

“Vulnerable consumer” in energy markets

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Why to focus on vulnerable consumers in energy markets ?

- Vulnerable consumers in energy → those consumers affected by affordability and/or access issues
- The consumption of energy services/goods
 - is essential for individual well-being (Barr,1992)
 - determines positive externality on the whole society (i.e., it affects public health, human productivity)
 - Merit goods? (Sandmo, 1983; Besley, 1988)
- Short run domestic demand for energy goods/services:
 - low price and low income elasticity → tariff reforms can have relevant **distributional effects** on vulnerable households (Hancock-Waddams, 1998, Gomez-Lobo, 1996, Wolak, 1996; Miniaci, Scarpa and Valbonesi, 2007, 2008, 2014)

Outline of the presentation

- 1) Discuss what **variables** could/should be included in the definition of *vulnerable consumer* in energy markets (with some empirical evidence from Italy); make disentangle between the affordability and the access issues
- 3) Present/discuss **policies** adopted in different countries to address “affordability” in consumption of energy good/services

Affordability in energy consumption

Consumers face **an affordability problem** when they do not have ...
“the ability to pay for necessary level of consumption within normal spending patterns” (PUAF, 2004)

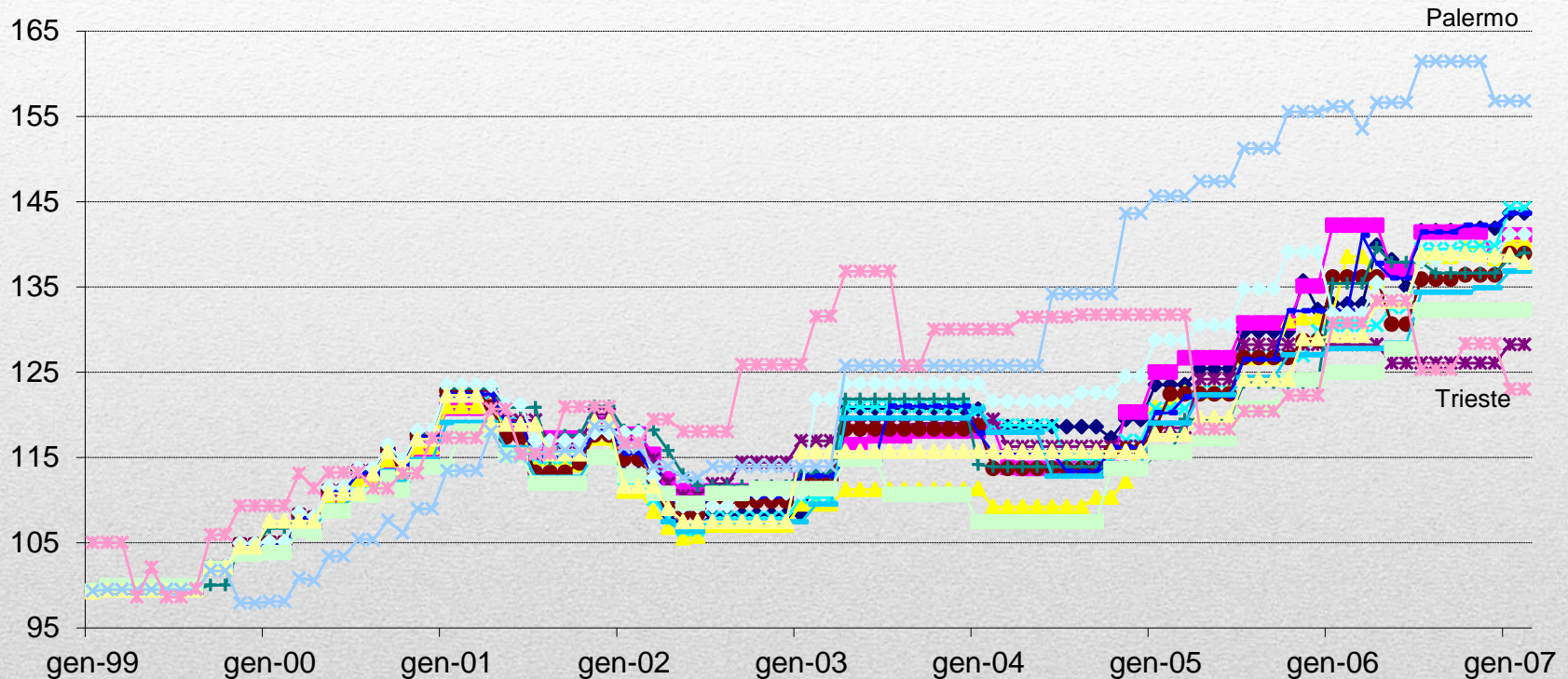
The *necessary level of consumption* and the *normal spending patterns* can depend on elements such us:

- Variability of energy prices
- Income and family size
- Housing technological appareils
- Climatic conditions of the area
- Resources and infrastructures of the area

How do these elements weight in the definition of vulnerable consumers in energy markets ?

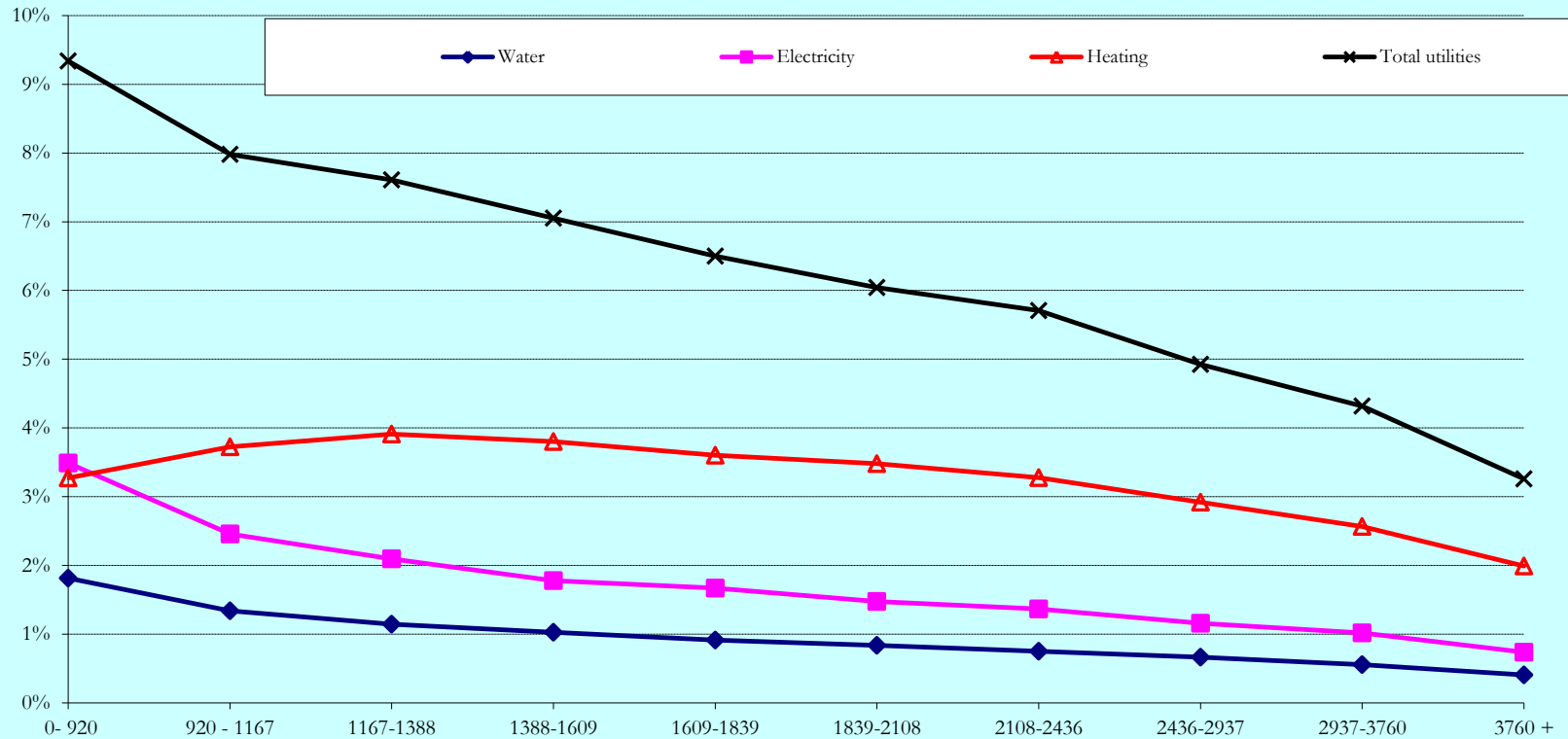
Variability in prices (local gas prices, Italy, 1999–2007)

Natural Gas Local Consumer Price Index (1998/12=100)



Total expenditure, average utility budget shares

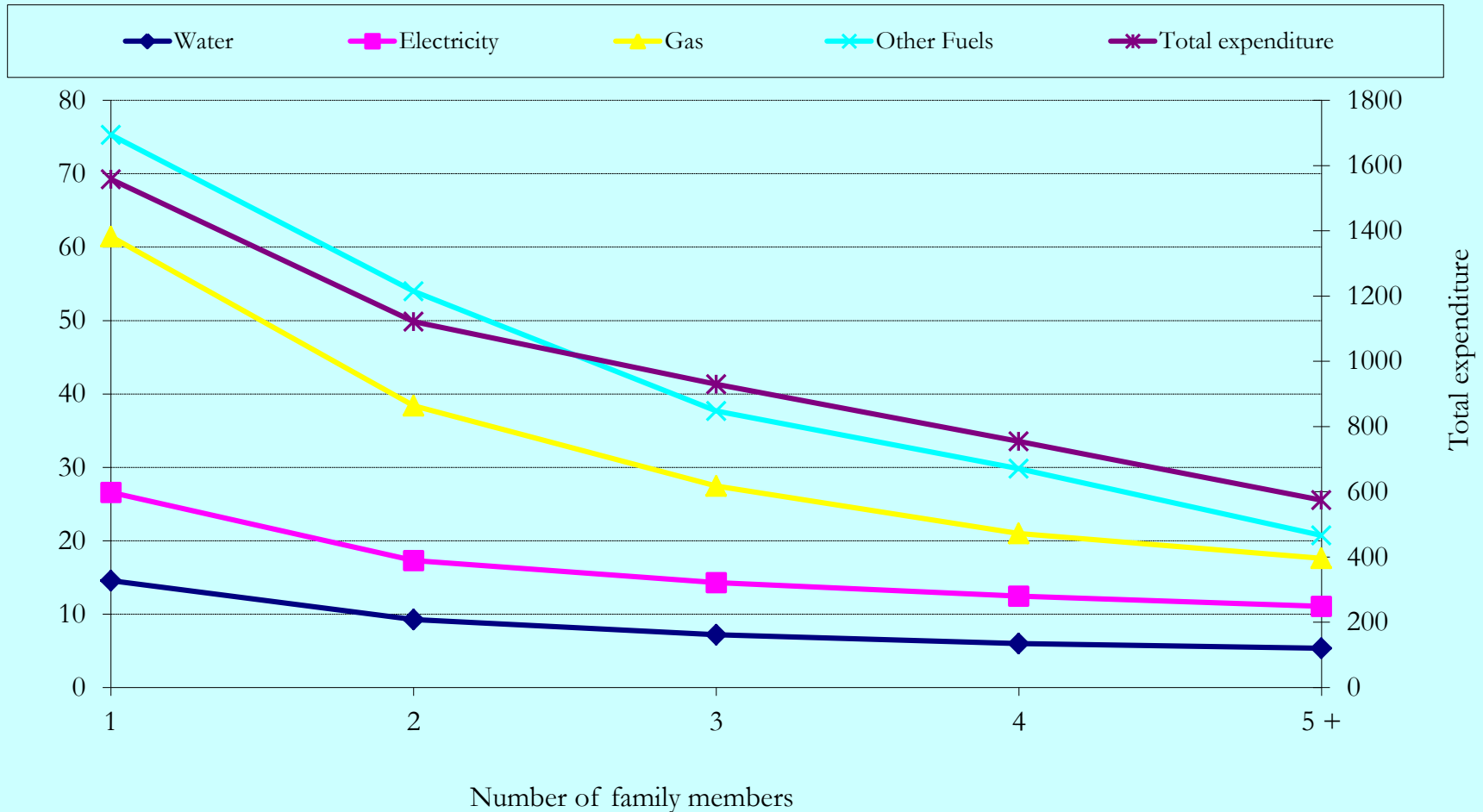
(Poor households spend a higher proportion of their income, Italy, 2005)



Total expenditure, per capita, Euro 2005

Family size: scale economies in consumption

Per capita expenditure, 2005



Italy: four different climatic areas

According to the Degree-days index, we distinguished:

- Warm regions: Sicily, Sardinia, Campania (19% of Italian Households)
 - Tepid regions: Liguria, Lazio, Puglia, Calabria (22%)
 - Cool regions: Tuscany, Umbria, Marche, Abruzzo, Molise and Basilicata (13%)
 - Cold regions: Piedmont, Valle d’Aosta, Lombardy, Trentino Alto Adige, Veneto, Friuli Venezia Giulia and Emilia Romagna (46%)
- ➔ **Different needs & Different endowments**

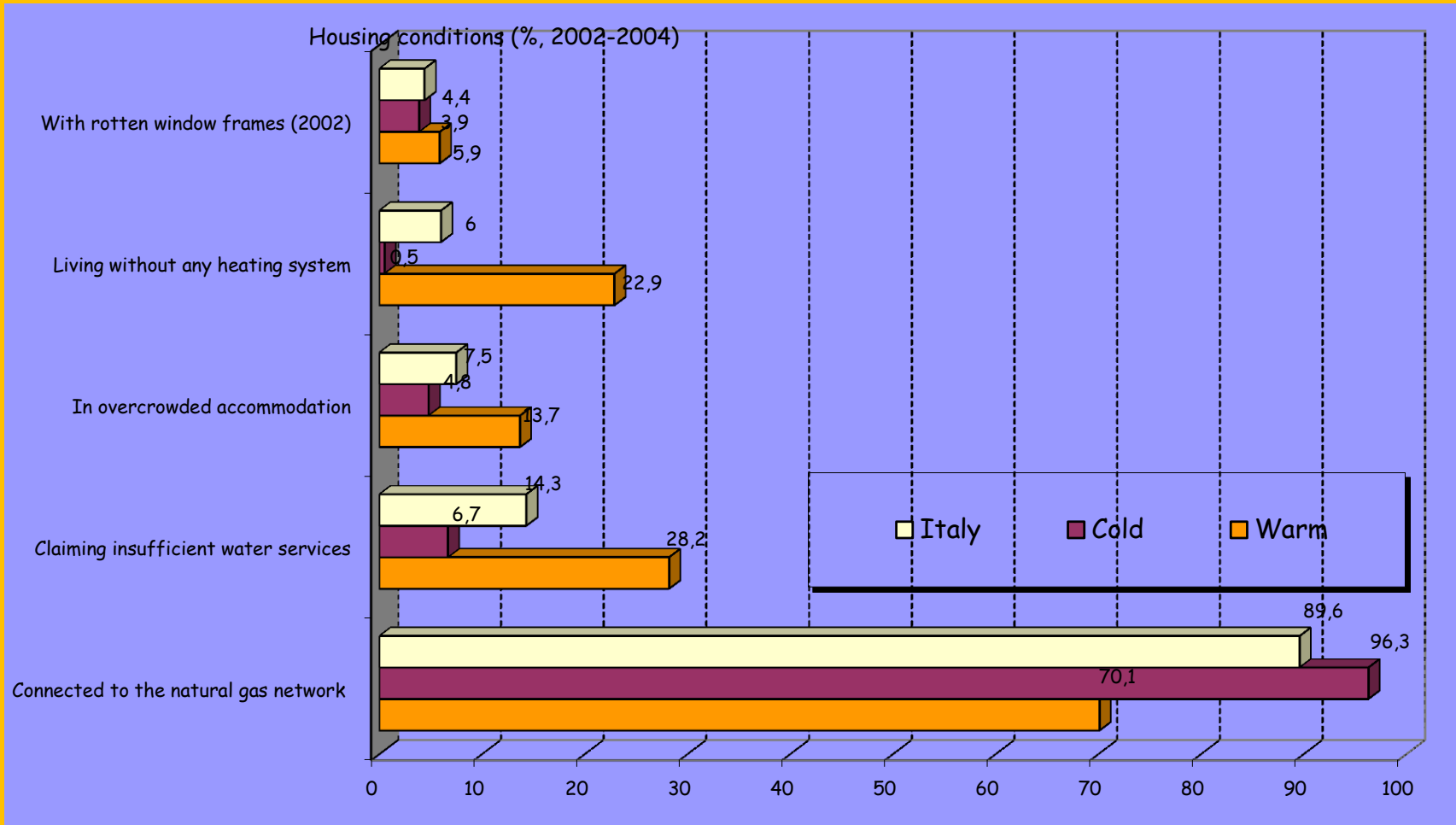
Italy, expenditure in different climatic areas

Monthly per capita expenditure of Italian households in the different areas, 2005 averages.

	Water	Electricity	Natural gas		Other fuels		Total expenditure
			Households using natural gas as main heating fuel	Other households	Households using other fuels as main heating fuels	Other households	
Warm	6.79	16.53	16.92	10.41	16.13	8.00	652.46
Tepid	7.44	15.24	23.92	17.13	28.76	16.71	853.77
Cool	8.93	14.84	34.84	21.98	49.80	29.55	939.18
Cold	8.15	14.98	38.10	17.53	56.27	33.63	1,122.03
Italy	7.86	15.35	32.11	15.62	32.92	18.72	936.70

Source: Miniaci, Scarpa and Valbonesi (2008)

Italy: housing conditions in different areas



Why a measure of affordability in the consumption of energy ?

Because it permits to:

- To control how changes in prices (and incomes) affect vulnerable consumers and to adjust for it
 - To simulate how different policies (i.e. on house technical equipment; discount in bills; etc) affect vulnerable consumers (extension of the policy n° of households, cost and benefit, etc)
- ➔ It helps in better targeting/(re)designing policy aims

Different measures of affordability in energy consumption - 1

Are welfare indices combining the standard poverty approach with a deprivation assessment:

- *Actual* bill-to-income ratio
- *Potential* bill-to-income ratio

HI and PGI, focussing on budget share, are not satisfactory in describing the affordability issue.

Different measures of affordability in energy consumption - 2

Are welfare indices combining the standard poverty approach with a deprivation assessment:

- **Residual income approach**

“public utility induced poverty”
(Stone 1993; Kutty 2005;
Miniaci, Scarpa and Valbonesi
2007, 2008, 2014)

The Access Issue

- **“under-consuming” of energy services:**
 - (a) those who are not connected because they cannot afford the service
 - (b) those who can afford it, but they choose not to get connected to the network
 - (c) those who cannot get a connection as they live in a neighbourhood not reached by the service.

Policies to address *vulnerable consumers* in energy markets – CEER members

Measures related to protecting customers from disconnection:

- **General prohibition of disconnection;**
- **Prohibition of disconnection at critical times; and**
- **Adequate number of warnings and notifications before disconnection**

Specific protection for customers in remote areas

Supplier of last resort (for vulnerable customers or for customers who are unable to find a supplier)

Default supplier (for vulnerable customers or for customers who are unable to find a supplier)

Support for energy efficiency improvements

Social security benefits for vulnerable customers dedicated to support the payment of energy bills

Other social security benefits

Social tariffs for vulnerable customers

Other specific assistance measures

No provisions targeted at supporting/protecting vulnerable customers

(Source: CEER Report, 2012, p.25)

Main drivers of these policies:

- i) Housing energy inefficiency
- ii) High energy prices
- iii) Household low income

i) Housing energy inefficiency

- 1. Housing conditions
- 2. Climatic Area where the household lives
- 3. Efficiency of appareils the households adopt

EXAMPLES:

- Regulations for standards in the construction sector (i.e. insulation), for example: *Building Code*” in Svezia.
- Specific actions for tenants (France; Belgium; UK Warm Front):
 - a) to reduce the investment cost in improving housing conditions;
 - b) to qualify the investment done in terms of profitability from renting the house (i.e. certificates of energy efficiency).
- Regulations for standards in appareils efficiency;
- Subsidies – increasing for low income – to adopt energy efficiency technology in the house (France, the Netherlands) ;
- “*energy tutors*” to advise people about how to implement energy efficiency at home (Belgium, UK);

ii) High energy prices

- 1. **Social Tariff** usually designed for large size households/low income households:
 - Directly applied (France: *Tarif Spécial Solidarité* (TSS) for gas consumption; Belgium: on the basis of the income);
 - On demand, given some conditions met.
- 2. All households face the same tariffs and some **Bonus/Discounts** are given to large size households/low income households:
 - *Warm House Discount* in UK, financed by relatively higher tariff payed by the other consumers
- 3. No interest rates on delayed payments for temporary *bad payers* (i.e. *unemployed breadwinner*)

iii) Household low income

- **General Subsidies** to low income households: less effective in addressing energy consumption than the social tariffs or bonus:
 - *Cold Weather Payment* in UK, eligibility if receiving “*pension credit*”; “*universal credit*”; “*income support*” or “*income-based Jobseeker’s Allowance*”; or “*income-related Employment and Support Allowance*”
 - “*Winter Fuel Payment*” (fuel) e il “*Warm Home Scheme*” (electricity)

Discussion

- All the actions described above should be implemented with a long run perspective and some flexibility in the eligibility criteria to result effective in addressing affordability in energy consumption
- Social Tariff, Bonus and General Subsidies share the same *income effect* on vulnerable consumers, but differ in the *substitution effect*.
 - Social Tariffs and Bonus lead to a lower relative prices for consumers which could bring to more consumption of energy goods/service and give larger welfare to all the household’s members. This welfare effect does not result from General Subsidies to income.

Conclusions

1. Different variables matter in the definition of *vulnerable consumers* in energy markets;
2. → Different quantitative *measures of affordability* in consumption in energy market: these measures are relevant to better targeting/(re)designing policy;
3. Issues in *access to network* can affect the minimum level of consumption in energy markets and call for precise consideration and policies;
4. Implemented *policies to address vulnerable consumers* are mainly driven by:
 - i) Households’ energy inefficiency
 - ii) High energy prices
 - iii) Households’ low income
5. Quality issue in energy provision: not addressed here for lack of time, but relevant in investigating access and affordability in energy markets.

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Thanks for your attention !

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