



The Effects of Rising Prices on Dutch Households: A Microsimulation Study

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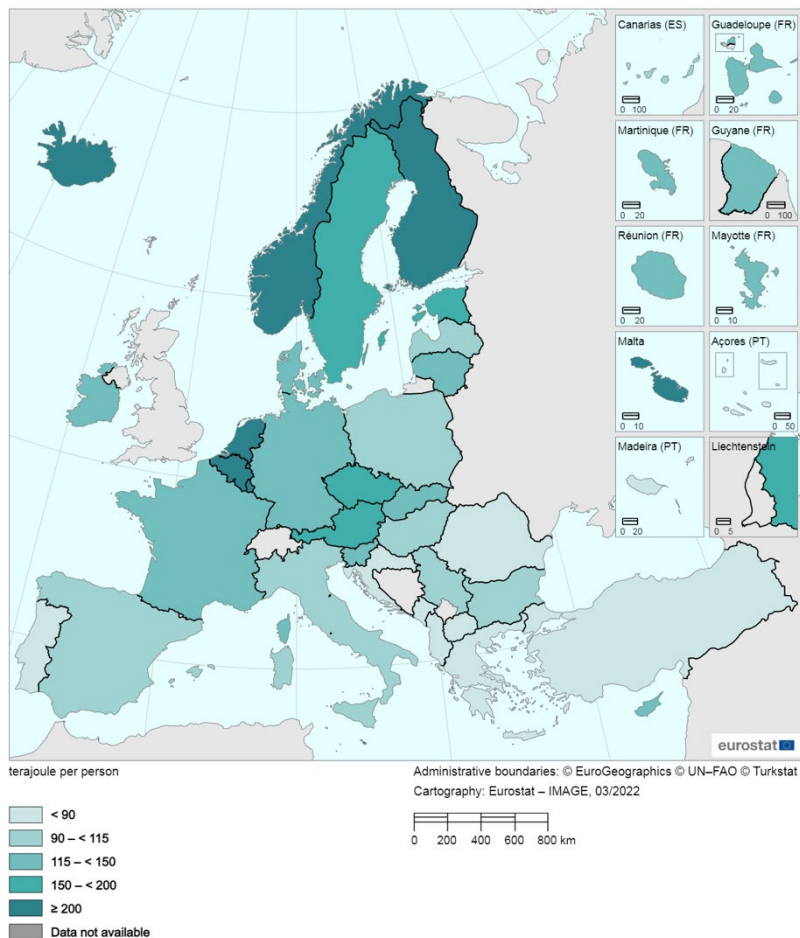
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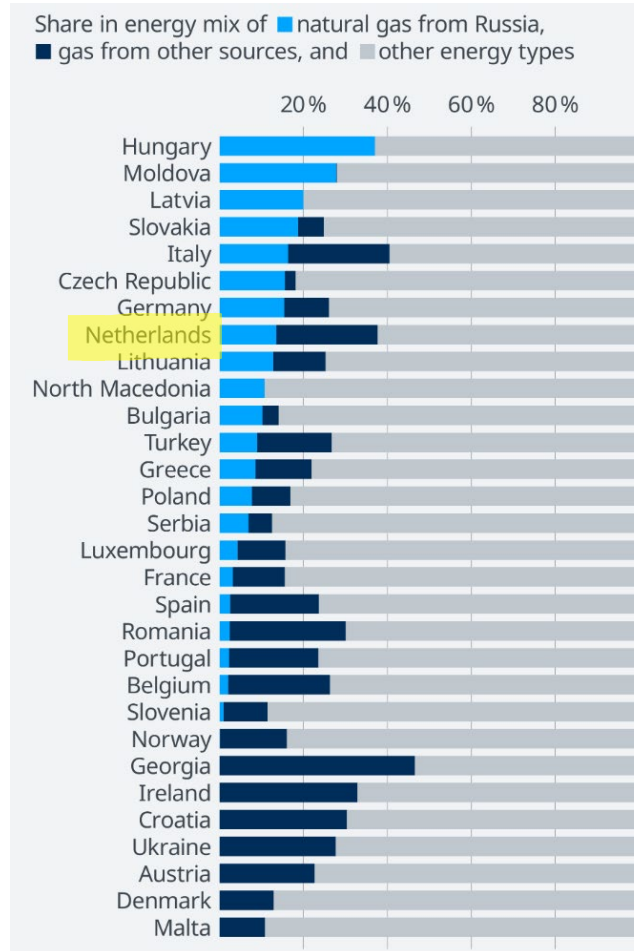
- Price developments in the Netherlands
- A 'stress test' for Dutch households
- Effects of recently announced policy measures

Dutch inflation record high in 2022

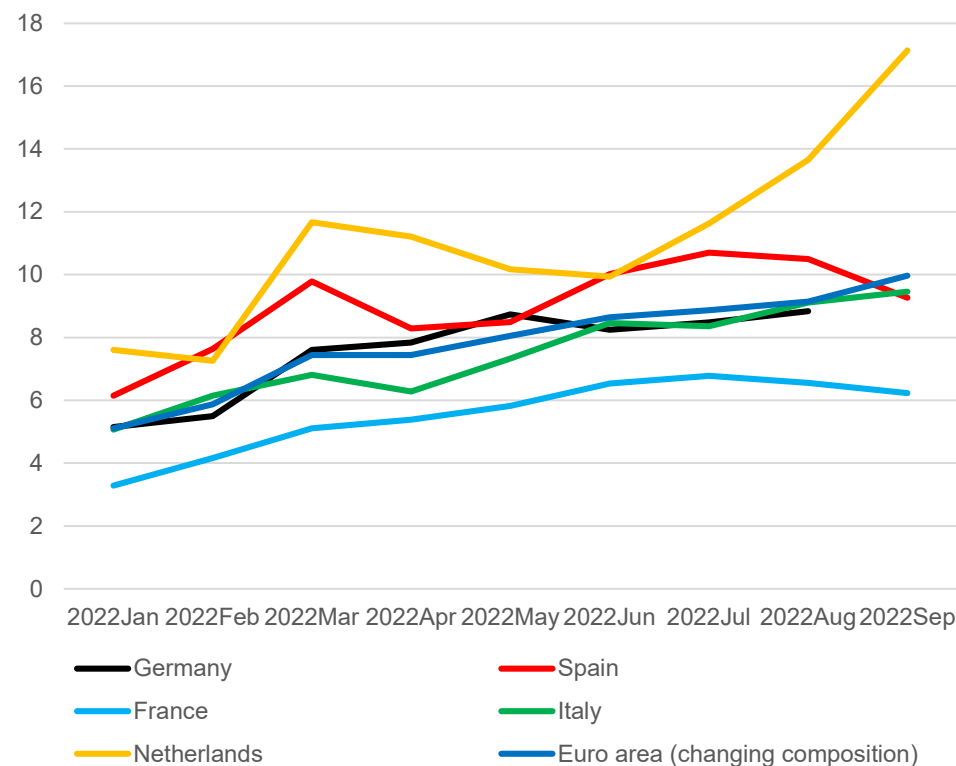
Energy consumption per capita, 2020



Gas dependence, 2020



Year-on-Year HICP inflation rates, 2022



Sources: Eurostat, European Commission

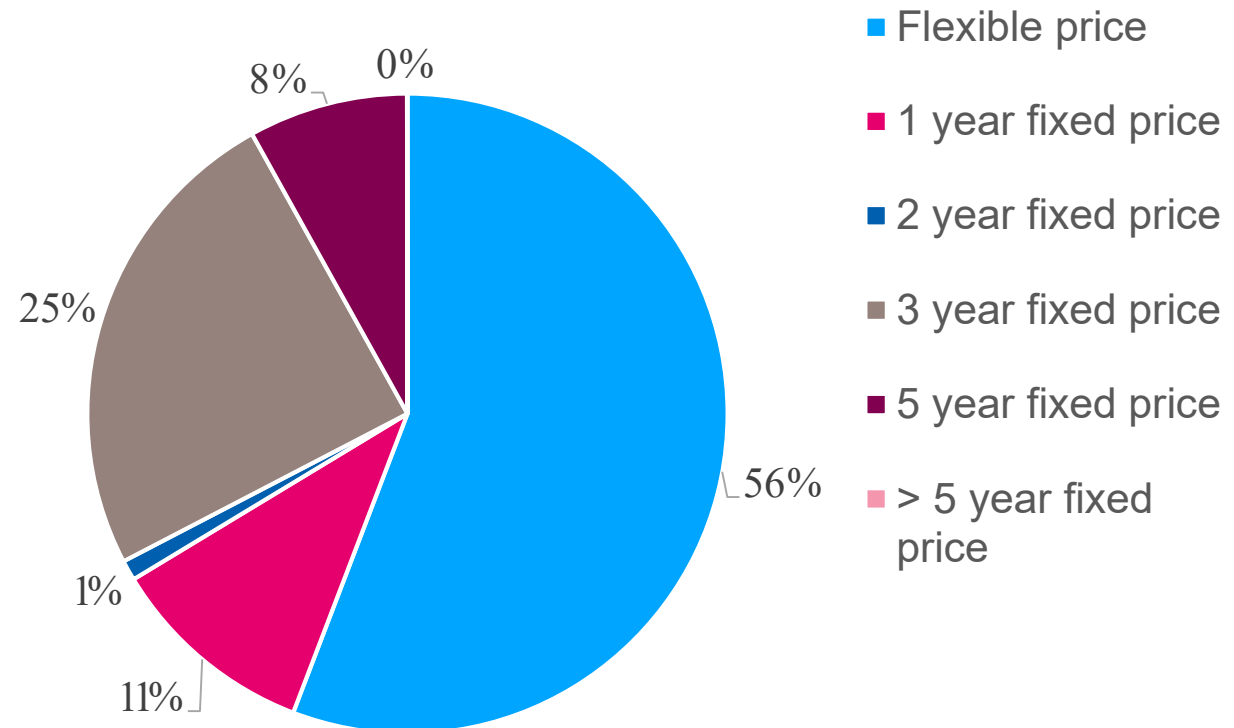
How many households at risk of financial distress?

- Financial distress =

monthly compulsory and basic needs expenditures > monthly net disposable income

- If in financial distress, which households have sufficient liquid wealth to finance their budget deficit?
For how long?

Energy contract types, July 2022



Source: ACM (Authority for Consumers and Markets)

A Microsimulation 'stress test' study

- **Microsimulation model of Dutch tax and benefits system:**
simulates gross-net disposable income trajectory
 - Past and future fiscal years
 - Includes macro forecast
- **Micro data on**
 - Income and (liquid) wealth
 - Socio-economic characteristics
 - Monthly compulsory and basic needs expenditures
- **No behavioral response** → 'stress test' of short-term financial consequences for Dutch households

Monthly expenditures on basic needs

We include microdata on

- Energy use
- Rent/mortgage payments
- Health care costs

We impute

- Personal vehicle/public transport use
- Various subscription plans (internet, phone, etc)
- Minimum expenditures on basic needs: i.e. food, personal care (e.g. toothpaste, shampoo), clothing...
 - based on Dutch poverty threshold definition by the Netherlands Institute for Social Research (SCP)

We exclude: all non-necessary and non-compulsory expenditures: e.g. entertainment, holidays, restaurants...

Scenarios for 2023

Price shocks for key expenditures*

	Natural gas**	Electricity**	Petrol**	Food**	Contract wages **
	m^3	kWh	ltr	index	index
Price level january 2021	€ 0.22	€ 0.06	€ 0.52	100	100
Increase wrt January 2021					
Small shock scenario	200%	200%	50%	10%	9%
Large shock scenario	600%	600%	100%	25%	8%

* All other expenditures were shocked with our forecast of core inflation (small shock) and core inflation *1.5

**Prices exclude taxes

- Forecast for 2023 ≈ 'large shock'-scenario

Number of households at risk of financial distress

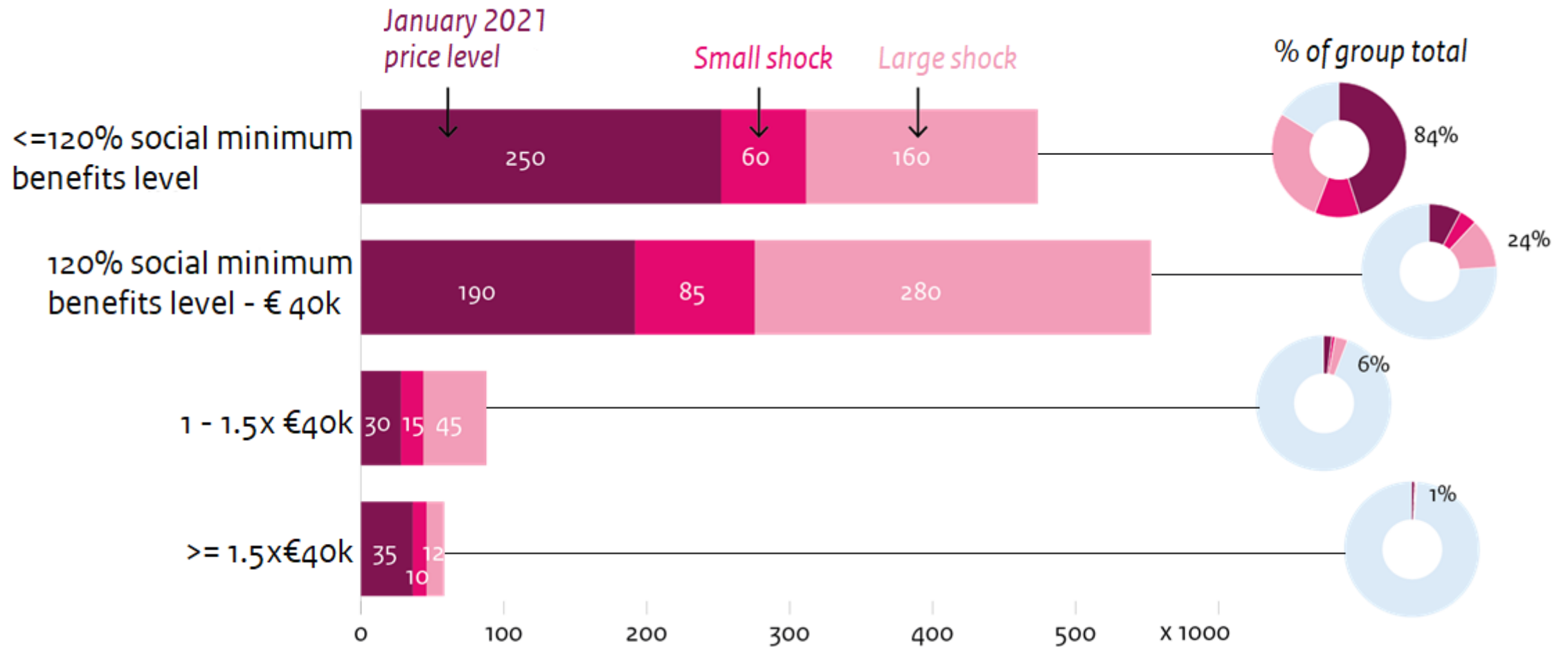
- Before price increases: already ± 0.5 mln households at risk
 - Close to estimate of poverty rate in the Netherlands
- Large shock scenario: 1.2 mln households at risk
- 85% of households have sufficient income to cover compulsory and basic needs expenditures

Households in financial distress

	<i>mln</i>	<i>Share of total*</i>
January 2021 price level	0.50	7%
Scenarios		
Small shock	0.67	9%
Large shock	1.17	15%

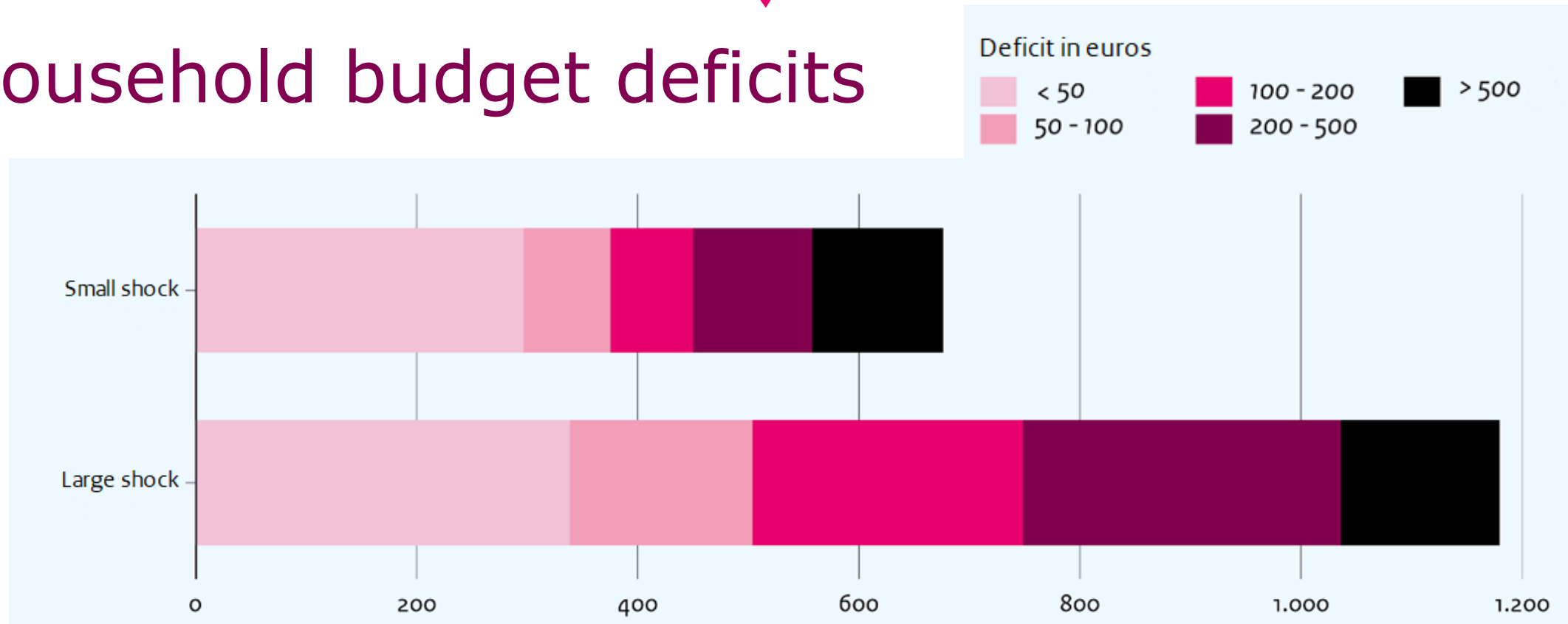
**total number of households 7.1 mln*

Groups at risk of financial distress



€40k \approx gross average personal income in 2023

Household budget deficits

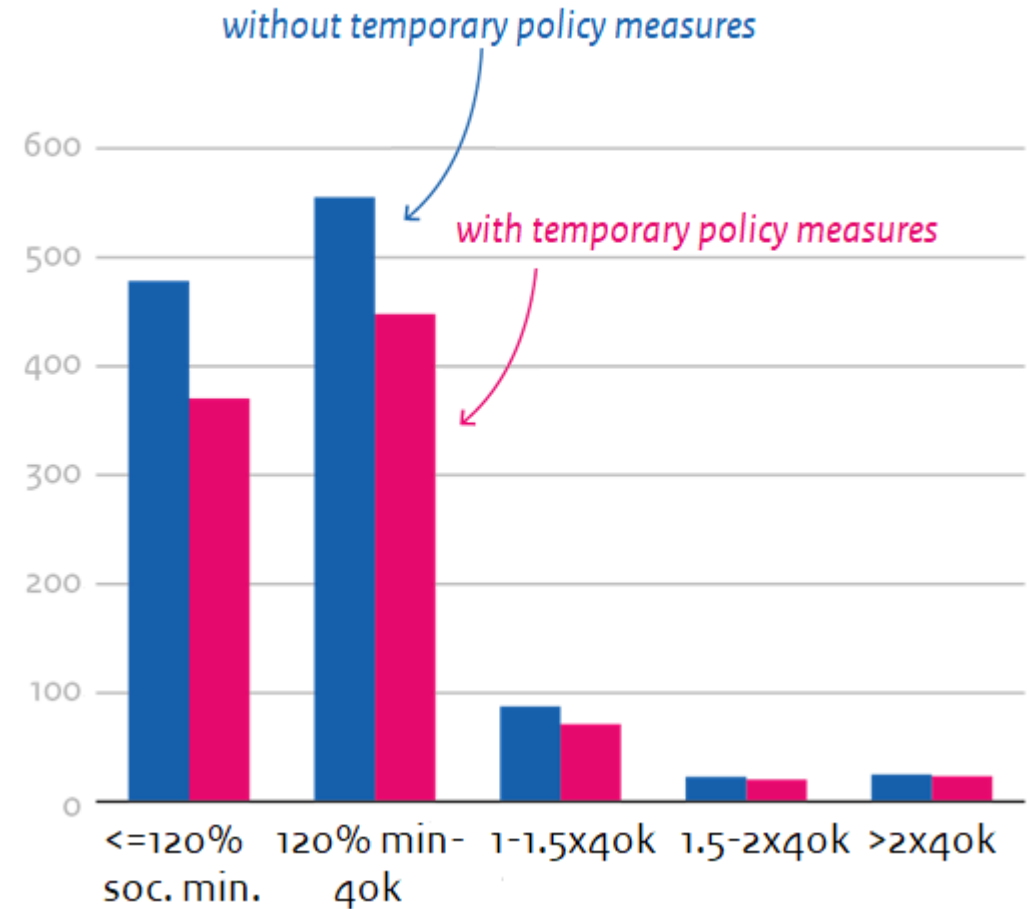


- Median deficit is €75 (small shock) to €130 (large shock)
- \pm 50% have sufficient liquid wealth to finance their deficit for a year or more
- \pm 30% have used up their liquid wealth within 3 months

2022 policy analysis

- ‘Temporary’ measures in 2022
 - Energy subsidy for incomes $\leq 120\%$ minimum social benefits level
 - Decrease in energy and fuel taxes
- Not very effective
 - Not enough for those in financial distress
 - Not necessary for higher incomes

of households in financial distress in large shock scenario



2023 forecast and 'larger' shock scenario

Price shocks for key expenditures*

	Natural gas	Electricity	Petrol	Food	Contract wages
	m^3	kWh	ltr	index	index
Price level january 2021	€ 0,22	€ 0,06	€ 0,52	100	100
Scenarios wrt January 2021 price level					
Small shock	200%	200%	50%	10%	9%
Large schok	600%	600%	100%	25%	8%
2023 forecast	527%	533%	108%	18%	9%
2023 forecast + larger gas price shock***	950%	950%	108%	18%	9%

* All other expenditures were shocked with our forecast of core inflation (small shock) and core inflation *1.5

**Prices exclude taxes

*** Larger price shock is based on gas price of maximum of 300 €/MWh

- Larger gas price shock based on august peak in TTF gas futures

Policy measures for 2023

- Policy package of ± 15 billion euros
 - $\approx 1.5\%$ of GDP
- Includes (among others)
 - 2022 energy subsidy prolonged and increased
 - 2022 decreases in energy and fuel taxes prolonged
 - Increase in minimum wage, benefits and state pensions
 - Tax reductions and subsidy increases (rent, health care premium) for lower incomes
- Government budget deficit increases: from -1.1% in 2022 to -2.5% in 2023

Effects of 2023 policy package

- Number of households in financial distress in 2023 decreases from **± 1 mln** to **0.54 mln** households
- If natural gas prices increase to 950% of January 2021 level...
 - Increase to **±0.86 mln** households
- Low income households less at risk
- ...but high usage households still vulnerable

Households in financial distress

	<i>mln</i>	<i>Share of total*</i>
2023 forecast		
<i>without 2023 policy package</i>	0.99	13%
<i>with 2023 policy package</i>	0.54	7%
2023 forecast + larger gas shock	0.86	11%

**total number of households ≈ 7.6 mln*

Conclusions

- Targeted policies most effective
- Temporary policy measures risky
- Structural problems
 - Poverty
 - High gas dependence
- **To be continued: gas price cap**



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