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Can we trust the poor?

Survey on the conditions of a preference-based
poverty indicator

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Acknowledgments

I think it is fair to say that the main interest of this work is to connect separate fields of the literature in the social sciences relating to issues of preferences, poverty and indicators. The danger of such an approach is that it strays from the pluralistic path it has embarked upon and either becomes scattered or retreats into a single field. If this dissertation has managed to avoid these two pitfalls (and it is up to the reader to make this judgement), it is greatly indebted to François Maniquet, my Thesis Director. His open-mindedness and multidisciplinary erudition have enabled me to avoid the danger of compartmentalisation, while his - quite legitimate - demands for structuring have protected me from dispersion. I was sincerely impressed by the time he gave me in his busy schedule, but also by the thoroughness and kindness of his intermediate comments. He probably had to suppress some annoyance when I mobilised certain sociologists to support a point already demonstrated by Arrow half a century ago, but this “confrontation” appeared to me to be healthy and fruitful. Thanks to him, I have developed a taste for economic analysis of the economy, while I used to look at the economy - and even economics - from a sociological perspective. I would therefore like to thank him very much. I would also like to thank the reader of this thesis, Mathias Hungerbühler, for his initiative and his (future) comments which will certainly be enriching.

The process of writing this work also bears the print of three other dialogues, as dialectical as the first. The first one is with Antoine Aspeel, my

flatemate, PhD in applied mathematics and passionate about social facts. Several key points of the second part of the thesis came out of our nightly discussions and are as much dependent on my economic-sociological point of view as on his mathematical creativity: in this informal setting, to say the least, we tasted together the pleasures of interdisciplinarity... and I hope that we will be able to do it again! The second dialogue was with another Antoine, Antoine Germain, my friend, PhD in economics (with... François Maniquet). In addition to his careful reading of a first version of the work, his comments and his listening - during our lunchtime sandwiches near the lake of Louvain-la-Neuve - have nourished my reflections and this work; he was able in particular to make me see the subtleties of “orthodox” economics, too often unnoticed by a gaze in a hurry to be critical. Finally, the last dialogue was with Valentine Pirotte, my girlfriend. It was without doubt the most confrontational of the three; her benevolent scepticism, whose function was to “put my feet back on the ground”, forced me to be more realistic and modest in my writing. May these three fine people be warmly thanked here.

My sociology supervisor, Jean De Munck, as well as my friends Julien, Maxime and Thibault also deserve to be thanked, as do many others (my parents, for example?). But I will stop here and leave you to read this work. I hope it will be interesting, even innovative; in any case, I have taken great pleasure in conceiving it. This is largely thanks to the people at the heart of this section.

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General introduction

Over the last thirty years, several economists have proposed a major innovation in the construction of indicators to guide policy decisions. These indicators are no longer (exclusively) based on objective factors (salary, life expectancy, air temperature...), but on *subjective* factors: agents' preferences¹. Indices of environmental degradation are thus constructed from the preferences of interviewees - for example, by asking how much they would be willing to spend to avoid forest soil erosion (Bateman and Willis, 2001; Lima et al., 2020). People's well-being is no longer measured by education or infant mortality rates, but by what individuals *say* about their preferences (Kahneman and Krueger, 2006; Yang, 2018). More recently, economists have even established a poverty indicator based on the preferences of the poor (Decancq et al., 2019). It is on this last issue - both common to the previous ones (the idea is to take agents' preferences seriously) and singular (the target audience is no longer the general human population) - that this thesis will focus.

Before focusing on poverty indicators, however, it may be useful to consider the motivations for such an approach. Why abandon objective, stable and impartial factors to refer to data as fragile and manipulable as opinion? We can identify, in the literature, three types of arguments in favour of the integration of preferences in the constitution of economic indicators. First, several authors (Bruno et al., 2015; Desrosières, 2016; Gadrey and Jany Catrice, 2005) have highlighted the political - and not only cognitive -

¹We will elaborate on the definition of the term in the first chapter of this thesis.

component of *any* indicator: the numerical formatting, however objective it may appear *a posteriori*, always requires choices to be made (relevant variables, weighting, reference year, etc.). However, although they are not *only* determined by the motivations of certain individuals, these choices are not dictated by “common sense” either; depending on the actors who produce it, the public it represents and the institution that publishes it, some methodological orientations are preferred to others². If the classical intuition in welfare economics was already to identify the choices made by an observer during the construction of an ethical indicator (Arrow, 1951), the perspective initiated by Desrosières differs from it by broadening the perimeter of “political” indicators³ and by a methodology that is more historical than axiomatic. In short, this first argument argues that any indicator incorporates preferences, so it is better to do so explicitly.

More fundamentally (but not unrelated to this first element), two other arguments are traditionally put forward in economic philosophy. According to Hausman (2011), the satisfaction of preferences is not the *cause* of well-being, but an individual’s preferences are useful information about *what* increases his or her well-being. In general, this would even be the best information available: “*legislators and bureaucrats usually know less of the circumstances of an individual such as Jill than she knows, and they generally have a less wholehearted concern for her well-being than Jill does*” (*Ibid*, p. 89). This second argument thus argues that if what an indicator aspires to capture is relative to the situation of agents (which is the case for indicators of well-being, poverty and *some* environmental indicators), the most complete and reliable source of information lies in the preferences of the agents themselves. These generally contain more and better information than the

²In this perspective, several economic indicators have been studied by the sociology of quantification - for example, the Gross Domestic Product (Thiry, 2012) and the Consumer Price Index (Jany-Catrice, 2019). I have had the opportunity to retrace, using the same methodological tool, the history of the Brussels Stock Exchange index (Dutermé, 2021).

³For example, the unemployment rate also has a normative “layer” (Salais et al., 1999) - not just an indicator capturing the effect of the unemployment rate on a society’s well-being.

“objective” markers decided upon by an authority.

Finally, from an ethical point of view, taking agents’ preferences seriously limits *paternalism*. Paternalism - understood, following Hausman and Welch (2010), as a limitation of the individual’s freedom to serve his or her interests in a way contrary to his or her will - is generally depreciated, particularly in economics (although behavioural economics has recently countered this trend). The reason can be expressed simply: “*treating individuals as authoritative judges of their own interests is also one way of showing respect for them*”. (Hausman, 2011, p. 90); conversely, claiming to know better than the individual his or her own interests may be offensive. Thus, defining an individual’s well-being in order to pursue policies to increase it without consulting him or her on the definition of his or her own well-being is ethically problematic. The ultimate argument in favour of including preferences in these indicators therefore lies in its anti-paternalistic character, or - in other words - in the respect for the autonomy of the individual that it implies.

However, these three arguments do not exhaust the debate. In particular, the question of the *modalities* of preference integration remains unresolved. Should *only* preferences be considered? Should *all* preferences (even those that imply harming others) be integrated? Should one “correct” the preferences formulated in *some* situations (for example, when the individual is not aware of the alternatives available to him or her)? This dissertation addresses these questions from two angles. On the one hand, it will list the limits that economists and philosophers of economics have identified in the project of constructing a poverty indicator based on agents’ preferences. In a constructive approach, we will associate to each limit a *normative criterion* that an indicator must respect if it aspires to escape this criticism. On the other hand, we will “translate” these normative criteria into axioms that will allow us to build robust poverty indicators for these different criteria. More specifically, the last chapters will present two new poverty indicators, still based on preferences, but also incorporating some philosophical criticisms from the first part of the thesis.

On the methodological level, the first part draws (rather) from the literature on the “philosophy of economics”, and even from some writings by sociologists who are also interested in the theme of preferences. As for the second part, it is (rather) close to the field of welfare economics, and more precisely the emerging field of behavioral welfare economics. That said, this cleavage should not be overestimated: several welfare economists will be mobilized in the first part, while eco-philosophy will not be absent from the second. For good reason, one of the challenges of this dissertation is precisely to demonstrate the interest of a “trans-chapel”, but also transdisciplinary approach! If this objective is reached at the end of the work, the subversion of the strict partitions between the currents of the economics will appear heuristically beneficial and, who knows, maybe even more entertaining!

To conclude this general introduction, it may be useful, albeit perilous, to summarise the ambition of this work in one sentence. This sentence will seem a little obscure, as the terminological details will only come later. But it will help to structure this thesis and, I hope, make it easier to read. So, in this work, *we will draw from the literature in economic philosophy two criticisms of the absolute respect of the preferences of the poor (Elster’s “adaptive preferences” and Veblen’s “artificial preferences”), and then propose a method of constructing preference-based poverty indicators that limits these biases (by coefficients α and β).* We hope that the reader will consider this mission accomplished!

Part I

What about the preferences of
the poor?

Which preferences? Which poor?

The objective of this first part is to address some of the theoretical issues raised by the integration of preferences in a poverty indicator. Therefore, it seems necessary, as an introduction, to clarify the meaning that these polysemic notions will cover here.

Daniel Haussman suggests four acceptances of *preferences*: 1) enjoyment comparison (because its taste gives me more joy), 2) comparative evaluation (I prefer county to Gouda because I consider it superior), 3) favoring (an affirmative action policy calls for “racial preferences”), 4) choice ranking (if I have to choose between Gouda and county, I prefer county). These four meanings overlap only imperfectly, which is why Haussman suggests that economics should opt for definition 2): an agent prefers x to y if and only if he judges x to be superior to y . But superior in what respect? Haussman distinguishes three types of comparative evaluations: partial, overall and total. The first involves judging x superior to y on *some* aspects (for cheese: *either* taste, origin, environmental impact, etc.). The overall comparative evaluation integrates most of the elements affecting the evaluation; according to Haussman, this form of preference is that of common language. Since preferences do not integrate *all* the elements affecting our evaluation, some of these elements will be perceived as conflicting with our preferences (as when one says: “I don’t eat county because I’m on a diet, even though I would prefer to eat it”). Finally, the total comparative evaluation encompasses everything that affects our evaluation, so that our preferences are never in conflict with other elements affecting our evaluation (e.g., “because of my diet, I *prefer* not to eat a county”).

In this work, we will follow Haussman’s prescription by referring to preferences as *total comparative evaluations*. Haussman opts for this meaning because, being more extensive, it offers a more faithful basis for positive economics (our choices are mainly determined by this exhaustive evaluation) and normative (the complete motivations of individuals are expressed). On

the other hand, it is obvious that this conception “*is more cognitively demanding than making an enjoyment comparison, and there is more room for mistakes*” (Hausman, 2011, p. 1). This definition of preferences must therefore be grasped more as an ideal - a “regulatory horizon” - than as a state of affairs. The following pages will, moreover, attempt to raise several deviations from this ideal-typical conception. As for the population concerned (the “poor”), it is not a question of circumscribing it *a priori*, since this is precisely the mission of the indicator under study. Depending on how preferences are incorporated into the indicator, this population will therefore vary; it is only after these two parts have been completed that a definition of the target audience may emerge.

Chapter 1

First family of objections: the materialistic ones

According to the supporters of this first family of objections, preferences are not sufficient, or even inappropriate, to constitute an indicator of poverty because they are dependent on material conditions of existence. The latter must therefore also be considered, if not constitute the only source of information.

1.1 Marxist critique: ideological reflection and alienation

In the eyes of this first Marxist-inspired perspective¹, the preferences of the poor are irrelevant to the normative economics, for at least two rea-

¹We are not unaware here that the relations between the different spheres of society (economy, religion, politics...) have sometimes been more subtly analyzed in the work of Marx himself. We will therefore associate this first critique more with *a certain Marxist current*, which was mainly nourished by *The German Ideology*.

sons. First, the ideas of individuals (expressed as preferences) are only an *epiphenomenon*: they have no driving role in social history, but are only the ideal reflection of a more fundamental phenomenon of a material nature: “*The production of ideas, of conceptions, of consciousness, is at first directly interwoven with the material activity and the material intercourse of men*” (Marx and Engels, 1932, 1970, p. 47). But this first element is not enough to discredit preferences; if the latter are a faithful reflection of the material conditions of existence, they are a valuable source of information that the welfare economist can exploit! Haussman was not saying anything else when he argued that the satisfaction of preferences does not *cause* well-being, but provides information - perhaps the best there is - about what increases well-being. So there is more. Second, this consciousness-reflection-of-existence turns out, in the case of the dominated, to be severely biased; like their existence mutilated by exploitation, the consciousness of the proletariat is not immune to alienation. In other words, their heteronomy in the sphere of labor can be translated, in the world of ideas, by a “false consciousness”: “*The class which has the means of material production at its disposal, has control at the same time over the means of mental production, so that thereby, generally speaking, the ideas of those who lack the means of mental production are subject to it*” (*Ibid*, p. 64).

Such an ambitious and devastating statement deserves further development. We will limit ourselves here to commenting on these two aspects. On the positive side, the concrete relationship between production relations and the preferences of the poor is not obvious; of course, one can imagine, for example, that a complicity between the clergy of a village and the boss of the industry implanted there impacts, through the sermons pronounced in the Church, certain ways of seeing the world. But this unilateral relationship is obviously simplistic. In particular, it does not take into account the critical capacities that the popular world - in the West and elsewhere - has historically demonstrated: rather than passively “swallowing” the dominant discourse, it kept a critical distance from it. On the normative level, it is understandable that the validity of the preferences of the poor comes out very

weakened: questioning the preferences of the poor would be tantamount to considering the ideas of the dominant class. Thus, according to this first criticism, a normative approach based on such preferences - under the guise of democracy - is hypocritical and conservative. Only the state of production relations can tell us about the *authentic* well-being of the population. As we know, it is this caricatured version of materialism that allowed some 20th century leaders to discredit the people's opinion and to pursue development policies "dictated" by a Marxism that had become the "science of history" (Habermas, 1997). This reading is therefore no longer fashionable and, to tell the truth, is too destructive to really interest us here. But can we get anything out of it?

For example, the economist Peter Dorman (1989) has proposed an interpretation of alienation consistent with rational choice theory : from John Elster's "multiple self theory" and a collective conception of rationality, Dorman concludes, against the criticism of Robert Nozick, that alienation is neither a fantasy of left-wing intellectuals projected onto the working class, nor a consequence of irrational reasoning, but a situation generated by an inter-temporal dynamic: "*Lack of autonomy today may reduce the taste for it tomorrow*" (*Ibid*, p. 5). The fact remains that this kind of work does not inform us about the conditions under which the preferences of the poor are "receivable"... Sometimes bearers of rationality as a universal class, sometimes receptacles of dominant ideas as an exploited class, the poor in fact occupy an ambiguous status - and even more so their preferences! In spite of these aporias, this first Marxist critique helped to shed light on the material conditions for an enlightened judgment. It is this latter intuition that the second critique of the materialist family will take up in a more constructive and nuanced form.

1.2 Sen’s critique: capabilities and adaptive preferences

It is not very bold to argue that Amartya Sen is a very great economist. He is hardly more experienced in making him one of the most *interdisciplinary* economists: his contributions extend far beyond the field of economics, populating those of philosophy, sociology, epistemology and even law. It is probably this hybridity that has enabled him to take a fresh look at age-old concerns in economics, and in particular at the issue of preferences in normative economics. In this respect, Sen readily acknowledges his debt to Marx (Sen, 2006): his reflection on adaptive preferences was inspired by the concept of alienation and objective illusion - some commentators have also identified Mill’s influence (Qizilbash, 2016). Before addressing the issue of preferences, it should be noted that Sen’s more general reflection on the links between living conditions and consciousness also had epistemological repercussions, through the famous concept of “positional objectivity” (Sen, 1993).

Sen’s work on preferences is scattered in different collections (in particular: Sen, 1984 and Sen, 2002). We will focus on his seminal article “Rights and Capabilities” based on a lecture he gave in November 1982, in which he presents the phenomenon of “adaptive preferences” in order to introduce his approach of capabilities. The discussion is introduced by the following remark: “*There is, however, one particular aspect of this limitation [to utilitarianism] which has received much less attention than, I believe, is due*” (Sen, 1984, p. 308). Sen goes on to explain this “particular aspect”: “*The most blatant forms of inequalities and exploitations survive in the world through making allies out of the deprived and the exploited. The underdog learns to bear the burden so well that he or she overlooks the burden itself. Discontent is replaced by acceptance, hopeless rebellion by conformist quiet, and - most relevantly in the present context - suffering and anger by cheerful endurance. As people learn to adjust to the existing horrors by the sheer*

necessity of uneventful survival, the horrors look less terrible in the metric of utilities" (*Ibid*, p. 309). If the concept of utility should not be confused with that of preferences, this criticism naturally extends to preferences: an "overly important" utility declared by an individual living in horror can indeed be translated, as we shall see, by his preference for his situation rather than for another. The preferences of some particularly vulnerable populations would therefore sometimes be bad indicators of their well-being. So accustomed to a situation that we would consider unbearable, these people "naturalize" their burden and therefore fail to see an alternative situation that they would prefer. Misery bounds the horizon of possibilities.

Sen then introduces the now famous example of widowed women questioned about their state of health in the aftermath of the Bengal famine (1943). While "*the condition of women in India outside elite groups - and of widows in particular - is generally recognized to be nothing short of scandalous*", only 2.5% of them considered themselves sick - compared to 48.5% of widowed men. Sen concludes: "*Quiet acceptance of deprivation and bad fate affects the scale of dissatisfaction generated, and the utilitarian calculus gives sanctity to that distortion*" (*Ibid*, p. 309). On the normative level, it indeed seems difficult to justify being satisfied with the statements of these women... We will not here exhaustively develop the alternative approach proposed by Sen, but it is necessary to understand its general spirit in order to grasp the type of amendments suggested by such a criticism. On the one hand, it is a question of placing less "trust" in the utilities/preferences of the poor by relying on objective data: if the health of the Indian widows interviewed had been assessed by a doctor, the resulting measure of well-being would have been less happy and, let us say it, more faithful to reality. But, on the other hand, Sen also breaks with the "resourcist" approach which is interested in what individuals possess; in his view, "*depending on our body size, metabolism, temperament, social conditions, etc., the translation of resources into the ability to do things does vary substantially from person to person and from community to community, and to ignore that is to miss out on an important general dimension of moral concern*" (*Ibid*, p. 323).

This is why Sen proposes to assess well-being in terms of capabilities, that is, the ability of individuals to translate their resources into action - or, in other words, in terms of the choices that individuals *actually* have. The range of capabilities may include, for example, the opportunity to move around safely in a territory or to express opinions without risking prison. In the end, the capability approach retains nothing - or almost nothing² - of agents' preferences/utilities. It is now based only on an objective evaluation of the concrete possibilities offered to a population. Sen thus retains from the Marxist critique the danger of a blindness of dominated populations caused by their dominated situation. While he is more subtle and less “mechanical” in his evaluation of this danger, Sen is no less radical in his practical conclusion: like the Marxist critique, he advocates a reading of well-being that no longer takes into account the preferences of the people concerned. This outcome can be judged unsatisfactory... If the adaptive bias of preferences no longer automatically concerns all the dominated, could we not have a technique for detecting biased preferences that would allow us to retain the others? The work of John Elster can be mobilized to feed this lead.

1.3 Elster's axiom: how to spot adaptive preferences

While Sen popularized the concept of “adaptive preferences” and proposed the main alternative approach, it was John Elster who, first and most

²Two elements of the capability approach, however, take preferences into account. First, this perspective values an individual's ability to do something, whether or not that individual has actually performed that action (although this first point can also be seen as a denial of the importance of preferences, since the measure of well-being will be independent of the choice actually made by the individual). Second, Sen, unlike Martha Nussbaum, believes that the range of capabilities required by a society should be defined by the individuals concerned, according to their context of life (some populations valuing religious freedom more than others, for example).

rigorously, conceptualized the phenomenon. As a first approximation, the formation of adaptive preferences can be defined as a restriction of one's preferences *caused* by limited objective possibilities. To make the distance between ambitions and possibilities of action bearable, the individual convinces himself and declares adaptive preferences³. Elster's pioneering article proceeds in two steps. First, he defines the concept of "adaptive preferences" by distinguishing it from six other types of preferences with which it would be dangerous to confuse them (some of them will be found in the following pages):

1° counter-adaptive preferences: this is the opposite phenomenon. An individual changes his preferences according to his material situation to prefer what he does not have (and not what he already has). Captured by the expression "the grass is always greener in its neighbor", this phenomenon is therefore the double negative of adaptive preferences.

2° experiential learning: a change in preferences caused by a change in possibilities is not always a phenomenon of adaptive preferences. For example, if a farmer declares that he prefers to live in the country rather than in the city because he has always lived in the country, and then declares the opposite after being transferred to the city, he may have adapted his preferences because he learned about the advantages of the city that he did not know before he went there! How do you know if this is through learning or to convince himself that his current situation is desirable? Elster proposes the test of reversibility: if you transfer this farmer back to the country again and he still prefers the city, his preferences are not adaptive; if he starts to prefer the country, they are⁴.

3° *a priori* commitment: an individual may wish to restrict his

³Elster gives the example of the fox in La Fontaine's fable who, unable to acquire grapes on top of a tree, declares that he does not want them because they are too sour.

⁴Unless, of course, this new change in preferences is brought about by a new acquisition of knowledge through experience in the countryside... (but, assuming that this farmer had initially lived there for many years, this hypothesis is unlikely).

or her future possibilities of action, so that his or her future preferences will then match his or her future possibilities (as in the case of adaptive preferences). For example, a married woman may state that she prefers to stay with her husband rather than date other men or women. However, this is not a phenomenon of adaptive preferences because the restriction of possibilities was the object of a deliberate decision: this woman preferred - at least initially - to restrict her future possibilities (out of aversion to instability, for example). In fine, therefore, it is not a matter of a change in preferences caused by a change in possibilities (as in adaptive preferences), but caused by a preference for this change in preferences (passing through a change in possibilities).

4° manipulation: some individuals may prefer their current situation to a youthful dream because another person (a politician, an advertiser or a false friend) manipulates their preferences in order to take advantage of them. Again, this modification of preferences is not, however, a phenomenon of adaptive preferences because the cause of this modification is *exogenous* to the individual's situation - it does not result from a modification of the possibilities of the individual himself.

5° character planning: an individual may find it preferable to reduce the dissonance he feels between his preferences and his possibilities by deliberately restricting his preferences. For example, "*I have to stop thinking about it, it hurts me too much*", might consider a manager who has just been denied a promotion. The key difference with the phenomenon of adaptive preferences is the conscious, deliberate planning of one's character. In practice, however, it will be very difficult to distinguish between the two...

6° wise rationalization: this last type of preference modification impacts the individual's perception, rather than his or her evaluation of a situation. After an event that has caused a lot of suffering (for example, the refusal of a promotion), an individual may relativize, by telling himself that "*some things are more important in life*"; he will then perceive differently the phenomenon at the source of his pain. Again, however, the distinction

between wisdom and alienation remains ambiguous in Elster.

Secondly, he proposes a characterization of the phenomenon based on axiomatics - this point is therefore of particular interest to us. Given that the formation of adaptive preferences has as its *cause* the restriction of a dissonance (between preferences and possibilities) and as its *effect* the adjustment of preferences to possibilities, a criterion for distinguishing this type of preference must include these two aspects - possibilities *and* preferences. On this basis, Elster formalizes the condition that preferences do not result from an adaptive process (we shall call it, somewhat pompously, the Elster's axiom):

If S_1 and S_2 are two feasible sets, with induced preference structures R_1 and R_2 , then for no x or y (in the global set) should it be the case that xP_1y and yP_2x .

Changing possibilities cannot cause a reversal of preferences (note, however, that it can make two previously prioritized options equivalent). It is easy to transpose this axiom to the field of poverty indicators, and Elster's axiom can then be formulated as follows:

Let z be the bundle of poverty, x_i the actual consumption of i and S_i his feasible set. If x_iP_iz and $z \in S_i$, then the individual i is not poor.

Quite wisely, Elster points out that this requirement can be formulated in another, less instinctive way: an individual's preferences are not adaptive if he or she prefers an option to which he or she does not have access. Indeed, "*if there are many things that I want to do, but am unfree to do, then this indicates that my want structure is not in general shaped by adaptive preference formation*" (Elster, 1982, p. 228). Note that this second formulation hardly suffers from translation in the field of indicators. Indeed, it leads to a reasoning similar to the following:

Let z be the bundle of poverty, x_i the actual consumption of i and S_i

his feasible set. If zP_ix_i and $z \notin S_i$, then the individual i is poor.

This second axiom will not be retained in the second part of this work for two reasons. On the normative level, this requirement is absurd: materialist criticism argues that we cannot be satisfied with a satisfaction “dominated by its domination”, that is to say, generated by a deprivation that it no longer manages to point out. Concretely, therefore, it aspires to consider as poor people who do not say they are poor because of their situation, but not to consider as non-poor people who say they are poor because of their situation (which the second formulation would produce). On the other hand, logically, this requirement proves tautological (or, rather, redundant with the definition of the rationality of preferences): an individual can only prefer z to x_i if $z \notin S_i$. If $z \in S_i$, the individual would then choose z (i.e. $z = x_i$) - unless violating the requirements of rationality⁵.

Generally speaking, the “philosophy” of Elster’s axiom can be summed up by the following excerpt which takes up the two previous formulations: “the larger the feasible set and the more your wants go beyond it, the smaller the probability that your wants are shaped by it [i.e. that your preferences are adaptive]” (*Ibid*, p. 229). From Elster’s work, we will thus retain a rigorous characterization of the phenomenon of adaptive preferences, as well as an axiom that we will find in the second part of the paper. More generally, we will take note of the materialist criticisms with a warning: if the distinction between “objective conditions”/“subjective preferences” is indeed of analytical interest, we must remain vigilant to the interactions that, in practice, take place between these two poles. Some “objective conditions” (i.e. being poor) may impact “subjective preferences” (i.e. being very satisfied with one’s situation), so that a normative judgement based solely on preferences may lead to overly optimistic conclusions.

⁵Violation of the requirements of rationality is not to be excluded and will moreover be discussed later in this work. But it is not linked to materialist criticism.

Chapter 2

Second family of objections: the sociological ones

One of the main issues at stake in the intellectual “rivalries” between sociologists and economists is the status accorded to preferences, the former generally reproaching the latter for naturalizing them by considering them as exogenous variables. Moreover, economists would be unaware that “social dynamics” influence the formation of these preferences. This reproach, which is often repeated, is quite unfair. On the one hand, some currents in economics have precisely sought to “endogenize” preferences; the economics of convention, for example, traces the intersubjective processes of stabilization of quality or efficiency criteria influencing buying and selling decisions (Orléan, [2005](#)). On the other hand, above all, economists do not generally ignore the social determinants of preferences, but delegate the task of identifying them to other human sciences (psychology, history, sociology, etc.). The latter position is tenable on the condition that the type of preference formation does not affect the *validity* of preferences, in which case it would be indispensable, before treating preferences as a database, to delve into their “itinerary” in order to confirm their validity or diagnose them as “biased”. It is this hypothesis of independence between the social formation

and the validity of preferences that this second family of objections intends to question.

2.1 Veblen’s critique: luxury and parasitic preferences

Paradoxically, our sociological critique will begin with the work of an economist. We can indeed draw from Veblen’s work in general, and from *The Theory of the Leisure Class* in particular, a critique of some preferences based on their social mechanism of formation. His well-known thesis can be summarized as follows: the modern period crowns the principle of social stratification; however, this principle requires a *foundation* of stratification. What is more, this foundation must be visible. Wealth will be this foundation, “ostentatious consumption” its visible form. While the working class has no choice but to take on “*productive tasks*” (Veblen, 1889, p. 28), the dominant class - or rather, the Leisure Class - tries to signal its status through consumption. What kind of consumption? Consumption that only the very wealthy can afford: the purchase of the superfluous, or, still better, of nothing¹. The members of the Leisure Class thus competed in their ostentatious spending: some organized *overly*-charged banquets, while others practiced what anthropologists have called the *potlatch*, i.e. a gift so imposing that it symbolically dominates its recipient, incapable of “returning the favour”. But the most prestigious consumption was the maintenance of unproductive people: employing numerous gardeners who no longer knew what to do, luxuriously dressing women and children (figures of unproductiveness), bringing to light countless idle servants, etc. A man’s ostentatious consumption, in

¹In a way, this aspect of the theory anticipates the discoveries of the “signaling theory” (Connely et al., 2011, 2011). The latter studies the techniques developed by one agent to signal its quality to another; for these signals to be effective, they must be costly, so that only such an agent can afford them (e.g. undertaking a share buyback signals to investors an abundance of cash).

short, affirmed his social status by proving to others that his wealth was beyond the realm of the “necessary” and even the useful - he was so powerful that he could afford the useless.

Does this ridiculous and expensive social game jeopardize the preference approach? As Galbraith (1969) pointed out, is it normatively justifiable to treat the satisfaction of the hungry worker eating a hamburger as equivalent to that of the nobleman contemplating the contemplation of his peers in front of the extent of his ostentatious consumption? Probably not. Admittedly, the “marginally decreasing” character of the preferences makes it possible to temper this bias. Yet this only deals with the quantity of goods acquired, not with their *quality*. With regard to the objective of this thesis, we are not obliged to provide a satisfactory answer to this first objection. De facto, it concerns only the preferences of the Leisure Class in the arena of distinction; the preferences of the poor are not affected. They are even magnified, embodying the authenticity of need in the face of the artificiality of bourgeois caprice. This comfortable division will not, however, withstand the second critique of the sociological family, that of Bourdieu.

2.2 Bourdieu’s critique: preferences of the poor and poverty of preferences

Pierre Bourdieu wrote almost a century after Veblen. If the hypothesis of a hermetic duality “productive classes-essential needs”/“leisure class-ostentatious consumption” was plausible at the end of the 19th century, it is no longer the case at the end of the 20th: the working classes now have access to the supermarket and must make consumption *choices*. According to Bourdieu, these choices are not independent of the choices of others; social reality in general, and consumption practices in particular, must be understood from a *relational* point of view. Captured by the famous formula “the tastes of some are the disgusts of others”, this perspective thus invites us

to study the preferences of individuals (or, rather, of social strata) in their interactions: “*ce que l’on appelle communément distinction, c’est-à-dire une certaine qualité, le plus souvent considérée comme innée (on parle de ‘distinction naturelle’), du maintien et des manières, n’est en fait que différence, écart, trait distinctif, bref, propriété relationnelle qui n’existe que dans et par relation avec d’autres propriétés*” (Bourdieu, 1994, p. 20). If they influence each other, preferences do not have an equal power of influence! Unsurprisingly, it is the “upper class”² that leads the dance. As with Veblen, it is its members that are constantly searching for new consumer practices that will allow them to *distinguish* themselves, each class below - and even each “fraction of class” - trying to move up the ladder with imperfect imitations. It is thus precisely in order to escape the lower echelon that the upper class must seize new objects; as the commentators Marquis and Van Campenhoudt (2014) note: “*[this system] fonctionne comme une sorte de course-poursuite sans fin. Les fractions de la classe moyenne en mobilité ascendante tentent de rattraper les classes supérieures mais, entre-temps, celles-ci auront déjà modifié leurs propres pratiques en vue de maintenir intact l’écart qui les sépare de leurs poursuivants*” (*Ibid*, p. 294).

For Bourdieu, the preferences of the poor are thus radically heteronomous: “*il serait facile d’énumérer les traits du style de vie des classes dominées qui enferment, à travers le sentiment de l’incompétence, de l’échec ou de l’indignité culturelle, une forme de reconnaissance des valeurs dominantes*” (Bourdieu, 1979, p. 448). When a working-class family chooses to buy sparkling wine or some other “*substitut au rabais*” (*Ibid*, p. 450), they are, in fact, not in control of their own desires - a kind of “transposition” into the field of cultural consumption of the dispossession of their own labour. This

²It should be noted that the Bourdieusian definition of classes differs from its Marxist ancestor; the class is no longer defined by the position in the mode of production, but by the distance maintained from “material necessity”. In this way, the Bourdieusian definition immediately has a cultural dimension: to have a comfortable distance from this necessity implies, indeed, another relation to time (being free to “spend” our time without counting, by acquiring dispensable cultural skills for example), but also to space (the ability to move calmly, without complexes or precipitation), etc.

theory, however revolutionary it may be in sociology, may not be very useful to normative economics. Indeed, at the end of this scathing demonstration, the listener might very well conclude: “and so what?” Consumption is a relational and unequal reality. So be it. The preferences of the poor must therefore be understood as a reflection, no longer of their material condition (materialist critique), but of their subordinate place in the social system. Let’s admit it. But what normative criterion can we draw from this Bourdieusian critique? The question is a delicate one, since Pierre Bourdieu has constantly repeated that he wished to unveil rather than denounce inequalities, to explain rather than excuse them... In short, his sociology was a scientific discourse (in the positivist sense), and not a left-wing pamphlet.

This position is problematic for two reasons. First, it has been criticized by many sociologists for a certain hypocrisy: in dealing with such a politicized subject, Bourdieu’s analyses cannot claim axiological neutrality precisely because they produce political effects on the readership (Boltanski, 1990; De Munck, 2011). They are constantly invoked in the public debate, specifically for political purposes! Since denying the normative implications of his work does not remove them, Bourdieu would have done better - in order to avoid distortions of his thinking - to make the normative foundations of his work explicit. Second, this option is problematic because in many situations (including our own) we *need* such a criterion. Is it possible, then, if we insist, to derive from Bourdieu’s work a normative criterion on the validity of the preferences of the poor?

Nothing is less certain. One thing is sure: Bourdieu would certainly not have validated the materialist option of denying all validity to the preferences of the poor, under the pretext of alienation. In fact, for Bourdieu, the alienation of preferences is not a pathological state, but the fate of preferences in the social system: since they are and always will be relational and asymmetrical, the preferences of the poor can only be alienated, that is, fixed by an external norm. Almost by definition, no preference can “escape” this system and claim a superior validity: all are alienated, no more and no less. The

work of the sociologist Jean Baudrillard on the consumer society, although very different in many aspects (including the rigour of formalism), adopts an equally relational perspective and reaches a similar normative conclusion: *“du point de vue de la satisfaction propre du consommateur, rien ne permet de tracer une limite du ‘factice’. La jouissance de la T.V. ou d’une résidence secondaire est vécue comme liberté ‘vraie’, personne ne vit cela comme une aliénation, seul l’intellectuel peut le dire du fond de son idéalisme moralisant mais ceci le désigne tout au plus, lui, comme moraliste aliéné”* (Baudrillard, 1970, p. 101). In other words, there are no criteria transcending this social system that allows us to distinguish unbiased preferences from alienated whims (and those who risk such an exercise only reveal their own alienation).

At the bottom of these questions is the question of *authenticity* (of preferences) - as opposed to artificiality (generated by manipulation, for example). Sociology is wary of this term, which has dangerously naturalistic connotations. For example, Bourdieu preferred to take the ideal of authenticity as a sociological object, attaching it to a social position³. This inability to take authenticity “seriously” (rather than as an object of investigation) leaves us powerless... To try to “save” this sociological critique, we must therefore venture to tinker with a criterion of authenticity; it will appear wild, even ridiculous in the eyes of Bourdieusians, but at least... it will exist!

³Thus he wrote about Sartre’s quest for authenticity: *“Égaux en liberté, les hommes sont inégaux dans la capacité à user authentiquement de leur liberté et seule une ‘élite’ peut s’approprier les possibilités universellement offertes d’accéder à la liberté de ‘l’élite’.* Ce volontarisme éthique — que Sartre poussera à la limite — convertit la dualité objective des destins sociaux en une dualité des rapports à l’existence” (Bourdieu, 1988 cited in Romano, 2020).

2.3 “We must save sociological criticism”: tinkering with a criterion of authenticity

In order to clearly identify what is at stake in this section, let us distinguish it. Another way of deriving a normative criterion from the relational nature of preferences has been proposed in normative economics: envy-freeness. This criterion recognizes that an individual's preferences are not independent of the other members of the group; more precisely, when an individual prefers the situation of another individual in the group, the criterion of envy-freeness is violated. This approach is well known and very useful in many areas of normative economics (especially when a distribution has to be made), but will not help us in the case of poverty indicators. Moreover, the objective here is not to capture the phenomenon of jealousy, but that of the “artificialisation” of preferences. More precisely, this is how we could formulate the argument to be “axiomatized”: *the social mechanism of formation of some preferences is deleterious, so that these preferences do not provide a relevant signal*. It is therefore not a question of discrediting preferences for the sole reason that they result from social mechanisms; this would of course be absurd. It is a matter of arguing that all these social mechanisms are not equivalent, to the extent that some of them - deemed harmful - produce biased, artificial preferences. On the normative level, the latter can then be discredited because they no longer signal an individual's *authentic* convictions, but rather social manipulation techniques (such as aggressive marketing campaigns). The ambition here is to think of a criterion for identifying these “artificial preferences” - just as Elster's axiom made it possible to identify “adaptive preferences” on the basis of an individual's objective possibilities and preferences.

For Veblen, only the ostentatious preferences of the rich were artificial - the preferences of the poor, embodying the authenticity of need, were preserved. For Bourdieu and Baudrillard, all preferences were artificial - so much so that this qualifier (as well as its counterpoint: authentic) lost all

meaning. In order to derive a normative criterion, we will associate the artificiality of preferences neither with a social group (such as the Leisure Class) nor with a social system (from which no preference is exempt), but with a type of *goods* that is particularly likely to generate artificial preferences. This approach may be surprising, given that the focus of sociological criticism is not on a type of good, but on a type of social mechanism artificialising preferences (e.g. fashion, manipulation by marketing, the pathological need to distinguish oneself, etc.). But, pragmatically, it seems impossible to identify, from data, whether a preference stems from such a type of social mechanism: when buying a good, one is not required to declare whether it is out of genuine envy or out of artificially produced desire... Conversely, it seems little debatable that a potato is less likely to trigger fashion effects, aggressive marketing campaigns and struggles for distinction than a perfume! We will therefore say that an individual's preference for potatoes is little suspect of artificiality, while that for perfume is more suspect. What is the interest of such an approach? To consider the construction of a poverty indicator that is robust to the criterion of artificiality of preferences!

The reader who has followed us so far might then object: “since a poverty indicator, by definition of the bundle of poverty, implies *only* basic necessities, the latter will never be suspected of artificiality; this criterion is therefore of little interest”. While there is undoubtedly some truth in this objection, it draws hasty conclusions! An investigation could indeed reveal that many single housewives reduce their food expenses to provide their daughters with the latest t-shirt so that they are not ashamed of their school clothes. In such a case, these women do not meet basic needs (eating enough food) to satisfy artificial preferences (allowing their daughter to follow fashion) - and it may be considered desirable that this aspect “shows up” in the poverty indicator: it may indeed seem problematic to include these women in the non-poor population, under the pretext that they prefer their situation (where they can buy this trendy t-shirt) to a bundle containing enough food⁴. Therefore, it seems hasty to conclude that this criterion will

⁴Of course, this criterion implies a new departure from anti-paternalistic logic. But all

have no effect on the measurement of poverty. Moreover, we will only know this by comparing the difference between two poverty indicators - one robust to artificiality, the other not - which already justifies the interest of such a criterion.

Within the framework of this exploratory approach, we offer ourselves the luxury of defining neither the list of artificial goods nor the number of artificial goods necessary to “contaminate” the bundle as such. Of course, this option is not without cowardice, as it may seem tricky to characterize the different types of social mechanisms that artificialize preferences, and then to associate the different goods to be studied with them. We shall, however, attempt to specify the formal aspects of such an adventure in the second part of this thesis. But above all, we dare to believe that this agnosticism also has a nobler reason: by avoiding restricting a priori the perimeter of this criterion, we make it general, that is to say reappropriable by different readings of this sociological critique⁵. In order not to confine our criterion to a singular conception, we will therefore adopt a broad formulation of this second normative criterion - the “Veblen’s axiom”:

Let V be the set of all authentic bundles and W the set of all artificial bundles. For all $v \in V$ and $w \in W$, vPw holds.

This, in the field of poverty indicators, can be translated as follows:

Let z be the bundle of poverty and x_i the actual consumption of i . If x_iP_iz and $x_i \in V$, then the individual i is not poor.

the criticisms envisaged in this first part, by undermining the sovereignty of preferences, will imply such a departure.

⁵For example, this criterion is flexible enough to account for the critique of political sociology which, in the wake of Habermas’s work, considers that certain devices of collective deliberation are alone capable of rationalizing individual preferences. Indeed, Habermas raised some impediments to this ideal deliberation, including the ideological weight of the advertising industry or of the media system - all social mechanisms that artificialize preferences.

Chapter 3

Third family of objections: the psychological ones

The two previous chapters are the main contribution of this first part, as they link fields of research with rare connections - there is no “material welfare economics” nor “sociological welfare economics” yet. However, we cannot ignore a more structured field of economics that has precisely set itself the task of questioning the rationality of agents’ preferences: “behavioral economics”. Rather than identifying bias factors *external* to individual rationality (the impact of possibilities or the artificiality of some goods), behavioral economics tracks empirical deviations from the ideal-typical rationality generally assumed in welfare economics (called *bias*). What is the interest of this approach for welfare economics in general, and this thesis in particular? If agents’ preferences appear to be biased (i.e. deviating from the assumptions of rationality), the informational signal they emit - and which constituted their wealth according to Hausman - becomes distorted and can lead us to bad normative decisions. Once again, therefore, we need to identify a limit to the construction of a preference-based poverty indicator, as well as a possible normative criterion to overcome this limit. As we have said, the field of behavioural economics is more structured and abundant, so much so

that an exhaustive review would undoubtedly be the challenge of an entire thesis. We will therefore be (even more) partial in this third chapter.

3.1 The psychological criticism: agents are not machines... so let's help them!

The intuition of the critique of behavioural economics is essentially empirical: the assumptions of rationality of preferences generally accepted in economics (completeness, transitivity, binary independence, discounted intertemporal choice) are violated daily. The typical form of this argument is to raise the tendency of the individuals studied to base their decisions on elements that *should be* irrelevant from a rational point of view. For example, the pioneering work of Kahneman and Tversky, (1979) revealed that the sign of a lottery's expected output (win or loss) impacted risk aversion: individuals tended to be more risk-averse towards a loss and risk-seeking towards a win. The sign of the expected amount should be irrelevant in determining one's attitude to risk, but it is not. Subsequently, many other irrelevant elements have been identified (Camerer et al., 2004), such as previously made choices (confirmation or status quo bias), previous occurrences of an event (Gambler's or narrative fallacy) or the context of the decision (mimicry or framing effect). Behavioural economics studies thus borrow the experimental method and some concepts from psychology to criticize the overly watered-down conception of the individual in economics: individuals would tend to behave in a different, often biased way.

How is the normative economy called upon to react? Should we abandon the preference-based approach and rely only on objective factors? Or do we have some techniques for obtaining "*suitably purified preferences*" (Hausman, 2011, p. 83)? The second option is generally preferred¹. In normative

¹It should be noted, however, that most contributors to behavioural economics do not take this normative step, confining their role to a descriptive contribution. We will there-

terms, it is justified by an argument quite different of that of proponents of materialistic and sociological approaches: the idea is to modify preferences “*in away that will make choosers better off, as judged by temselves*” (Thaler and Sunstein, 2008, 2008, p. 5). Indeed, “*in many cases, individuals make pretty bad decisions - decisions they would not have made if they had paid full attention and possessed complete information, unlimited cognitive abilities, and complete self-control*” (*Ibid*, p. 5). In other words, agents would prefer their rationalized preferences to their biased preferences. Technically speaking, transforming a biased choice into a choice informed by full attention, complete information, unlimited cognitive abilities, and complete self-control thus amounts to restoring the validity of classical rationality hypotheses. Behavioural economics teaches us both that an unsuspected evil gnaws away at our approach to preferences in welfare economics and that we already have the antidote! In concrete terms, two techniques for correcting preferences have been advanced in the literature over the last twenty years.

The first one is an adjustment of the decision-making environment. In accordance with the precepts of the behaviorist current in psychology, this approach considers that an individual who is stimulated differently will react differently. In the political arena, this approach has taken the form of the now famous *nudges*. These environmental devices aim to guide decisions (that is, ultimately, to modify preferences) towards more rational choices - in areas as varied as retirement savings, the urine trajectory and the environmental footprint. In the academic arena, experimental devices have been devised to collect unbiased preferences. Some social psychology studies have thus captured the impact on stated preferences of a communication from a specialist or a cheap talk between participants in the experiment (Jacquemet et al., 2011). As the ambition of this thesis is to establish a technique for constructing poverty indicators that are robust to certain defects of preferences, this *ex ante* correction technique will not be further developed - it makes these defects disappear (“at the source”), but does not allow them to

fore follow here, conversely, the most audacious ones who, armed with these psychological teachings, propose interventions in the real world.

be treated when they are received by the welfare economist.

Conversely, the second preference correction technique is used to correct preferences *ex post*, i.e. after they have been declared or revealed². We are primarily interested in this technique, since it associates a normative criterion with a technique to make preferences robust to this criterion. We therefore propose a survey of this technique in the following section, and will try to draw inspiration from it for the second part of this work.

3.2 Techniques for correcting biased preferences

The first economists to propose a technique to correct biased preferences were, to our knowledge, Bernheim and Rangel (2007, 2009). With the explicit aim of integrating the findings of behavioral economics into the field of welfare economics, they present a framework for identifying preferences that are robust to “ancillary conditions”, i.e. “*features of the choice environment that may affect behavior, but is not taken as relevant to a social planner’s evaluation*” (*Ibid*, p. 55). As we have seen, it is therefore a question of excluding elements that influence an individual’s preferences, whereas they should be irrelevant from a rational point of view - the authors illustrate the concept of ancillary conditions with classic examples from behavioural economics (the moment of the decision, the presentation of alternatives, etc.). This framework is easily understood: a preference between two goods is unambiguous (P^*) if it is verified for all generalized choice situations (GCS) in which these two goods appear - a GCS being defined by a feasible set and an ancillary condition. In other words, “ xP^*y if, whenever x and y are available, sometimes x is chosen but not y , and otherwise neither is chosen”

²This second technique is also more realistic. Indeed, it seems excessively ambitious to calculate poverty indicators exclusively on the basis of preferences of the poor collected in the framework of bias-free experiments.

(Bernheim and Rangel, 2007, p. 465). The resulting unambiguous preferences are robust to many cognitive biases, but are of course incomplete: as soon as preferences change according to the GCS, they fall into the large set of ambiguous preferences. However, the authors suggest two ways to deal with these cases.

First, “*if the individual makes conflicting choices for two GCSs, simply allow him to choose between these GCSs*” (*Ibid*, p. 469). Here we find the normative basis of this approach, according to which, under better conditions, the individual would prefer his corrected preferences to his biased preferences; the idea is to expose the alternative to the individual so that he corrects himself. Second, the authors “*propose using nonchoice evidence to officiate between conflicting choice data by deleting suspect GCSs*”. More precisely, “*if someone chooses x from X under [ancillary] condition d' , where he is likely to be distracted, and chooses y from X under [ancillary] condition d , where he is likely to be focused, we would delete the data associated with (X, d') before constructing the welfare relation*” (*Ibid*, p. 469). Conceptually, this first framework is very close to our ambition. In particular, we shall retain the notion of “suspicion” (*suspect GCSs*) when we develop Veblen’s axiom: it will be a question of formatting - rather than simply suppressing - preferences for goods *suspected* of artificiality. On the technical level, however, this framework seems too demanding: indeed, it requires that our data inform us about the conditional preferences of individuals - to each preference must be associated a feasible set and an ancillary condition. While this makes sense for local experimental schemes, it is not very well suited to the construction of a poverty indicator...

Independently, Salant and Rubinstein (2008) first developed a very similar framework (where the ancillary condition became a *frame*). They then distanced themselves from the Bernheim and Rangel work, believing that this “*model-free Pareto approach*”³ could not deliver refined normative judg-

³The unambiguous preferences of Bernheim and Rangel require indeed the unanimity of the ancillary conditions.

ments, and proposed to think differently about preference correction. Starting with a data set, the aim is to identify possible biases and understand their logic in order to deduce the “true underlying preferences”: *“in either interpretation of a behavioural data set, we postulate that any observed preference ordering is derived from the individual’s welfare preferences according to a cognitive process described by a distortion function D ”* (Rubinstein and Salant, 2012, p. 377). This distortion function, which is a conjecture of the analyst asking to be tested, thus associates with each underlying preference the distorted preference resulting from the conjectured bias; applying it backwards yields corrected preferences. Quite provocatively, Rubinstein and Salant note, from the following example, that their approach can even lead to violating the Pareto relation.

If an individual declares, in two different circumstances, the following preferences: $c \succ_1 b \succ_1 a \succ_1 d$ and $d \succ_2 b \succ_2 a \succ_2 c$. A possible conjecture of the observer is then that *“the individual may make mistakes in reporting his preferences and that if he makes a ‘large’ mistake and reverses the welfare ordering of two alternatives x and z , he also makes ‘smaller’ mistakes and reverses the ordering of all the alternatives ranked between x and z according to his welfare preferences”* (Ibid, p. 378) - which translates into the distortion function $D_M(\succ) = \{\succ_f \mid \text{if } x \succ y \succ z \text{ and } z \succ_f x \text{ then } z \succ_f y \succ_f x\}$. In this case, the authors show that the only corrected preferences that can be inferred from this conjecture are $c \succ a \succ b \succ d$ and $d \succ a \succ b \succ c$ - even though the individual states that he prefers b to a in both circumstances. What is the benefit of such a reversal of perspective? This approach is much more economical in terms of data: from now on, there is no need to know the frame associated with each preference. The analyst’s creativity takes over: *“the essence of our approach is that making meaningful welfare inferences requires making assumptions on the mapping from preferences to behavior”* (Ibid, p. 387). But this creativity has a downside that has been demonstrated by Benkert and Netzer (2018): in applying this framework to derive a nudge (here defined as a frame producing preferences that are closest to true preferences), they come to the conclusion that *“seemingly*

minor differences between behavioral models - such as whether an agent's failure to optimize is due to a low aspiration level as in the satisficing model or due to a restricted number of considered alternatives as in the limited search model - can have profoundly different consequences for the ability to improve well-being by framing" (Ibid, p. 2325). In other words, the choice of the distortion function is neither univocal nor without consequences.

It is this observation that led Goldin and Reck (2020) to propose a framework that is both more structured than that of Bernheim and Rangel (in order to allow for finer normative evaluations), and more flexible than that of Rubinstein and Salant (in order to avoid "choosing" a behavioral model). Their framework involves observing an individual's preference and the associated frame (Y_i and D_i) and accepting the hypothesis of "frame monotonicity": the influence of a frame directs preferences always in the same direction. Inspired by the econometric work of Angrist, Imbens and Rubins, the authors are then able to identify the proportion of inconsistent decision makers in a database (see figure 3.1 below). By frame monotonicity, no individual is "frame defier": he cannot choose option 1 without the frame ($Y_i(0) = 1$) and option 0 with the frame ($Y_i(1) = 0$). It is then easy to identify the fraction of consistent individuals (i.e. whose choice does not depend on the frame), and the remaining category (worth .25 in the table below). This general method thus allows us to discard the preferences of inconsistent individuals in order to identify corrected preferences (fourth row of the table): *"if one's philosophical starting point is that inconsistent decision makers lack normatively relevant preferences, then proposition 1 is the end point of the analysis; it isolates the normatively relevant parameter from the noise induced by the frames" (Ibid, p. 2768).*

While this approach adequately identifies problematic preferences, it does not allow us to treat them in any other way than by adjusting them with respect to the consistent decision-makers. This is more generally the case for techniques that allow us to "recover consistent preferences" from a data set parasitized by errors (of measurement or of subject choice): inaugurated by

	Choose Not to Enroll, Opt-In Regime, $Y_i(0) = 0$	Choose to Enroll, Opt-In Regime, $Y_i(0) = 1$
Choose not to enroll, opt-out regime, $Y_i(1) = 0$	.35	.00
Choose not to enroll, opt-out regime, $Y_i(1) = 1$	.25	.40
Fraction consistent	$E[C_i] = 0.4 + 0.35 = 0.75$	
Fraction of consistent decision makers preferring option 1	$E[Y_i^* C_i = 1] = \bar{Y}_C = 0.40/(0.4 + 0.35) \approx 0.53$	
Bounds on consistent preferences, without assumption A4	$0.53 \leq E[Y_i^* C_i = 1] \leq 1$	

Figure 3.1: Table from Goldin and Reck (2020), p. 2769.

the work of Varian (1985), this literature proposes to correct these errors by various aggregation techniques - such as the minimization of a distance function Halevy et al., 2018. However, in our case study, we are dealing with individual preferences: we will try to capture the “contribution” of each individual to the poverty index, rather than a “collective preference” towards a poverty bundle. Moreover, this attention to “case by case” is justified by the non-random distribution of frames: in behavioral welfare economics, it is generally assumed that an individual is randomly confronted with a frame, i.e. independently of his or her situation (often defined by preferences). Conversely, in the case of biases specifically affecting the poor (such as those of Elster and Veblen), the source of the bias is intimately linked to this individual situation (respectively to the feasible set of the individual and to the artificiality of preferred goods). It remains that this field of the economic literature is very close to our problematic: actually, as we will briefly develop in the following section, we take up its spirit and method to address a different type of frame.

3.3 The sources of biases

Behavioral welfare economics allows to make preferences that have been “tainted” by an error in reasoning more normatively relevant. But what is the source of this error? Based on psychological research, the authors of this field answer sometimes “human nature”, sometimes “the limits of the brain”. The proposal of this thesis is to take up the task of behavioral welfare economics, but applied to another type of bias. Unlike the classical examples of behavioral economics where the problem is internal to the individual (“in his brain” one might say), the “Elster” (adaptive preferences) and “Veblen” (artificial preferences) issues identify a “culprit” that is external to the individual and that acts on his cognition. In Elster’s case, it is his material situation; in Veblen’s, it is certain social processes of influence (e.g. advertising campaigns). The problem we seek to correct is thus the same (preferences acting as distorted signals of well-being), but the source of this problem is different (natural errors or external conditions). This particularity of the Elster and Veblen issues will determine which part of the knowledge of behavioral welfare economics we will retain and which we will abandon in the second part of this work.

In the Elster and Veblen cases, the bias is independent of the individual. By this somewhat provocative statement, we do not mean that the bias does not affect the individual: it is of course the individual who commits a cognitive error that we are trying to correct. Nor do we mean that every individual will react in the same way to a deprivation of resources (Elster) or to an unhealthy influence (Veblen). What we are saying is that since the source of the bias is outside the individual, we no longer need - as was the case with “psychological” biases - to observe the actual reasoning of the individual; we know that, in general, individuals confronted with such conditions reveal incorrect preferences. In the case of “psychological” biases, it would be absurd to apply the same treatment to all individuals exposed to the same frame, precisely because the source of the bias to be corrected is internal, specific to each individual; it is therefore essential to individualize

the corrections - which has limited the success of the correction techniques proposed in behavioral welfare economics. Conversely, when the bias does not depend on a singular aptitude of one brain rather than another, it seems legitimate to apply the same treatment to all individuals *exposed to the same frame*. It is this operation that we develop in the second part of this work.

Part II

Quest for a robust preference-based poverty indicator

The challenge of operationalization

As explained in the introduction, the first part of this work was inspired by the philosophy of economics, while the second part - based on the theoretical teachings acquired - situates the subject in the approach of welfare economics. The movement that links these two parts is therefore that of operationalization, that is, that of a “translation” of normative propositions into axioms that can be integrated into poverty indicators. Let us recall, before embarking on this translation work, that it has a cost: the reduction of the possibilities opened up by the previous philosophical discussions. In operationalizing, one necessarily selects a path - other versions of Elster’s axiom could thus be drawn from the same first part. But this translation also has a yield: the implication of abstract thought in the real world. Moving from conceptual discussions of adaptive preferences to concrete utility curves helps to keep in mind the poor people who are the focus of debates about poverty. For this is what it is all about in the desire to construct a poverty indicator that respects the preferences of the population concerned: listening to their feelings, faithfully capturing a central economic phenomenon, in order to understand and improve the situation thus captured.

Before addressing the issue of poverty indicators, this second part opens with the more general problem of preference correction. In relation with the previous chapter, we will develop two ways of correcting the preferences in the Elster and Veblen cases. Then, we will propose an application of this method to construct alternative poverty indicators. The second chapter will summarize the original proposal of Decancq et al. (2019) to construct a preference-based poverty indicator, as well as two arguments - inspired by the Elster and Veblen axioms - arguing for an adjustment of preferences. Finally, the last chapter will present a technique for constructing a poverty indicator that is robust to Elster’s and Veblen’s axioms, while respecting the axioms advanced in the original proposal. In conclusion, the aim will be to explain the normative criteria that allow a given society to refer to one index rather than another, that is, to choose its definition of poverty.

Chapter 4

Adjusting preferences

4.1 The Elster case

“Getting a bigger house? For what? No, no... I’ve always been like this and that’s fine!” When a person living, like his parents before him, in a tiny house answers this, he reveals adaptive preferences. By fatalism or to make his situation of deprivation psychologically sustainable, he will underestimate his desire to improve his condition. In the formalism invented by Salant and Rubinstein, this type of bias is represented by the following distortion function $D_E(\succ) = \{\succ_f \mid \text{if } z \succ x_i \text{ and } z \notin S_i \text{ then } x_i \succ_f z\}$. If the individual genuinely prefers z to x_i ($z \succ x_i$) but cannot afford z , his biased preferences will favor x_i ($x_i \succ_f z$). This argument, developed in the first part of this work, has convinced many researchers of the danger of using preference-based indicators of well-being (Decancq et al., 2015). Correcting an individual’s preferences to make them “robust” to the problem of adaptive preferences might therefore be of interest to some of the community. But doesn’t this bias violate some commonly held assumptions about preference formation? When an individual prefers, *ceteris paribus*, 20 m^2 to 70, it does indeed violate the monotonicity of preferences. But there are already techniques for

correcting preferences of irrationalities, such as non-transitivity (González-Pachón and Romero, 2008); if the problem of adaptive preferences could be reduced to this, it would already be solved. Unfortunately, it does not. There are many cases where the individual has both rational and potentially adaptive preferences. Figure 4.1 below illustrates such a situation.

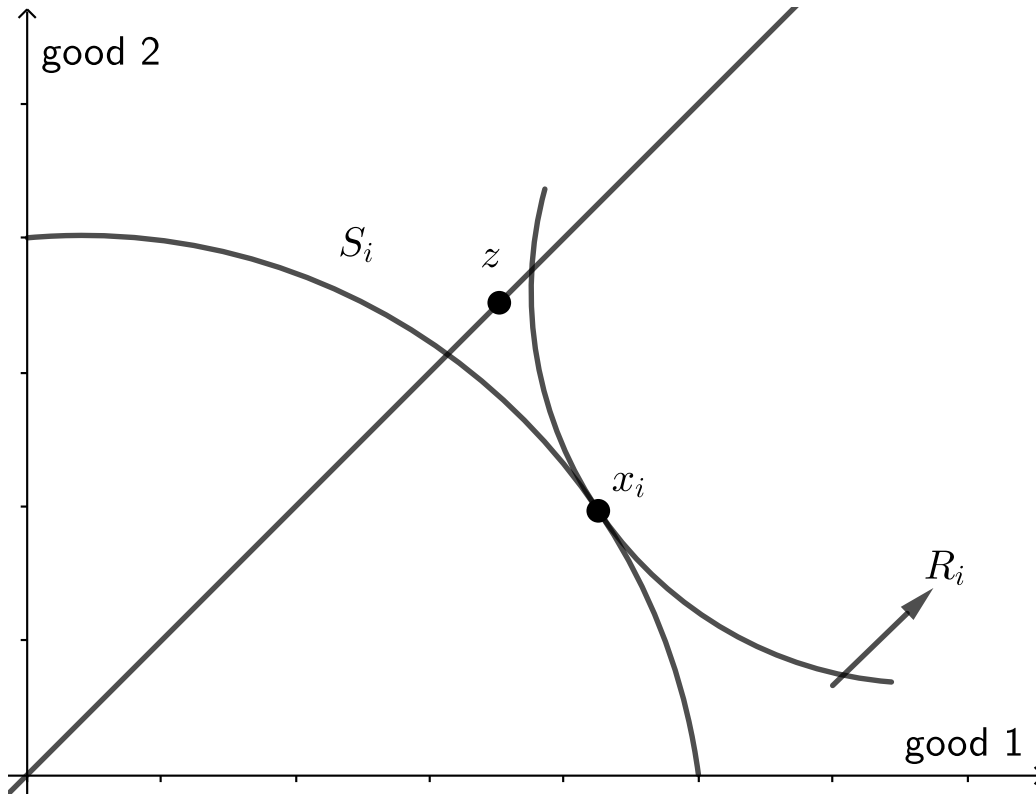


Figure 4.1: An Elster-supect case.

The individual can afford the baskets included in the set S_i and reveals his preference by choosing the situation x_i . He prefers x_i to the basket z that is outside his feasible set. It is therefore possible that he disregards the combination of goods 1 and 2 represented by z precisely *because* he cannot afford it! Recall that we take from Bernheim and Rangel the notion of “suspicion”; it is possible that this individual really does prefer x_i to z , but his material situation makes him suspicious from the point of view of

adaptive preferences. This “danger” is all the more threatening the more convex the individual’s preferences are: the more convex they are, the more the individual discards bundles that he cannot afford. The critical case is represented by the Leontief preferences: the individual considers that his situation x_i is preferable to such a number of bundles that he cannot afford that it is very likely that he acts by adaptive preferences (cf. figure 4.2 below).

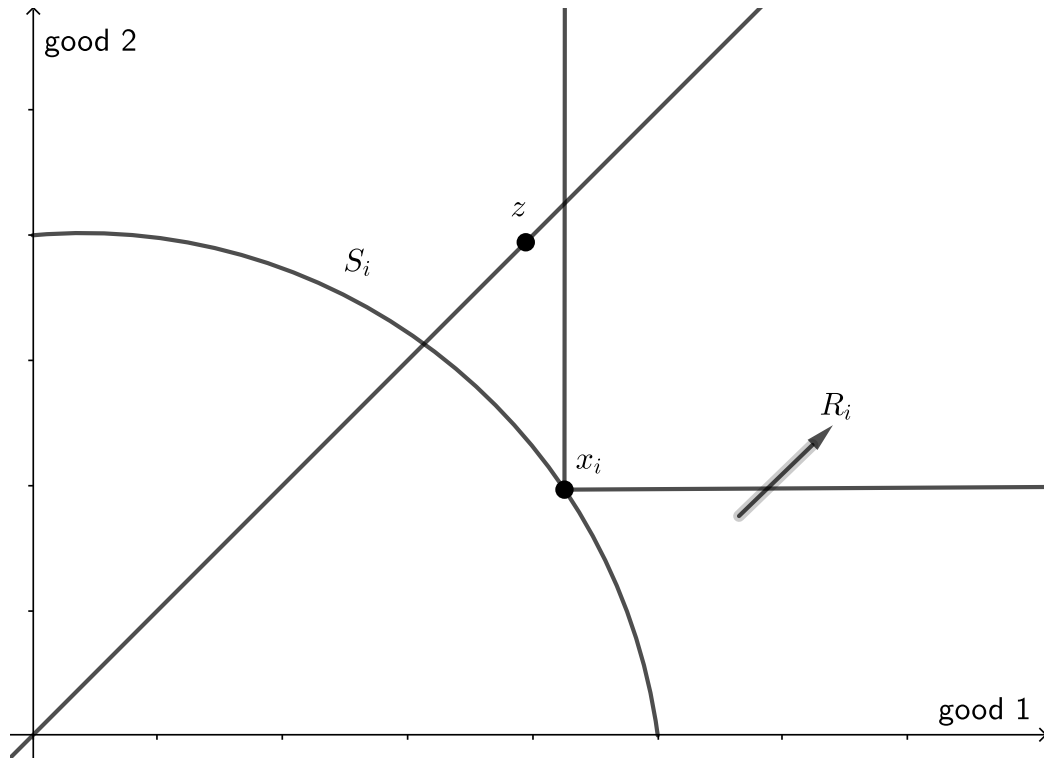


Figure 4.2: An Elster-very suspect case.

A quite intuitive way of correcting preferences will therefore be to make them less convex, i.e. less likely to be adaptive. The flatter the indifference curve, the fewer the unaffordable bundles disregarded by the individual. However, it would be excessive to impose the same type of preference on all individuals! There is thus a trade-off between the respect for initial preferences and the sensitivity to the danger of adaptive preferences. In order to

The corrected preferences will then take the form of this weighted average. If $\alpha = 0$, the initial preferences are kept; if $\alpha = 1$, only the feasible set matters. Between these two extremes, the welfare economist can adjust suspect preferences more or less “severely”, depending on his sensitivity to the phenomenon (reflected in the value of the coefficient α). The figures 4.4 and 4.5 below illustrate two cases, with an average α and a low α .

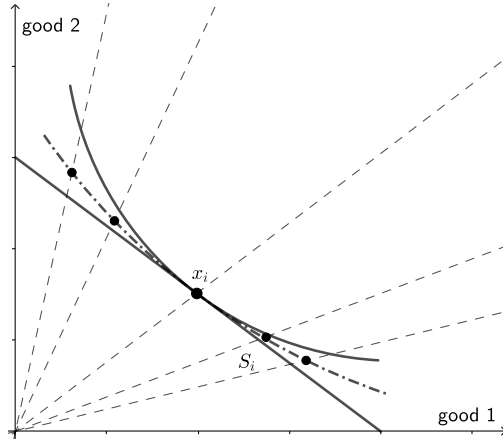


Figure 4.4: An Elster-correction
with $\alpha = 0.5$.

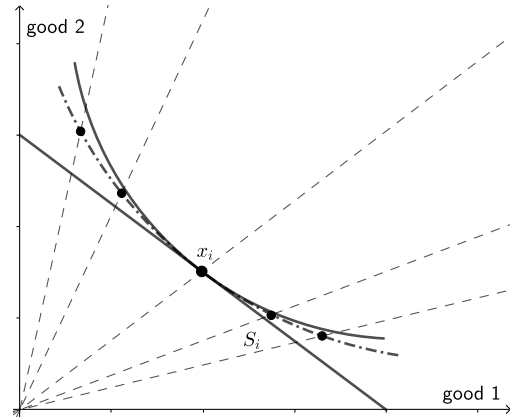


Figure 4.5: An Elster-correction
with $\alpha = 0.2$.

Let us emphasize directly the virtues and limitations of our proposal. Its advantage is that it allows us to redefine a new set of bundles that the individual considers as equivalent to his current situation, i.e. a new utility curve passing through x_i . This property will be very useful for constructing a poverty indicator that is robust to adaptive preferences. However, this property is very local: it is only relevant when we consider only this indifference curve. In other words, this method - in its current state - does not allow a generalization to all preferences. The reason is that this correction will lead to a violation of the transitivity of preferences: the new indifference curve will indeed cross some curves included in S_i (not corrected because not suspect to the phenomenon of adaptive preferences).

To conclude this section, let us note that if we make the hypothesis,

like Bernheim and Rangel, that we know the preferences conditional on any feasible set, it is of course enough to retain only the preferences associated with the feasible set containing all the bundles: in this situation where he can afford everything, the individual will indeed reveal preferences that are not suspicious. As Goldin and Reck (2020) have noted, however, this technique is too demanding: “*in practice, however, individual decision makers are typically observed choosing under only one frame*” (*Ibid*, p. 2762). It is therefore not absurd to develop our proposal, which is more sparing in terms of the necessary information base.

4.2 The Veblen case

“*I don’t want my daughter to feel ashamed in front of her classmates*”. When a single mother in a precarious situation justifies her “unreasonable” purchase of the new fashionable shoes in this way, she is declaring artificial preferences. Without the predatory social process of clothing fashion and pervasive marketing, she would have preferred to eat as much as she needs rather than acquire those shoes. Certain goods - sacralized by *certain* deplorable social processes¹ - thus acquire too much value in the eyes of individuals. It is therefore a question of putting them back in the place they deserve in the hearts of individuals. This implies two tasks: defining the perimeter of artificial goods, and then inflicting a correction on them. In order to again propose a technique that is not dependent on our own perception of artificiality, we will focus on the second step.

Without being too bold, we propose to multiply the quantity of each good by a coefficient of *authenticity* (assumed to be given and denoted $\psi_j \in [0, 1]$). These coefficients form a “correction matrix” (denoted Ψ) allowing

¹So let’s reaffirm the point: it is not a question of discrediting all the social processes at the origin of our preferences (which would be absurd), but some that are considered harmful. The influence of a benevolent family environment is not concerned, the influence of invasive advertising is.

to obtain an authenticated version of a bundle composed by $|J|$ goods (via the matrix product Ψx_i). This matrix takes the following form:

$$\Psi = \begin{bmatrix} \psi_1 & 0 & 0 & 0 & 0 \\ 0 & \psi_2 & 0 & 0 & 0 \\ 0 & 0 & \psi_3 & 0 & 0 \\ 0 & 0 & 0 & \ddots & 0 \\ 0 & 0 & 0 & 0 & \psi_{|J|} \end{bmatrix}$$

The figure 4.6 below represents the simple case of a bundle of two goods, one of which is not fully authentic ($\psi_1 = 0.6$). The quantity of this good is then multiplied by its authenticity coefficient, so that the “new” bundle characterizing the individual’s situation is x'_i . In a way, this operation is equivalent to an impoverishment: the individual has, in fact, access to a lower level of satisfaction than he imagined. This correction is unsophisticated, but it will prove useful when confronted with poverty indicators. This is what the next chapter proposes to explore.

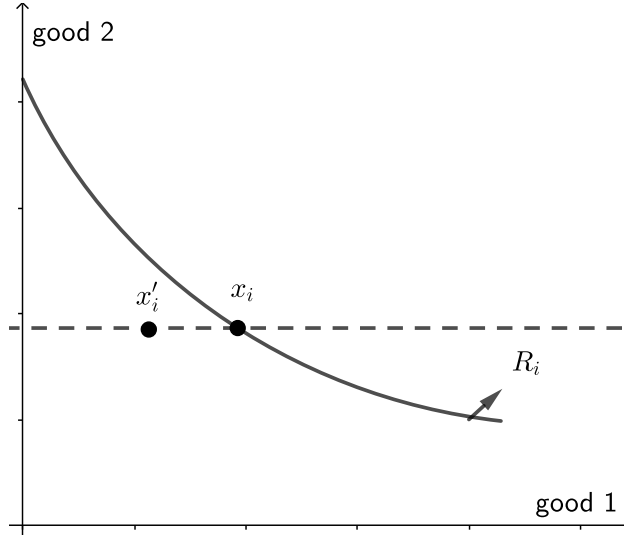


Figure 4.6: A Veblen-suspect case corrected.

Chapter 5

Adjusting poverty

The aim of this chapter is to exploit the two preference correction techniques presented in the previous section in order to construct new poverty indicators, robust to adaptive and artificial preferences. But first, it is necessary to present the preference-based indicator that is at the basis of these reflections.

5.1 The initial proposal: an unadjusted preference-based poverty indicator

In their 2019 paper, Decancq, Fleurbaey and Maniquet propose a new, less arbitrary way of dealing with the multi-dimensionality of poverty: rather than allowing oneself to decide on the relative importance of each factor, it is a matter of “*using the individuals’ own preferences to identify the poor and to aggregate across dimensions*” (Decancq et al., 2019, p. 31). More precisely, an individual is considered “poor” if he or she prefers his or her (multidimensional) situation to a poverty bundle (composed of as many dimensions) noted z . It then remains to measure the contribution of each poor individual

to the poverty indicator; in the case of the “quantity-metric” index¹, this is “one minus the fraction of the poverty line vector to which individual is indifferent” (*Ibidem*). This can be more easily understood from the figure 5.1 below, where each individual’s contribution is worth $1 - \lambda$. From this perspective, the poverty indicator is a strictly increasing function of the average of these contributions (where f is an increasing function) :

$$P(x_N, R_N) = G \left[\frac{1}{|N|} \sum_{i \in N} f(1 - \min\{1, \lambda_z(x_i, R_i)\}) \right].$$

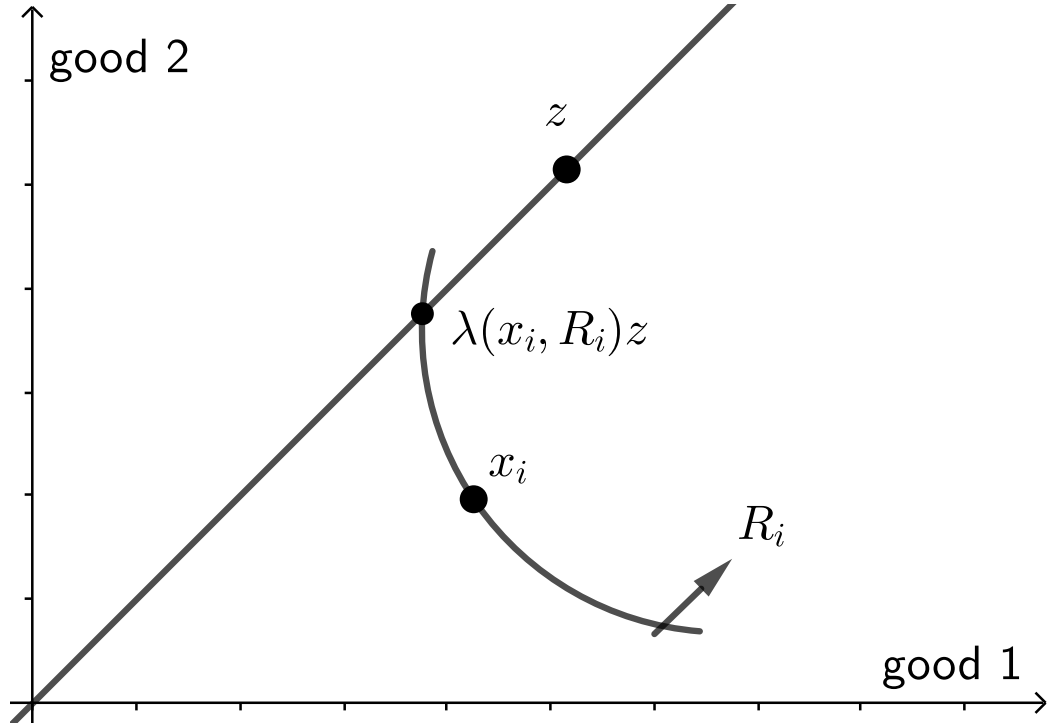


Figure 5.1: A quantity-metric multidimensional poverty index from Decancq et al. (2019), p. 31.

¹Throughout this second part, we will refer to this type of index, rather than to the “money-metric” index.

5.2 For a Elster-robust preference-based poverty indicator

The problem of adaptive preferences, theorized by Elster and popularized by Sen, is a very powerful argument to justify the use of objective measures. It is still being used to discredit poverty indicators based on individuals' statements or choices: a United Nations study puts forward that “*subjective indicators in general have the weakness of adaptive preferences*” (Santos, 2019, p. 9), while another report entitled “How to Build a National Multidimensional Poverty Index” similarly states that “*objective indicators are associated with aspects that can be measured directly and are not affected by adaptive preferences (e.g. access to healthcare). Changes in objective indicators over time can be easily interpreted and linked to policy interventions more directly, so they are usually preferred for national MPIs*” (UNDP, 2019, p. 64). One way to make preference based-poverty indicators robust to adaptive preferences is therefore interesting and timely.

Let us recall the initial formulation of Elster's axiom and the “translation” that we have derived from it: :

If S_1 and S_2 are two feasible sets, with induced preference structures R_1 and R_2 , then for no x or y (in the global set) should it be the case that xP_1y and yP_2x .

Let z be the bundle of poverty, x_i the actual consumption of i and S_i his feasible set. If x_iP_iz and $z \in S_i$, then the individual i is not poor.

It is a question of ensuring that the individual does not prefer his situation to the poverty bundle by adaptive preferences, i.e. precisely because he does not have access to the bundle. To do this, Elster's axiom adds a condition for the individual to be considered non-poor (and not contributing to the poverty index): having access to the bundle. But what to do when the first condition of non-poorness is met (i.e. the individual prefers his situation

to the bundle), but not the second (i.e. he cannot afford the bundle)? Is such a case possible and compatible with generally accepted assumptions of preference formation? The answer to the latter question is yes. The figure 5.2 below (already presented earlier) illustrates such a situation.

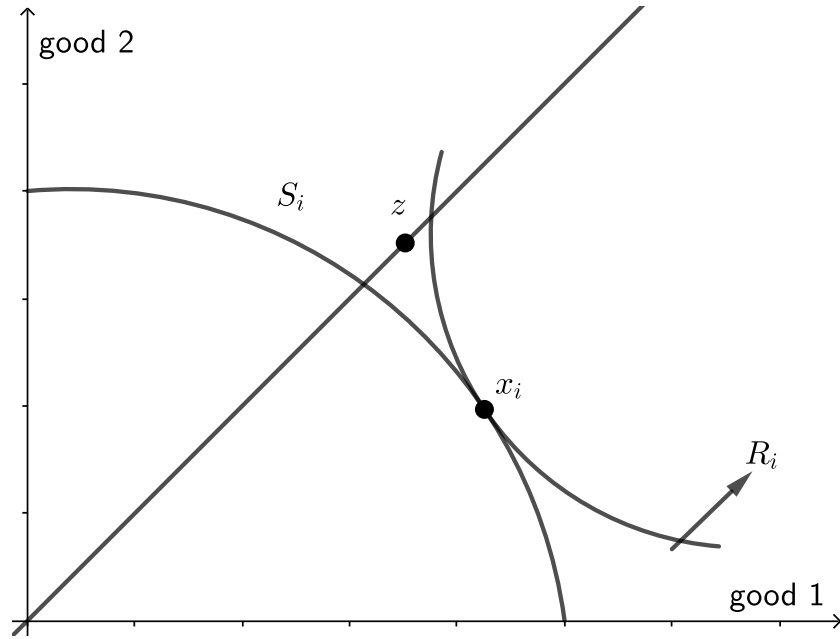


Figure 5.2: An Elster-suspect case.

In the original proposal by Decancq, Fleurbaey and Maniquet, the individual facing this situation does not contribute to the poverty indicator. However, from the point of view of adaptive preferences, this individual is “suspect”: he prefers his situation to the bundle, but cannot afford the bundle ($z \notin S_i$). In order to make the indicator Elster-robust, it is imperative to include such cases - this is what the technique presented in the next chapter will propose to do.

5.3 For a Veblen-robust preference-based poverty indicator

The problem of the artificiality of some goods is probably less popularized, both in the academic and political arena. Nevertheless, it may seem desirable not to put all consumer goods in the same basket and to be able to “discriminate” some of them, those for which desire is artificially constructed (through excessive marketing campaigns, for example). Based on various sociological works, we had advanced Veblen’s axiom as follows:

Let V be the set of all authentic bundles and W the set of all artificial bundles. For all $v \in V$ and $w \in W$, vPw holds.

That we had translated like this to adapt it to the field of poverty indicators :

Let z be the bundle of poverty and x_i the actual consumption of i . If $x_i P_i z$ and $x_i \in V$, then the individual i is not poor.

Again, this is to add a condition to obtaining non-poor status. In addition to preferring one’s basket of goods to the poverty bundle, this basket must not be deemed “artificial”. We had taken the example of a single mother who regularly skipped a meal to buy her daughter the latest branded T-shirt; her choice of consumption reveals that she prefers her situation to a bundle composed of sufficient food, but where this T-shirt praised by ubiquitous advertisements does not appear. If this mother is non-poor according to the original approach, she is no longer so from the point of view of Veblen’s axiom. The technique for incorporating this requirement is basic enough to be briefly developed in this chapter.

First of all, it is important to clarify whether the poverty bundle can contain an artificial good or not. In the original approach of Decancq et al., the goods making up the bundle are not specified. Moreover, z depends on

the preferences of the individual. Within the framework of Veblen's axiom, we slightly restrict this breadth by stipulating that the poverty bundle will be composed of a null quantity of artificial goods, such that $\Psi z = z$ ². If individuals choose to include an artificial good in the bundle (because it represents an important part of their expenditure), they will then be led to choose between their situation and a poverty bundle where this good appears in zero quantity. It is this scenario that interests us in this section. Its graphical representation is delicate, since, in two dimensions, the poverty bundle will always be located on one of the axes, as shown in the figure 5.3.

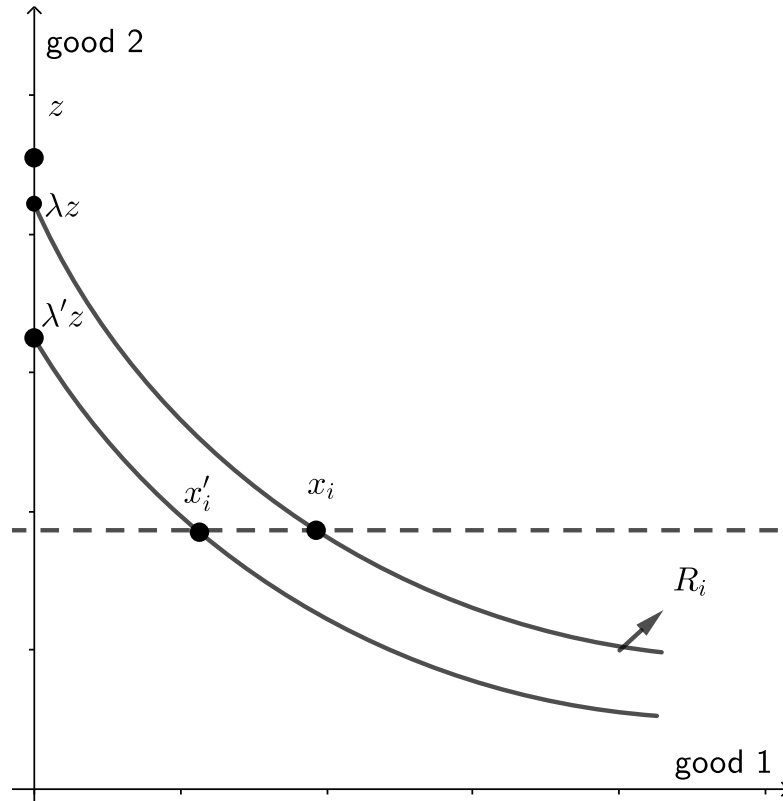


Figure 5.3: A Veblen-suspect whose the contribution to the poverty index becomes $1 - (\lambda - \beta(\lambda - \lambda'))$.

²We could achieve the same result by deciding to make the same “correction” on the goods making up the poverty bundle, so as to obtain as a reference point (Ψz) .

In such a situation, the individual's contribution will no longer depend solely on λ , i.e. on the part of the poverty bundle he is indifferent to, but also on the degree of authenticity of the bundle characterizing his situation. This degree of authenticity is captured by the distance between the corrected bundle ($x'_i = x_i\Psi$) and the uncorrected bundle (x_i). That being said, it seems desirable to allow for the adaptability of the indicators to welfare economists who are more or less sensitive to the danger of artificial preferences; this is why the second factor impacting the contribution of an individual will be weighted by a coefficient $\beta \in [0, 1]$, representing our sensitivity to the Veblen phenomenon. Therefore, the contribution of the individual is equal to $1 - (\lambda - \beta(\lambda - \lambda'))$. Thus, in figure 5.3, the contribution of the individual to the poverty indicator is equal to $1 - \lambda'z$ if $\beta = 1$. This new formula for the contribution of the poor can also read $1 - (\beta\lambda' + (1 - \beta)\lambda)$ - highlighting the balance between the traditional approach and this new one, depending on the β value. Furthermore, the Veblen robust indicator becomes:

$$P(x_N, R_N) = G \left[\frac{1}{|N|} \sum_{i \in N} f(1 - \min\{1, \lambda - \beta(\lambda - \lambda')\}) \right].$$

This proposal has similar peculiarities. First, if an individual clearly prefers his situation to the bundle, it is possible that for a moderate β , his contribution remains the same. Second, as it will be the case in Elster's approach, the less substitutable the goods making up the bundle are, the greater the increase in the individual's contribution (for a given β). The figure 5.4 illustrates this second point: a small decrease in the artificial good strongly affects the fraction of the poverty bundle to which the individual is indifferent (λ), since the individual can only compensate for the loss of the good 1 with difficulty and expense. This situation thus signals a greater dependence of the individual on an artificial good - which will result in a significant change in his or her contribution. Let us note that this characteristic reaches its paroxysm (but also its "borderline case") with Leontief's preferences: since the indifference curve never crosses the axes, any poverty bundle composed of a null quantity of an artificial good generates an infinite

contribution...

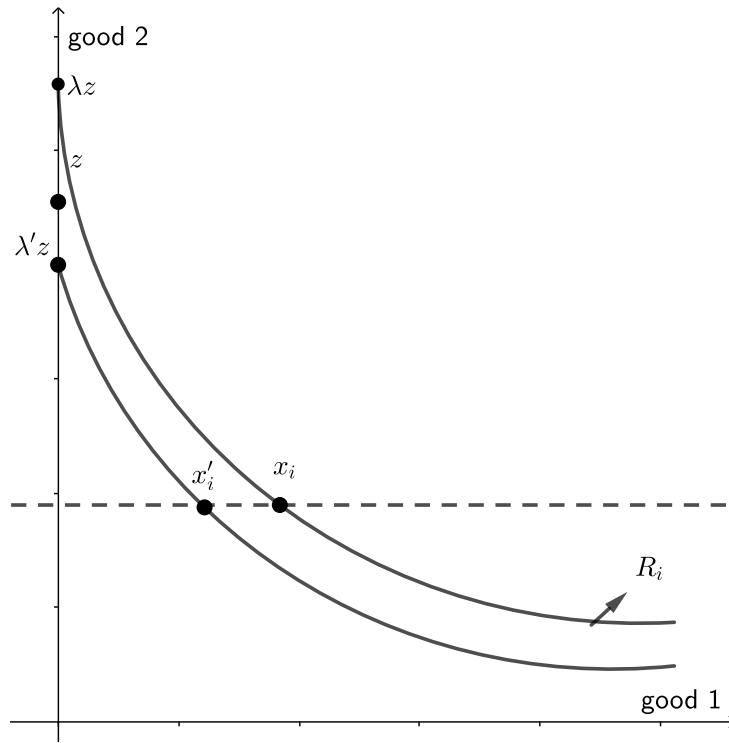


Figure 5.4: An individual dependent on the artificial good, whose contribution is strongly affected by Veblen-correction.

For this new Veblen-robust poverty indicator, it was therefore mainly a matter of applying the correction technique of chapter 4 and integrating it as a “weighted complement” into the traditional indicator. The path to an Elster-robust indicator has been more tortuous... This is why it deserves an entire chapter. The next one.

Chapter 6

The quest for a poverty index robust to adaptive preferences

6.1 The naive approach

One way of constructing an Elster-robust poverty indicator that is naive, but reflects the ambition of this technique, would be to decompose the contributions of individuals to the poverty index according to three scenarios:

- a) If $z \in S_i$, the contribution of the individual i is, as in the original approach, $1 - \lambda$
- b) If $z \notin S_i$ and $z P_i x_i$, his contribution is again $1 - \lambda$
- c) If $z \notin S_i$ and $x_i P_i z$, a strictly positive new contribution is introduced

It is indeed only in case c), represented in figure 4.1 above, that Elster's axiom poses problems to the original approach. This first instinctive technique poses an obvious problem of continuity which is easily understood by

varying the position of z very slightly (cf. figure 6.1 below). If the bundle equals z_1 , the individual's contribution is positive and dictated by Elster; if it increases a little and equals z_2 , his contribution is zero (he is indifferent between his situation and the bundle); if it increases again and equals z_3 , it becomes positive again according to the weighting of the original approach. Such discontinuities are of course intolerable...

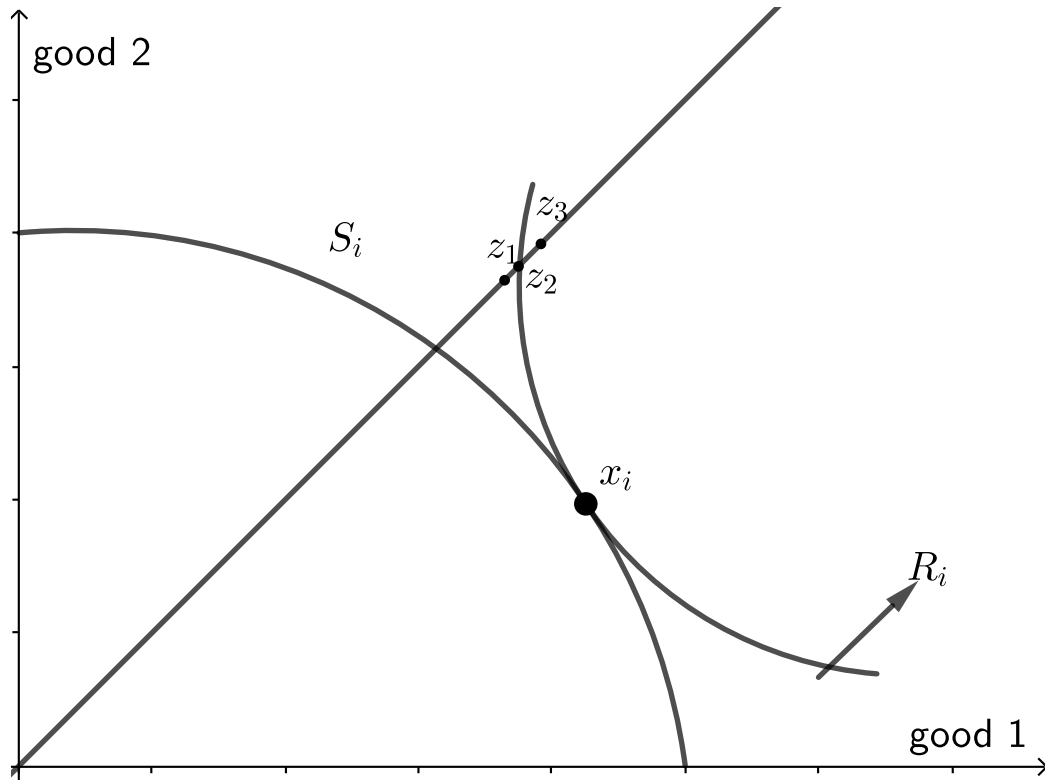


Figure 6.1: Problem of continuity with the naive approach.

6.2 A first credible attempt

We therefore propose another approach where, as in the Veblen's case, the sensitivity of the indicator to the Elster phenomenon will be captured

by a factor $\alpha \in [0, 1]$. In this case, the contribution of individuals is no longer defined only by λ (now λ_1), i.e. by the fraction of the poverty bundle they are indifferent to, but also by λ_2 , the fraction of the bundle they can afford. This new parameter is therefore located at the intersection of the feasible set S_i and the poverty line vector. The contribution of an individual is now equal to $1 - (\lambda_1 - \alpha(\lambda_1 - \lambda_2))$, i.e. the factor negatively influencing his contribution (λ_1) is reduced by a part (α) of the fraction of this factor that the individual cannot afford ($\lambda_1 - \lambda_2$) - this contribution can also take the form $1 - (\alpha\lambda_2 + (1 - \alpha)\lambda_1)$. The two graphs below represent typical situations: the figure 6.2 represents a situation where the individual was not considered poor in the original approach (because $\lambda_1 > 1$) and whose contribution is now positive as long as $\lambda_1 - \alpha(\lambda_1 - \lambda_2) < 1$; as for figure 6.3, it illustrates a situation where the individual's contribution was already positive, and is increased by $\alpha(\lambda_1 - \lambda_2)$.

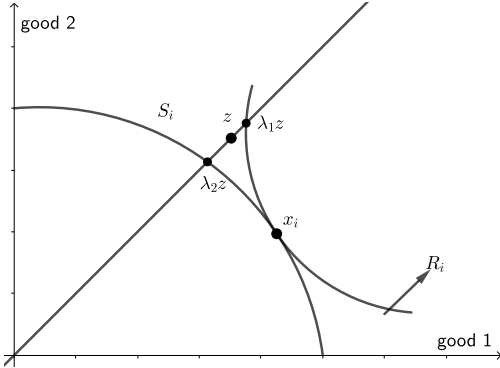


Figure 6.2: An Elster-poor with a contribution of $1 - (\lambda_1 - \alpha(\lambda_1 - \lambda_2))$.

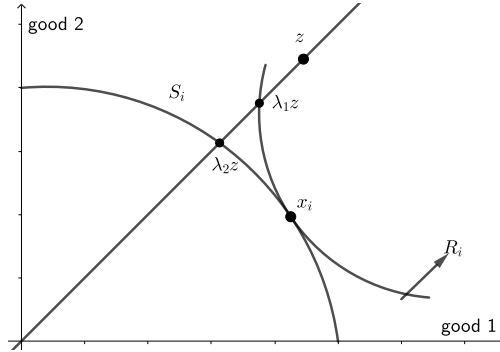


Figure 6.3: A poor whose the contribution is increased by $\alpha(\lambda_1 - \lambda_2)$.

Formally, the indicator of Decancq et al. was defined from a strictly increasing function G (and increasing f) as follows:

$$P(x_N, R_N) = G \left[\frac{1}{|N|} \sum_{i \in N} f(1 - \min\{1, \lambda_z(x_i, R_i)\}) \right].$$

Henceforth, the Elster robust indicator becomes:

$$P(x_N, R_N, S_N) = G \left[\frac{1}{|N|} \sum_{i \in N} f(1 - \min\{1, \lambda_1 - \alpha(\lambda_1 - \lambda_2)\}) \right].$$

The rationale for this new approach is to incorporate the importance of what the individual can afford (since this aspect can bias his or her preferences): depending on the sensitivity of the indicator to the danger of adaptive preferences (α), the impact of the feasible set will be more or less predominant. If $\alpha = 0$, we find the indicator of the original approach, insensitive to adaptive preferences. If, on the other hand, $\alpha = 1$, we find the “objective” indicator, which now depends only on the proportion of the bundle that the individual can afford (λ_2) and no longer on his preferences. Between these two extremes, both factors are taken into account. This hybrid feature is maybe more visible when we rewrite the individual contribution to the poverty index as follows: $(1 - \alpha)(1 - \lambda_1) + \alpha(1 - \lambda_2)$.

Let us finally note two special cases that highlight the properties of this new approach. The first, represented by figure 6.4, is a situation where individuals’ preferences take the form of Leontief’s ones; in this case, for a given $\alpha \in]0, 1[$, the difference between the original indicator and the Elster robust indicator will be particularly large. Such an individual indeed discards a large part of the bundles with respect to which he prefers his situation, but which he cannot afford! His case is therefore particularly suspicious from the Elster’s point of view. On the other hand, the following case shows, in the figure 6.5, that - for a moderate α (e.g. $\alpha = 0.3$) - the traditional factor (fraction of the bundle the individual is indifferent to) can suffocate the new factor (fraction of the bundle the individual can afford), to the extent that the individual’s contribution is zero in both approaches.

So far, this poverty indicator has not made use of the correction technique described in chapter 4. Moreover, unlike the Veblen index, it is not based on any explicit preference transformation method, and may therefore appear arbitrary. This is why, in the following section, we will attempt to

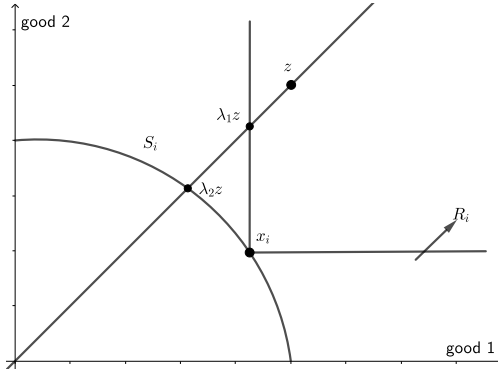


Figure 6.4: A Leontief-poor with a large new contribution of $\alpha(\lambda_1 - \lambda_2)$.

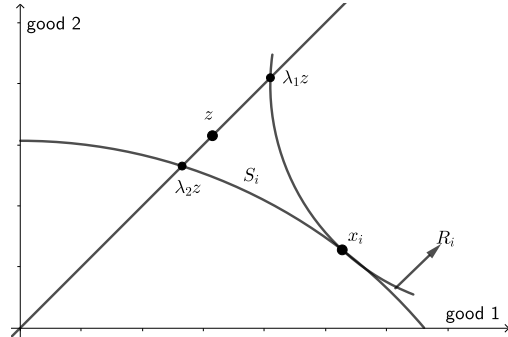


Figure 6.5: An Elster-suspect whose the contribution remains zero, because $\lambda_1 - \alpha(\lambda_1 - \lambda_2) > 1$.

derive an indicator from the correction technique of chapter 4 (weighted average), and to evaluate its possible links with the indicator we have just presented.

6.3 Towards a convergence?

The poverty indicator obtained from the adaptive preference correction technique presented in chapter 4 is even easier to understand. We just have to apply the “treatment” (average weighted by the coefficient α) and to mobilize the traditional approach of Decancq et al. (2019) for this new indifference curve. As the figure 6.6 shows, the corrected curve - the weighted average between the budget line and the indifference curve - intersects the poverty line vector “at a lower point”, increasing the individual’s contribution to the poverty indicator by $\lambda_1 - \lambda^*$.

The obvious question now is the relationship between the indicator presented in the previous section (conceptually more sound, but somewhat arbitrary) and this one (more summary, but based on an explicit correction

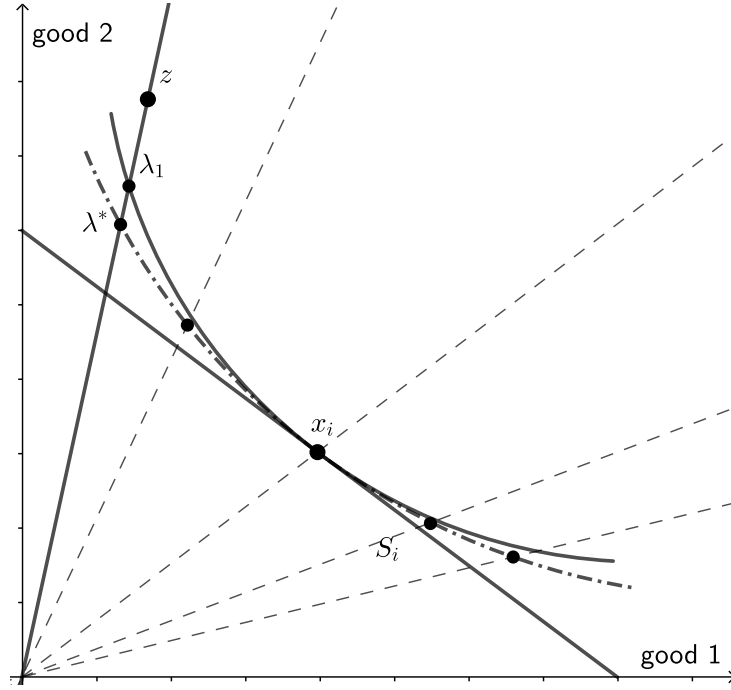


Figure 6.6: Correction of an individual's contribution to the poverty indicator (increased by $\lambda_1 - \lambda^*$).

of preferences). This may seem self-evident to a seasoned intellectual, but I confess I was pleased to realize that this relationship is the identity. The few developments below demonstrate this without difficulty.

The individual's contribution after adjusting his preferences is equal to

$$1 - \lambda^*$$

Since λ^* is composed of the share of the poverty bundle that the individual can afford (λ_2) and a fraction of the segment between the budget line and the indifference curve $((1 - \alpha)(\lambda_2 - \lambda_1))$,

$$1 - \lambda^* = 1 - [(1 - \alpha)(\lambda_1 - \lambda_2) + \lambda_2]$$

$$1 - \lambda^* = 1 - [\lambda_1 - \lambda_2 - \alpha\lambda_1 + \alpha\lambda_2 + \lambda_2]$$

$$1 - \lambda^* = 1 - [\lambda_1 - \alpha(\lambda_1 - \lambda_2)]$$

The right-hand side of this last equation is the contribution corresponding to the method presented in the previous section (see above). This equivalence therefore gives a little more weight to our proposal. However, in order to solidify it further, it would be necessary to link it to the axiomatic approach characterizing the initial proposal of Decancq et al. (2019). The last section outlines a move in this direction.

6.4 To go further: a revision of the original theorem

Before concluding this thesis, let us mention a possible extension of the path explored in this work. In their article (whose importance for our approach is now clear), Decancq et al. (2019) support their proposal of a preference-based poverty indicator by a theorem. The latter identifies the family of indicators that respect four axioms considered important (*Focus*, *Pareto among the Poor*, *Subgroup Consistency* and *Replication Invariance*, see below); of course, their proposed quantity-metric indicator that we presented in section 5.1 is part of this family. An important challenge would be to demonstrate that our two indicators - which are non-exclusive (see figure 6.7 below) - allow us to “generalize” the original approach while respecting its axioms.

A possible way forward would be to formulate axioms that capture the effect of our correction (for Elster and Veblen), and then to identify the family of indices that respect the new and old axioms. Without going that far, we propose in the following table some of Elster’s and Veblen’s axioms, as well as a slight (normally harmless) reformulation of the original axioms to make them meaningful within the new approaches.

Axioms	Decancq et al. (2019)	Elster	Veblen
<i>Focus</i>	There is a function $z: \mathcal{R} \rightarrow X$ such that for all $(x_N, R_N) \in \mathcal{S}$, $i \in N, x'_i \in X, R'_i \in \mathcal{R}$, if $x_i P_i z(R_i), x'_i P'_i z(R'_i)$, then $P((x'_i, x_{-i}), (R'_i, R_{-i})) = P(x_N, R_N)$.	There is a function $z: \mathcal{R} \rightarrow X$ such that for all $(x_N, R_N, S_N) \in \mathcal{T}$, $i \in N, x'_i \in X, R'_i \in \mathcal{R}, S_i \in \mathcal{S}$, if $x_i P_i z(R_i), z(R_i) \in S_i, x'_i P'_i z(R'_i)$ and $z(R'_i) \in S'_i$ then $P((x'_i, x_{-i}), (R'_i, R_{-i}), (S'_i, S_{-i})) = P(x_N, R_N, S_N)$.	There is a function $z: \mathcal{R} \rightarrow X$ such that for all $(x_N, R_N) \in \mathcal{S}$, $i \in N, x'_i \in X, R'_i \in \mathcal{R}$, if $x_i P_i z(R_i), x'_i P'_i z(R'_i)$ and $\Psi x'_i = x'_i$, then $P((x'_i, x_{-i}), (R'_i, R_{-i})) = P(x_N, R_N)$.
Pareto among the Poor	For all $(x_N, R_N), (x'_N, R_N) \in \mathcal{S}$, if for all $i \in N$ such that $z(R_i) P_i x_i, x'_i R_i x_i$, then $P(x'_N, R_N) \leq P(x_N, R_N)$. If, in addition, there is $j \in N$, such that $z(R_j) P_j x_j$ and $x'_j P_j x_j$, then $P(x'_N, R_N) < P(x_N, R_N)$.	For all $(x_N, R_N, S_N), (x'_N, R_N, S_N) \in \mathcal{T}$, if for all $i \in N$ such that $z(R_i) P_i x_i, x'_i R_i x_i$, then $P(x'_N, R_N, S_N) \leq P(x_N, R_N, S_N)$. If, in addition, there is $j \in N$, such that $z(R_j) P_j x_j$ and $x'_j P_j x_j$, then $P(x'_N, R_N, S_N) < P(x_N, R_N, S_N)$.	For all $(x_N, R_N), (x'_N, R_N) \in \mathcal{S}$, if for all $i \in N$ such that $z(R_i) P_i x_i, x'_i R_i x_i$ and $(\Psi x'_i - x'_i) \geq (\Psi x_i - x_i)$, then $P(x'_N, R_N) \leq P(x_N, R_N)$. If, in addition, there is $j \in N$, such that $z(R_j) P_j x_j, x'_j P_j x_j$ and $(\Psi x'_j - x'_j) \geq (\Psi x_j - x_j)$, then $P(x'_N, R_N, S_N) < P(x_N, R_N, S_N)$.
Subgroup Consistency	For all $(x_N, R_N), (y_M, R_M), (y'_M, R'_M) \in \mathcal{T}$, $P(y_M, R_M) \geq P(y'_M, R'_M)$ if and only if $P((x_N, y_M), (R_N, R_M)) \geq P((x_N, y'_M), (R_N, R'_M))$.	<i>Idem (by adding the item S)</i> .	<i>Idem</i> .
Replication Invariance	For all $(x_N, R_N) \in \mathcal{T}$, all $r \in \mathbb{N}_{++}$, $P(x_N, R_N) = P(x_N^r, R_N^r)$.	<i>Idem (by adding the item S)</i> .	<i>Idem</i> .
Elster	/	For all $x_i, z_i(R_i), S_i, S'_i \supset S_i, P(R_i, x_i, S_i) \geq P(R_i, x_i, S'_i)$	/
Veblen	/	/	For all $x_i, x'_i, z_i(R_i)$ such that $x'_i I x_i$, if $(\Psi x'_i - x'_i) \geq (\Psi x_i - x_i)$, then $P(R_i, x_i) \geq P(R_i, x'_i)$.

If, therefore, we were to extend this project, we would start again from this summary table. And we would try, inspired by the proof of the original theorem, to test the compatibility of the newly constructed indicators with each of the axioms. But this research agenda will not be exhausted by this thesis which is now coming to an end.

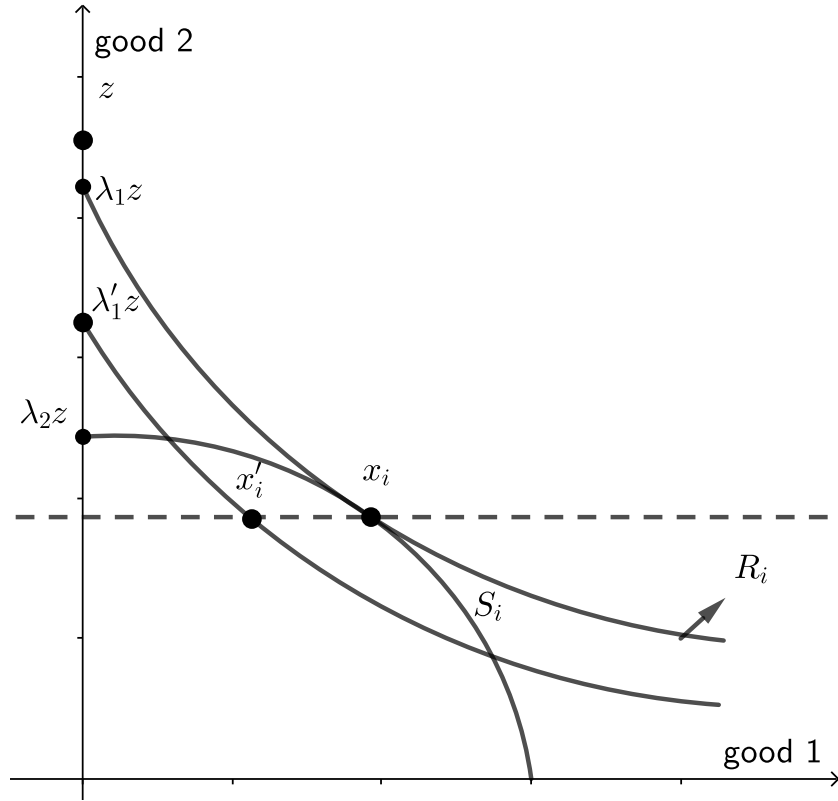


Figure 6.7: Combination of Elster and Veblen approaches for an individual whose the contribution worth $1 - (\lambda_1 - \alpha(\lambda_1 - \lambda_2) - \beta(\lambda_1 - \lambda'_1))$.

Conclusion - About the place of the welfare economist

In contemporary Western societies, economists are the most coveted intellectuals in political debates¹. Their expertise, although sometimes contested, is authoritative and sought after by politicians and civil society actors. How does the economist in general, and the welfare economist in particular, position himself in the face of these demands? Three options seem to divide the population of economists into as many “expert profiles”.

The first is the “moral entrepreneur”, according to the expression of the sociologist Becker (1963). He enthusiastically seizes all solicitations, even provokes them, and fills the public space with his expert interventions. This profile - which can be found in the character of Thomas Piketty in France, or Bruno Colmant closer to us - can sometimes cause two kinds of damage, one to science, the other, more serious, to society as a whole. On the one hand, this economist, during his numerous debates, commits each time not only himself, but also the scientific community from which he draws the authority that justifies his presence. But when one wants to intervene too much, one intervenes in everything, and not only in one’s own field of expertise, to such an extent that the image of the entire scientific community is damaged. On the other hand, through infatuation, this passionate profile can slip from the positive register to the normative without enough precautions... However,

¹Apart from pandemic situations (in which epidemiologists legitimately take the lead).

Hume’s prohibition is not an empty word: one cannot pass from “is” to “ought” without assuming an ethical commitment. It is therefore logically wrong and politically dangerous (because it tends to lock in the debate in favor of a technocratic elite) to assert with the authority of science that a tax rate should go up or down. Such a measure must be open to discussion and debate.

The second profile is the negation of the first. Out of a love of purity or out of coldness, this economist refuses all solicitations². Almost by definition, we do not know any in the public landscape. This position does no harm to the content of science, but perhaps to its emancipatory ambition: is it not a function of the human sciences to contribute to building a more just and enlightened world? It is indeed frustrating to see that the most seen and heard personalities are not (always) the most capable of feeding the discussion in a constructive way. Of course, the media sphere has its share of responsibility, but so do the economists with their offices in the Ivory Tower...

Not surprisingly, the last expert profile is somewhere in between. He willingly accepts solicitations *that fall within his field of competence*, expresses himself publicly and, most importantly, is careful to keep his mouth shut in time. This is, for example, the position adopted and advocated by Stefanie Stantcheva in a recent interview: “*Economists can say what the distributions of income are, who holds the income from labor, capital, fortunes, etc. What economists can’t say is what is the social objective that we are trying to maximize. That’s a question posed to society (...) But my work can inform that debate*” (Stantcheva, 2019). In other, more metaphorical terms, the economist can (or must?) steer a society, but cannot set its destination. Finally, we would like to show that constructing a preference-based poverty indicator is part of such a position.

²And we know that certain internal mechanisms of the media system feed this dynamic: someone who often refuses will no longer be called, and vice versa!

Respecting the voice, providing a technique

The poverty indicator that constituted the benchmark for the second part of this thesis is a measurement technique promoted by these authors, three welfare economists. In this sense, their approach carries a commitment to the public debate: ideally, no one can propose to measure poverty using another tool that would violate Pareto among the poor without adding desirable properties. This indicator constrains, restricts, frames, but also informs the public debate.

But the essence of this proposal embodies the other side of the third profile of the expert: a certain humility. One of the major strengths of this indicator is that it makes it possible to manage the multidimensionality of poverty without resorting to the arbitrariness of the researcher: it is not he who sets the weighting between health and housing, but the person concerned. This withdrawal makes it possible to do justice to the plurality of situations that characterize poverty today³. And this is no mean feat, especially with regard to people in precarious situations whose dignity is often undermined by their increasing *dependence* (on public institutions, but also on the support of their relatives, on the vagaries of health, etc.).

Isn't it clumsy to praise an approach for its respect for preferences when our proposal is to reduce this respect? In the last section of this conclusion, we will try to argue that this is not the case.

One step back, two steps forward

True, the corrections of preferences induced by the Elster and Veblen approaches modify the “inform the debate”/“respect democracy” balance in

³In Belgium, this plurality emerges from the qualitative studies of the Réseau wallon de lutte contre la pauvreté, and in particular from the testimonies they echo.

favor of the first term. Making adaptive preferences less convex or translating those concerning artificial goods means framing the debate more tightly - while leaving room for the expression of preferences (except in the extreme cases where α and $\beta = 1$). However, we do not believe that this rebalancing leads to imbalance. In other words, this thesis is still consistent with the third expertise profile for two reasons.

First, this additional restriction has an advantage: it enriches the public debate with several discussions among philosophers. This was the ambition of the first part of this work: to delve into three philosophical “roots” (materialist, sociological, psychological), to see what can be learned about the preferences of the poor, and how these lessons can enrich the proposed technique. Informing the public debate also means importing knowledge from another time (Veblen wrote his masterpiece in 1899) and another context (philosophy also has its floor in the ivory tower). To illuminate the here and now, from yesterday and elsewhere, in its choice of tomorrow.

Secondly, the additional restriction is itself subject to democratic control. And this is the main point. It would have been unacceptable to impose a correction, that would have made us fall into the first expert profile. That is why we have proposed a correction technique: the value of α and β is free to be discussed, debated. This may lead to a smile, as one can hardly imagine that the public debate focuses on these Greek letters... But are other things discussed when one regrets the consumption habits of certain precarious households (in “artificial” goods) or when one relativizes some situations of poverty because “he still looks happy”? Our work has merely proposed a formal framework for structuring these discussions and for seeing their effects on the quantification of poverty.

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