



CROSS-NATIONAL  
DATA CENTER  
*in Luxembourg*

## Methodological approaches on how to measure risk of poverty with income and wealth

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UNECE Group of Experts on Measuring Poverty and Inequality  
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# Motivation (1)

- ❑ In developed countries, income is mostly used to define poverty, while in developing countries, it is consumption.
- ❑ Thus, income and consumption have been good proxies for determining and assessing poverty and guiding policy actions.
- ❑ But, income and consumption alone do not fully constitute the well-being of households.



# Motivation (2)

- ❑ Household material well-being is also determined by the possession of wealth, specifically assets and debts.
  - ❑ *Assets contribute to living standards and can be sold out in case of income shortfall or unexpected events.*
  - ❑ *Excessive debts can put households in undesirable economic situation.*
- ❑ According to Brandolini, Magri, and Smeeding (2010), the role of wealth in the definition of poverty is twofold:
  - *Wealth (assets & debts) affects current well-being*
  - *the possession of assets is a major determinant of the longer-term prospects of households and individuals*
- ❑ Comparability of wealth data across countries and over time from the Luxembourg Wealth Study (LWS) Database allows empirical implementation of assets into poverty indicators.



# Data source and country coverage

## *Luxembourg Wealth Study (LWS) Database:*

- **Austria:** 2011 2014 2017
- **Canada:** 1999 2005 2012 2016 2019
- **Estonia:** 2013 2017
- **Finland:** 2009 2013 2016
- **Germany:** 2002 2007 2012 2017
- **Greece:** 2009 2014 2018
- **Italy:** 1995 2000 2004 2008 2010 2014 2016
- **Luxembourg:** 2010 2014 2018
- **Norway:** 2010 2013 2016 2019 2020
- **Slovakia:** 2010 2014 2017
- **Slovenia:** 2014 2017
- **Spain:** 2002 2005 2008 2011 2014 2017
- **United Kingdom:** 2007 2009 2011 2013 2015 2017
- **United States:** 1995 1998 2001 2004 2007 2010 2013 2016 2019



# Recap UNECE 2021 presentation:

## Methodological remarks

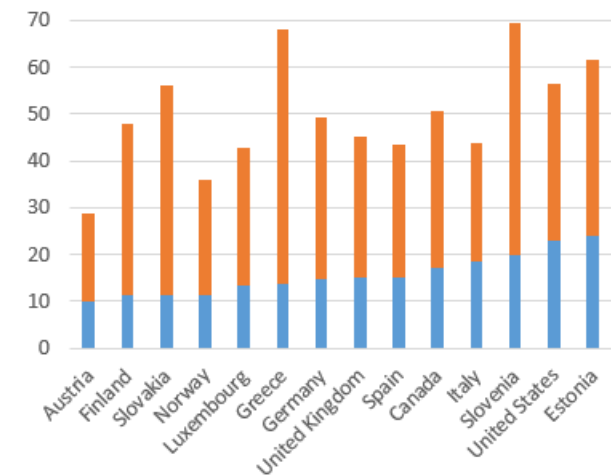
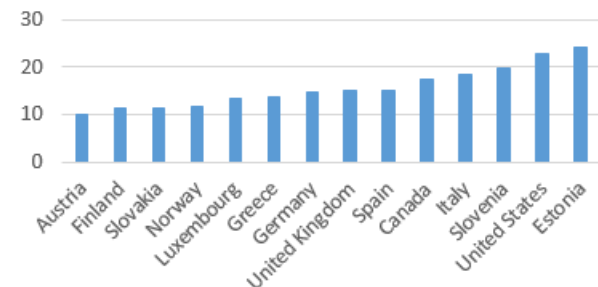
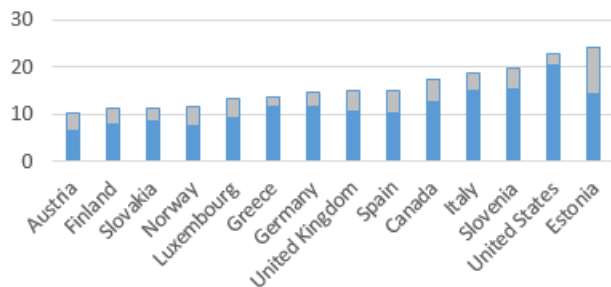
We employ 3 measures, that interlink financial assets and income:

- ❑ *(1 & 2) Households whose equivalised gross household income falls below the relative income poverty line at 50% of the median*
  - ... and (1) who do not have sufficient financial assets to cover consumption for at least 3 months: *Income and Asset Poor*
  - ... and (2) who have sufficient financial assets to cover consumption for at least 3 months: *Income Poor, but not Asset Poor*
- ❑ *(3) Households whose equivalised gross household income does not fall below the relative income poverty line at 50% of the median ...*
  - ... but who do not have sufficient financial assets to cover consumption for at least 3 months: *Not Income Poor, Asset Poor*



# Recap UNECE 2021 presentation: The ranking of countries: Combining income and asset poverty

Source: *Luxembourg Wealth Study (LWS) Database*



Income poor **AND** asset poor

reduced by 'vulnerable' group 2  
*income poor, but not asset poor*

Income poor

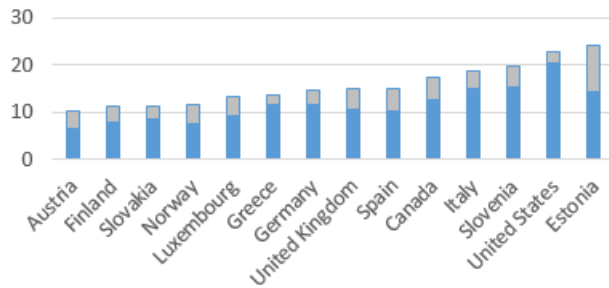
extended by 'vulnerable' group 1  
*asset poor, but not income poor*

Income poor **OR** asset poor

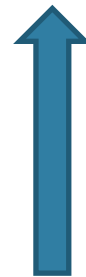


# Recap UNECE 2021 presentation: The ranking of countries: Combining income and asset poverty

Source: Luxembourg Wealth Study (LWS) Database

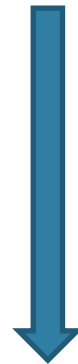


Income poor **AND** asset poor



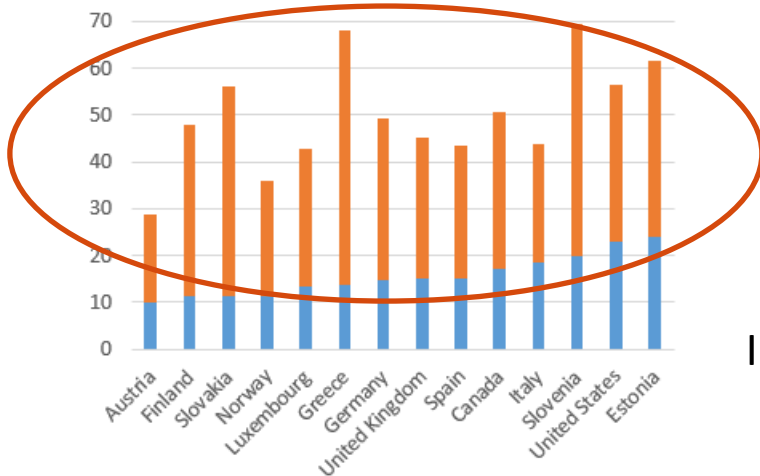
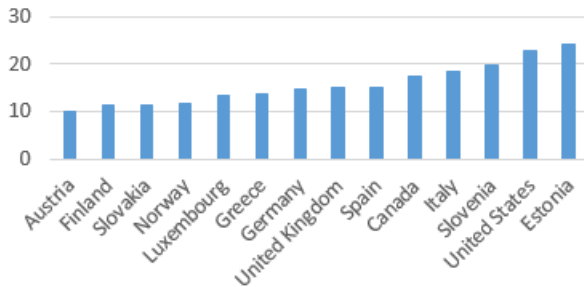
reduced by 'vulnerable' group 2  
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Income poor



extended by 'vulnerable' group 1  
*asset poor, but not income poor*

Income poor **OR** asset poor



# Updated motivation

- ❑ Household material well-being is also determined by the possession of wealth, specifically assets that contribute to living standards and can be sold out in case of income shortfall or unexpected events.
- ❑ Further clarify the diversity of the group ‘not-income poor, asset poor’
  - ❑ Many are *financial* asset poor, but may possess *non-financial* assets.
  - ❑ Many have more *stable* income, a lower risk as against the ones with rather *instable* income (unemployment, temporary employment, self-employed).
  - ❑ Many have *high income*, a lower risk as against the ones with *low income*.
  - ❑ Some have rather *high expenses* (actual rent / utilities / mortgage & other loans) as compared to their income / assets (*debt burden*)



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Build a methodology that accounts for these differences, but still is informative for cross-national differences



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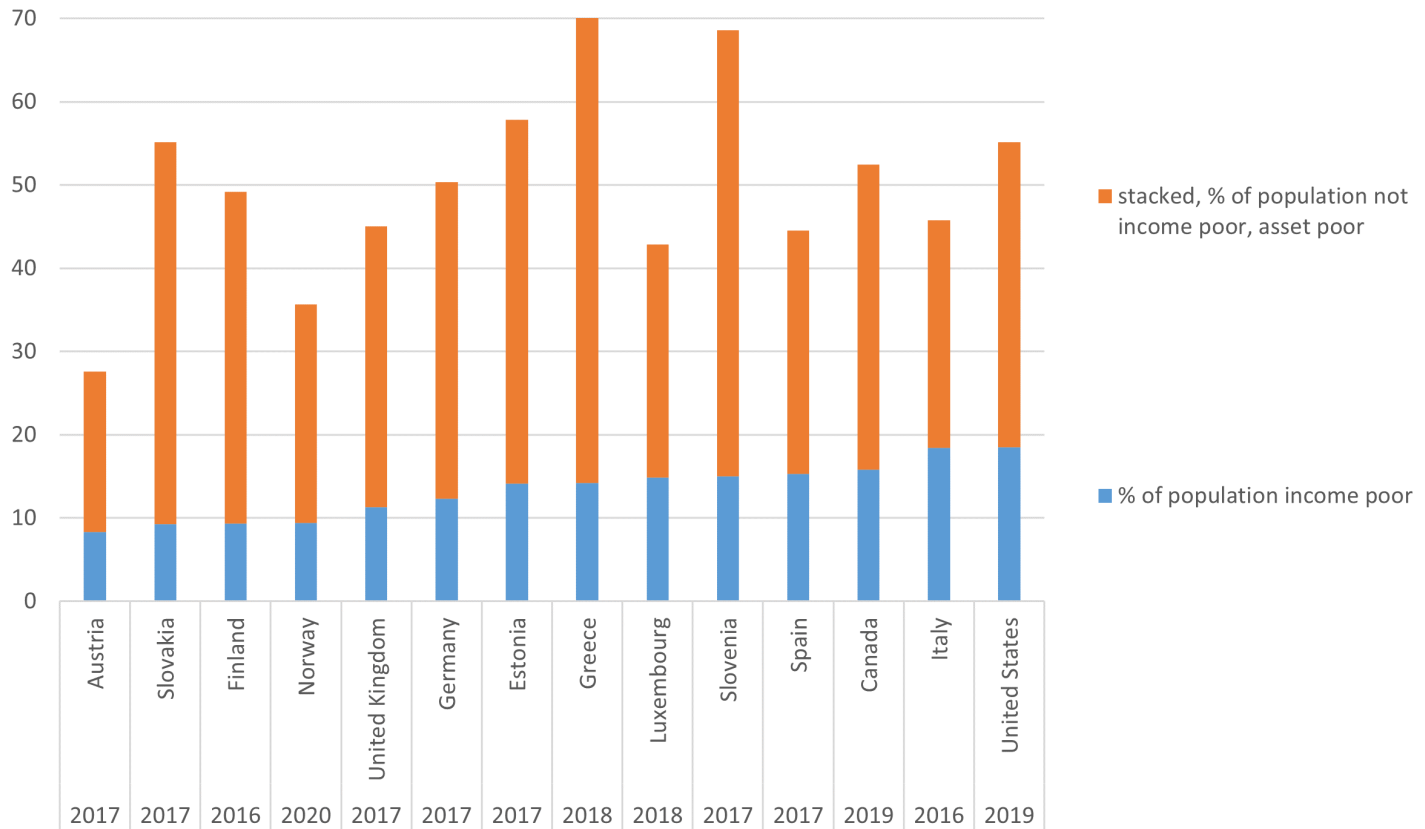
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➡ Build a methodology that accounts for these differences, but still is informative for cross-national differences

➡ Build an *economic well-being deprivation index*



# Income poor + not income poor, asset poor

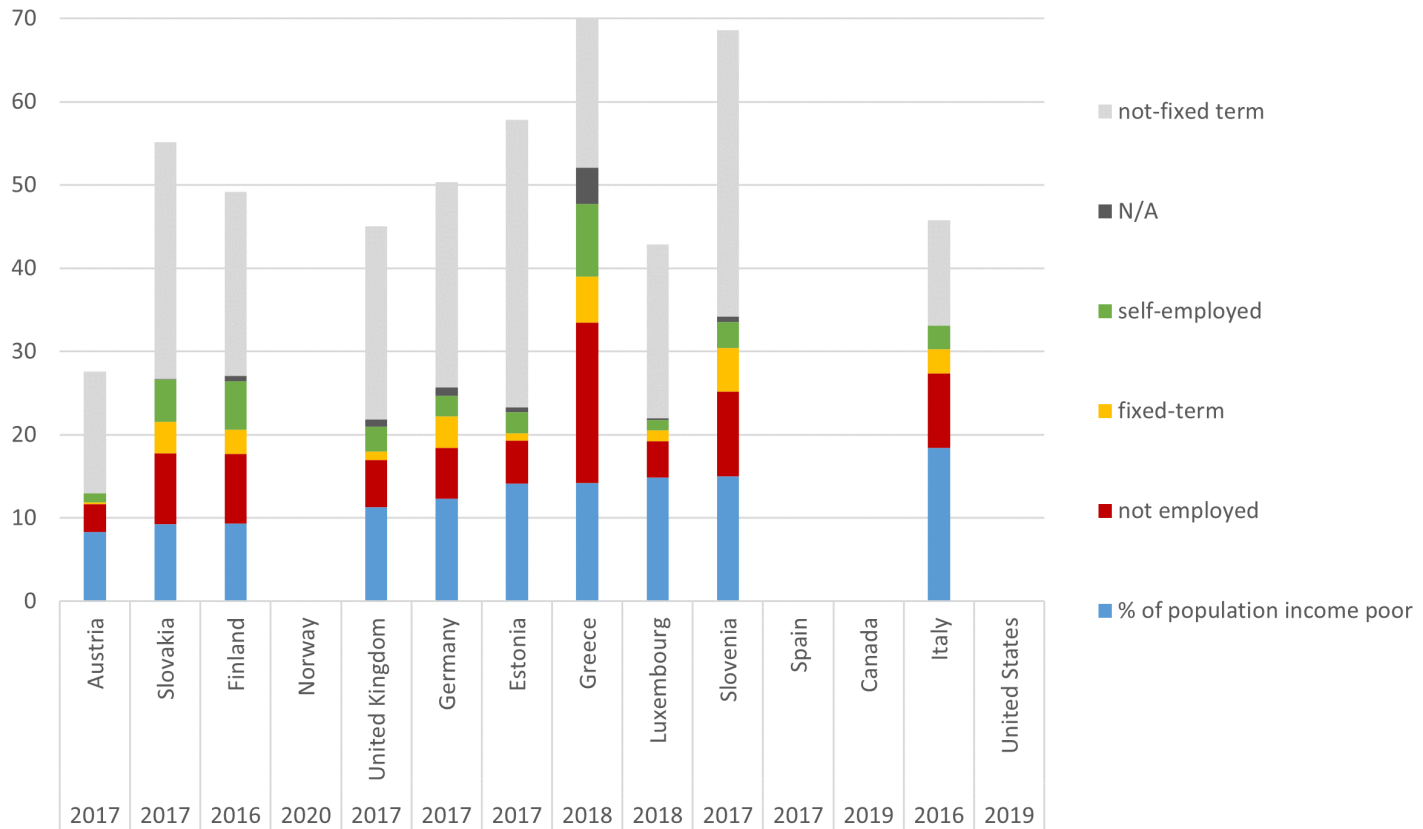


Note: individual level data, restricted to core working age group (25-59)

Source: Luxembourg Wealth Study (LWS) Database.



# Breakdown of 'not income poor, asset poor' by employment status

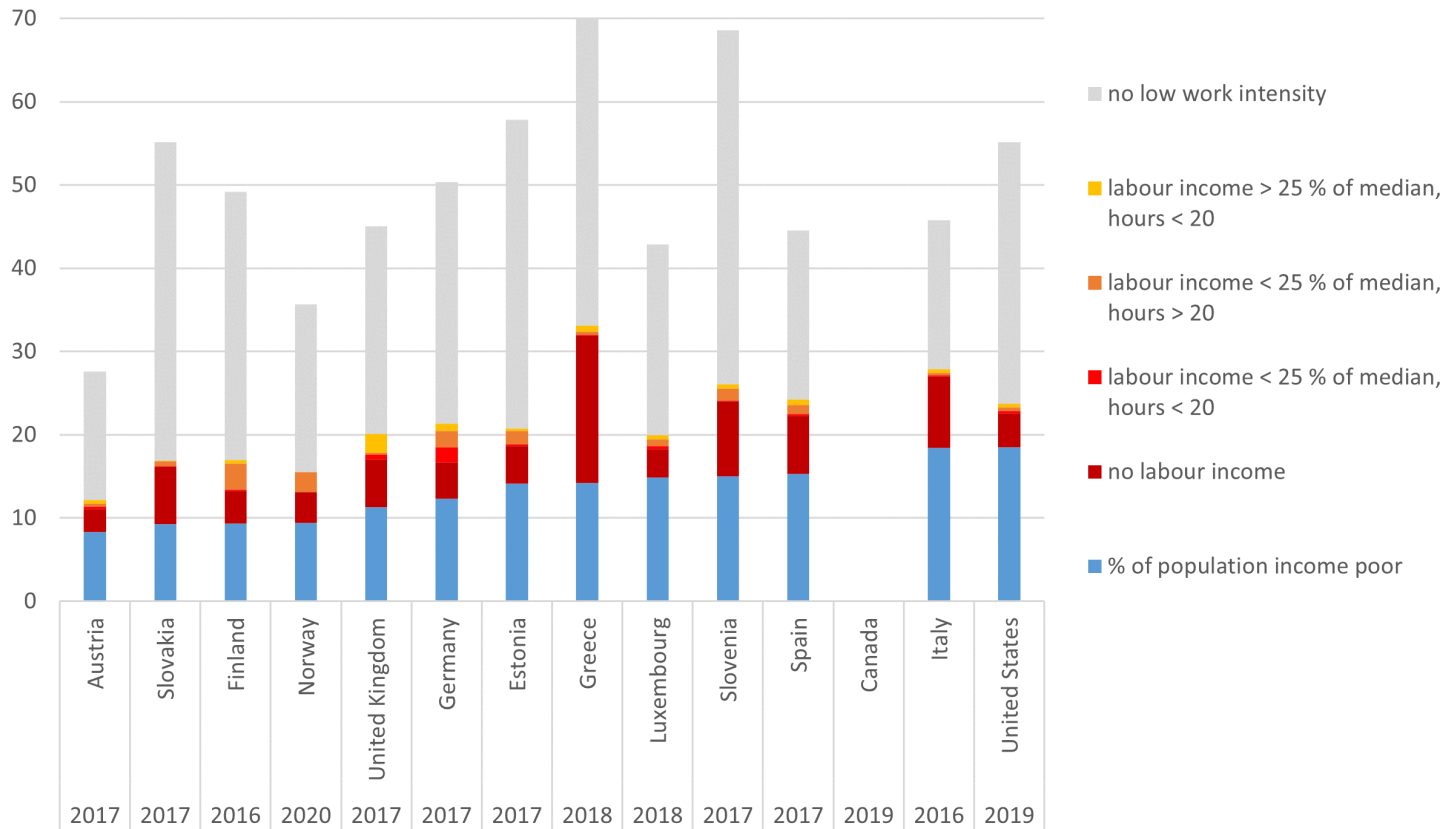


Note: individual level data, restricted to core working age group (25-59)

Source: Luxembourg Wealth Study (LWS) Database.



# Breakdown of 'not income poor, asset poor' by work intensity

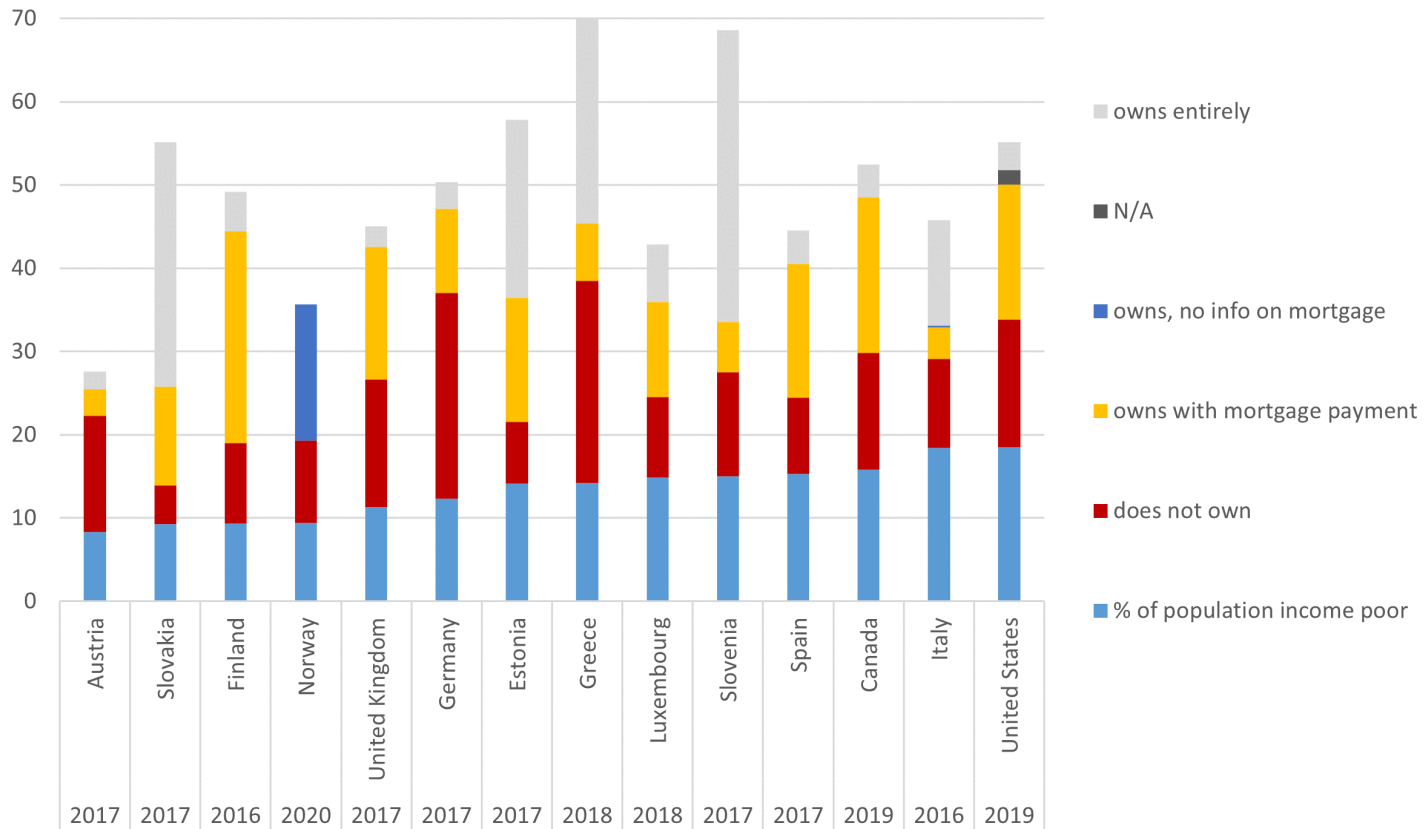


Note: individual level data, restricted to core working age group (25-59)

Source: Luxembourg Wealth Study (LWS) Database.



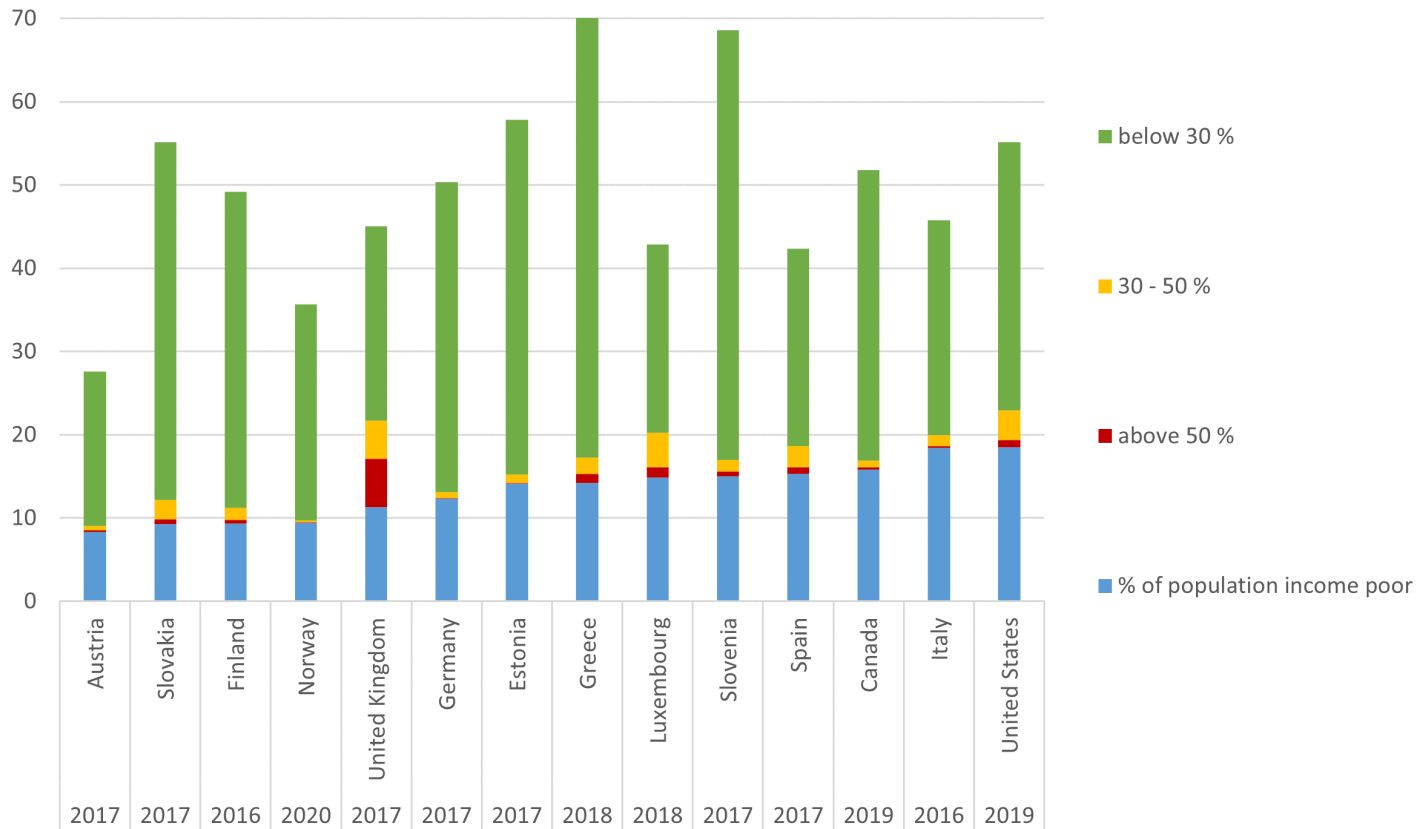
# Breakdown of 'not income poor, asset poor' by homeownership



Note: individual level data, restricted to core working age group (25-59)  
Source: Luxembourg Wealth Study (LWS) Database.



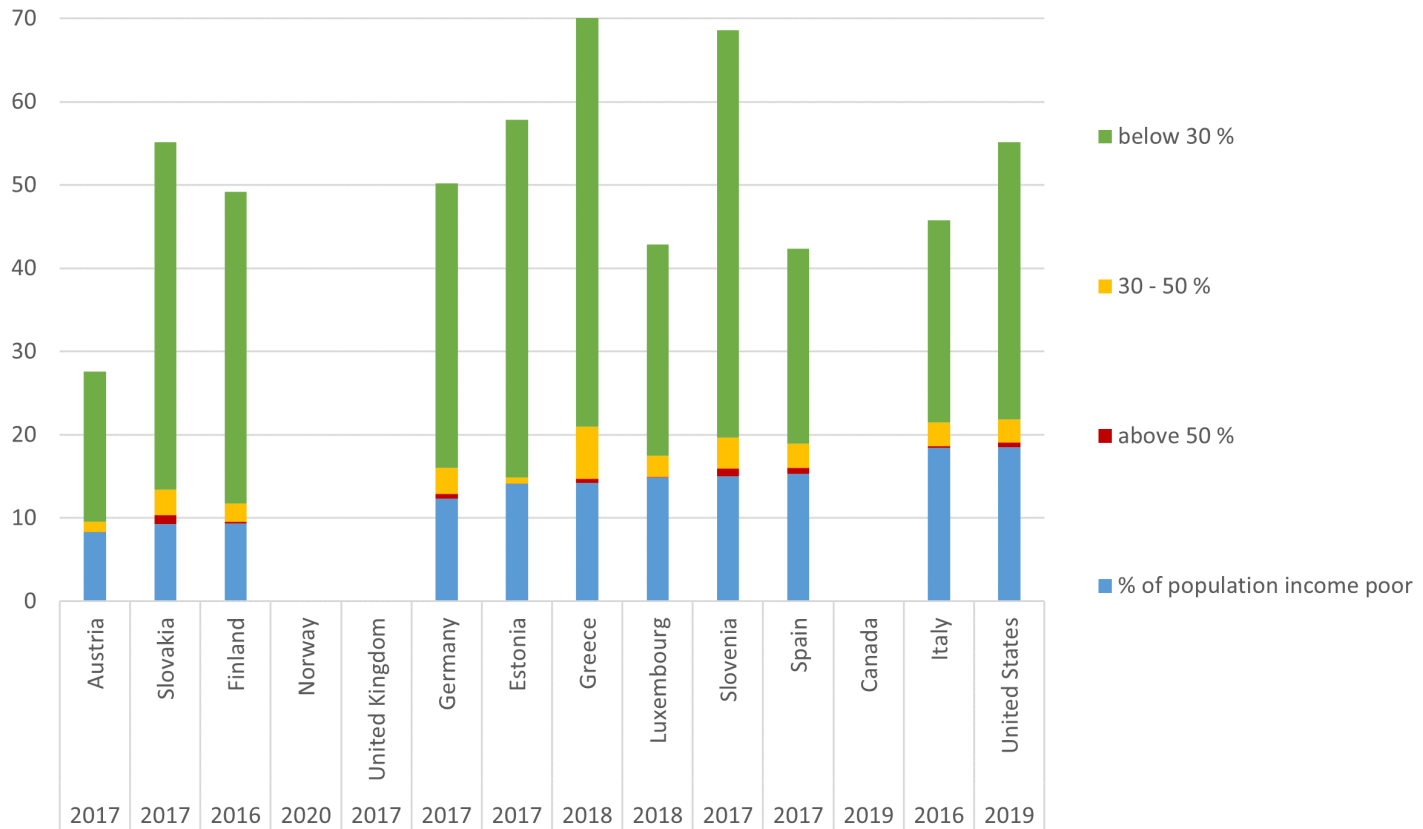
# Breakdown of 'not income poor, asset poor' by debt burden repayments



Note: individual level data, restricted to core working age group (25-59)  
Source: *Luxembourg Wealth Study (LWS) Database*.

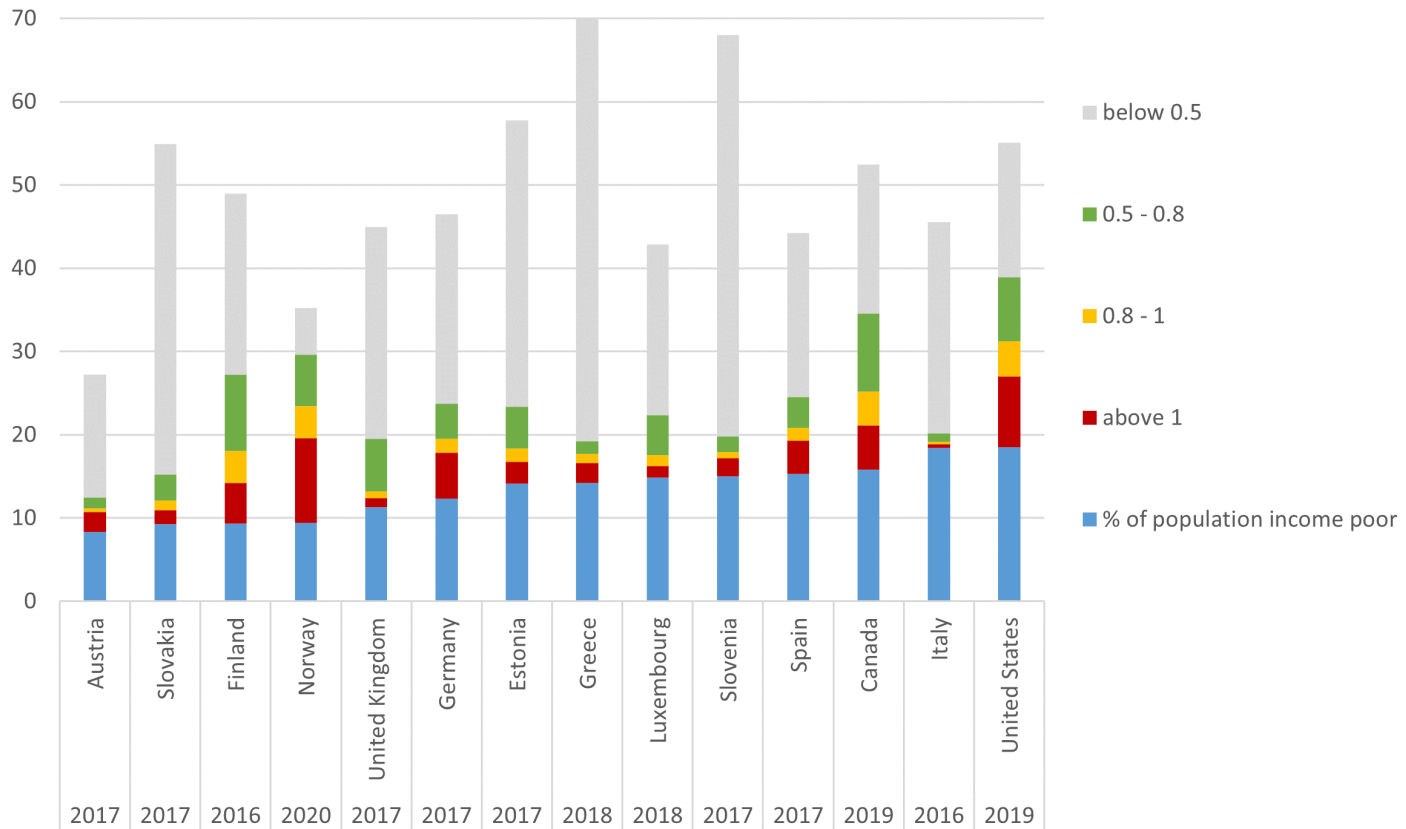


# Breakdown of 'not income poor, asset poor' by housing expenditure



Note: individual level data, restricted to core working age group (25-59)  
 Source: *Luxembourg Wealth Study (LWS) Database*.

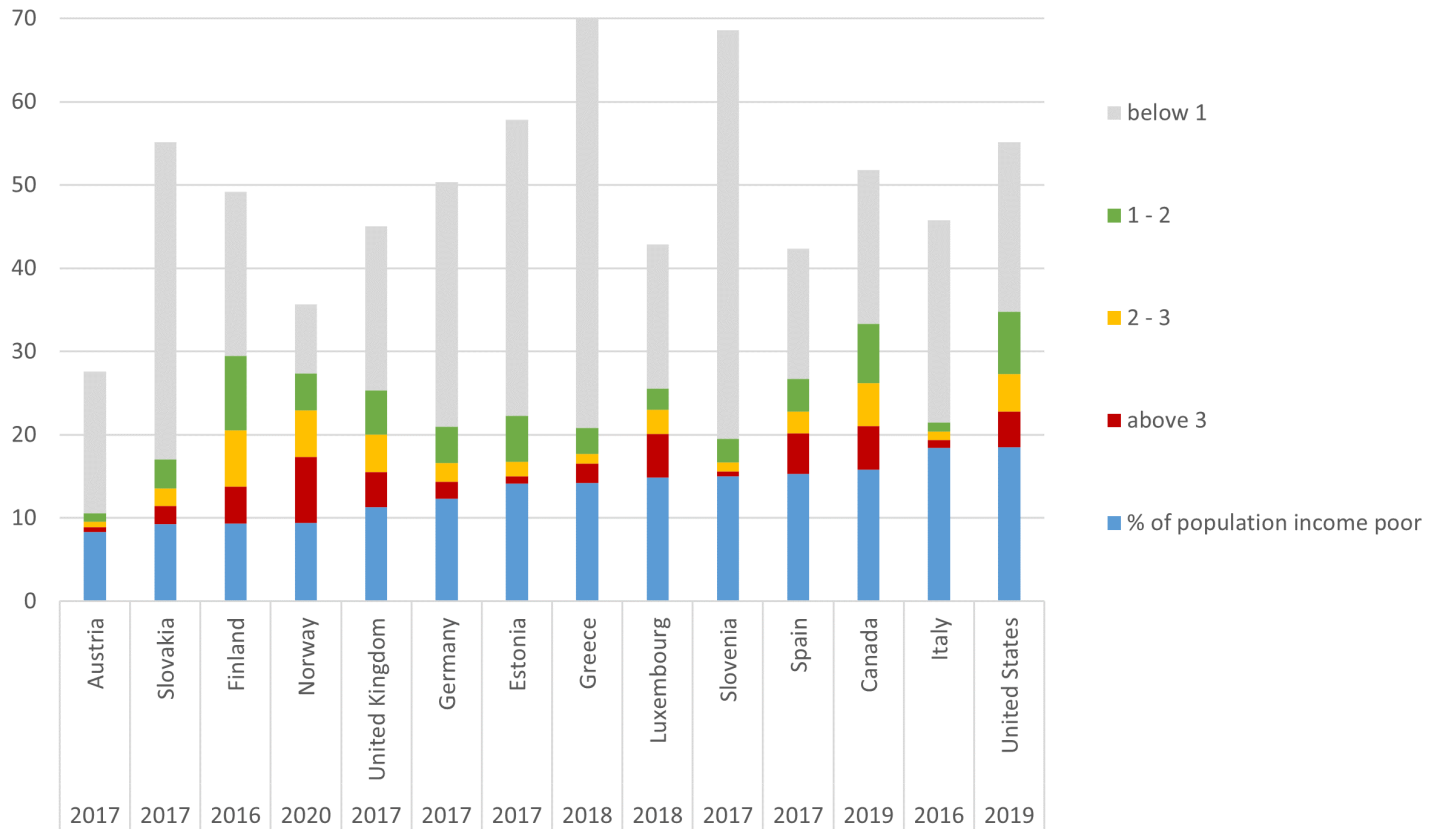
# Breakdown of 'not income poor, asset poor' by debt to asset ratio



Note: individual level data, restricted to core working age group (25-59)

Source: Luxembourg Wealth Study (LWS) Database.

# Breakdown of 'not income poor, asset poor' by debt to income ratio

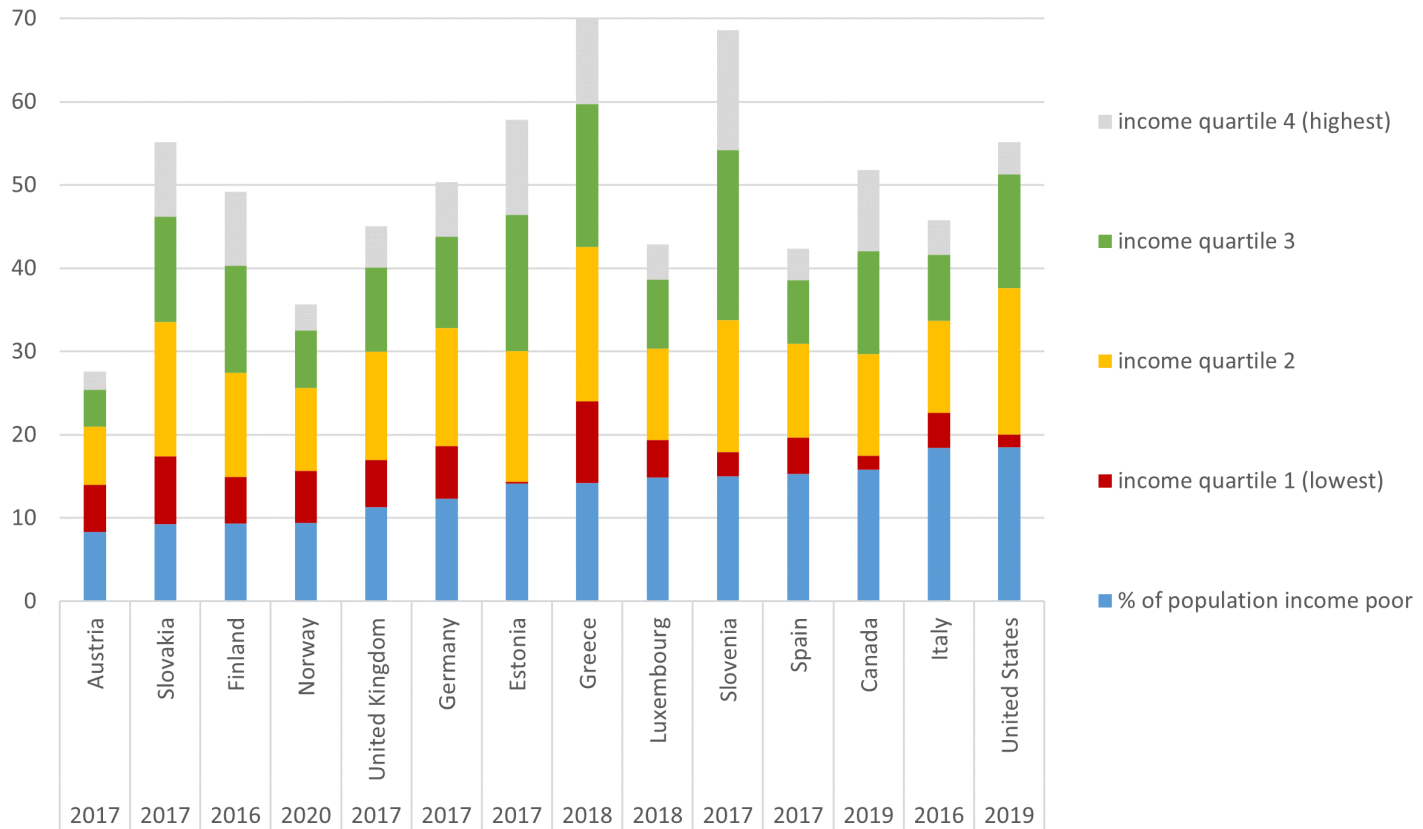


Note: individual level data, restricted to core working age group (25-59)

Source: Luxembourg Wealth Study (LWS) Database.



# Breakdown of 'not income poor, asset poor' by income quartile

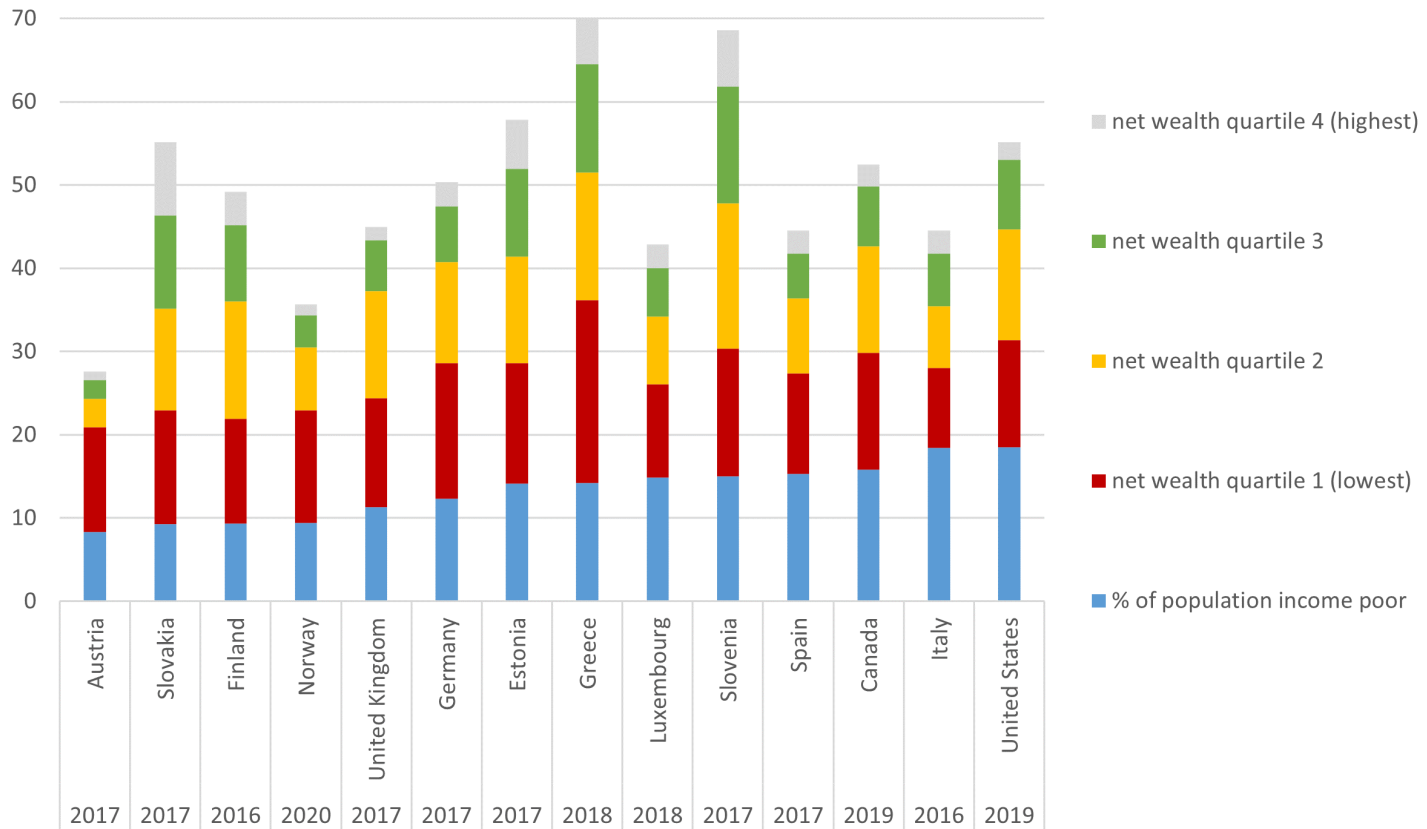


Note: individual level data, restricted to core working age group (25-59)

Source: Luxembourg Wealth Study (LWS) Database.



# Breakdown of 'not income poor, asset poor' by wealth quartile



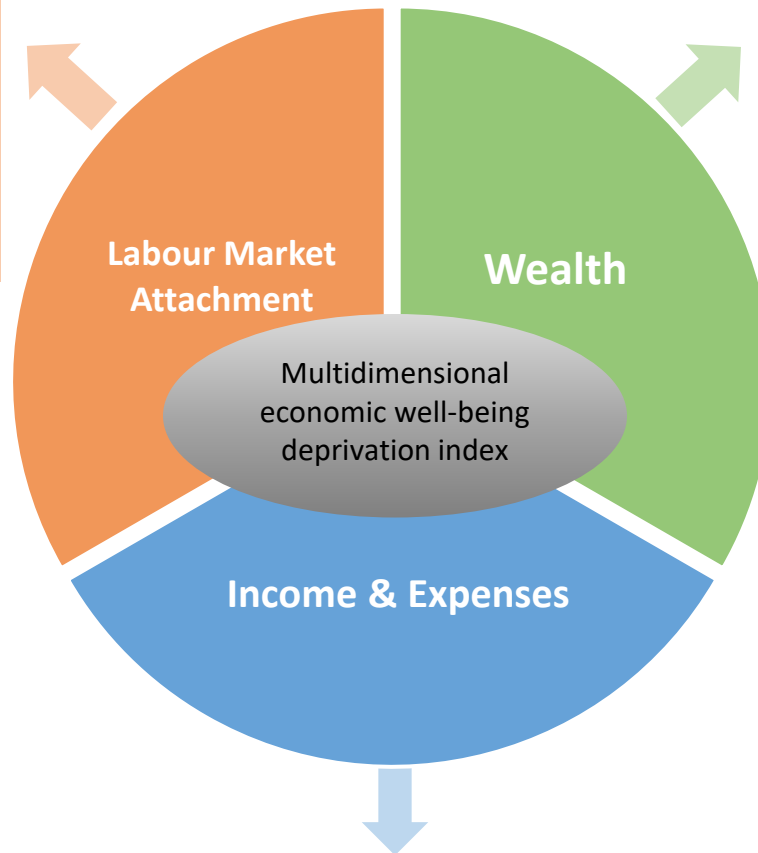
Note: individual level data, restricted to core working age group (25-59)

Source: Luxembourg Wealth Study (LWS) Database.



# The 'economic well-being deprivation index'

- Currently not employed
- Low work intensity (weekly hours  $\leq 20$  or labour earnings below 25 % of median labour income)
- Has fixed-term contract or is self-employed

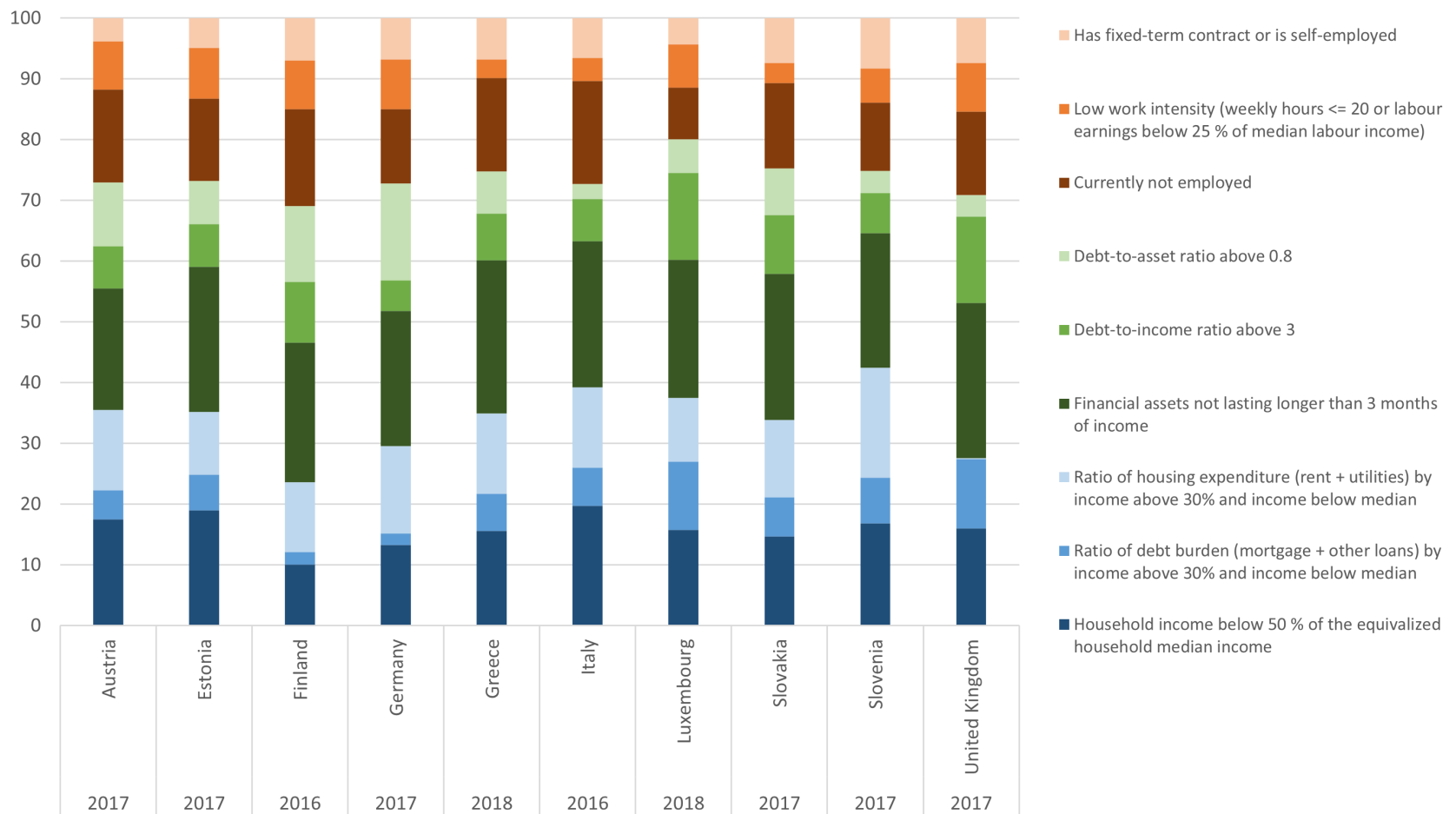


- Financial assets not lasting longer than 3 months of income
- Debt-to-income ratio above 3
- Debt-to-asset ratio above 0.8

- Household income below 50 % of the equivalized household median income
- Ratio of debt burden (mortgage + other loans) by income above 30% and income below the median
- Ratio of housing expenditure (rent + utilities) by income above 30% and income below the median



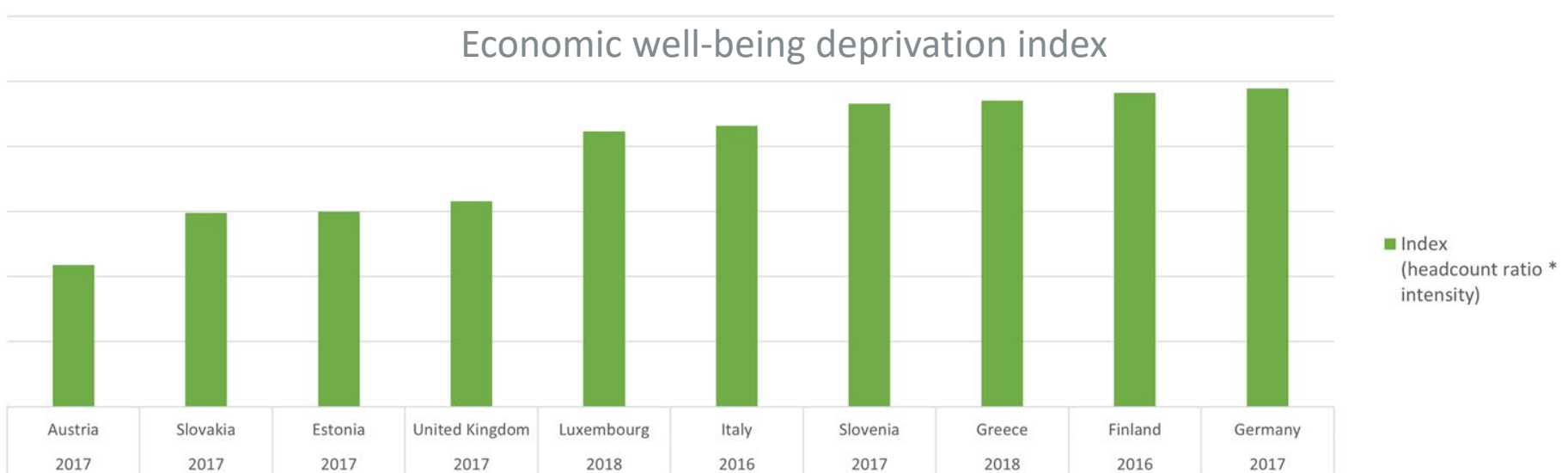
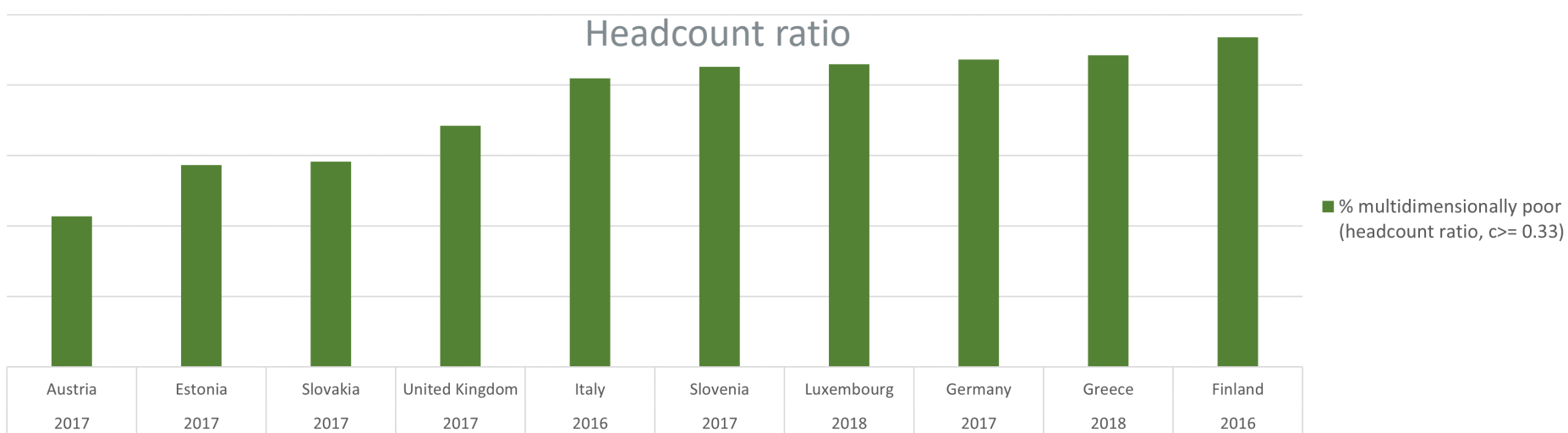
# The relative contribution of each indicator



Note: individual level data, restricted to core working age group (25-59)

Source: Luxembourg Wealth Study (LWS) Database.

# The headcount ratio vs. the index



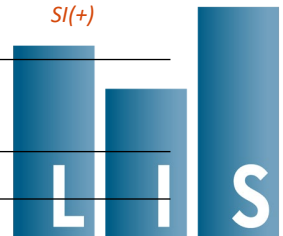
Note: individual level data, restricted to core working age group (25-59)

Source: Luxembourg Wealth Study (LWS) Database.

# Linear Probability Model

## headcount ratio of multidimensionally poor

<b>education level (ref. low)</b>										
medium	DE(-)		IT(-)	UK(-)	AT(-)			SK(-)		
high			IT(-)	UK(-)				SK(-)	EE(-)	
<b>own (ref. not owned)</b>										
own outright	DE(+)	FI(+)	IT(+)	UK(+)					EE(-)	
with mortgage	DE(+)	FI(+)	IT(+)	UK(+)	AT(+)	GR(+)	LU(+)			SI(+)
<b>wealth quartile (ref. 1st quartile)</b>										
2nd quartile	DE(-)	FI(-)	IT(-)	UK(-)	AT(-)		LU(-)	SK(-)		
3rd quartile	DE(-)	FI(-)	IT(-)	UK(-)	AT(-)	GR(-)	LU(-)	SK(-)	EE(-)	SI(-)
4th quartile	DE(-)	FI(-)	IT(-)	UK(-)	AT(-)	GR(-)	LU(-)	SK(-)	EE(-)	SI(-)
<b>income quartile (ref. 1st quartile)</b>										
2nd quartile	DE(-)	FI(-)	IT(-)	UK(-)	AT(-)	GR(-)	LU(-)	SK(-)	EE(-)	SI(-)
3rd quartile	DE(-)	FI(-)	IT(-)	UK(-)	AT(-)	GR(-)	LU(-)	SK(-)	EE(-)	SI(-)
4th quartile	DE(-)	FI(-)	IT(-)	UK(-)	AT(-)	GR(-)	LU(-)	SK(-)	EE(-)	SI(-)
<b>age</b>										
	DE(-)		IT(-)			GR(-)				SI(-)
<b>age x age</b>										
	DE(+)		IT(+)			GR(+)		(SK+)		SI(+)
<b>number of own children</b>										
		FI(-)	IT(-)		AT(-)					
<b>marital status (ref. married)</b>										
never married			IT(+)		AT(+)					
divorced	DE(+)									
widowed			IT(+)							
<b>gender (ref. male)</b>										
female	DE(+)		IT(+)	UK(+)						SI(+)
<b>saving (ref. saves)</b>										
does not save		FI(+)	IT(+)	UK(+)	AT(+)	GR(+)			EE(+)	
<b>received inheritance</b>										



# Conclusions

- ❑ We showed the heterogeneity of those defined asset poor
- ❑ We demonstrated that income, assets, debts, and consumption expenditures **integration** better describes the living standards of households than income poverty alone (or any other indicator alone).
- ❑ We constructed an **economic well-being deprivation index** that incorporates three dimensions: income and expenses, wealth, and labour market attachment
- ❑ Cross-national availability of detailed micro-data at the individual level is key to study risk of poverty and its explanatory factors.



Thank you for your attention  
Any questions are welcome !

