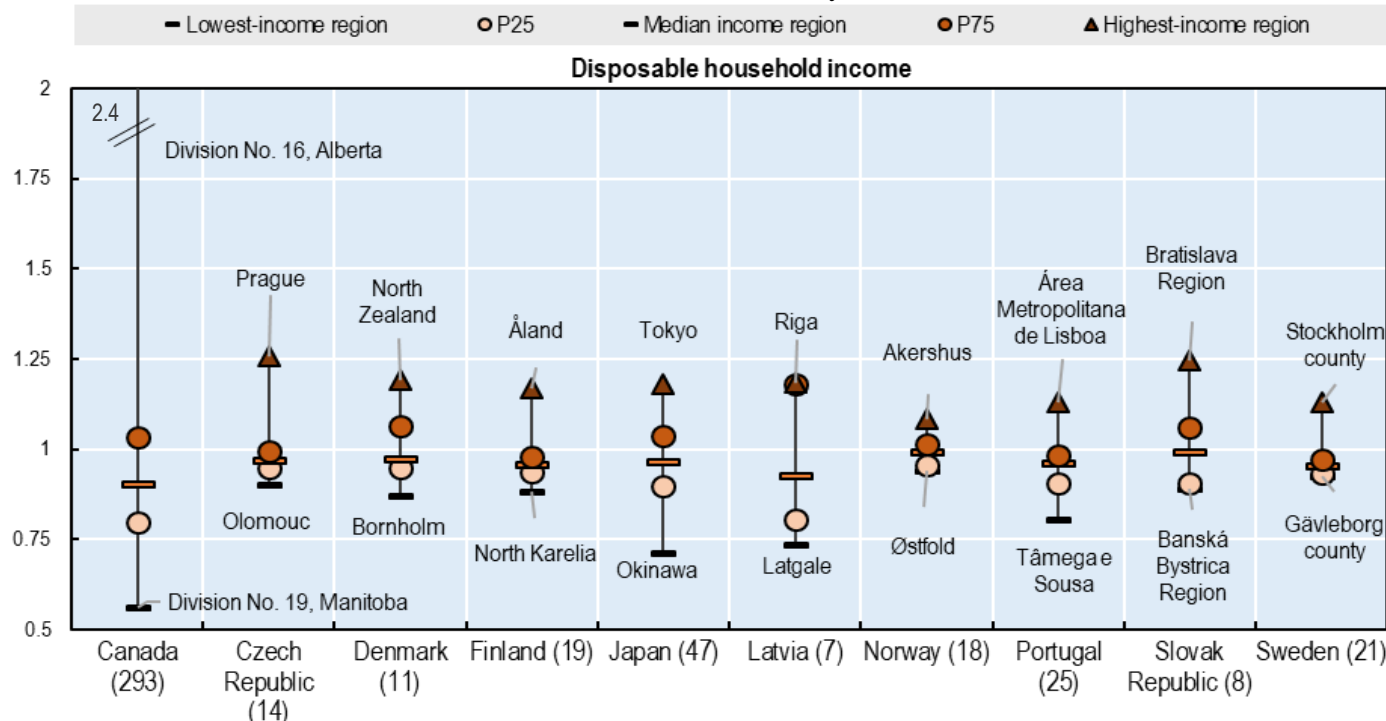
Note: In all parts of the analysis, regional values are expressed **relative to the national**. No adjustments are done for **differences in local price levels**.



Regional disparities in income levels can be substantial, though most regions have fairly similar incomes

Disparities in median disposable household incomes across small regions

Regional median incomes expressed relative to the national median income, small (TL3) regions, 2018/19 or latest year



Note: "P25" and "P75" give the relative median incomes for the regions at the 25th and 75th percentile of the regional income distribution. Number of TL3 regions listed in brackets behind the country name.

Source: OECD calculations using statistics drawn from national tax record data, see the summary Table.

- In most countries median disposable income ratios between the **highest- and lowest-income** TL3s vary from **1.2 to 1.7**

... but the **inter-quartile** ratio is much lower

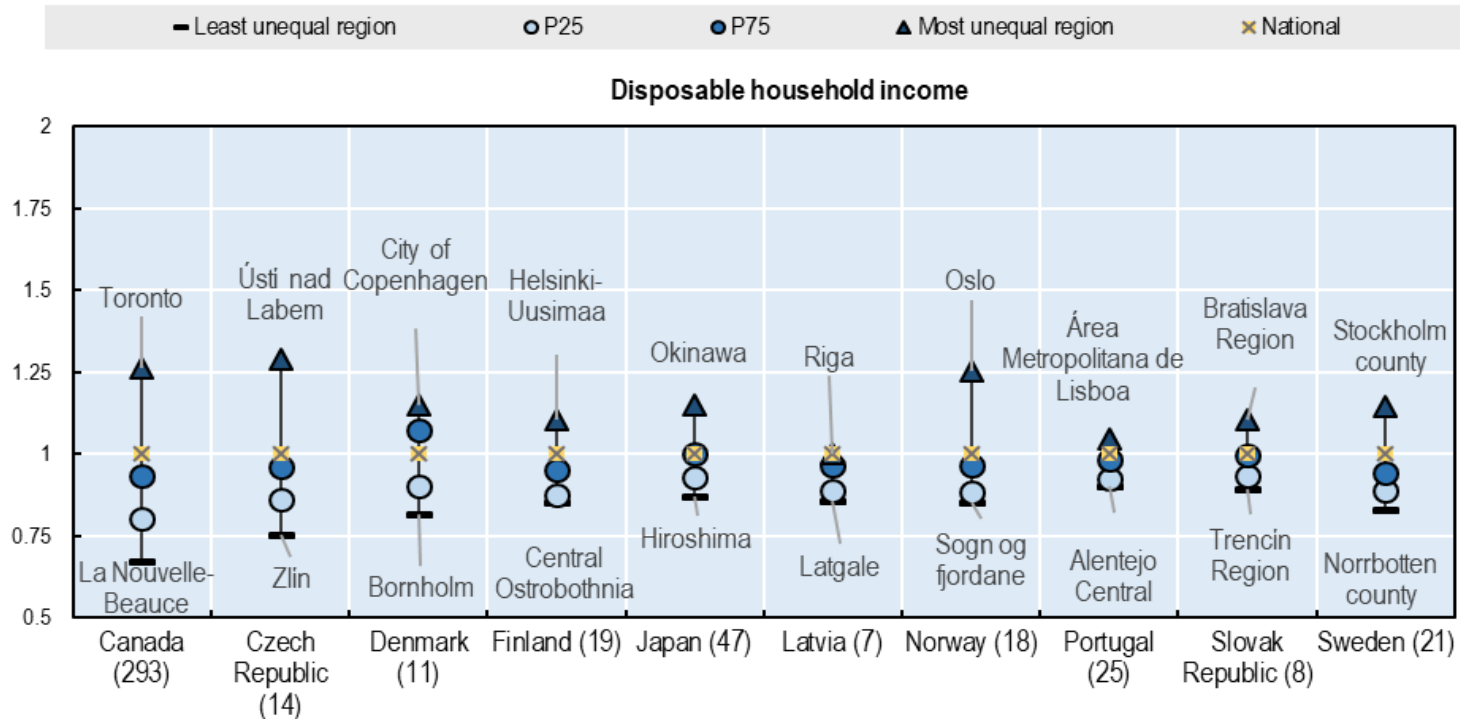
- Income ratios are **not consistently higher in larger countries**
- The **highest-income region** is typically the **capital region** or one of the regions in **close proximity** to it
- Income disparities **across municipalities** are greater, but this reflects **outliers** with (usually) very high incomes



Regional disparities in income *inequality* are of very similar magnitude

Disparities in regional disposable household income inequality across small regions

Regional income Ginis expressed relative to the national Gini, small (TL3) regions, 2018/19 or latest year



- The **ratio in income inequality** between the most and least unequal region varies from **1.2** to **1.5** (difference of 5-10 Gini points)...

... however the **inter-quartile ratio** is not higher than **1.1** in most cases (difference of 2-5 Gini points).

- In almost all cases the most unequal region is the one of the **capital**

Note: "P25" and "P75" give the income Ginis for the regions at the 25th and 75th percentile of the distribution of regional inequality. "National" gives the Gini index for the whole country. Number of TL3 regions listed in brackets behind the country name
Source: OECD calculations using statistics drawn from national tax record data.

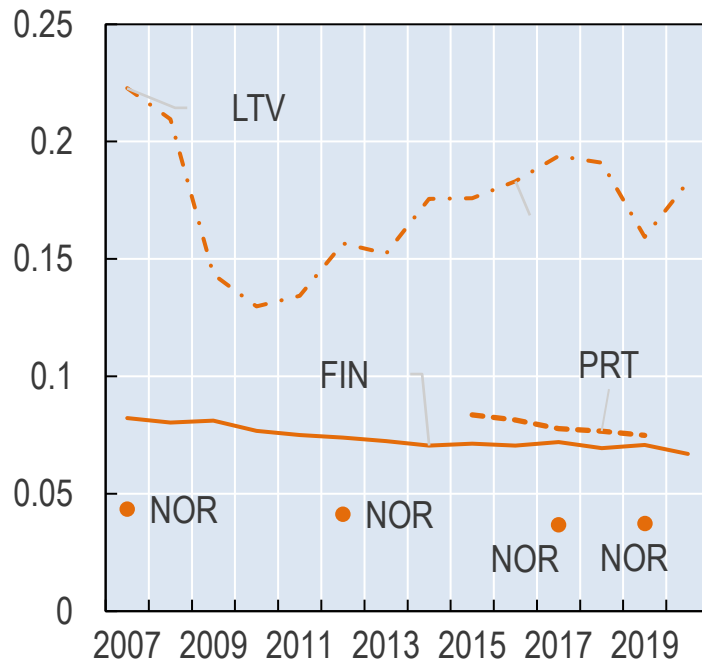


Regional disparities in incomes levels show no uniform trend over time

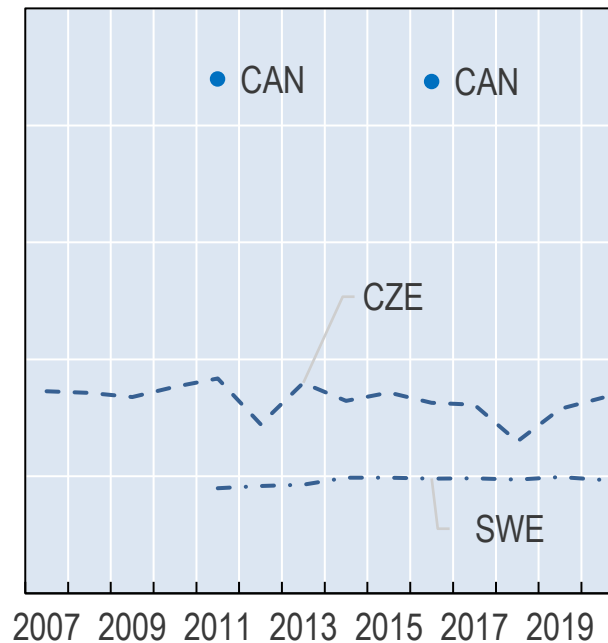
Trends in regional disposable household income disparities

Coefficient of variation of regional median incomes, small (TL3) regions, 2007-2018/19 or available years

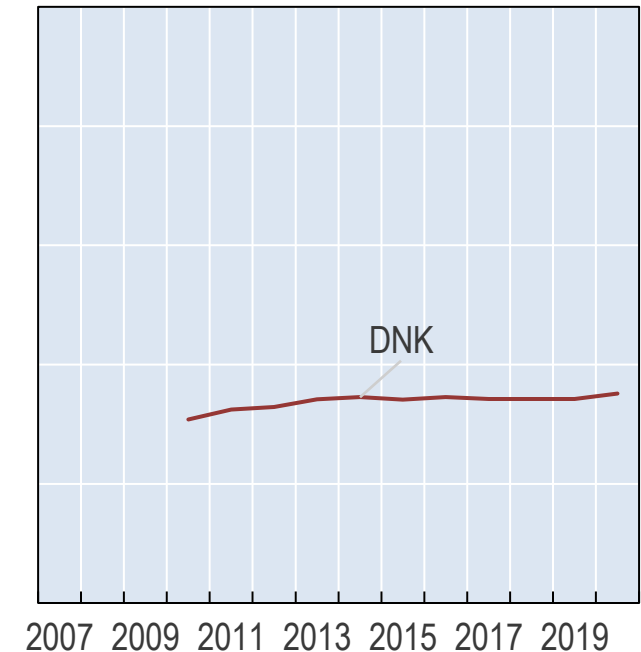
Declining cross-regional income disparities



Stable cross-regional income disparities



Rising cross-regional income disparities



Note: The coefficient of variation is given by the standard deviation of median income across small (TL3) regions divided by the mean regional median income, see discussion to Figure 1. Structural break for Finland in 2011.
Source: OECD calculations using statistics drawn from national tax record data, see Table 1



Incomes in metropolitan regions tend to be higher and more unequally distributed

Regional median incomes by degree of urbanisation

Percentages of small (TL3) regions by access to metropolitan area against quartiles of income and inequality levels of all regions, average across 17 OECD countries, 2018/19 or latest year

		Regions with the lowest median income -Q1	Q2	Q3	Regions with the highest median income -Q4	Total
All regions		25	25	25	25	100
Metropolitan regions	Very large city	6	6	10	79	100
	Large city	16	16	19	49	100
Non-metropolitan regions	Near a large city	19	21	27	32	100
	Near a small city	21	32	32	16	100
	Remote	36	33	22	9	100

Across 17 OECD countries on average:

- 79% of regions with a very large city are in the **top quartile of regions by median income**, compared to only 9% of remote regions
- results are very similar when breaking down the **level of income inequality** by degree of urbanisation
- Over the last decade, metropolitan regions have experienced **weaker median income growth** and a **stronger rise in inequality**

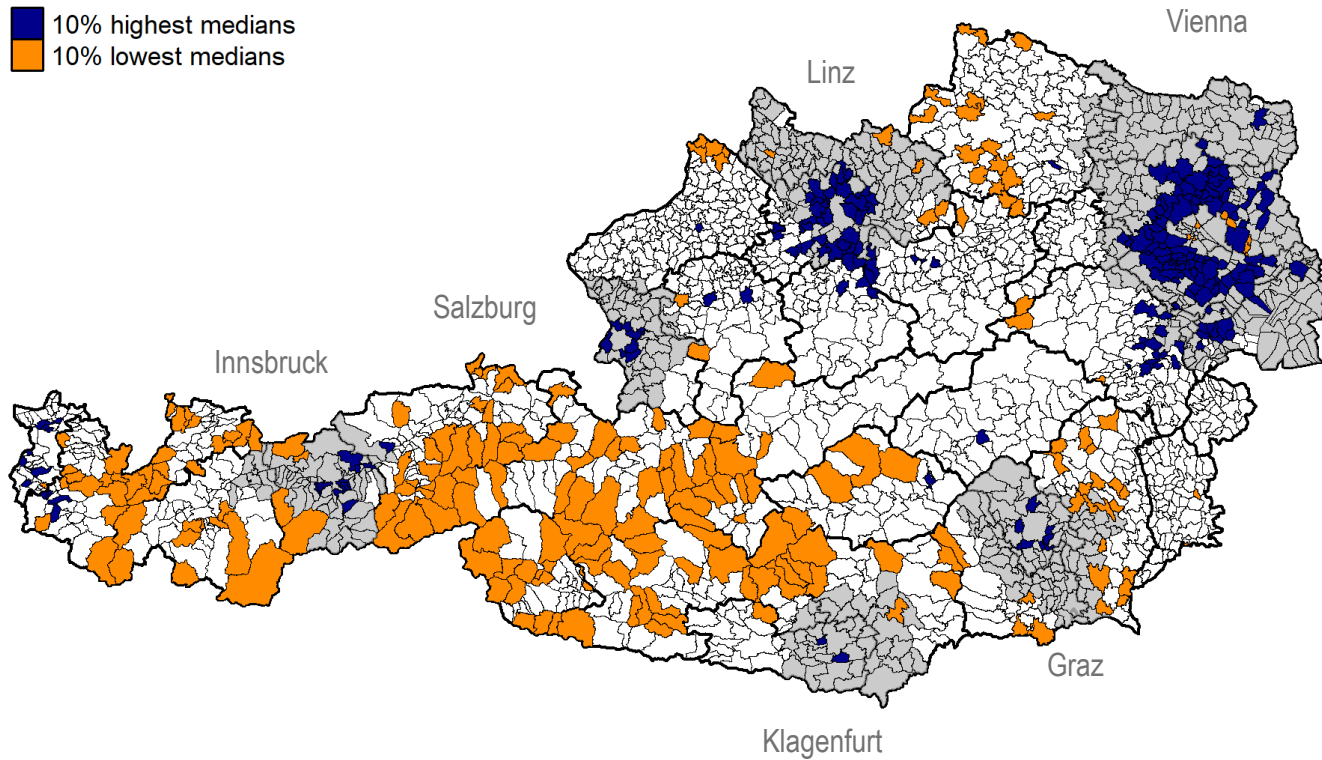
Note: The cells give row percentages, averaged across 17 OECD countries with available data at TL3 level for the latest years as displayed in see Table 1. Darker shading signal larger divergence from the proportional column value (25) with orange signaling underrepresentation and blue overrepresentation in the quartile.

Source: OECD calculations using statistics drawn from national tax record data.



In Austria, the highest-income (and most unequal) municipalities are overwhelmingly in FUAs

Municipalities with the highest and lowest median incomes in Austria, 2018



- 75% of the **highest-income municipalities** belong to FUAs, compared to 29% of municipalities overall)
They tend to lie **around the city centres** (*affluent suburbs*)
- Very few (7%) of the **lowest-income municipalities** are in FUAs
- Also the municipalities with the **highest Ginis** are somewhat more likely to be in FUAs (41% of them are)



Thank You !

For further information:

✉ Sebastian.Koenigs@oecd.org

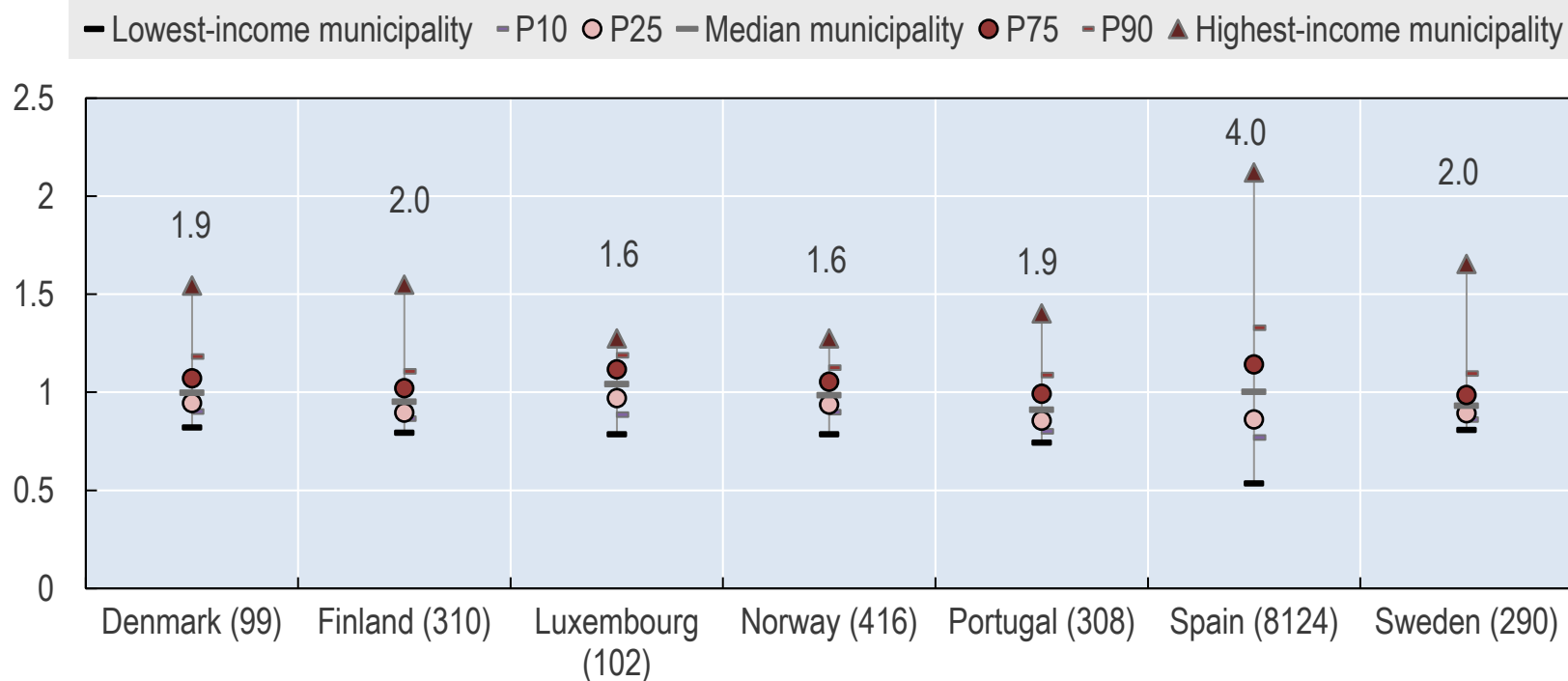
🐦 [@OECD_Social](#)
[@sebkoenigs](#)



Income disparities across municipalities are greater, but this reflects outliers with (usually) very high incomes

Disparities in median disposable household incomes across local area units

Municipal median incomes for high- and low-income regions, expressed relative to the national median income, 2018/19 or latest year



Note: "P10", "P25", "P75" and "P90" give the income Gini for the regions at the 10th, 25th, 75th and 90th percentile of the distribution of regional inequality. Medians expressed relative to the national value. Number of LAUs listed in brackets behind the country name.

Source: OECD calculations using statistics drawn from national tax record data, see the summary Table.

Many results derived at regional level hold when zooming in to the local level:

- **Income levels** (naturally) vary more across municipalities than across small regions, but much of this reflects a **few outlier municipalities** with (typically) very high incomes.
- Variation in municipalities' **level of inequality** is even greater, and much more **skewed**.
- **Municipalities in (large) functional urban areas** have high median incomes and are more unequal.