



On shaky ground? Income instability and economic insecurity in Europe

UNECE Group of Experts on Measuring Poverty and Inequality

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On Shaky Ground? Income Instability and Economic Insecurity in Europe

This report provides new evidence on:



How **market incomes** change over the years and **between months** (income instability)



Households' **limited capacity to withstand** negative income shocks (**economic insecurity**)



Policies that can assist households in **reducing and managing risks** by improving the **timeliness of social protection systems** and assisting people in **building financial buffers**



On Shaky Ground? Income Instability and Economic Insecurity in Europe



Income instability and economic insecurity are growing concerns in Europe



European and OECD economies have **become more unstable** over the past few decades



Trends transforming labour markets bring in more **unpredictability** for workers even beyond crises

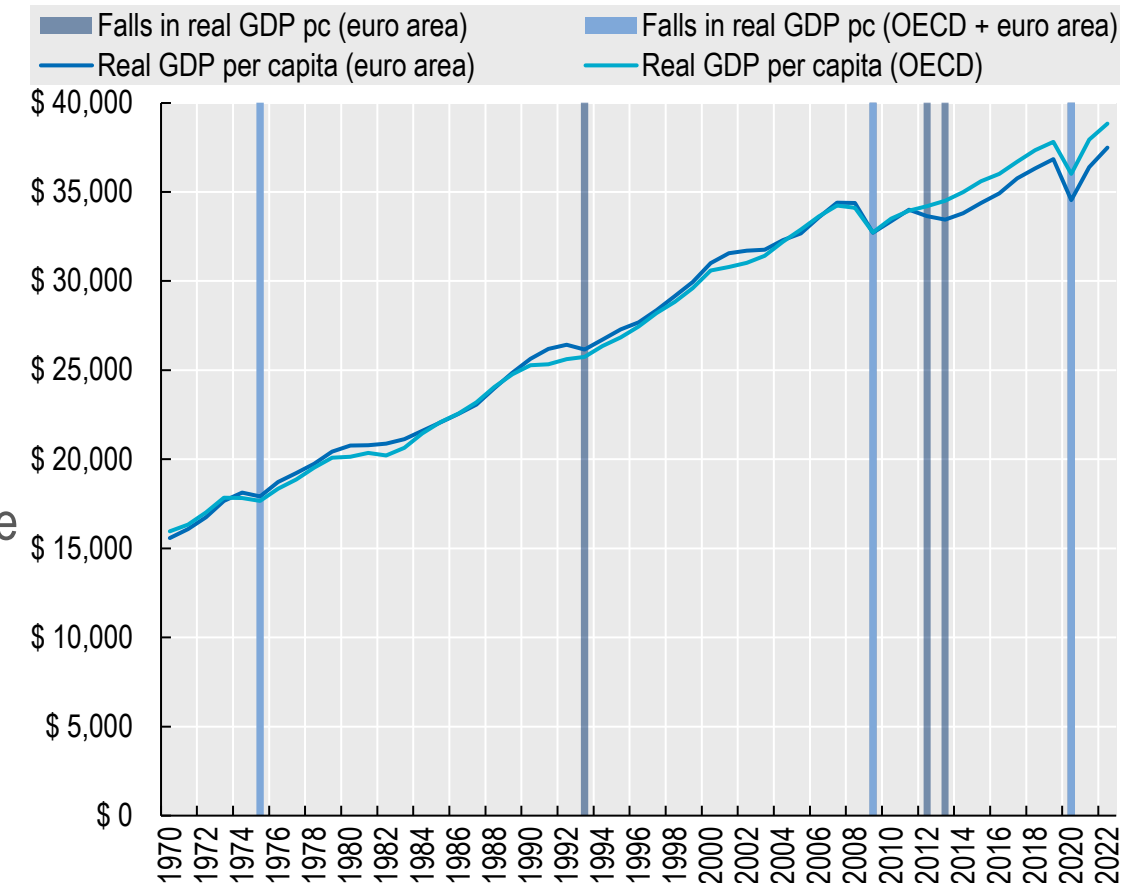


Concerns that the capacity of **tax-benefit system** to automatically **stabilise incomes** has diminished over time



Income instability and economic insecurity have **far-reaching negative effects** on people's well-being and society – affecting living standards and general economic activity, physical and mental health and education outcomes

Shocks are more common and living standards have not grown as fast as in the past



See note to figure 1.1 in the report. Source: European Union Statistics on Income and Living Conditions (EU-SILC).



Estimating monthly income instability

- No European datasets collect monthly income data across countries
- Solution: EU-SILC panel component (four years) using monthly employment status
- Deriving monthly income at the individual level:
 - **Employment income** is split between months when the individual is employed
 - **Private pensions** are split between months when the individual reports being retired (or unemployed if never retired)
- Getting to the household level:
 - Sum of individual monthly incomes
 - **Capital income**, private current **inter-household transfers** and household **own consumption** are divided equally throughout the year
- ✗ At this stage, **no taxes or social transfers** are included (we will discuss some benefits later)
- Household **market income** is then used to assess income instability in **stable, working-age households**
- Income instability measured as the **squared coefficient of variation** over 48 months



Income changes are frequent



Monthly changes account for **two-fifths of total income instability** – indicating that temporary job changes are frequent

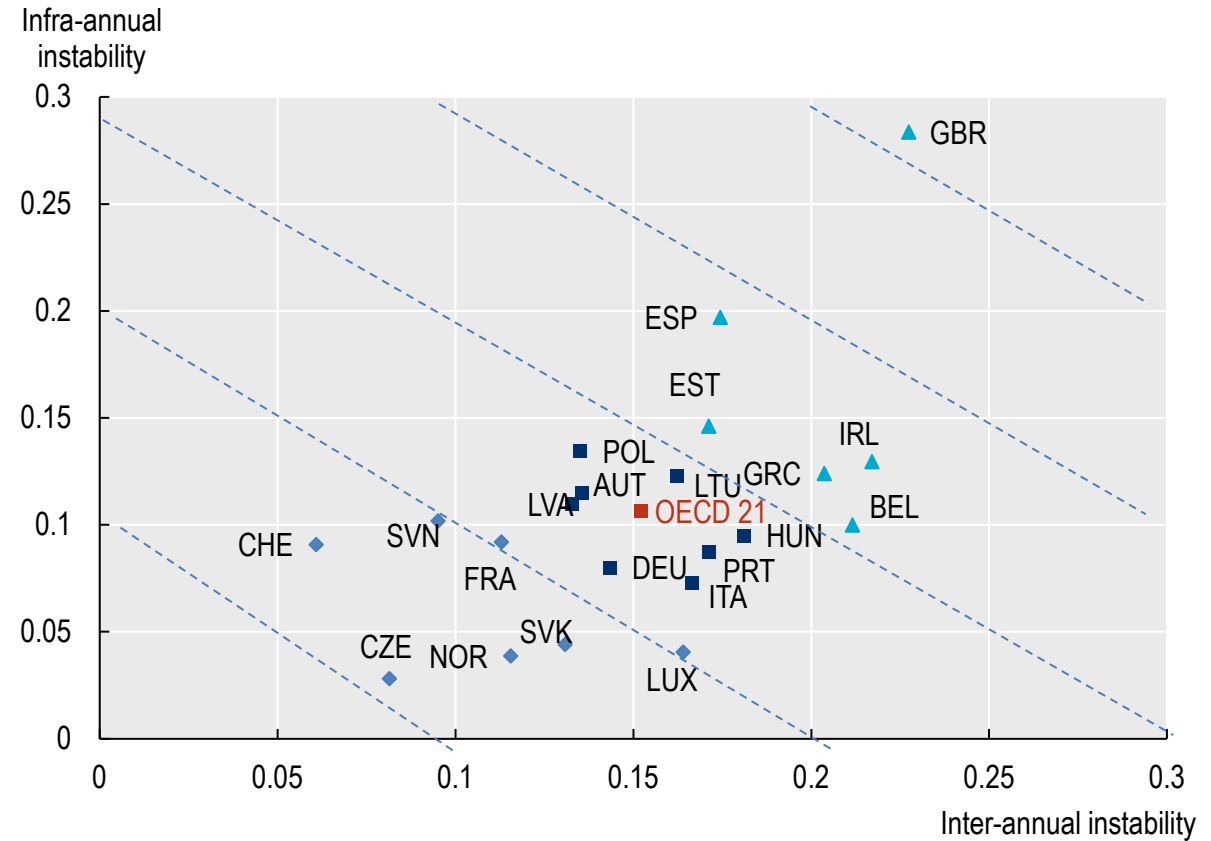


Only **20% of total instability** is due to an upward trend in income

Infra-annual changes are a big contributor to overall instability

Average squared coefficient of variation of market income, average over 2016-2018

◆ Low total income instability ■ Mid total income instability ▲ High total income instability



See note to Figure 1.2 in the report. Source: European Union Statistics on Income and Living Conditions (EU-SILC).



Temporary poverty spells are common, but most poor people stay in poverty for a few years

One-third of people spend at least a few months in poverty. Among them:

- 26% spend less than a year below the poverty line
- 43% of them stay in poverty for at least three years

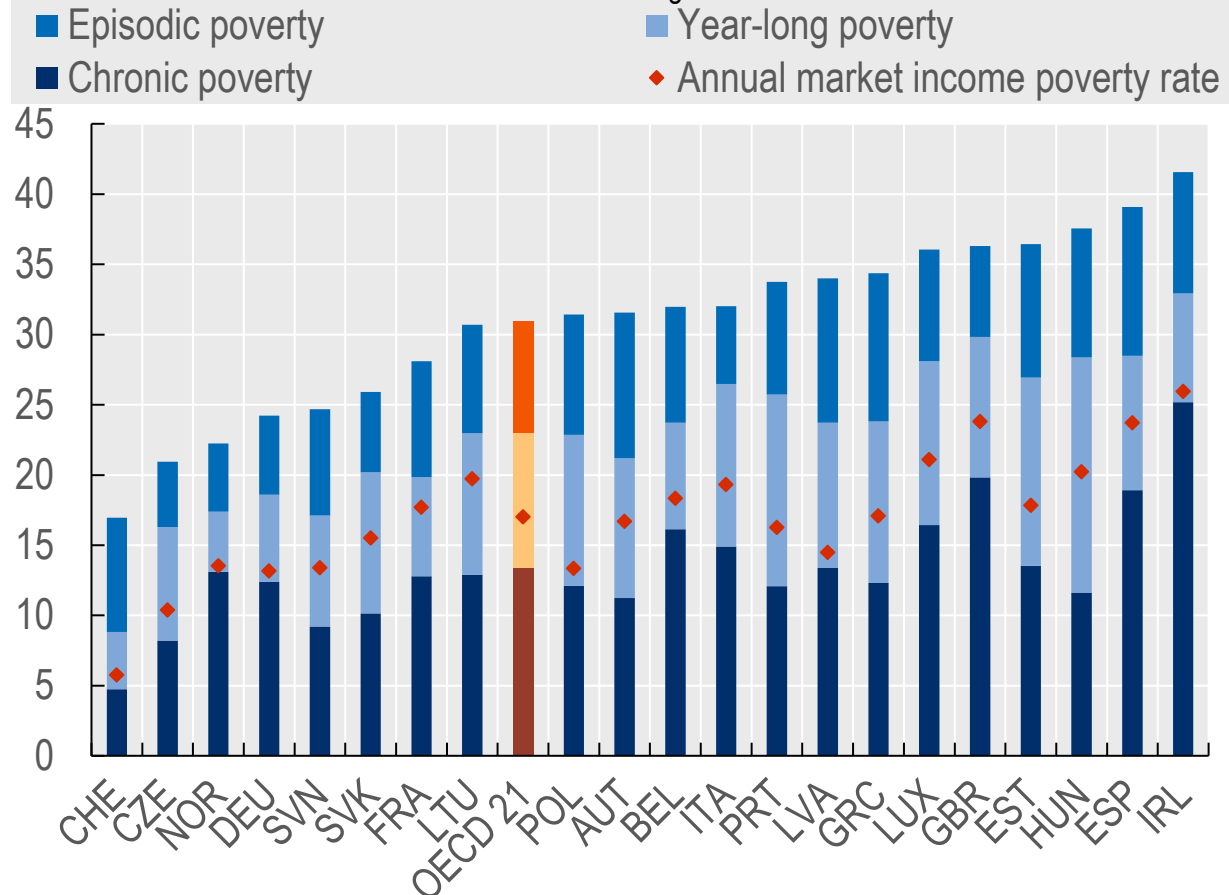


Savings can be used used to cushion short poverty spells, but they are not equally available to all households



One-third of individuals spend at least a few months in poverty

Percentage of the population, only households whose main earner is aged 18-59, averaged over 48 months ending in 2016-18



See note to Figure 1.8 in the report. Source: European Union Statistics on Income and Living Conditions (EU-SILC).



Combining income instability with financial fragility

- Household Finance and Consumption Survey: ECB survey with information on **assets, liabilities** and perceived risk of joblessness
 - ✗ But no data on income instability
- Our approach:
 1. Random forests algorithm is trained to **predict indicator for highly unstable incomes** using **EU-SILC** data for each country
 2. Trained model then predicts this binary indicator in the **HFCS**
 3. In the HFCS, we also compute **financial fragility** (liquid assets < poverty line for 3 months)
 4. We then characterize households who are both **highly unstable** and **financially fragile** as **economically insecure**



Many households face income shocks and lack the liquid assets to withstand these shocks



Almost **1 in 6 people** are economically insecure

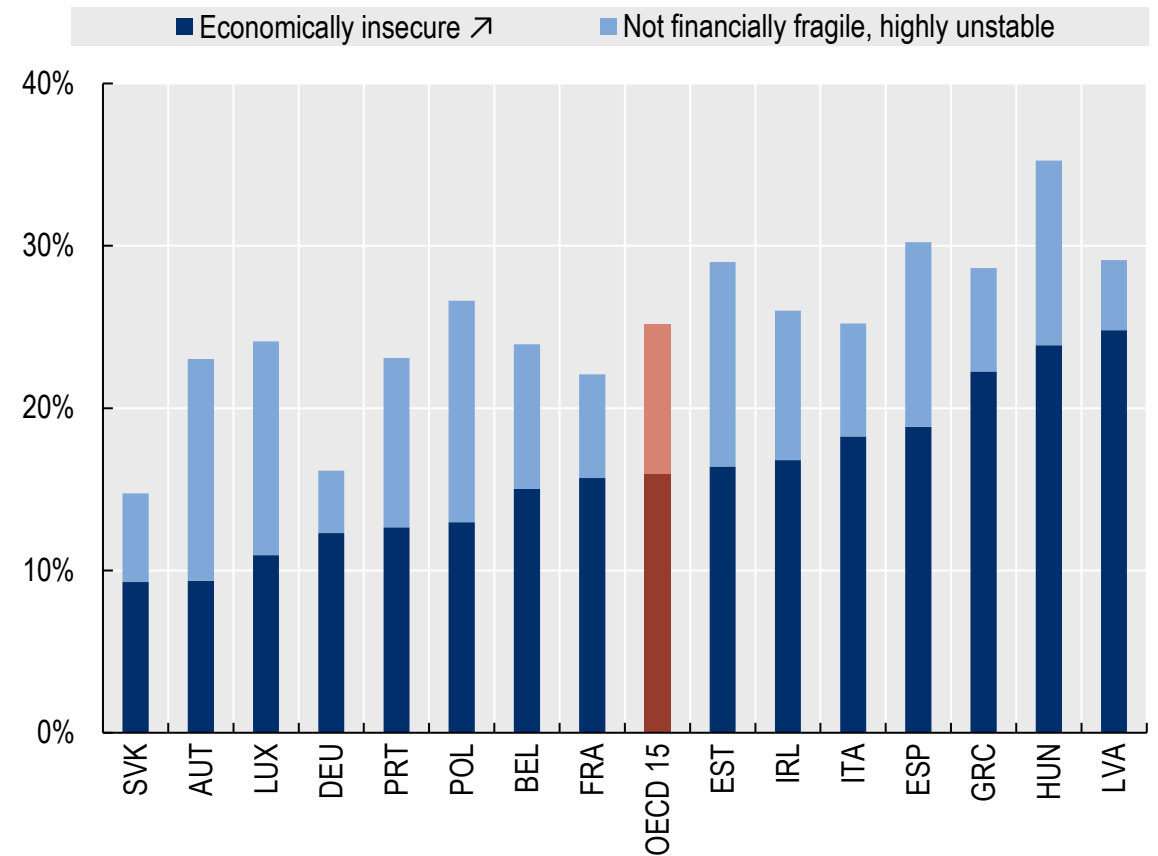


Another **1 in 8** have unstable incomes, but sufficient assets currently



Two-thirds of the economically insecure also think they are likely to lose their job

Almost one in six people in working-age households are economically insecure



See note to Figure 2.4 in the report. Sources: European Union Statistics on Income and Living Conditions (EU-SILC) and the Eurosystem Household Finance and Consumption Survey (HFCS).



Occupations with higher shares of economically insecure workers are more at risk of automation



Occupations with a **higher risk of automation** face higher economic insecurity

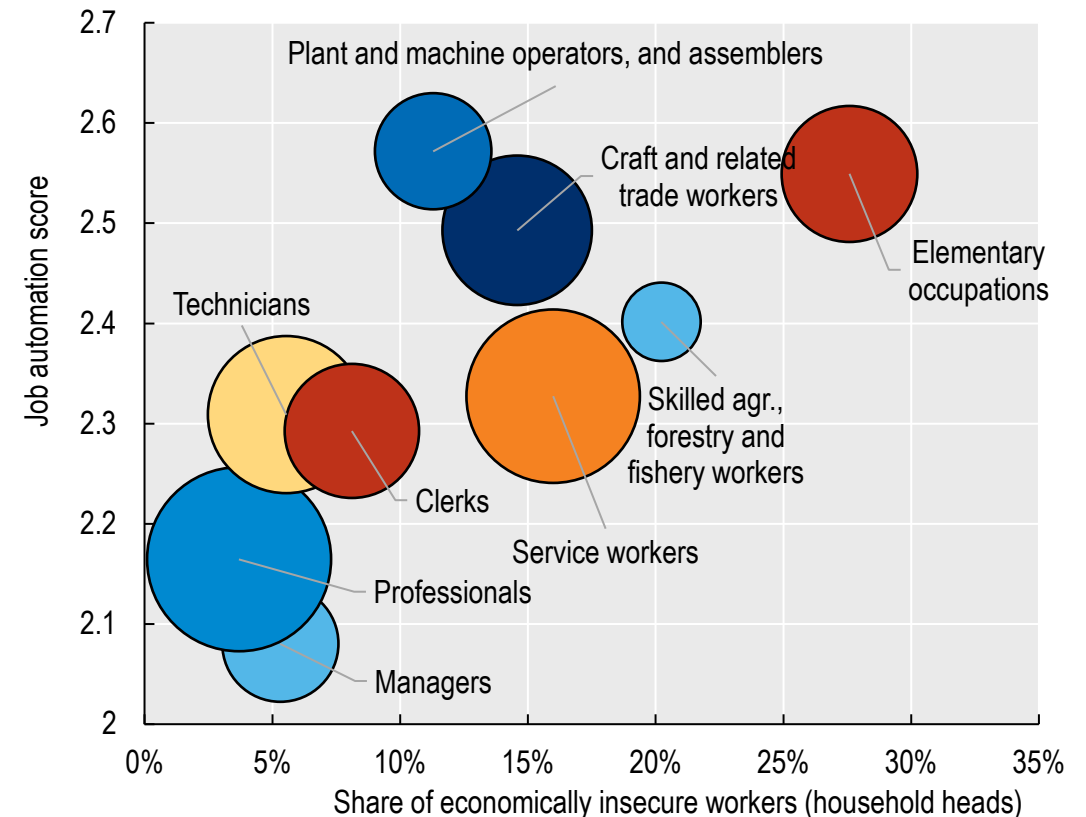


Some (e.g. trade workers) have many **career transitions** in case their occupation becomes obsolete, but others (e.g. elementary occupations) do not



Workers with **lower economic insecurity** are more exposed to AI, but (so far) AI has complemented their labour and increased their wages and employment

Association between automation and economic insecurity



Economic insecurity over 48 months ending 2016-18; automation score based on Lassébie and Quintine (2022[20]) and career transitions based on Kanders et al (2020[21]). See note to Figure 2.8 in the report. Sources: European Union Statistics on Income and Living Conditions (EU-SILC) and the Eurosystem Household Finance and Consumption Survey (HFCS).



Social protection systems can help smooth unstable incomes, but timeliness could be improved



Social benefits reduce instability by **40%** across European OECD countries, mostly through **unemployment and old-age benefits**

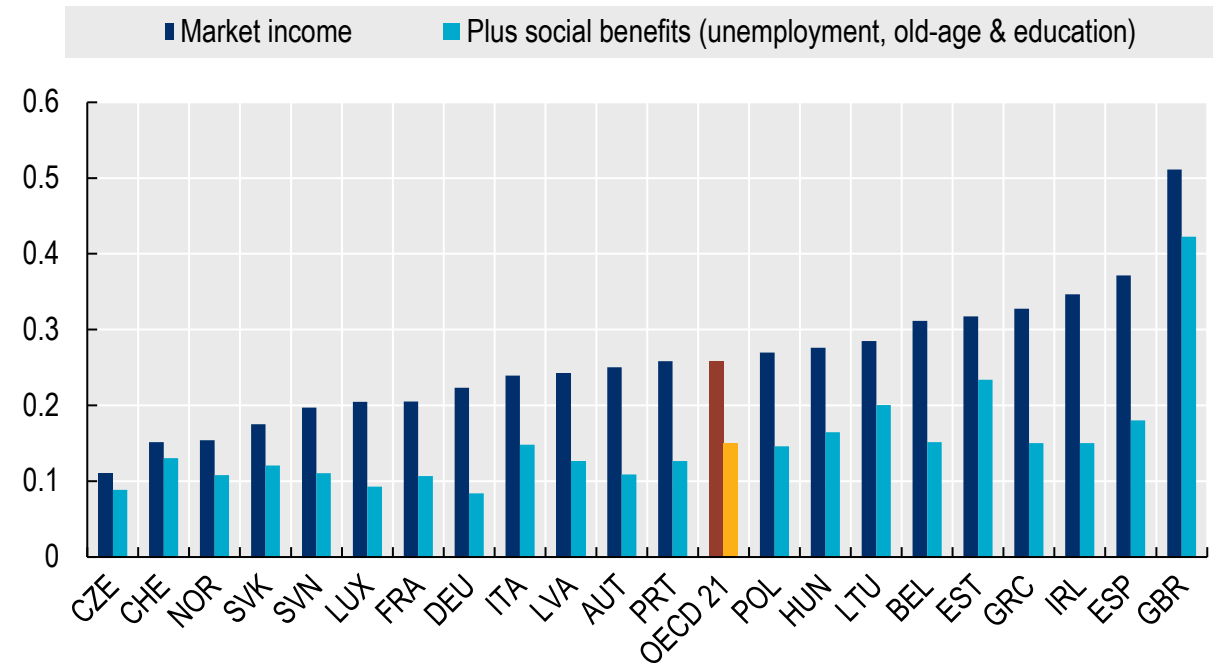


Due to data limitations, these estimates do not cover **other important benefits** such as child allowances and disability pensions



Frequent social protection payments, simplified means testing, and reduced waiting periods can help **reduce instability and financial distress**

Social benefits reduce instability by 40% on average



Analysis over 48 months ending 2016-18. See note to Figure 3.2 in the report. Source: European Union Statistics on Income and Living Conditions (EU-SILC).



Thank you!

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Additional slides



Estimating monthly income instability

- No European datasets collect monthly income data across countries
- Solution: EU-SILC panel component (four years) using monthly employment status – both inter- and infra-annual instability
- But how do we get monthly incomes?

	Individual 1	Individual 2		Individual 1	Individual 2
			Employment income	€27,000	€10,000
			Private pensions	€1,500	€3,000
			Total individual income	€28,500	€13,000
January	Full-time	Full-time		?	?
February	Full-time	Full-time		?	?
March	Full-time	Part-time		?	?
April	Full-time	Full-time		?	?
May	Full-time	Full-time		?	?
June	Full-time	Part-time		?	?
July	Full-time	Unemployed		?	?
August	Full-time	Retired		?	?
September	Full-time	Retired		?	?
October	Unemployed	Retired		?	?
November	Unemployed	Retired		?	?
December	Unemployed	Retired		?	?



Estimating monthly income instability

- **Employment income** is split between months when the individual is employed/self-employed

	Individual 1	Individual 2		Individual 1	Individual 2
			Employment income	€27,000	€10,000
			Private pensions	€1,500	€3,000
			Total individual income	€28,500	€13,000
January	Full-time	Full-time		€3,000	€2,000
February	Full-time	Full-time		€3,000	€2,000
March	Full-time	Part-time		€3,000	€1,000
April	Full-time	Full-time		€3,000	€2,000
May	Full-time	Full-time		€3,000	€2,000
June	Full-time	Part-time		€3,000	€1,000
July	Full-time	Unemployed		€3,000	
August	Full-time	Retired		€3,000	
September	Full-time	Retired		€3,000	
October	Unemployed	Retired			
November	Unemployed	Retired			
December	Unemployed	Retired			



Estimating monthly income instability

- **Employment income** is split between months when the individual is employed
- **Private pensions** are split between months when the individual reports being retired (or unemployed if never retired)
- Individual estimates are added at the household level

	Individual 1	Individual 2		Individual 1	Individual 2	Household
			Employment income	€27,000	€10,000	
			Private pensions	€1,500	€3,000	Sum of individual income
			Total individual income	€28,500	€13,000	€41,500
January	Full-time	Full-time		€3,000	€2,000	€5,000
February	Full-time	Full-time		€3,000	€2,000	€5,000
March	Full-time	Part-time		€3,000	€1,000	€4,000
April	Full-time	Full-time		€3,000	€2,000	€5,000
May	Full-time	Full-time		€3,000	€2,000	€5,000
June	Full-time	Part-time		€3,000	€1,000	€4,000
July	Full-time	Unemployed		€3,000	€0	€3,000
August	Full-time	Retired		€3,000	€600	€3,600
September	Full-time	Retired		€3,000	€600	€3,600
October	Unemployed	Retired		€500	€600	€1,100
November	Unemployed	Retired		€500	€600	€1,100
December	Unemployed	Retired		€500	€600	€1,100



Estimating monthly income instability

- Household-level market income variables
 - Capital income** is divided equally throughout the year
 - Private current **inter-household transfers** are divided equally
 - Household **own consumption** is divided equally

	Individual 1	Individual 2		Individual 1	Individual 2	Household		
			Employment income	€27,000	€10,000			
			Private pensions	€1,500	€3,000	Sum of individual income	Capital income	Household market income
			Total individual income	€28,500	€13,000	€41,500	€2,400	€43,900
January	Full-time	Full-time		€3,000	€2,000	€5,000	€200	€5,200
February	Full-time	Full-time		€3,000	€2,000	€5,000	€200	€5,200
March	Full-time	Part-time		€3,000	€1,000	€4,000	€200	€4,200
April	Full-time	Full-time		€3,000	€2,000	€5,000	€200	€5,200
May	Full-time	Full-time		€3,000	€2,000	€5,000	€200	€5,200
June	Full-time	Part-time		€3,000	€1,000	€4,000	€200	€4,200
July	Full-time	Unemployed		€3,000	€0	€3,000	€200	€3,200
August	Full-time	Retired		€3,000	€600	€3,600	€200	€3,800
September	Full-time	Retired		€3,000	€600	€3,600	€200	€3,800
October	Unemployed	Retired		€500	€600	€1,100	€200	€1,300
November	Unemployed	Retired		€500	€600	€1,100	€200	€1,300
December	Unemployed	Retired		€500	€600	€1,100	€200	€1,300

