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Fuel Poverty: a distinct problem? *Interesting... but possibly misleading*

A pressing issue for policy makers

Availability and affordability of energy have become pressing issues. Particularly in the poorest areas on the planet where energy infrastructures is still insufficiently developed, but in more mature countries as well, where the less favoured have too often no choice but to accept poor housing conditions characterised by low energy efficiency and hence expensive energy bills. Today, access to affordable energy is considered to be a basic human right and as such a key goal for policy makers. In this context the concept of “fuel poverty” has emerged. Robinson et al. (2018)¹ define fuel poverty as « an inability to attain the socially and materially necessitated domestic energy services that ensure the wellbeing of a household, allowing them to participate meaningfully in society ». This view is aligned with the general definition of poverty and social exclusion². Of course, a large number of academic studies, surveys and reports addressing this specific theme have been produced. Their aim is first to reveal the growing importance of this problem and its related potential severe consequences, then to identify the mechanisms involved in the rise of this form of poverty and to imagine indicators to identify the population at risk. The ultimate goal is of course to propose guidance for corrective actions.

A relevant approach?

Most of these contributions are based on central idea: fuel poverty is a well-characterised “distinct problem” rather than “the manifestation of more general problems of poverty” (Hills, 2012³; BPIE, 2014⁴; DBEI, 2019⁵). In other words fuel poverty is presumed to be a singular sort of poverty that can be dealt with specifically because of its distinctiveness. However, the arguments given to justify this assertion are not quite convincing. Hills (2012) – one prime contributor to the debate – puts forwards three reasons to defend this position:

- The first refers to the cost of heating. Poor households face « extra costs to keep warm above those for typical households with much higher incomes »
- Then the author takes on a health perspective, stressing the dramatic consequences of fuel poverty on life expectancy for the population concerned and the strain on the national health service.

¹ Caitlin Robinson*, Stefan Bouzarovski, Sarah Lindley ‘Getting the measure of fuel poverty’: The geography of fuel poverty indicators in England, *Energy Research & Social Science* 36 (2018) 79–93

² See: Poverty & Social Exclusion (PSE): <https://www.poverty.ac.uk/definitions-poverty>

³ Getting the measure of fuel poverty; Final Report of the Fuel Poverty Review ; CASE report 72 ; ISSN 1465-3001 ; March 2012

⁴ BPIE; Alleviating Fuel Poverty in the EU ; May 2014

⁵ Fuel Poverty Methodology Handbook ; Department for Business, Energy & Industrial Strategy ; June 2019 ; <https://www.statisticsauthority.gov.uk/code-of-practice/the-code/>

- Finally, a reference is made to the negative impact due to higher carbon emissions

All these points are undeniable; they clearly characterise the nature and consequences of fuel poverty. But, does it demonstrate its distinctiveness? Focusing on consequences of fuel poverty may not be the right approach to imagine corrective actions. Rather, going back to the causes of the phenomenon is crucial. In fact, it may be misleading to detach fuel poverty from poverty in general if one looks for solutions. In our view, the risk is to divert policy makers' attention from other important dimensions of the issue. It is a point that is worth discussing since a ring fence analysis of energy poverty, inevitably leads to partial or even inappropriate recommendations essentially referring to the energy domain.

Alleviating fuel poverty: recommendations?

Today, usual solutions envisaged to alleviate fuel poverty are⁶:

- Reducing the energy demand of the building through renovation.
- Containing the increase in energy prices,
- Providing subsidies to make fuel consumption affordable for the poorest.

At first sight, these measures make sense. However, they may be difficult to implement, and could eventually even prove to be inefficient. Even though the costs of renewable energy sources are expected to decrease over time, the massive investments needed to promote energy transition will not help for a decrease in prices. Improving energy efficiency is a necessity but a real challenge when it concerns old dwellings – which represent by far the principal part of total housing units. Finally, subsidies may prove to be costly and rather ineffective if not specifically designed to fit for each individual case. A careful analysis would also reveal possible adverse side effects – lower incentive to invest for energy companies and a negative impact on the housing market.

Of course, one should not categorically reject the above-mentioned proposals for action. Instead, we argue that a careful in-depth broader analysis, beyond the energy aspects, is necessary. Taking such a position is not unusual. Disbelief about the relevance of categorizing fuel poverty as a “distinct problem” is present implicitly or explicitly in a number of surveys where the concept of fuel poverty appears to have a weak operating significance. For instance, the investigation made by BPIE (2014) clearly demonstrates the difficulty to apprehend and measure fuel poverty at the EU level. C.Robinson et al. (2018⁷) consider the geography of fuel poverty indicators and so reveal their ambiguity and limits. Charlier et al. (2018⁸) focus their attention on a multidimensional indicator of fuel poverty de facto stressing the difficulty

⁶ See:

- BPIE (note 4)

- Cutting the cost of keeping warm – a fuel poverty strategy for England; Presented to Parliament by the Secretary of State for Energy and Climate Change; March 2015

- Addressing and tracking policies and measures to tackle the energy poverty issue, ENERDATA; Analyst Brief, November 2019

⁷ Caitlin Robinson*, Stefan Bouzarovski, Sarah Lindley ; ‘Getting the measure of fuel poverty’: The geography of fuel poverty indicators in England ; Energy Research & Social Science 36 (2018) 79–93

⁸ Dorothee Charlier, Bérange Legendre, Multidimensional Approach to Measuring Fuel Poverty; Energy Journal, Dec. 2018, In press Halshs 01957796

to precise the outline of the concept. Walker et al.⁹ (2014) in their paper also put forward the necessity of integrating non-energy factors.

The overall impression is that fuel poverty is a complex multidimensional issue and as such cannot only be analysed through the energy lens. Adopting a broader perspective to address fuel poverty in order to pave the way for alternative and/or complementary measures is certainly an option worth investigating. As noted by U. Dubois (2012)¹⁰ “because of the multidimensional aspect of fuel poverty... public policies in that field are necessarily imperfect, and this should be taken into account ». Fuel poverty is an important issue but it should be treated as a particular consequence of poverty in general, this is the point of view adopted in this note.

Fuel poverty: “Root Cause Analysis”

As already noted, prior to any proposal to tackle fuel poverty one needs to identify the root causes. In order to describe and fully understand the mechanism leading to a situation of fuel poverty, and to imagine relevant responses, adopting a framework inspired from “Root Cause Analysis” (RCA) seems appropriate. RCA is a widespread practice in quality and safety management to understand why adverse events occur - defects or incidents. Poverty can be seen as an economic adverse event. The central idea is to establish a sequence of events or facts for understanding the relationships between contributing factors - the root causes - and the adverse event under investigation. Compléter RCA is especially well suited for our purpose since it is based on a holistic approach which necessitates an effort to take into account all dimensions of the problem and all contributing factors – whether energy related or not.

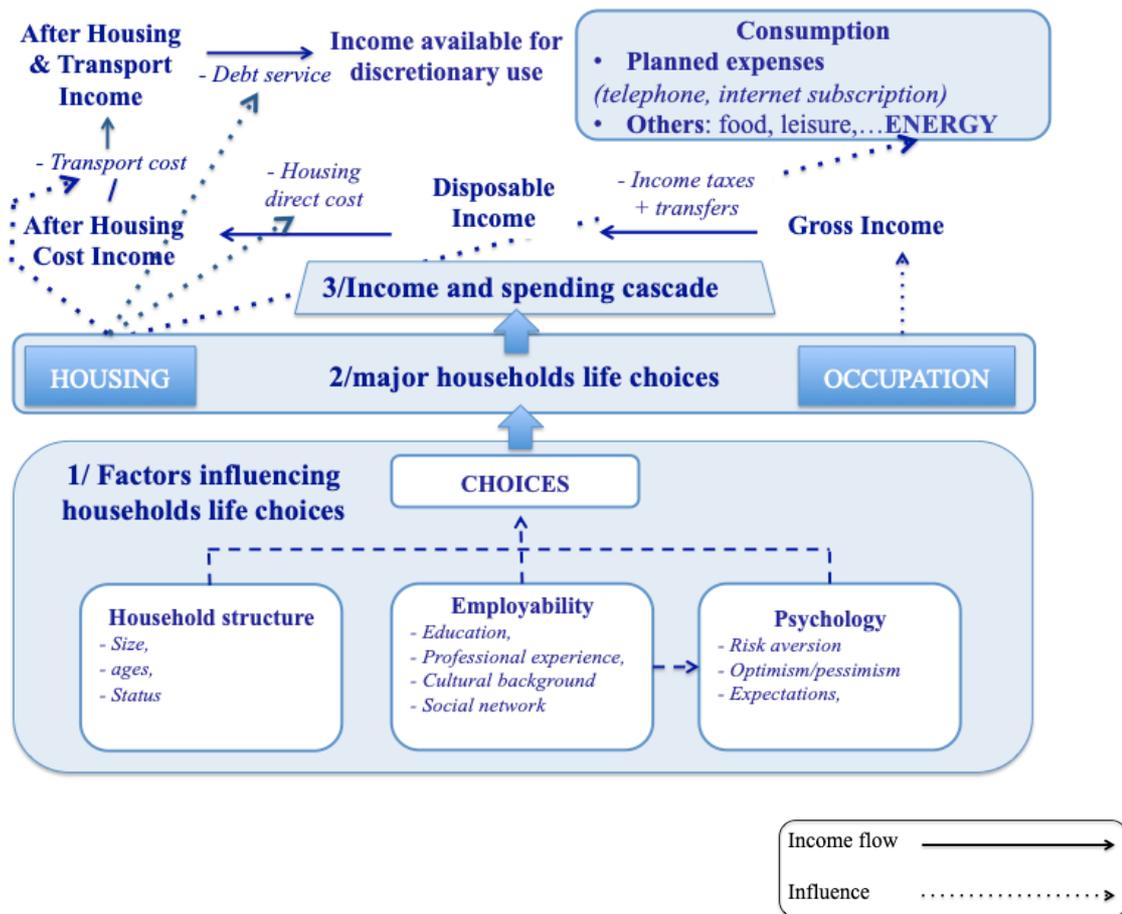
Figure 1 is composed of three blocks. In block one, all factors influencing the choices of households are identified. Some decisions have a prime importance because of their impact on both the level of households’ income and its allocation. This is definitely the case for the resolution to engage in a particular occupation and the decision concerning housing conditions (block 2). Based on these major life choices, block 3 describes the income and spending cascade - that is the income generation and its progressive allocation between various expenses, taking into account priority payments which restrict the size of the residual income available for discretionary use. Energy consumption appears in the last frame, confirming that it is not usually taken as a priority.

The intricacy of this representation, by itself, brings forward the complexity of the issue and suggests the wide variety of actions which can be thought of to find remedies to fuel poverty.

Figure 1 **Energy Poverty: Root Cause Analysis**

⁹ Ryan Walker, Liddell, Paul McKenzie, Chris Morris, Susan Lagdon; Fuel poverty in Northern Ireland: Humanizing the plight of vulnerable households Ryan Walker,*, Christine; Energy Research & Social Science 4 (2014) 89-99

¹⁰ Ute Dubois, From targeting to implementation: The role of identification of fuel poor households; Energy Policy, Volume 49, October 2012, Pages 107-115



Starting with households characteristics

In block 1, “*Household Structure*” refers to the number of persons (size), their respective age and status (married or single, social category, employed/unemployed, retired). These elements determine the housing needs – which eventually may or may not be fully satisfied. As far as the household structure is concerned, there is one important point to mention: the increasing frequency of lone parenthood is a significant contributing factor of poverty in developed countries (L. Bernardi D. Mortelmans, 2018¹¹). It is particularly well documented for the UK (Chzhen and Bradshaw, 2012¹²) where this evolution is worrisome.

“*Employability*”, meaning the capacity of working age household members to find or create their own job, is a major determinant of the “*disposable income*” – “*gross income*” minus taxes plus transfers. Its amount depends on various factors such as the level of education, the skills acquired through professional experience and recognized by peers and the domain of activity. Being part of a social network is also helpful. According to OECD data the participation rate¹³ has increased from 65,4% in the year 2000 up to 68,5% in 2018 (+4,7%). Whilst this is partly the result of a higher retiring age overall it looks like a good point as far as poverty alleviation is concerned. However, a closer investigation reveals discrepancies between age groups with a much less favourable situation for the young population aged between 15 and 24. This is particularly worrisome since this age group will be the core of the working population in the future.

¹¹ Laura Bernardi & Dimitri Mortelmans, Supporting Lone Parents and Their Children in Europe, Population & Policy Compact, Policy Brief No. 15, April 2018

¹² Chzhen and Bradshaw; Lone Parents Poverty and Policy in the European Union; Journal of European Social Policy 22(5); Dec. 2012

¹³ Working population age 15 to 64 over the total population in the same age group

“*Psychology*”, this item comprises various personal features influencing one’s decisions – i.e. risk aversion, optimism/pessimism, ... They characterize the personality of each household member, and are partly the result of education and experience but are also governed by cultural background and origins.

At this stage of the discussion it is important to raise the “bounded rationality” issue¹⁴. Based on available information, and a budget constraint, taking also into account their needs and preferences, “rational” individuals are expected to make the best – or optimal – decisions. However, because of imperfect information, complexity, and possible cognitive limitations rationality is often “bounded” leading to sub-optimal choices. Indeed, education and skills would favour full rationality, but the growing complexity of the environment in which individuals operate, the time constraint they often face, and sometimes the lack of clarity about their own preferences make decisions all the more complex. Then, one tends to opt for what looks like a satisfactory solution rather than making optimal decisions. In the present context this is an important point to be emphasized: poverty is aggravated if aside from limited financial resources their allocation is inefficient. It is especially likely to happen in a deprived situation. Poor households mired in difficulties, desperately looking for both a well-paid job and a decent place to live in, are indeed most exposed. Obviously, stress, added to a low cognitive capacity, does not enhance rationality. The likely consequence is an aggravated deprived situation due to the misallocation of limited resources. Such cases are often characterized by oversized housing and pre-committed expenses with little left to cover current basic needs.

Income/spending cascade

The two main “*life choices*” for households concern their professional activity and where they should live. To a certain degree, these two decisions are interrelated. Both the financial resources available (disposable income) and to a large extent their use (housing related expenditures) ensue from these decisions, in that sense they are structuring.

Housing in particular is a crucial element in the analysis. Not only the quality of the dwelling impacts energy needs but, more importantly, it generates a series of vital incompressible cash outflows. It comprises direct housing expenditures, be it a rent or a debt service in the case of ownership. It also includes transport costs, which depend on the location of the residence and available means of transport to reach the place of work. Therefore, in the end, only a part of the “*disposable income*” is “*available for discretionary use*”.

At this point we have reached the final stage of the RCA focusing on the allocation of what remains after all obligatory payments – including housing and transport payments. A distinction still has to be made between “*pre-committed expenses*” and the rest. These later expenses result from agreements made for the delivery of various services such as subscriptions for telecom and access to TV channels as well as insurance. It may also include part of energy services. These expenses add rigidity, reducing further the possibility for households to adjust their budget. For the poorest the weight of these expenses is known to be higher and tends to grow¹⁵. In extreme cases, it may lead to insolvency with an interruption of the provision of basic services aggravating further an already deprived situation.

Housing: a central and critical point

Let’s add a final observation to insist on a central and critical point in the root cause analysis: housing. Technically, housing conditions (size, quality, location) have an important impact on

¹⁴ The concept of “bounded rationality” was first introduced by Herbert SIMON, 1947.

¹⁵ On this particular point, for instance, the French case is well documented, see: Dépenses pré-engagées: quel poids dans le budget des ménages? Les Dossiers de la DREES, N° 25, Mars 2018

energy needs and are therefore systematically taken into account when addressing the fuel poverty issue. However, apart from the technical lens, financial aspects also have an overwhelming influence: “Access to decent, low-cost housing can increase disposable incomes, prevent material deprivation and improve work incentives”¹⁶. According to some experts, “it is plausible that house prices could persistently rise faster than incomes”¹⁷, and rents usually follow the trend. For our purpose, there is one point that can be agreed upon and which was well formulated by R. Tunstall et al. (2013¹⁸): “Most of the numerous definitions of poverty and material deprivation cannot be entirely separated from housing circumstances.” And the authors add: “Housing costs make a bigger difference to discretionary incomes than fuel or other costs. Nevertheless, the concept of housing-cost-induced poverty is much less recognised than ‘fuel poverty’; and unlike fuel poverty, it has not been subject to any explicit policy attention.”

“Housing is at the root of many of the rich world’s problems »¹⁹ which includes poverty. High housing costs have a substantial negative impact of the residual income available for current living expenses and therefore contribute to deteriorate the standard of living. Correcting the failures of the housing market is clearly a priority today.

What do we learn from RCA?

The main striking observation to be drawn from this causal analysis is the wide range of factors contributing to a higher risk of poverty and social exclusion. The capacity to generate an income high enough to meet basic family needs, the availability of social transfers if needed as a complement, societal factors such as lone parenthood, the possibility to find a decent and affordable place to live, the ability to make rational decisions, are key factors to take into account for alleviating the poverty risk. Each constitutes a leverage for action, to reduce poverty and avoid whatever adverse consequence, including the limited access to energy. Indeed, adopting such a general viewpoint cast a doubt on the distinctiveness of fuel poverty.

A risk: missing priorities

As of end of 2019 the estimated number of people at risk of poverty or social exclusion was 113 millions²⁰. Though it has decreased by 4.2% since 2010 it still represents 22.4% of the EU population. Such a picture is hardly acceptable for politicians and policy makers. All the more because, over the same period, income inequality has increased; and with it the social demand for corrective actions in favour of neglected poor individuals.

Most households in this disadvantaged group are likely to be exposed to fuel poverty²¹. The use of fuel poverty indicators to identify households at risk, such as LIHC index, would certainly identify approximately the same population. This remains to be verified, but would it be the case, the distinctiveness of fuel poverty would definitely be dubious.

¹⁶ Housing & Poverty, JRF: www.jrf.org.uk, June 2015

¹⁷ What is the future of the rich world’s housing markets? It is plausible that house prices could persistently rise faster than incomes, The Economist, Jan 16th 2020 edition

¹⁸ Rebecca Tunstall et al., The Links Between Housing and Poverty : An Evidence Review ; JRF report, April 2013

¹⁹ Special report, The Economist, Jan 16th 2020 edition

²⁰ Poverty and Social Exclusion in the EU, Eurostat statistics explained, https://ec.europa.eu/eurostat/statistics-explained/index.php?title=File:Infographic_-_5_poverty_-_2019-08-26.png#filehistory

²¹ With reference to the last points discussed in their paper, Walker et al. (see note 9) would certainly validate this assertion.

The emergence of the concept of fuel poverty undoubtedly comes from the severity of the related consequences, but also from the importance of the energy sector, the numerous experts in the field and the tendency of these to adopt a biased approach with reference to a field they dominate and control. We observe the same phenomenon in other areas. Specific energy related remedies, such as enhancing the availability of affordable energy or improving energy efficiency, can indeed be part of an array of solutions, but adopting a strict fuel poverty lens has a risk: missing priorities.