

The Scope and Limitations of Incorporating Externalities in Competition Analysis within a Consumer Welfare Approach

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Abstract

The failure to fully internalize externalities from production and consumption, including on future generations, is supposed to be the core of the perceived failure to ensure ecological sustainability within the realm of antitrust enforcement. As policymakers put increasing pressure on competition agencies to account for sustainability in their enforcement practice, it becomes pivotal to define whether and, if so, how such externalities can be incorporated into competition analysis. In this paper we explore this question. We rely on the consumer welfare approach and expound in what way it can be extended to incorporate externalities and what possible limitations for such an approach must be observed. Our paper makes a key distinction between an individualistic and a collective consumer welfare analysis. Within an individualistic consumer welfare analysis, we explore various ways how to extend its boundaries, such as eliciting willingness-to-pay in different contexts or incorporating (anticipated) changes in social norms and preferences. We also point out, however, when an increasing incorporation of externalities risks compromising consumer sovereignty. In a collective consumer welfare approach, consumers may express their willingness-to-pay also for the choices of others, which goes beyond traditional concepts of willingness-to-pay measurement within a competition analysis. The same applies to an elicitation (or emulation) of consumer preferences that is based on the posit that consumers transcend their self-interest.

Keywords: Sustainability; externalities; willingness-to-pay

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I Introduction

In a 2010 OECD Roundtable report, the executive summary still took a rather sanguine position regarding the consideration of ecological sustainability in competition analysis, mirroring the respective contributions of its members: "*When examining an agreement among competitors that pursues environmental policy goals, most competition authorities will apply the generally applicable analytical framework and consider only whether the agreement produces direct economic benefits typically cognisable under their competition laws; they will not consider non-economic benefits related solely to environmental policies in their evaluation.*"³ Over the last decade, however, the landscape has considerably changed, at least in Europe. There, the European network of competition authorities, including the European Commission, have initiated a taskforce on the topic of sustainability. The Dutch competition authority, ACM, has already drafted guidelines on how it intends to incorporate sustainability concerns into its future assessment of horizontal agreements.⁴ The Commission has repeatedly confirmed its determination to make sustainability a key focus across all policy areas, albeit without a clear commitment to particular enforcement concepts.⁵

Scholarly debate has focused much on the issue whether for competition law enforcement sustainability should represent a goal in itself besides economic efficiency ("multi-goals approach"), or whether this produces the risk of diluting the authority's mandate to protect competition, and whether it may even invite a "green-washing" of anticompetitive agreements by market participants.⁶ As already emphasized in our three companion papers,⁷ we do not wish to contribute to this discussion of whether sustainability should be

³ OECD Horizontal Agreements in the Environmental Context (2010, p.11). The report acknowledges, however, the different situation in jurisdictions where competition authorities have the explicit mandate to conduct a broader public interest test, such as in Australia.

⁴ ACM Draft Guidelines: Sustainability agreements – Opportunities within competition law, available at: <https://www.acm.nl/sites/default/files/documents/2020-07/sustainability-agreements%5B1%5D.pdf> (last accessed 05 October 2020).

⁵ For instance, the Statement by President von der Leyen on delivering the European Green Deal on 14th July 2021, available at: https://ec.europa.eu/commission/presscorner/detail/en/STATEMENT_21_3701 (last accessed 29 July 2021).

⁶ For the multi-goals approach see, e.g., Simon Holmes, *Climate change, sustainability, and competition law*, 8 J. Antitrust Enforc. 354, 377 (2020); Suzanne Kingston, *Integrating Environmental Protection and EU Competition Law: Why Competition Isn't Special*, 16 Eur. L.J. 780 (2010). The opposite position is taken, for instance, by Edith Loozen, *Strict competition enforcement and welfare: A constitutional perspective based on Article 101 TFEU and sustainability*, 56 C.M.L.Rev. 1265 (2019); Okeoghene Odudu, *The Wider Concerns of Competition Law*, 30 Oxford J. Leg. Stud. 599 (2010); Stefan Thomas, *Normative Goals in Merger Control: Why Merger Control Should Not Attempt to Achieve 'Better' Outcomes than Competition*, in COMPETITION ENFORCEMENT: IS THERE A FINAL FRONTIER? (Ioannis Kokkoris, ed., Cheltenham: Edward Elgar, forthcoming), available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3513098 (last accessed 5 October 2020).

⁷ Roman Inderst & Stefan Thomas, *Reflective Willingness to Pay – Preferences for Sustainable Consumption in a Consumer Welfare Analysis*, J. Comp. L. & Econ. (forthcoming), available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3755806

recognized as a goal in its own right when it comes to antitrust enforcement. Instead, without taking a stance on this issue here, we remain within the consumer welfare approach and probe its limitations in relation to consumers' appreciation of more sustainable consumption. In the present paper, we specifically ask to what extent the consumer welfare approach is capable of incorporating externalities, including on future generations. Such externalities are at the heart of the discussion on environmental sustainability.

It is obvious, and well recognized in economics, that externalities in production or consumption can give rise to market failures. This provides scope for government interventions, e.g., by regulating individual behavior or imposing (Pigou) taxes that internalize such externalities. Also, public policy may provide a mandate for industry self-regulation. It is also not our focus to discuss whether and why public policy falls short of what would be dictated by societal preferences, and why competition law and its enforcement should step in to close such a gap.⁸

To delineate our contribution, suppose that consumers have the choice to purchase a more sustainable product, which however provides no direct benefits for the consumer (i.e., no additional use-value⁹) but reduces externalities on others (even if only by a very small amount). Suppose, also, that a given consumer observably refuses to pay a higher price for this product in the market. If this consumer, however, expresses a concern for the environment in her other consumption choices, or in her political voting, one may be tempted to proceed in one or in all of the following ways. First, one may argue that the consumer's willingness-to-pay would be higher if only she was aware of the respective consequences of her consumption. Second, it could be presumed that it might be too complicated a task for the consumer to take into account all such consequences, so that even when providing the consumer with all required information and allowing her to make a (hypothetical) fully reflective choice, this may still not represent her "true" preferences. Third, to account for the public good nature of such sustainable product, one may want to rephrase the consumer's (hypothetical) choice, asking no longer about her individual willingness-to-pay, keeping the consumption choices of all other consumers fixed,

(last accessed 13 July 2021); Roman Inderst & Stefan Thomas, *Prospective Welfare Analysis – Extending Willingness-to-Pay Assessment to Embrace Sustainability*, available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3699693 (last accessed 13 July 2021); Roman Inderst & Stefan Thomas, *Sustainability Agreements and Social Norms*, July 2021, available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3699693 (last accessed 13 July 2021).

⁸ For example, informational frictions and political economy constraints may make it difficult for governments to apply Pigouvian taxes or ban dirty production (see, e.g., Jean Tirole, *Some Political Economy of Global Warming*, *Economics of Energy & Environmental Policy*, 2012, 121–132).

⁹ When we speak of “use-value” we refer to product characteristics that provide a direct benefit for the life of the consumer, such as the reduction of fuel costs in an engine, or an increased user-friendliness of a heating system. Sustainability, however, vastly lies outside the scope of such use-value since it relates to the effects of a product on the environment in general (or, e.g., on animal welfare) without any directly corresponding benefit for the consumer of the product. We refer to such product characteristics as “non-use benefits” or “non-use value”, as explained in more detail below.

but instead asking about her preferences of a scenario in which all other consumers change their behavior as well. The latter is effectively tantamount to asking the consumer about what her preferred collective choice would be (or inducing such preferences from hypothetical choices). Finally, again in the spirit of a collective choice approach, one may want to induce the consumer to express her preferences in a way that transcends her self-interest, or one may want to impose ethical constraints on her when eliciting willingness-to-pay.

All these steps, by which the relevant questions for the consumer to answer are being extended, relate to the consumer's preference, and this preference could be expressed by the consumer in an amount of money she would be willing to spend on achieving the respective outcome. At the same time, each of the described steps, by which the analytical program is extended, may result in a greater internalization of externalities. Since in all these contexts the consumer would answer by expressing a specific willingness-to-pay, one might be tempted to consider them all as emanations of the consumer welfare paradigm. As we show, however, we may thereby cross various important lines that inherently limit a welfare analysis in the realm of competition law:

One line is that between what we term an *individualistic* consumer welfare analysis and a *collective* consumer welfare analysis. As we argue, the latter no longer represents only a statement on the consumer's preferences about her own choices, but it is predominantly an expression about her preferences for the choices of other consumers. When incorporating this into a consumer welfare analysis, one should at least be clear about which preferences are considered sufficiently legitimate to constrain other consumers' freedom of choice. Another line that is crossed is that of *consumer sovereignty* when a consumer's explicitly expressed preferences are replaced by supposedly better-informed or "*laundered*" preferences (borrowing a term from behavioral welfare economics, as discussed below), or when preferences are elicited (or emulated) by imposing on the consumer the moral obligation of transcending her self-interest.

Still, in this contribution we discuss each of the briefly introduced steps of broadening the consumer welfare analysis. We argue how, even under an individualistic consumer welfare analysis, consumers may express various willingness-to-pay values when their choices are embedded in different contexts and depending on how policy priorities may then allow to opt for the more sustainable outcome without infringing on consumer welfare or consumer sovereignty. Within the same framework, we also discuss the role of (forecasting) changing preferences, as consumers' information and awareness or social norms may develop.

We note, at the outset, that in our following discussion we touch on various issues that have been analyzed thoroughly in the area of social choice and welfare economics. While some of these issues have been made topical by the recent surge of behavioral economics, their discussion has a much longer tradition, to which we can, however, not do full justice in this contribution. We organize our discussion as follows. In Section II we analyze ways how to extend the scope of an *individualistic* consumer welfare analysis in order to incorporate

externalities. In Section III we trespass into the collective choice domain by considering what we term a *collective* consumer welfare analysis, and we discuss what it would mean for competition law. Section IV concludes.

II Extending the Scope of Individualistic Consumer Welfare Analysis

To clarify our ideas, we take the following, purely hypothetical example. Suppose that firms could introduce a new car fuel that would result in far lower harmful emissions. The new product does not add any use-value, such as fuel-cost savings or higher performance, and the impact of the reduced emission on the driver's health itself is negligible. Let us further suppose that the product was already introduced by one firm, but without much success, due to its higher price, or due to the fact that it had not been tested in the market before. A competition authority may now be called to evaluate an agreement between potentially all competing fuel-producers obliging them to replace the less sustainable fuel by the more sustainable variant. We note that the example is chosen so that, at least in the considered jurisdiction, a very substantial part of all citizens should be actual or potential consumers. We return, further below, to the issue of the size of the relevant market, notably compared to society as a whole or even the number of all potentially affected people.

We suppose further that the competition agency pursues an approach that is strictly confined to consumer welfare, i.e., that does not consider sustainability as an enforcement goal in its own right. Therefore, it conducts an analysis of consumers' willingness-to-pay for the more sustainable product. Consequently, it does not consider externalities on other citizens or measure directly how the agreement would contribute to a specific policy goal outside the realm of competition. Furthermore, the consumer welfare analysis will, for now, remain individualistic in the following way: Holding all else equal, including the choices of all other consumers, the analysis intends to extract the (incremental) willingness-to-pay for the more sustainable product. As we discuss next, however, this is not meant to imply that the context of the respective actual or hypothetical choices cannot be modified. In fact, such a modification represents one of the possible ways how to extend the scope of the individualistic consumer welfare analysis.

II.i Allowing for Changes to the Context in which Preferences are Elicited

Consider the preceding example of a more sustainable fuel and take the case where one firm has previously tried to introduce this more expensive variant, which, as we noted, does however not offer consumers any direct additional use-benefit. Sales data or a more detailed analysis of consumers' willingness-to-pay in the market reveal that most, if not all, consumers did not exhibit a higher willingness-to-pay for this more sustainable variant.

In a companion paper we discussed in detail how consumers' actual or hypothetical choices depend on the specific context, in particular when consumers may derive substantial non-use benefits from the particular

product.¹⁰ Such context may be shaped by the information that is given to consumers. Also, the time given to reflect on the consequences of their choice can significantly affect the outcome. We used the term "reflective willingness-to-pay" to describe the monetary amount that a consumer is willing to spend for a product based on additional information provided to her and additional time for deliberation. We distinguish this "reflective willingness-to-pay" from so-called "revealed preferences". The latter refers to the willingness-to-pay as expressed in a concrete purchasing situation, say at the supermarket counter or the gas station, where the consumer might be time constrained and where she might decide based on limited information about the impact of her choice on sustainability.¹¹ As regards the elicitation of a "reflective willingness-to-pay", we note that the extraction of preferences from hypothetical choice situations (via a so-called conjoint analysis) or from consumers' statements (via a so-called contingent valuation analysis) is a standard procedure in environmental economics or marketing.¹²

The approach proposed in our companion paper, thus, takes as the starting point consumers' willingness-to-pay as elicited in potentially different contexts.¹³ We acknowledge that a specific context may make certain attributes of a product more salient for the consumer than others, and we also acknowledge other potential so-called biases, such as framing, default or endowment biases, which may be more or less present in specific contexts.¹⁴ Still, one may end up with a potential range of values that represent expressions of consumer

¹⁰ Non-use value or benefits refer to a valuation not based on actual, planned, or possible use by oneself (though possibly by others); *see*, for instance, DAVID W. PEARCE, GILES ATKINSON AND SUSANA MOURATO, *COST-BENEFIT ANALYSIS AND THE ENVIRONMENT: RECENT DEVELOPMENTS* (Paris: OECD Publishing 2006).

¹¹ *See* footnote 7. There, we also discuss in more detail theories and empirical results that support such context-dependency of choices, e.g., that different features of a product (such as its price or its sustainability) may become more or less salient, or that consumers may be quick to adopt their default decision (or a simple heuristic) or, instead, reflect more thoroughly.

¹² For the environmental economics perspective see the overview in Roman Inderst, Eftichios Sartzetakis & Anastasios Xepapadeas, *Technical Report on Sustainability and Competition*, A report jointly commissioned by the Netherlands Authority for Consumers and Markets (ACM) and the Hellenic Competition Commission (HCC), 2021, available at: <https://www.acm.nl/en/publications/technical-report-sustainability-and-competition> (last accessed 13 July 2021).

¹³ *See* Roman Inderst & Stefan Thomas, *Reflective Willingness to Pay*, *supra* footnote 7. There, we also acknowledge the various challenges that the adopted techniques pose.

¹⁴ These are distinct from simple errors in decision-making, which, as a matter of distinction, would be rather random, i.e., not systematically favoring one alternative over another. A short survey of biases (from a regulatory perspective) is found in Nick Chater, Roman Inderst & Steffen Huck, *Consumer Decision-Making in Retail Investment Services: A Behavioural Economics Perspective*, European Commission, Final Report, 2010, available at https://ec.europa.eu/info/sites/default/files/retail_investment_services_2010_en.pdf (last accessed 28 July 2021). In behavioral welfare economics, a distinction is made as to contextual circumstances that affect choices but that should however not affect a person's welfare. For instance, Bernheim and Rangel have termed these "ancillary conditions", defined as follows: "a feature of the choice environment that may affect behavior, but that is not taken to be a welfare-relevant characteristic of the chosen object" (B. Douglas Bernheim & Antonio Rangel, *Choice-theoretic foundations for behavioral welfare economics*, in *THE*

willingness-to-pay in different contexts. Put differently, the same consumer might display two or more different willingness-to-pay values depending on the context in which it is expressed or in which the question is asked. This leads to the predicament that the agency must choose between these different willingness-to-pay values when undertaking a consumer welfare assessment of the measure. At this point we argue that the agency can find guidance in the way the legal order has embraced sustainability as a societal goal of great importance, as, e.g., in Article 11 TFEU. Such legal endorsement serves as a justification for choosing the willingness-to-pay value that attributes the greatest weight to sustainability.¹⁵

Therefore, without compromising the consumer welfare criterion, the authority may incorporate ecological sustainability and thereby externalities into its decision – to the extent that these are represented in an extracted consumer willingness-to-pay. Here, it is important to stress that a possibly higher willingness-to-pay for the more sustainable fuel in our example, which could be elicited after possibly breaking a default-bias for the "usual" fuel or by triggering other-regarding preferences by pointing out the externalities, is in our view "valid" even when it fails to exhibit so-called external validity in the market. While obviously the authority would need to safeguard against arbitrariness, the whole considered exercise is notably different from, say, measuring actual demand in the market in order to thereby extract elasticities for, say, a merger analysis and an associated calculation of an upward pricing pressure.

This approach of relying on the elicitation of a more "reflective" willingness-to-pay expression of consumers echoes insights from social choice theory and, more recently, behavioral economics. However, there is a key difference: While also in the latter fields the analytical starting point is the recognition of context-specificity of choices, a key proposal in this literature is to "launder preferences" and thereby potentially super-impose preferences that do not reflect individual choices in any context. We return to this below, as it may provide another gateway for incorporating, to a larger extent, externalities, albeit at the expense of consumer sovereignty.

FOUNDATIONS OF POSITIVE AND NORMATIVE ECONOMICS: A HANDBOOK 155-192 (Andrew Caplin & Andrew Schotter, eds, Oxford: Oxford University Press 2008). To reduce such potential biases in choice experiments, notably the literature in environmental economics has made various suggestions, as discussed, for instance, in Giles Atkinson & Susana Mourato, *Cost-Benefit Analysis and the Environment*, OECD Environment Working Papers, No. 97 (2015).

¹⁵ As we outline in the mentioned paper, this is different from advocating a multi-goals approach in which sustainability serves as an antitrust goal in its own right. Rather, we consider the willingness-to-pay as expressed by the consumer as the sole gauge for measuring consumer welfare. It is only when it comes to choosing between diverging willingness-to-pay values that we rely on the legal endorsement of sustainability as a guide for the agency's discretion.

II.ii Taking into Account Changes in Preferences and Changes in Norms

The extent to which a person takes into account the effects of her action on others is clearly also a question of (social) norms. Whether someone feels entitled to consider her purchase and consumption of fuel to be a perfectly private matter, with any obligations to others being redeemed by paying fuel taxes, or whether someone takes it as her responsibility to think through all the consequences of a purchase also for others, will depend on the activated social norms. Another example is animal welfare, i.e., the perceived need to take an informed decision on how animals, whose meat is being consumed, are reared and slaughtered. Also other "non-use values" of a product, such as how it contributes to the protection of endangered species and biodiversity, should be particularly susceptible to the influence of social norms. In a companion paper we explored (and empirically supported) the idea that such social norms affect consumers' willingness-to-pay, and that these norms are, in turn, shaped by the perceived consumption decision of others.¹⁶ Borrowing from this contribution, we briefly explore how the consideration of (changing) social norms could allow to incorporate externalities to a greater extent into a consumer welfare analysis.

Applied to our fuel example, someone may be less inclined to make a personal sacrifice in terms of paying a higher price if she observes that the majority of other consumers makes the same, less sustainable choice. If an agreement between firms leads, however, to a wider adoption of the more sustainable fuel, she may want to reconsider her choice, as it would now lie outside the changed social norm.¹⁷ If the analysis were confined to extracting the willingness-to-pay in the current situation, in which the market penetration by the more sustainable fuel is still low, it could thus fail to account for the fact that consumers' incremental willingness-to-pay for the more sustainable fuel would be higher in a counterfactual scenario in which a high market penetration, as a consequence of a horizontal agreement, could be found. One way of eliciting such a norm-based change in preferences could be to embed the analysis into the context of hypothetical choice situations.¹⁸ In light of our subsequent discussion of a collective consumer welfare analysis, it is important to stress the

¹⁶ See Roman Inderst & Stefan Thomas, *Sustainability Agreements and Social Norms*, supra footnote 7.

¹⁷ In our companion paper, we provide empirical evidence for such a norm effect as well as a detailed account of related literature. In psychology, an early reference on how (changes of) social norms can be harnessed for public policy see Robert B. Cialdini, Raymond R. Reno & Carl A. Kallgren, *A Focus Theory of Normative Conduct: Recycling the Concept of Norms to Reduce Littering in Public Places*, 58 J. Person. & Soc. Psych. 1015-1026 (1990). In economics, one possible foundation can be given by well-documented considerations of equity and reciprocity see, for instance, Gary E. Bolton & Axel Ockenfels, *ERC: A Theory of Equity, Reciprocity, and Competition*, 90 Amer. Econ. Rev. 166-193 (2000). In environmental economics, such norm-based dynamics are explored by Karine Nyborg, Richard Howarth & Kjell Arne Brekke, *Green Consumers and Public Policy: On Socially Contingent Moral Motivation*, 28 Resource and Energy Economics 351-366 (2006).

¹⁸ The empirical analysis in the companion paper is carried out with data from a conjoint analysis where participants were asked to choose between meat that was produced under different animal welfare standards. A particular feature of the context was the information given about the (hypothetical) consumption choice of other consumers.

following: The calculation of an individual consumer's willingness-to-pay for the more sustainable product is conducted still *ceteris paribus*, thus holding the behavior of all other consumers constant.¹⁹ What therefore solely matters is the consumer's assessment of her own choice, even though, in the counterfactual scenario, we may suppose that, after the agreement is in place, the majority of other consumers now makes the more sustainable choice. The individual consumer is, however, never asked to become the arbiter on other consumers' choices.²⁰ The social norm can also change over time. This may reflect increasing diffusion of information and thus increasing awareness about, for instance, the precarious state of the environment in many places of the world. Moreover, a change of behavior in other areas, including changes in the consumption of other goods and services, may spill over into a particular market. To the extent that this can be reasonably forecasted, such determinants of a change in willingness-to-pay should also be taken into account. In our third companion paper we explored in detail how this time dimension bears on the elicitation of willingness-to-pay. There, we consider both preference changes of a given consumer and across cohorts of consumers. Again it becomes clear that taking only a static picture may underestimate consumers' willingness-to-pay for a reduction in externalities, provided that such a positive forecast can be reasonably confirmed.²¹

II.iii Extending Willingness-to-Pay beyond Expressed Preferences

We introduced, above, the possibility to elicit different willingness-to-pay values by changing the context, such as giving consumers more information or more time to reflect. We also discussed how, for a given consumer, a change in preferences, arising for instance from a change in information or from a change of social norms, may be forecasted. In both cases, we supposed that the consumer makes the respective choice in a given

¹⁹ This "*ceteris paribus*" perspective also allows the consumer to free-ride on the contributions of others. Therefore, in principle it may well be the case that when a consumer expects the majority of other consumers to "contribute", she may rather abstain from doing so herself. At first, this seems to be particularly likely in the case of the considered externality, where clearly no consumer is "pivotal" in achieving a more desirable outcome. The experimental literature has indeed confirmed that such a lack of perceived pivotality undermines moral behavior (e.g., Armin Falk, Thomas Neuber & Nora Szech, *Diffusion of being pivotal and immoral outcomes*, 87 *The Rev. of Econ. Stud.*, 2205-2229 (2020)), although this seems to be much less prevalent when the governing social norm is strong (e.g., Björn Bartling & Urs Fischbacher, *Shifting the blame: On delegation and responsibility*, 79 *The Rev. of Econ. Stud.*, 67-87 (2012)).

²⁰ On that *see* also *infra* III.ii.

²¹ We acknowledge, however, that the operability of such an approach hinges also on an accepted time frame for the analysis (i.e., which cohorts of consumers shall be considered?) and on an accepted way how to aggregate different willingness-to-pay values over time ("discounting"). Furthermore, the need to take into account willingness-to-pay of future cohorts of consumers depends on the irreversibility of the agreement which is at stake. Otherwise, changes in production and consumption can always reflect current preferences. (Note that as long as they are not accounted for by the willingness-to-pay of the respective cohort of consumers, we do not directly consider externalities, including on future consumers.).

context, thereby revealing her preferences for a greater consideration of externalities. We refer to these analytical approaches as *individualistic* consumer welfare analysis, since the consumer expresses her willingness-to-pay in relation to her own appreciation of the relevant good (in a given choice context).

One may now, however, argue that regardless of the context, say again the information that we provide to consumers before expressing their willingness-to-pay, a consumer may still fail to make the choices that fully reflect her preferences. For instance, even though she has other-regarding preferences and puts a lot of weight on the well-being of future generations, she may fail to fathom the full extent of the consumption decision under consideration. The information may simply be too complex, or it may be too difficult for her to take into consideration low-probability but high-impact risks associated with the particular non-sustainable products.²² It could be argued that, in these cases, one should go beyond a consumer's revealed preferences in real or hypothetical choices. Such a view has indeed been espoused very prominently in the behavioral economics literature, which has endorsed the idea of "laundered preferences". In the words of two prominent advocates of this view, rather than building on observed choices, welfare analysis should build on choices that consumers are supposed to make "*if they had complete information, unlimited cognitive abilities and no lack of self-control*".²³

Such an approach may, *prima facie*, seem reasonable when the respective "incapacity" threatens a consumer's own health. For instance, there may be scientific consensus that consumption of a particular product considerably increases the risk of mortality. We may also know from the consumer's other behavior that she cares about her quality of life and that she usually makes her consumption choices accordingly. In fact, when questioned about an inconsistency in her purchasing behavior, the consumer may acknowledge a lack of self-control. In such a context, we may be inclined to take a positive stance towards a horizontal agreement by which firms commit themselves to phase out a particularly harmful variant of the product, or to terminate the production of this good entirely.²⁴ Returning to sustainability and externalities, we could likewise suppose that a consumer, both when facing real as well as hypothetical choices, always takes a shortsighted view. For instance, whenever filling up her tank, the consumer may put too much emphasis, also from the perspective of her preferences as expressed otherwise, on an immediate saving, rather than on the negative effects that the consumption of the less sustainable fuel has on the environment and thereby on others.

²² Errors in expectation formation with low-probability events are predicted by Prospect Theory, going back to Daniel Kahneman & Amos Tversky, *Prospect Theory: An Analysis of Decision under Risk*, 47 *Econometrica*, 263-291 (1979).

²³ Cass Sunstein & Richard Thaler, *Libertarian paternalism is not an oxymoron*, *The Univ. of Chicago Law Rev.*, 1159-1202 (2003). The paternalistic implications of this view are exposed in RICHARD THALER & CASS SUNSTEIN, *NUDGE: IMPROVING DECISIONS ABOUT HEALTH, WEALTH, AND HAPPINESS* (Connecticut: Yale University Press, 2008).

²⁴ Firms may have incentives to engage in such an agreement for fear of future liability.

The "laundering of preferences" approach, as advocated in behavioral economics literature, suggests that in such situations the consumer should not constitute the final arbiter. Rather, the best decision should be defined by some (hypothetical) benevolent third party. In our present contribution we do not have the room to discuss the various shades of such (more or less) "soft" paternalism and the respective discussion in the literature. Apart from choices that represent a direct threat to the consumer's health (and where scientific evidence allows a quantification of this threat), such a perspective, however, raises also the very practical issue of how preferences, that are not revealed by the consumer's real or hypothetical choices, shall be determined. How should one know whether a consumer would wish to internalize all possible externalities from her consumption in case she had the respective knowledge and capability to think through all such consequences, if one does not know about her actual or hypothetical preferences? How should one determine a consumer's "true" personal trade-off between now and the future, i.e., her individual discount rate, if one does not have information about her actual or hypothetical view?

We acknowledge that, in specific cases, a reframing of the choice situation may allow the consumer to express her preferences in an alternative way. Taking up the possible lack of commitment or short-sightedness if faced with the original choice, e.g., between filling up once with the more or less sustainable fuel, the consumer may instead be confronted with a longer-term choice, e.g., whether she preferred purchasing either of the two fuel alternatives for the next, say, five years. Admittedly, as the reframed choice situation becomes more hypothetical, we risk adding layers of potential arbitrariness. Still, as long as the respective willingness-to-pay is extracted from consumer choices or other direct expressions of preferences, consumer sovereignty prevails, as it is characteristic for our approach of "reflective willingness-to-pay".

That is not the case anymore, however, if the consumer's choice is substituted for by a choice that a third party defines as to be more appropriate for the consumer. While this should fall largely in the area of consumer protection, superimposing such preferences would seem justifiable when this protects the consumer's own health. With respect to the consumer's preferences for the internalization of externalities, however, such a second-guessing of a consumer's "true" preferences seems much harder to justify. While there may also be hard scientific evidence on the impact of such externalities on others, this does not resolve the question of how much the consumer cares. Any second-guessing will involve a large margin of error. In addition, such an approach contrasts with the notion that in a competition-based market order the consumer, not a benevolent third party, serves as the ultimate arbiter on the outcome of markets.

III Collective Consumer Welfare Analysis

In the preceding analysis we undertook what we termed an *individualistic* consumer welfare analysis, and we expounded on its capabilities as well as on its limitations. When eliciting a consumers' preferences, the choices

of all other consumers were taken as a given. It is, however, possible to conceive of another extension of the consumer welfare approach. One might link the elicitation of willingness-to-pay to the individual consumer's aim to change the behavior of other consumers. In contrast to the approaches discussed above, this would mean that the consumer expresses her preferences about the choices to be made by other consumers. We refer to such a conceptualization as *collective* consumer welfare. In what follows we want to outline this idea and explain why it is fundamentally different from the aforementioned approaches of individualistic consumer welfare. Moreover, we will voice some skepticism about the expedience of collective consumer welfare for antitrust analysis.

III.i Willingness-to-Pay for Other Consumers' Internalization of Externalities

We suppose now that in a hypothetical choice scenario, a consumer is no longer asked about her individual choices, *ceteris paribus*, but that she is instead asked about her preferences over different scenarios, in which also the choices of other consumers are altered. Taking up our fuel example, suppose thus that one choice option presented to a consumer is that all market participants purchase the old, less sustainable fuel, while the other scenario consists of phasing out the old fuel, so that all consumers must purchase the new, more sustainable variant. In a choice experiment (conjoint analysis) each option (scenario) would be associated also with a price for the respective fuel, and the consumer would indicate which option she prefers.

This choice situation is entirely different from that in which a consumer is asked only about her preferences for the more or less sustainable fuel, keeping the behavior of others fixed. Given the supposed externalities, the consumer now essentially expresses her preferences about the consumption decision of other consumers and the thereby generated externalities.²⁵

To further illustrate this in a particularly stark way, suppose that all citizens consume fuel and that they are homogeneous in any relevant aspect. Suppose that a consumer had no altruistic preferences at all and that, therefore, she did not want to internalize the externalities of her consumption decision on others. Her choice of the less sustainable fuel has an externality that (expressed in monetary terms) is equal to x for each citizen. Of course, x should be very small. In particular, it should be much lower than the price increment of the more sustainable fuel, p . By the assumed homogeneity, the total externality of an individual consumer's decision is thus x plus $(N-1)*x$, i.e., $N*x$, which comprises the effect on herself and on all other consumer-citizens (with

²⁵ At this point it seems expedient to note that in such a hypothetical choice scenario, the participating individual would not know the purpose of the exercise, as otherwise she may want to act strategically, depending on her preferences and her expectations about what would be a realistic outcome, e.g., in terms of prices, in the different scenarios. In practice, incentivized settings in which a subject actually realizes an immediate payoff from the choice experiment (notably when becoming pivotal) are, however, mainly used to increase attention and thereby reduce (unsystematic) errors.

N thus being the size of the total considered population). We note also that when all N consumers choose the non-sustainable variant, the total externality is N times N^*x , i.e., N^*N^*x . When we now aggregate welfare, given that we assumed that all citizens are also consumers, each individual consumer should purchase the sustainable variant when N^*x exceeds p (and obviously all consumers should switch when N^*N^*x exceeds N^*p , which, given homogeneity, boils down to the same criterion).

In this case, if we were to undertake a measurement of willingness-to-pay in an individualistic (*ceteris paribus*) framework²⁶, given the stipulated preferences, each consumer would compare x with p and, given the low size of x , would thus surely decide not to purchase the sustainable product. Recall that we assumed that a consumer does not care at all about externalities on others. Suppose now instead that the consumer is asked about her (collective) willingness-to-pay for the scenario where all consumers switch. Then, the consumer would make the following comparison: the non-sustainable scenario imposes on herself the negative effect x plus $(N-1)^*x$, given her own consumption and that of the $N-1$ other consumers, which adds up to N^*x . As she compares this to the price increment p , her criterion is, at least in this simple case, identical to the welfare maximizing criterion. Crucially, what determines her preferences over the two scenarios is entirely the change in consumption of all other consumers and, thus, the absence of their externalities on her. She therefore does not (or only marginally) express her preferences about her own choice, but rather her preferences in relation to the choice of others.

In fact, this becomes particularly clear if the question was put forward to a citizen who has only a very low (or no) intention to buy the product. In this case, she would not contribute to the negative effect and would only express her preferences about the choices of others. Of course, for such a consumer the higher price paid only upon condition of making a purchase becomes largely irrelevant, so that one risks losing an appropriate metric for measuring her willingness-to-pay for sustainability. What is more, aggregating preferences of individuals who are more or less likely to actually purchase the product has serious distributional consequences, as only the former consumers will actually "pay the bill". If one still wants to restrict the analysis to consumer welfare, as we presume, this would require a very careful delineation of potential demand and an equally careful framing of the posed scenarios.²⁷

²⁶ I.e., a situation in which the consumer only reflects about the benefit which the purchase has for her own welfare, whilst ignoring the effects that would come with the choices made by other consumers.

²⁷ Precisely, comparing only scenarios where, say, either the more or less expensive fuel is available, a consumer who has only low demand will put little weight on the higher price, but the externalities from the consumption of other consumers will be as relevant as for a consumer who has high demand. Clearly, such complications are absent in the individualistic welfare analysis, as there the respective benefits and costs are both only realized when an individual purchase takes place.

III.ii An Assessment of Collective Willingness-to-Pay

We now proceed to further working out the differences between this *collective* and the aforementioned *individualistic* consumer welfare approach. This is not only an abstract difference, but it has very profound implications. To see this more clearly, we take another example, this time without "physical" externalities.

Now, a choice needs to be made between more or less animal-friendly products, e.g., between meat from animals that have been raised under better or worse conditions. We suppose, again, that all citizens are also consumers, but now only a fraction of consumers care about animal welfare. When eliciting individualistic willingness-to-pay, a consumer expresses preferences only about her own consumption. This is, again, different when a consumer is asked to compare two scenarios where either none or all consumers purchase the animal-friendly variant. In such a choice scenario, a consumer's willingness-to-pay refers not only to the welfare of the animal that is slaughtered for her own consumption, but it extends to the welfare of all animals slaughtered for the consumption of all other consumers. When these two scenarios are compared, a consumer who cares for animal welfare should then exhibit a far larger willingness-to-pay, which is largely determined by what are essentially her preferences for other people's choices. When aggregating over all consumers' willingness-to-pay, these preferences of a fraction of consumers may thwart the small or non-existent preferences for animal-friendliness of other consumers. The latter would thus be forced to pay a higher price for something they do not want only because other consumers care not only about their own choices but have a say about all consumers' choices.

Of course, making someone pay for the externality that her choice imposes on others is at the heart of the internalization of externalities. Our second example of animal welfare highlights, however, a key issue, which in welfare economics is known as *Sen's paradox*.²⁸ This paradox expresses the tension between welfarism and individual rights. Precisely, it states that it is impossible to fully reconcile an aggregate welfare criterion if this is supposed to include people's preferences about the choices of others, with the idea of inalienable individual rights. When individual choices affect the physical health of others, one would rather side with the welfare criterion and not with individual rights (here, to inflict physical harm on others). But should other consumers have a say about the animal-friendliness of someone else's consumption, or on whether the clothes someone else buys have been produced under some notion of fair wages?²⁹ The crux lies in determining when such

²⁸ Amartya Sen, *The Impossibility of a Paretian liberal*, 78 J. of Pol. Econ., 152-157 (1970).

²⁹ The standard example in the literature is that of the consumption of the book *Lady Chatterley's Lover*, which, at least up to the 1960s, was indexed because of explicit passages. Here, the (by now antiquated) notion is that some people may find it repulsive that others read and possibly enjoy this book.

preferences are deemed acceptable and when they are, instead, considered intolerant and "meddlesome".³⁰ When accepting a (more) collective consumer welfare approach, as exemplified by our described way to elicit willingness-to-pay, one should at least be clear about this tension. What is more, there should be a clear delineation of the domain in which such preferences about the consumption of others are deemed acceptable. Again, one could take reference to policy priorities that are enshrined elsewhere, such as is the case with ecological sustainability (e.g. in Article 11 TFEU). Such legal endorsement would now serve as a justification for choosing willingness-to-pay even over other consumers' choices.

Such a collective consumer welfare analysis, even when constrained to preferences related to societal goals with a clear legal foundation, has however far-reaching implications. We first highlight once more the distributional implications that, at least in this extreme way, are absent under an individualistic approach.

A consumer may have very strong feelings about the consumption of particular products or about some perceived externalities, and she may thus have a high willingness-to-pay for foreclosing such consumption to the many other consumers. Even when she does not strategically distort her answers, such a high willingness-to-pay will be revealed in a choice experiment or in a direct elicitation of her preferences. If one aggregates willingness-to-pay over all consumers, such high or even extreme preferences may be decisive. Importantly, however, the maximum that these consumers will contribute to the change is the higher price that they pay, just as any other consumer. Also, as we have already noted, (potential) consumers with low demand will put relatively little weight on a higher price but may still want to "meddle" with the preferences of consumers with high demand. Again, they may exhibit a high willingness-to-pay for a change of the choices of others, but they will end up paying little for it (given their low demand).³¹ When a cost-benefit analysis reveals that, on aggregate, a particular project should be undertaken, policy typically can avail itself of various instruments to smoothen distributional implications. For instance, returning to the fuel example, a government could buffer the prohibition of less sustainable but cheaper fuel with an additional tax allowance for commuters relying on cars. Antitrust authorities do not, however, have such instruments at their disposal.

Finally, although both the individualistic and the collective consumer welfare analysis rely on eliciting consumers' preferences and on their aggregation, and even though in both cases the outcome may make

³⁰ The social choice literature has proposed to restrict preferences to those that are 'tolerant' or not 'meddlesome' (Julian H. Blau, *Liberal values and independence*, 42 *The Rev. of Econ. Stud.* 395-401 (1975); John Craven, *Liberalism and Individual Preferences*, 14 *Theory and Decision*, 351-360 (1982)).

³¹ We note that also the outcome of the individualistic consumer welfare analysis will typically have distributional implications, provided consumers are heterogeneous in their preferences. When, say, a proposed horizontal agreement leading to a higher price is ultimately cleared based on such elicited preferences, those consumers who still care only little for sustainability will be worse off. Still, for reasons described in the main text, the distributional implications are typically far larger in the collective approach.

individual consumers worse off and deprive them of their preferred choice, the "vote" taken by an individual consumer on other consumers' choices in the collective consumer welfare analysis represents a far greater restriction to consumer sovereignty. In the market, a consumer essentially loses her preferred choice when her own willingness-to-pay (or that of consumers with similar preferences) is too low to make it worthwhile for firms to serve this market segment. When she and likeminded others express a sufficiently high willingness-to-pay, she will find her preferred choice. With the collective consumer welfare approach, she may instead be deprived of her preferred choice only because other consumers have expressed preferences over her consumption. We acknowledge that this is clearly at the heart of the internalization of externalities. But such a restriction of individual sovereignty and individual rights is typically an outcome of a (collective) political process, which leads to legislative regulation, but not part of the market process and as such not of competition analysis.

III.iii The Difference between Social Norms and Integrating Externalities via a Collective Consumer Welfare Analysis

We are eager to emphasize a conceptual difference between the recognition of an impact, which a sustainability agreement can have on a social norm and, thus, on consumers' individual willingness-to-pay on the one hand, and a direct recognition of externalities in a collective consumer welfare analysis on the other hand. We have outlined above and in our companion paper that consumers' willingness-to-pay can be influenced by the social norm that prevails, and that the latter can be impacted by a sustainability agreement.³² To properly predict consumers' willingness-to-pay for the relevant product under a sustainability agreement can, therefore, make it expedient to anticipate and evaluate the impact which a sustainability agreement can have on the social norm in order to measure the counterfactual willingness-to-pay for the more sustainable product variant. What is characteristic for this approach of considering the social norm, however, is that the willingness-to-pay, as measured accordingly, is considered purely as an incremental increase. The change of the social norm is only reflected in the analysis in its impact on the individual appreciation of the more sustainable product. Therefore, we categorized this type of consumer welfare analysis as *individualistic*.

If the consumer welfare approach, however, were to be extended in a way that allowed to directly integrate the externality which a switch from all consumers to the more sustainable standard would have on the individual consumer, this would be different. Under such an assumption, the consumer would express what she would be willing to pay if the market changed, quasi as a result of her own decision.³³ That is why we referred to it as a

³² See Roman Inderst & Stefan Thomas, *Sustainability Agreements and Social Norms*, supra footnote 7.

³³ If the consumer does not act strategically in a choice experiment, this would be the highest acceptable price difference between the two scenarios.

collective consumer welfare analysis, and we have voiced some concerns about whether it reconciles with the determinants of competition law analysis.

The difference in both ways of dealing with externalities becomes more obvious if one turns towards the questions which the consumer would have to answer when eliciting her willingness-to-pay. With respect to the consideration of an anticipated change in a social norm thanks to the sustainability agreement, the question would be what the consumer would pay for the more sustainable variant assuming that a large fraction of her fellow-consumers (or even all of them) will also buy the more sustainable variant regardless of her own choice. In a choice experiment, the setting would be as follows: Suppose there are two options A and B and, next to the price, the only information of relevance is the fraction of other consumers who purchase A or B. Typically, a given test subject faces a series of such binary hypothetical choices. Now, in one choice situation it would be indicated that A was purchased by a large fraction of consumers and B by a small fraction, together with respective prices. In another choice situation this would be reversed, with now A being purchased by only a small fraction of consumers and B by a large fraction. The (econometric) analysis of the respective choices allows to distill the impact that the choices of other consumers have on the incremental value, say, of B vs. A.

When externalities are integrated from the collective consumer welfare perspective, however, the choice situations would look different. Taking up again the preceding example, one would now let the consumer choose between one scenario where a large number of consumers, including herself, purchase A, and a scenario where a large number of consumers, including herself, purchase B. Again, a specific price would be given for the product in each scenario. In the extreme, the two scenarios would be restricted to all consumers, including herself, opting for A or B.

These two lines of questioning, therefore, are clearly not identical. The former is based on a *ceteris paribus* assumption, while the latter changes the behavior of all consumers.

III.iv Transcending Self-Interest

As noted before, another key aspect of the individualistic consumer welfare analysis is that the respective real or hypothetical choices with which a consumer is faced and from which her willingness-to-pay is extracted, frame her solely in the role of a consumer. As also noted, this does not hinder to generate additional context by providing information that the consumer may have lacked previously, so as to enable her to make a more reflective decision. We acknowledged that choices made in such contexts may be different from those made in the factual scenario at the point-of-sale where a consumer, say, habitually fills her basket – or at the petrol pump, where she acts as usual and where choices may be triggered primarily by the prominently advertised prices. We now discuss how the choice situation could, however, be framed much more broadly, appealing

thereby no longer to the individual's role of a consumer but to her responsibility and ethical principles as a citizen.

Again, we can relate this to a larger tradition in welfare economics and social choice. Various Nobel laureates have tried to distinguish between what a sociologist would call different "roles" of an individual, such as that of a citizen or consumer, and the respective principles that govern her behavior. Kenneth Arrow distinguished between "interests" and "values",³⁴ John Harsanyi between "subjective preferences" and "ethical preferences",³⁵ and Amartya Sen sees social preferences, in difference to individual preferences, as arising from self-commitment of individuals.³⁶ We find it helpful, instead, to borrow from a possibly wider known philosophical notion of John Rawls' "veil of ignorance".³⁷ We apply this now to our considered question of how consumers internalize the externalities of their choices on others.

In the factual scenario, a given person has essentially ended up as a consumer of a particular product and with particular preferences, which may depend also on the extent to which she is, for instance, exposed to the negative consequences of environmental risks or climate change. Her willingness-to-pay thus depends on this particular endowment (of preferences and of her role as a consumer). Other individuals find themselves in different positions and may, in particular, not represent consumers of this particular product but instead be affected particularly much by the externalities of its production and consumption. The ethical principle of Johan Rawls would now elicit preferences, e.g., for a more sustainable consumption, not based on the actual appreciation of a consumer in a concrete purchasing context, but essentially from an ex-ante perspective whilst being under a "veil of ignorance" about whether one will become affected little or much by the externalities, and whether one might become a consumer of the product or not. In practical terms, in a hypothetical choice situation a consumer would thus be induced to not reflect about her actual preferences, but whether a particular choice (of scenarios) conforms to her wider ethical principles.³⁸

As indicated, one may wish to elicit choices governed by such an ethical principle by framing the consumer's decision appropriately. One may even be tempted to deduce the consumer's principles from decisions in other contexts. Irrespective of whether such approaches are practical or not, they clearly far transcend the consumption decision for which willingness-to-pay shall be elicited. We acknowledge that also the reflective

³⁴ KENNETH ARROW, *SOCIAL CHOICE AND INDIVIDUAL VALUES* (New Haven: Yale University Press 1963).

³⁵ John C. Harsanyi, *Cardinal Welfare, Individualistic Ethics, and Interpersonal Comparisons of Utility*, 63 J. of Pol. Econ., 309-321 (1955).

³⁶ AMARTYA SEN, *COLLECTIVE CHOICE AND SOCIAL WELFARE* (Cambridge: Harvard University Press 1970).

³⁷ JOHN RAWLS, *A THEORY OF JUSTICE* (Cambridge: Harvard University Press 1971).

³⁸ For economists, such an approach has the seeming advantage of rendering itself more easily to calculations (say, different from a more unspecific Kantian principle of universality).

willingness-to-pay approach, under which (additional) context is provided to the consumer, e.g., more information, rests on a somewhat artificial decision environment, which is different from, say, the habitual decision-making at the petrol station. Yet again, in our opinion the step towards an elicitation of an ethical attitude that transcends the considered consumption choice represents a qualitative and not just a gradual change in perspective. Putting on the consumer increasing pressure to transcend her self-interest or even imposing on the consumer's behalf such preferences is obviously at a great distance to what would be reflected in the market from actual consumer choices. We acknowledge once more that it is precisely the lack of an internalization of externalities in the market that causes concern. Again, however, such a transcending of self-interest or the self-commitment through a (social choice) rule seem to be defining features of a political process rather than the market, and therefore to be alien to competition analysis.³⁹

IV Concluding Remarks

The objective of our contribution is to investigate the scope of integrating externalities into a consumer welfare analysis. This has both a conceptual and a practical dimension. As for the practical perspective, we have throughout made reference to methods, such as conjoint or contingent valuation analysis, which allow to extract consumers' valuation from their real or hypothetical choices or their statement of preferences. We have acknowledged, however, the practical difficulties that come with it. Any such analysis must be conducted and re-assessed carefully so as to limit the risk of arbitrariness. We also emphasized that any approach that intends to sidestep such an elicitation of preferences and which attempts to replace elicitation by a postulate of appropriate consumer preferences can seriously compromise individual liberties and the principle of consumer sovereignty.

On the conceptual side, we showed that despite the restriction to consumer welfare, rather than some wider measure of societal preferences, the scope for incorporating preferences for sustainability and thus the internalization of externality may be larger than what is *prima facie* evident. This holds also for what we termed an *individualistic* consumer welfare analysis, where such externalities are only incorporated to the extent that this conforms with the preferences of current or future cohorts of consumers. In particular, when an agreement that restricts competition will lead to a substantial change in the market outcome, such a change may affect individual preferences. As preferences for sustainability and consumers' willingness to consider the externalities of their consumption decision on others represent so-called non-use values, the context in which consumers make their choices, as well as prevailing social norms, should have a relatively large impact on the preferences that can be elicited. We suggested that even when a change in context may lead to different willingness-to-pay

³⁹ See already *infra* III.i.

values, this does not render such an analysis futile or arbitrary. At this point, competition authorities may be able to find guidance in the law to the extent that sustainability is enshrined as a goal of great societal importance. This approach will not compromise consumer welfare or disregard the consumer since the consumer remains the ultimate arbiter in the process of shaping the outcomes of markets.

When a product is consumed by a large fraction of society, such as in the case of fuel, letting consumers express their preferences over scenarios in which not only their own choice but also that of (all) other consumers change, could allow to introduce externalities more directly into a consumer welfare analysis: In the presence of substantial externalities, a consumer's choice between scenarios then represents largely a statement about her preferences for the choice of other consumers. We termed this a *collective* consumer welfare analysis. Such a broadening of the notion of consumer welfare, however, would not only compromise consumer sovereignty. The wished-for internalization of externalities, that would thereby be achieved, risks opening the gateway for the consideration of "meddlesome" preferences over the consumption decisions of others. The distributional implications in such a collective consumer welfare approach would also be far more severe than in the individualistic approach. We expressed similar hesitation with respect to an approach that would impose wider ethical principles on the consumer's choice, which could be triggered by a respective framing of the hypothetical choice between scenarios. In all cases of the collective consumer welfare approach we stressed that such a collective choice rule seems more appropriate as a matter for the political process, but rather alien to the functioning of markets and thereby also to competition analysis.

We finally acknowledge, again, the following two limitations in our analysis. The first limitation is our restriction to consumer welfare. Instead, one might advocate an approach that incorporates directly the implications of the production and consumption of a particular product on the whole society. After all, such all-encompassing cost-benefit analyses are a known tool of public policy. Such an approach would still have the advantage of incorporating a single (welfare) metric. As we noted in the Introduction, however, we do not want to discuss in the present article, whether and when a wider welfare standard, including a public interest assessment, could be suitable for competition analysis. As this frequently showed up as well in our preceding discussion, we note, however, that the distributional implications could be large. While for other public policy assessments the (financial) burden may be shared as widely as the accrued benefits, competition policy analysis and the remedies accessible to authorities should typically not include instruments that enable a wider sharing of the costs of a restriction to competition, such as a higher price. Antitrust agencies do not have the legal powers to impose or reduce taxes on certain consumers or non-consumer groups in order to balance wealth distributions in society.

The second limitation is our restriction to a welfare analysis. Instead, notably with a view on the importance of ecological sustainability, one may wish to treat individual preferences as just one element of the various normative criteria to be considered, such as a reduction of carbon dioxide emissions or a preservation of biodiversity. A policy assessment that is not purely welfarist but constrained by such principles or guided by

some more or less well-defined combination of objectives, must, however, violate the Pareto principle: In some cases, welfare will end up being sacrificed for other principles or goals.⁴⁰

⁴⁰ For a general (formal) statement of this see Louis Kaplow & Steven Shavell, *Any Non-welfarist Method of Policy Assessment Violates the Pareto Principle*, 109 J. of Pol. Econ., 281-286 (2001). More precisely, the general theorem states that a policy assessment that includes principles that shall apply independently of their effect on individuals' utilities will sometimes lead to violations of the Pareto principle and thus to choices that make everyone worse off. We note, however, that such other objectives may be derived from a societal welfare analysis, which may, for instance, lead to a government's commitment to certain climate objectives. In Roman Inderst, Eftichios Sartzetakis & Anastasios Xepapadeas, Technical Report on Sustainability and Competition. No. 2103. Athens University of Economics and Business (2021) it is also shown how a welfarist metric can be derived from such policy goals.