



The uneven impact of inflation across European households: who is paying more?

(LIS)²ER workshop “Inflation, energy prices and tax policy: Effects on consumption and welfare”

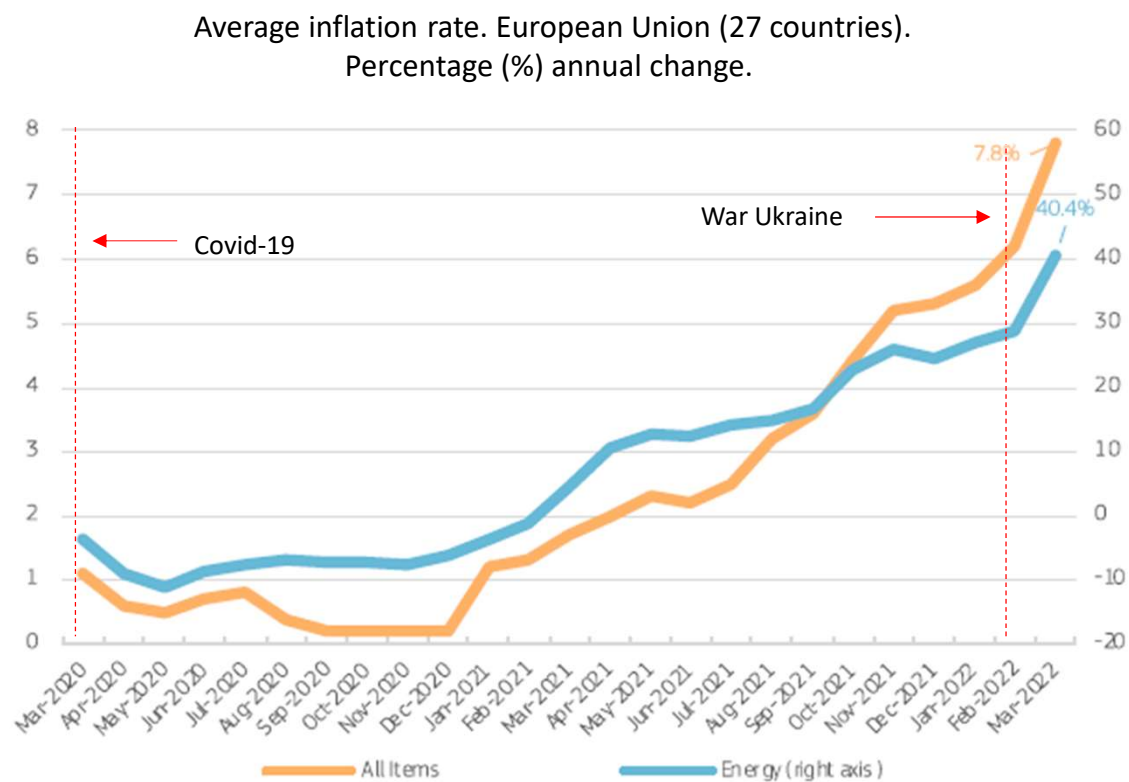
1-2 December 2022

Davide Villani

(Joint Research Centre – European Commission)

davide.villani@ec.europa.eu

Background - motivation



What is the impact of inflation across social groups?

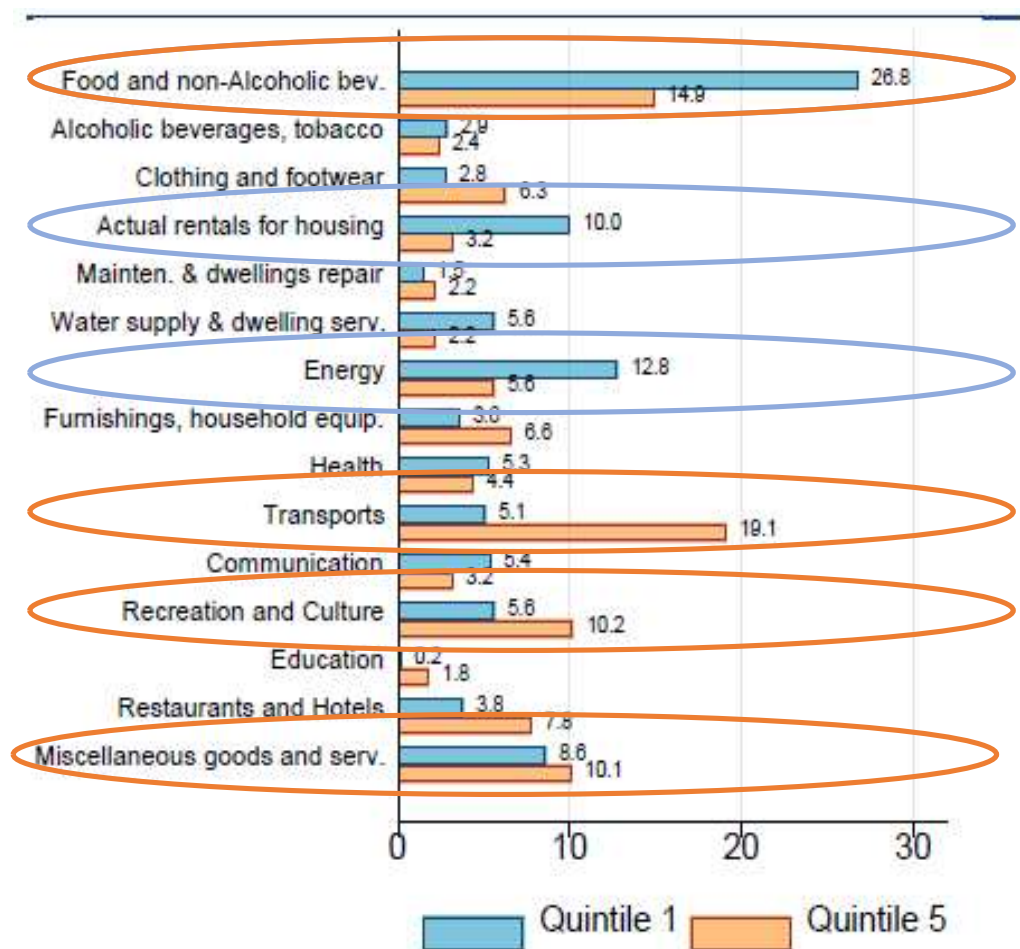
Data and methodology

- Household Budget Survey (Eurostat) – 2015
- Consumer Price Index (OECD) – March 2021 to March 2022
- Households by quintiles of expenditure (not income, because of lack of data in some countries)
- For each country l , share of expenditure of each quintile of households in 15 items (\mathbf{c}_{qi})
- Vector of price growth in each country and item (\mathbf{p}_i)

$$cpi_i = \mathbf{c}_{qi}^T \mathbf{p}_i$$

$$\mathbf{cpi}_i = \hat{\mathbf{c}}_{qi} \mathbf{p}_i$$

Consumption patterns



- Poorer households concentrate their expenditure in Food and non-Alcoholic beverages (26.8%), Energy (12.8%) and Rents (10.0%).
- Top quintiles spend more on Transports (19.1%), Food (14.9%), Recreation and culture (10.2%) and Miscellaneous goods and services (10.1%).
- Poorer households spend most of their income in essential and inelastic goods.

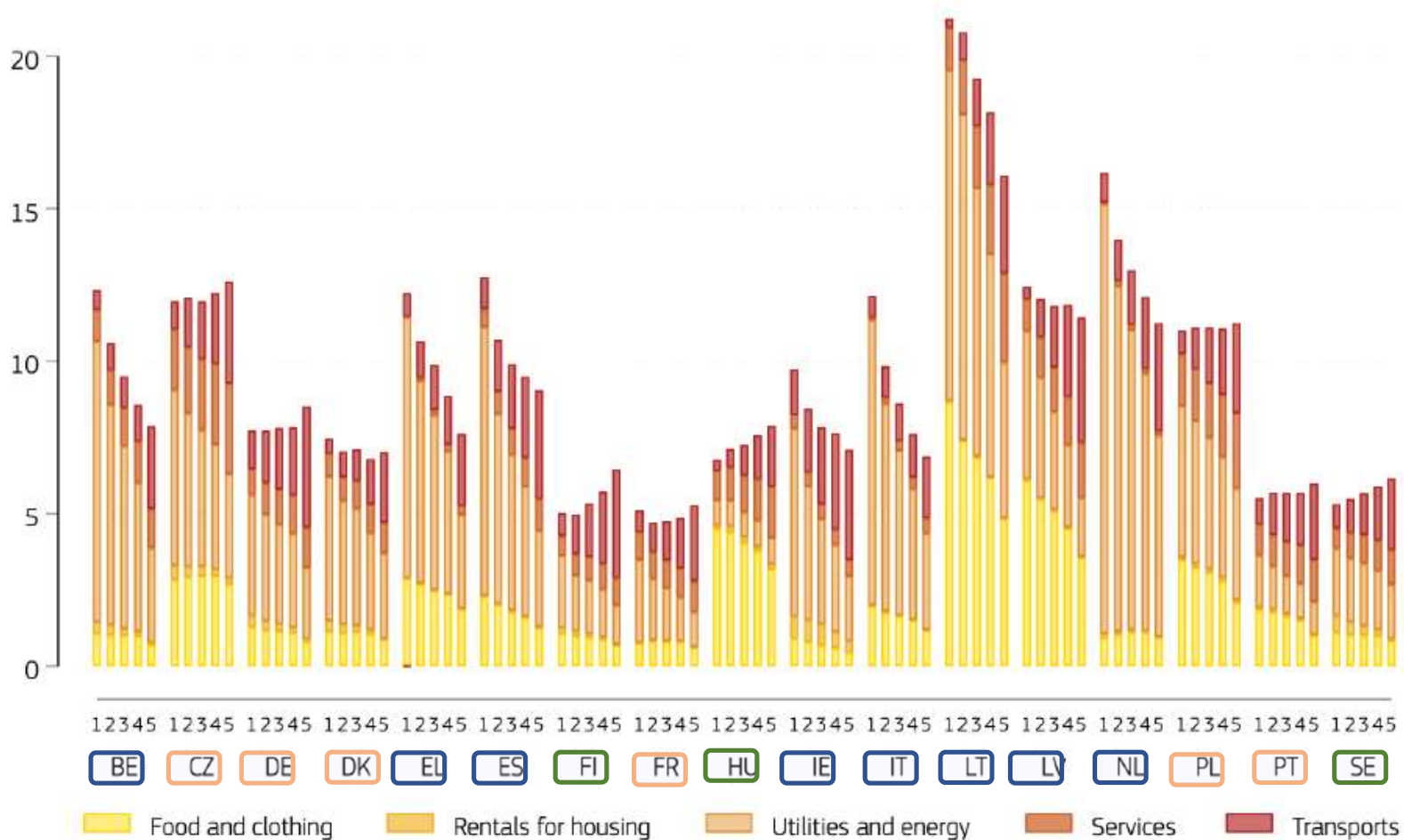
Inflation rate across the EU (yearly percentage change, March 2022).

	Avg. EU	BE	CZ	DK	FI	FR	DE	EL	HU
All items	8.4	8.3	12.7	5.4	5.8	4.5	7.3	8.9	8.5
Food and non-Alcoholic beverages	7.7	4.8	7.7	6.3	5.1	3.2	5.9	8.1	13.4
Alcoholic beverages, tobacco	3.6	3.0	7.6	2.5	2.7	0.3	4.0	0.4	6.9
Clothing and footwear	3.4	1.1	18.3	1.2	0.8	3.5	2.0	6.5	4.1
Actual rentals for housing	3.4	2.6	4.4	1.7	1.1	0.4	1.6	0.8	7.4
Maintenance & dwellings repairs	9.8	4.8	16.4	10.4	10.8	4.5	10.3	2.1	20.1
Water supply and dwelling serv.	2.8	5.7	4.6	1.3	2.2	1.7	2.2	-0.1	1.4
Energy	46.1	73.6	26.5	34.0	27.5	24.4	35.3	62.8	1.5
Furnishings, household equip.	6.0	3.2	10.7	5.2	2.7	3.5	4.7	3.7	9.5
Health	2.3	1.1	7.7	1.5	-1.1	-1.3	0.9	0.0	5.5
Transport	15.8	11.2	21.6	10.2	13.7	11.5	17.5	15.4	12.4
Communication	0.6	1.2	-0.1	0.5	8.0	1.8	-0.1	-2.9	-1.9
Recreation and culture	3.8	2.6	9.9	1.9	3.3	1.8	5.0	0.1	5.3
Education	-0.9	1.0	1.9	2.2	0.7	2.0	1.5	0.9	5.6
Restaurants and hotels	6.9	5.9	14.5	5.8	4.8	3.3	5.6	2.8	11.7
Miscellaneous goods and serv.	3.6	3.7	7.4	2.7	0.0	3.1	2.0	0.1	5.7

	IE	IT	LV	LT	NL	PL	PT	ES	SE
All items	6.7	6.5	11.5	15.7	9.7	11.0	5.3	9.8	6.0
Food and non-Alcoholic beverages	3.1	5.8	14.7	17.1	6.4	9.2	7.2	6.8	5.8
Alcoholic beverages, tobacco	7.0	0.5	4.0	7.9	2.1	5.3	2.6	3.0	1.7
Clothing and footwear	-0.8	1.3	5.2	4.0	2.8	3.3	0.1	3.0	1.6
Actual rentals for housing	7.2	0.7	3.4	10.5	0.8	9.7	2.2	0.9	1.8
Maintenance & dwellings repairs	6.5	1.6	6.7	22.5	10.6	14.2	9.8	4.8	
Water supply and dwelling serv.	2.4	1.0	5.0	3.7	1.7	7.5	2.4	1.3	4.3
Energy	46.7	71.6	21.5	57.4	157.4	24.3	9.2	80.0	30.1
Furnishings, household equip.	2.7	3.2	7.4	13.2	6.7	7.8	5.6	4.2	8.1
Health	0.2	0.8	5.5	5.7	2.0	6.0	1.1	1.1	2.5
Transport	18.7	11.0	22.9	22.1	16.6	24.1	11.0	18.6	10.9
Communication	2.2	-3.5	1.7	3.7	-2.8	3.0	1.8	-0.5	-1.2
Recreation and culture	2.9	0.5	4.2	9.9	2.8	7.4	3.1	1.2	2.9
Education	-0.8	-0.5	-0.6	7.6	-45.2	6.0	1.4	1.2	
Restaurants and hotels	3.6	4.7	7.7	12.6	5.1	12.7	6.6	4.4	6.0
Miscellaneous goods and serv.	-1.0	1.2	8.5	12.4	1.9	6.2	2.0	2.8	3.0

Inflation is driven by energy goods' prices, followed by transports and food.

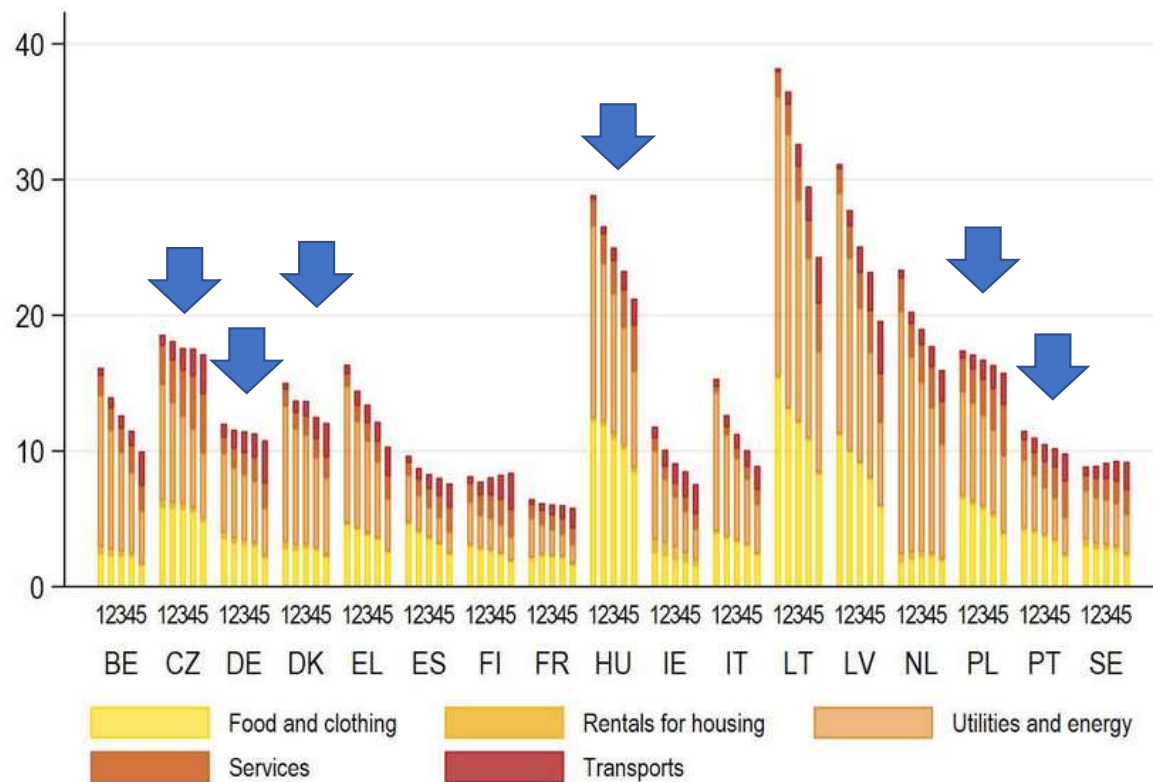
Inflation rate by quintiles and contribution of each item. Annual percentage change (%).
March 2021 – March 2022.



- Regressive impact: Belgium, Greece, Italy, Ireland, Latvia, Lithuania, Netherlands and Spain
- Even impact across quintiles: Czechia, Denmark, Germany, France, Poland, Portugal
- Inflation affecting more wealthy households: Finland, Hungary, Sweden

...Same as before but, with different period. September 2021 to September 2022

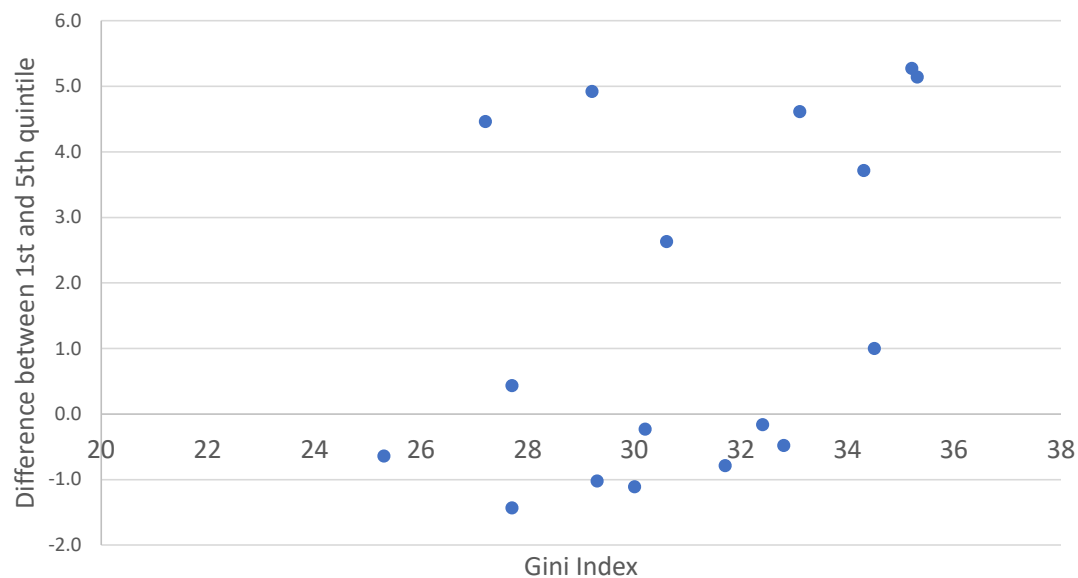
Inflation rate by quintiles and contribution of each item based on the consumption basket. Annual percentage change (%). September 2021 – September 2022.



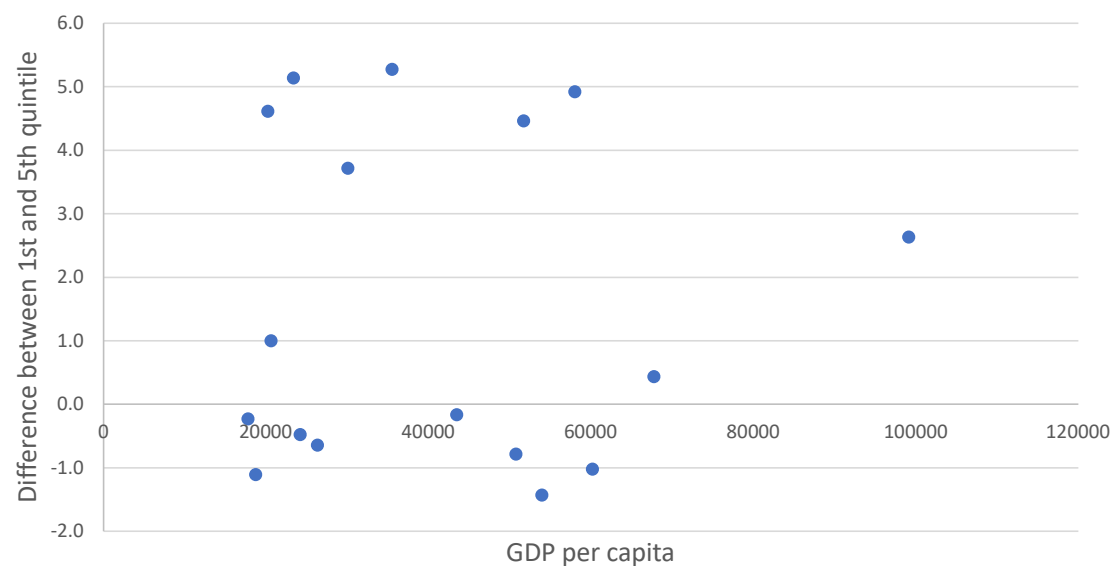
- Higher levels of inflation
- Higher gap between top and bottom quintiles
- The effects of inflation become more regressive in most countries (e.g. Czechia, Germany, Denmark, Hungary Poland, Portugal)

Inflation disparity vs inequality and GDP per capita

Inflation disparity vs. Gini index



Inflation disparity vs. GDP per capita



Caveats and limitations

- 2015 as reference year. Having had a more recent base year, would the difference between bottom and top quintiles be more pronounced?
- Static scenario. No consideration of elasticities of consumption.
 - However, most of the consumption of poorer household is concentrated in highly inelastic items
 - It may be that the impact on more wealthy household is slightly underestimated (they rise the share of expenditure in basic goods)

Conclusions and policy implications

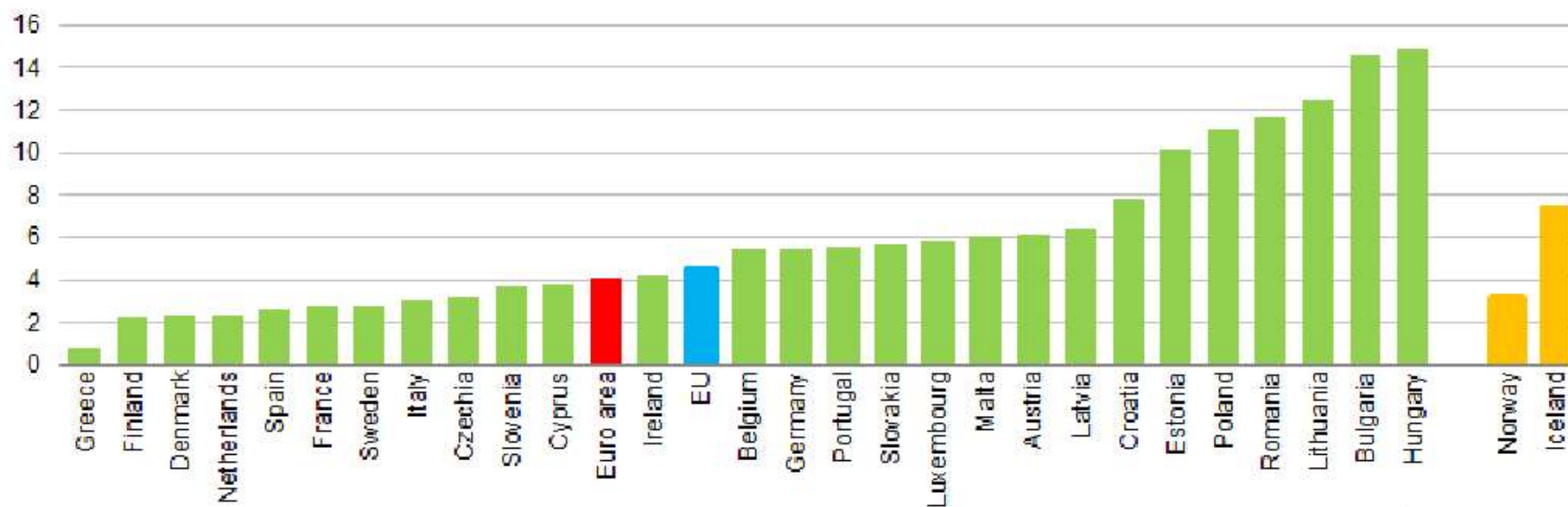
- Inflation has in many countries, an uneven impact across households, where more vulnerable households pay the higher price
- Targeted policies towards more vulnerable households (?). Often, this is not the case
- Different sources of income react unevenly [to inflation](#).
- Loss of about 7% of [real wages in a year](#). [What about the future?](#)
- Statistical collection and inequality

In fact, profits across a broad range of industries have risen markedly, even in some contact-intensive sectors (Slide 6, left-hand chart). This means that many firms have so far been able to increase their prices beyond the increase in nominal wages, and in many cases even beyond the increase in energy costs.

(Speech by Isabel Schnabel, Member of the Executive Board of the ECB, at a panel on the “Fight against inflation”)

Nominal hourly wage costs, whole economy

% change compared with the same quarter of the previous year, calendar adjusted
Q2 2022



ec.europa.eu/eurostat 



The Flattening of the Phillips Curve: Policy Implications Depend on the Cause

Filippo Occhino

May 2022

Who Killed the Phillips Curve? A Murder Mystery

David Ratner and Jae Sim

Abstract:

Wage-Price Spirals: What is the Historical Evidence?

Author/Editor: Jorge Alvarez ; John C Bluedorn ; Niels-Jakob Hansen ; Youyou Huang ; Evgenia Pugacheva ; Alexandre Sollaci

Publication Date: November 11, 2022

“We find that the great majority of the episodes [i.e. wage-price spirals] are *not* followed by a sustained acceleration in wages and prices, with only a few exceptions. Instead, inflation and nominal wage growth tended to stabilize in the following quarters, leaving real wage growth broadly unchanged. ... Wage-price spiraling dynamics appear to have short lives.

An important takeaway from the analysis is that an acceleration of nominal wages should not necessarily be seen as sign that a wage-price spiral is taking hold. Indeed, history suggests that nominal wages can accelerate while inflation recedes from high levels. In fact, on average, this has happened after similar macroeconomic episodes in the past.”

Thank you very much for your attention

davide.villani@ec.europa.eu

“In reality high profits tend much more to raise the price of work than high wages.

... Our merchants and master-manufacturers complain much of the bad effects of high wages in raising the price, and thereby lessening the sale of their goods both at home and abroad. They say nothing concerning the bad effects of high profits. They are silent with regard to the pernicious effects of their own gains. They complain only of those of other people.”

(Adam Smith, On the Profits of Stock, Book I, The Wealth of the Nations)