



"Effective decisions in energy poverty contexts"

Behavioural Economics for Energy Poverty Measures

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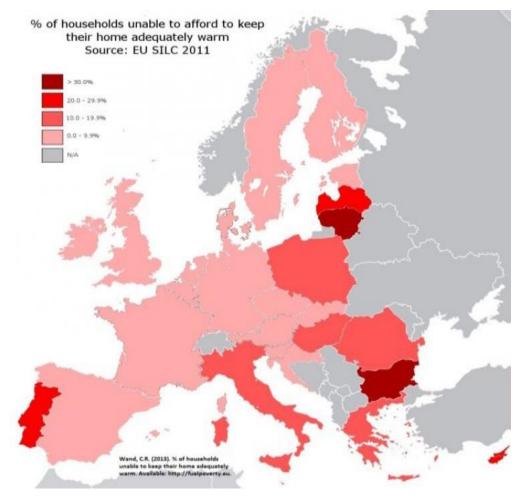




Outline

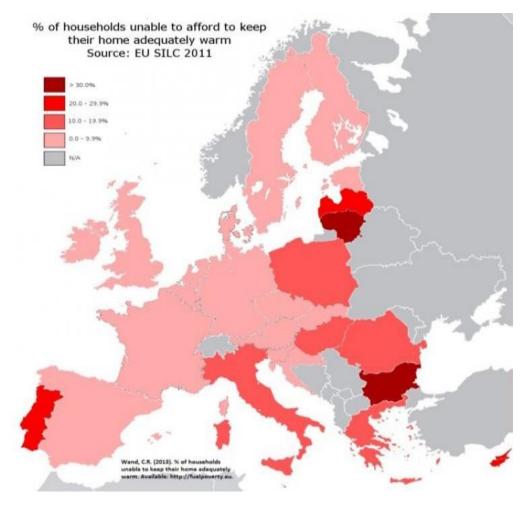
- 1. Energy Poverty in Europe and current measures
- 2. Behavioural Economic Insights for Energy Poverty
- 3. Behaviourally informed Interventions to tackle Energy Poverty
- 4. Conclusions

Energy Poverty in Europe



Source: European Energy Poverty Observatory (EPOV)

 More than 50 million households lack adequate warmth, cooling, lighting and energy required to power normal appliances;

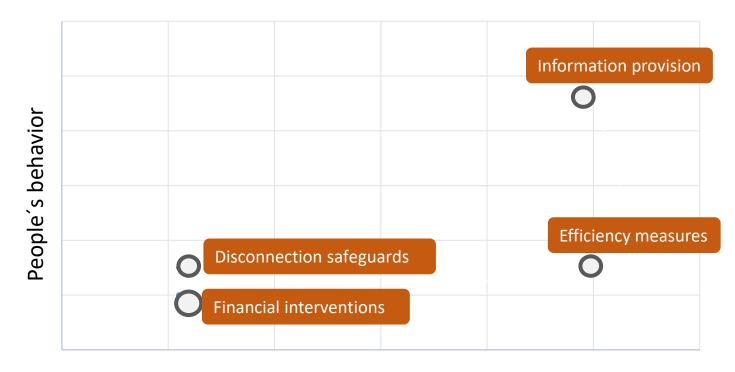


Source: European Energy Poverty Observatory (EPOV)

- More than 50 million households lack adequate warmth, cooling, lighting and energy required to power normal appliances;
- That is why the European Commission has recognized tackling energy poverty a policy priority in Europe in the 'Clean Energy for All Europeans' legislative package.

Current Measures addressing Energy Poverty

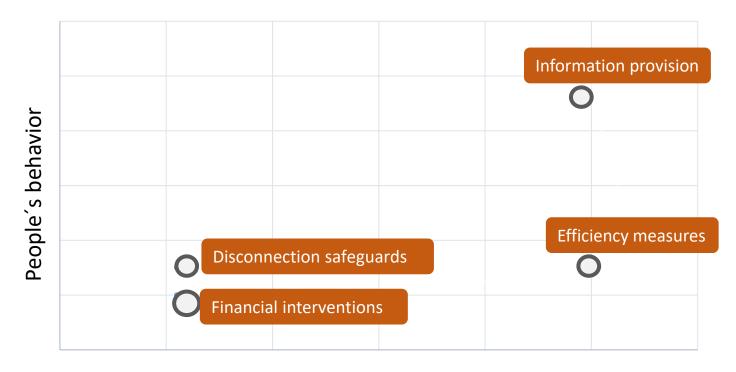
(Pye et al., 2015)



Efficacy over time

Current Measures addressing Energy Poverty

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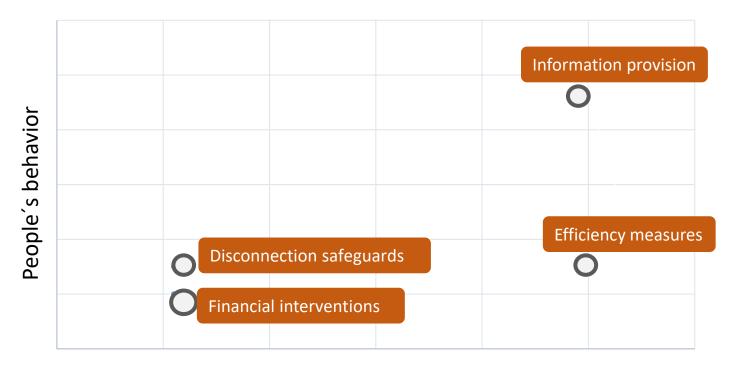


 Several measures address energy poverty from a top-down perspective

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Efficacy over time

- Several measures address energy poverty from a top-down perspective
- Only few, such as information provision ones, acknowledge that also the **behaviour** of vulnerable individuals can contribute to address energy poverty

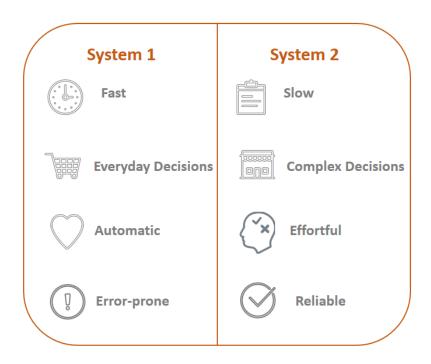
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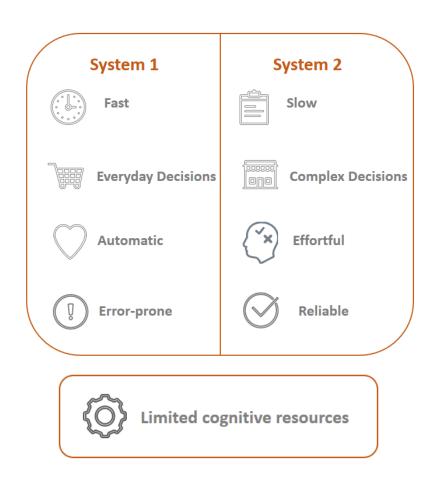
- Current measures are implicitly based on the rational actor model of human behavior (Simon, 1955)
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- → make decisions based on an analytical comparison of the costs and benefits associated to alternative options
- → have unlimited cognitive ability to weigh costs and benefits of each alternative
- → have perfect information about the alternatives

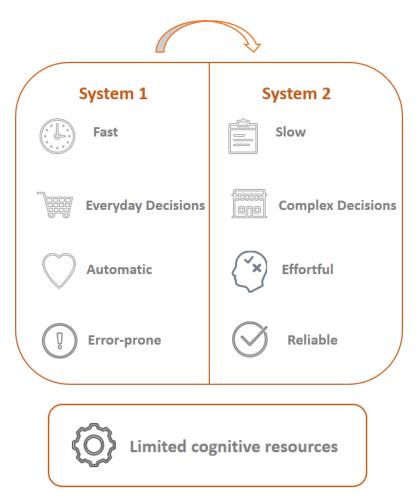
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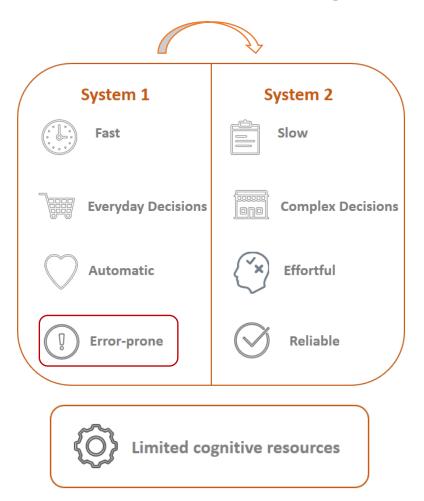
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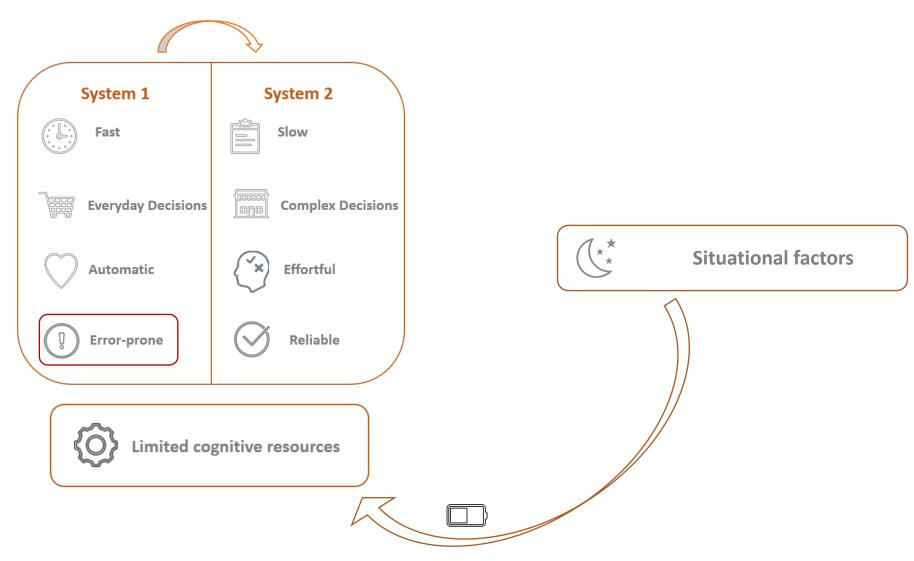
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- Yet, extensive experimental evidence has shown that people exhibit systematic and predictable patterns of decision-making that deviate from this theory (Loewenstein et al., 2004)

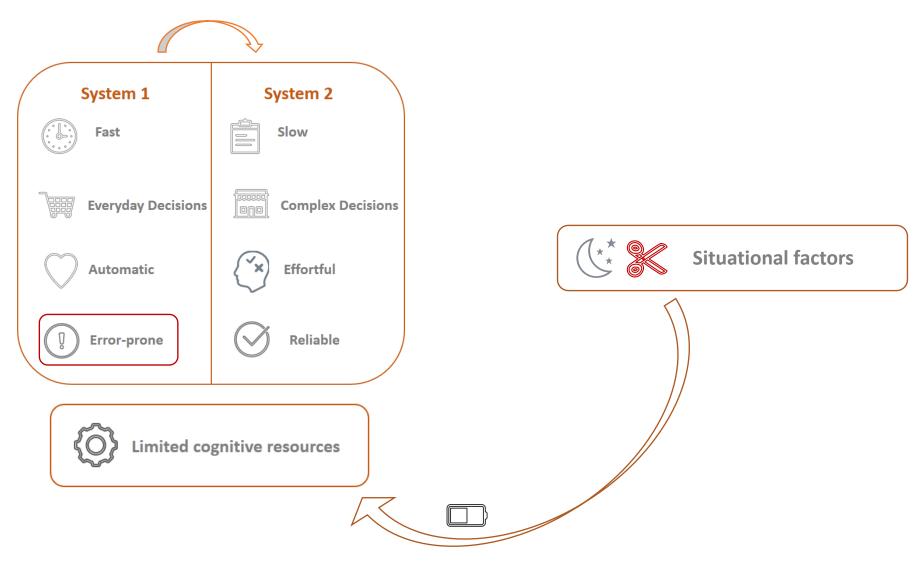


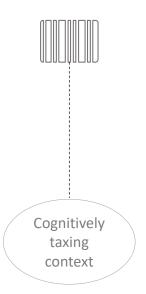


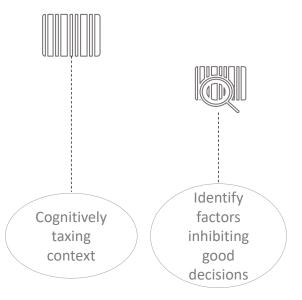


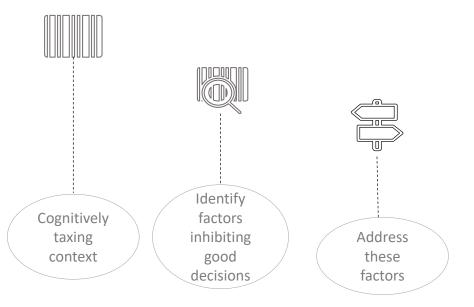


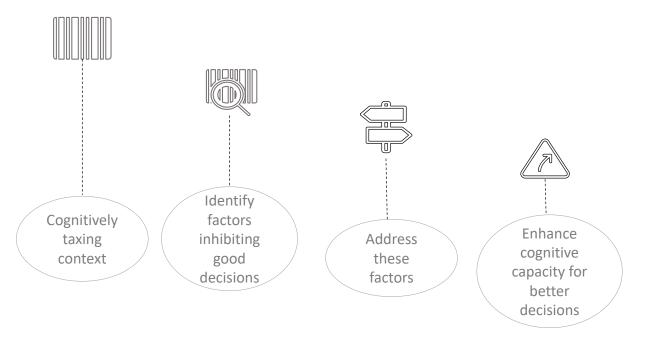




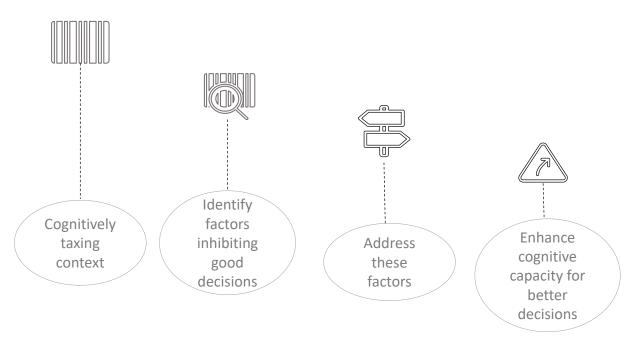








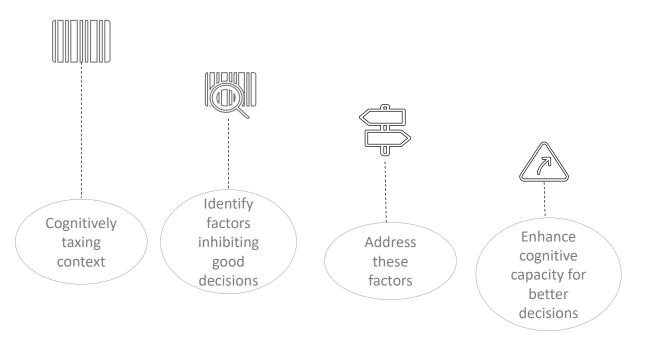
(Thaler, 2008; Shafir, 2017; Thaler, 2018)



Policy makers might exploit these insights to design:

- a. interventions that enhance cognitive capacity so that individuals can better their conditions with their virtuous behaviour (i.e. *choice architecture*)
- b. better consumer protection measures to prevent firms taking advantages from vulnerable individuals' cognitive fallibility (i.e. *sludging*)

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Preference for options
providing more immediate
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than delayed higher ones
(Loewenstein & Prelec, 1992;
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Loss aversion and status quo bias

- An outcome is perceived as a loss or gain depending on a reference point;
- more regret when a decision changes the status quo than when it maintains it
 (Tversky and Kahneman, 1992; Tversky & Kahneman, 1981).

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Social norms

Conformism with behaviours that are believed to be socially acceptable (Elster, 1989; Bicchieri, 2006; Hoff & Stiglitz, 2016).

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- Randomized Control Trials (RCTs) necessary to evaluate their efficacy

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vulnerable individuals can be involved in community-level decisions

Conclusions

- 1. So far, several measures aimed at addressing Energy Poverty have been proposed and adopted:
- Some alleviate energy poverty in the short-term, others in the long-term. However, except from information campaigns, they do not centralize individual behaviour in addressing energy poverty;
- Moreover, these latter are based on unrealistic assumptions on behaviour.
- 2. Behavioural Economics can help tackling several policy challenges, such as energy poverty.
- 3. We highlighted how living in vulnerability conditions makes individuals more exposed to suboptimal decision-making.
- 4. We proposed some simple (and testable) interventions enhancing vulnerable individuals' cognitive capacity to promote better decisions for themselves and their surroundings.



Thank you for your attention!

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References

Bicchieri, Cristina. 2006. The grammar of society. Tech. rept. Cambridge University Press.

Bryan, Gharad, Karlan, Dean, & Nelson, Scott. 2010. Commitment devices. Annu. Rev. Econ., 2(1), 671{698.

Elster, Jon. 1989. The cement of society: A survey of social order. Cambridge University Press.

Haushofer, Johannes, & Fehr, Ernst. 2014. On the psychology of poverty. Science, 344(6186), 862{867

Hoff, Karla, & Stiglitz, Joseph E. 2016. Striving for balance in economics: Towards a theory of the social determination of behavior. The World Bank

Jachimowicz, Jon M, Cha_k, Salah, Munrat, Sabeth, Prabhu, Jaideep C, & Weber, Elke U. 2017. Community trust reduces myopic decisions of low-income individuals. Proceedings of the National Academy of Sciences, 201617395.

Johnson, Eric J, & Goldstein, Daniel. 2003. Do defaults save lives?

Kahneman, Daniel, & Egan, Patrick. 2011. Thinking, fast and slow. Vol. 1. Farrar, Straus and Giroux New York.

Kraft-Todd, Gordon T, Bollinger, Bryan, Gillingham, Kenneth, Lamp, Stefan, & Rand, David G. 2018. Credibility-enhancing displays promote the provision of non-normative public goods. Nature, 1.

Loewenstein, George, Rabin, Matthew, & Camerer, Colin. 2004. Advances in behavioral economics. Russell Sage Foundation and Princeton University Press, New York and Princeton.

References

Mani, Anandi, Mullainathan, Sendhil, Shafir, Eldar, & Zhao, Jiaying. 2013. Poverty impedes cognitive function. science, 341(6149), 976(980.

Pye, S, Dobbins, A, Ba_ert, C, Brajkovi_c, J, Grgurev, I, Miglio, RD, & Deane, P. 2015. Energy poverty and vulnerable consumers in the energy sector across the EU: analysis of policies and measures: INSIGHT E.

Shafir, Eldar. 2017. Decisions in poverty contexts. Current opinion in psychology, 18, 131{136.

Simon, Herbert A. 1955. A behavioral model of rational choice. The quarterly journal of economics, 69(1), 99{118.

Simon, Herbert A. 1991. Bounded rationality and organizational learning. Organization science, 2(1), 125{134.

Thaler, Richard H. 2008. Richard H. Thaler, Cass R. Sunstein, Nudge: Improving decisions about health, wealth, and happiness.

Thaler, Richard H. 2018. Nudge, not sludge.

Tversky, Amos, & Kahneman, Daniel. 1974. Judgment under uncertainty: Heuristics and biases. science, 185(4157), 1124(1131.

Tversky, Amos, & Kahneman, Daniel. 1981. The framing of decisions and the psychology of choice. science, 211(4481), 453{458.

Tversky, Amos, & Kahneman, Daniel. 1992. Advances in prospect theory: Cumulative representation of uncertainty. Journal of Risk and uncertainty, 5(4), 297{323.