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**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 at 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. Rather than positing that sustainability should constitute a goal in itself, we explore how sustainability can be incorporated within a consumer welfare analysis. Our paper makes a key distinction between what we term an individualistic and a collective consumer welfare analysis. Within an individualistic consumer welfare analysis, consumers' willingness-to-pay is measured *ceteris paribus*, holding other consumers' choices fixed. We explore how, e.g., through contingent valuation and conjoint analysis, consumers' appreciation of sustainability benefits and with it the reduction of externalities on others can be elicited. Specifically, we discuss how the context-sensitivity of extracted willingness-to-pay provides both challenges and opportunities for antitrust enforcement in the context of sustainability measures. In a collective consumer welfare analysis, consumers may express their willingness-to-pay also for the choices of others and, thereby, also for the reduction of externalities on themselves. Borrowing from environmental and resource economics, we also discuss more indirect ways of incorporating such externalities. And we critically assess the possibility of "laundering" consumers' sustainability preferences in the light of supposed biases and cognitive limitations.

JEL Classification: A13, K21, K32

Keywords: sustainability, Externalities, willingness-to-pay

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Abstract

The failure to fully internalize externalities from production and consumption, including on future generations, is supposed to be at 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. Rather than positing that sustainability should constitute a goal in itself, we explore how sustainability can be incorporated within a consumer welfare analysis. Our paper makes a key distinction between what we term an *individualistic* and a *collective consumer welfare analysis*. Within an individualistic consumer welfare analysis, consumers' willingness-to-pay is measured *ceteris paribus*, holding other consumers' choices fixed. We explore how, e.g., through contingent valuation and conjoint analysis, consumers' appreciation of sustainability benefits and with it the *reduction of externalities on others* can be elicited. Specifically, we discuss how the context-sensitivity of extracted willingness-to-pay provides both challenges and opportunities for antitrust enforcement in the context of sustainability measures. In a collective consumer welfare analysis, consumers may express their willingness-to-pay also for the choices of others and, thereby, also for the *reduction of externalities on themselves*. Borrowing from environmental and resource economics, we also discuss more indirect ways of incorporating such externalities. And we critically assess the possibility of "laundering" consumers' sustainability preferences in the light of supposed biases and cognitive limitations.

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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, has initiated a taskforce on the topic of sustainability.⁴ The Dutch competition authority, ACM, has already issued guidelines on how it intends to incorporate sustainability concerns into its future assessment of horizontal agreements.⁵ And other national competition authorities are posed to follow suit.⁶

These initiatives are not restricted to ecological sustainability, albeit this often being a major focus. For instance, the aforementioned guidelines in the Netherlands adopt such a broad standard of sustainability, with an explicit recognition of, for instance, production that is animal-friendly or that guarantees a fair income. As

³ OECD Horizontal Agreements in the Environmental Context (2010), p. 11, available at: <https://www.oecd.org/competition/cartels/49139867.pdf> (last accessed 2 December 2021). 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 The European Commission is currently in the process of revising its guidelines on the assessment of horizontal cooperative agreements (Horizontal Guidelines). In its Commission Staff Working Document as of 6 May 2021 the Commission has identified the topic of sustainability as a key concern (European Commission 2021, p. 19): *“The topic of sustainability was raised by many respondents to the public consultation and the NCA consultation as a significant development over the last 10 years.”* Available at: https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/11886-EU-competition-rules-on-horizontal-agreements-between-companies-evaluation_en (last accessed 2 December 2021).

⁵ 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).

⁶ The Hellenic Competition Commission has launched a dialogue on sustainability (available at <https://www.epant.gr/en/enimerosi/competition-law-sustainability.html>) (last accessed 2 December 2021), outlining various possible approaches of integrating sustainability. The amendment of the Austrian Cartel Act, which entered into force in September 2021, explicitly mentions sustainability benefits alongside consumer welfare: *“Consumers shall also be considered to be allowed a fair share of the resulting benefit if the improvement of the production or distribution of goods or the promotion of technical or economic progress contributes to an ecologically sustainable or climate-neutral economy“* (original text: *“Die Verbraucher sind auch dann angemessen beteiligt, wenn die Verbesserung der Warenerzeugung oder -verteilung oder die Förderung des technischen oder wirtschaftlichen Fortschritts zu einer ökologisch nachhaltigen oder klimaneutralen Wirtschaft beiträgt.”* Available at: https://www.bmj.gv.at/dam/jcr:fae4ab6e-1876-41dd-ada0-0fa156ca584d/KaWeR%C3%84G_2021_Gesetzestext.pdf (last accessed 2 December 2021)).

we explore below, while our contribution focuses on externalities, this does not per se restrict its applicability to environmental sustainability. In fact, a priori and thus, in particular, without recognition of the specific legal context, one cannot make a distinction between the different rationales for why someone experiences a disutility from the consumption of others (or the way the particular goods or services are produced), e.g., with regard to a low standard of animal welfare, insufficient wages paid to workers, or with respect to the fact that a country where the good is produced deprives its society of certain fundamental rights or essential social standards.⁷

In some jurisdictions outside Europe, to account for such issues in law enforcement creates less of a problem to the extent that those legal orders already have adopted a broader welfare standard or even a public interest standard.⁸ In jurisdictions that either explicitly or implicitly apply a consumer welfare standard, however, an increasing concern for sustainability raises the question of its integration into competition law and its enforcement. But also the application of a broader welfare standard does not yet answer the question of how sustainability benefits shall be integrated.

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.⁹ Contributing to this debate is not the

⁷ Of course, welfare implications are felt more directly by those suffering from such treatment. We explain below why in this article we focus on within-market (consumer) benefits and costs of a particular measure.

⁸ Australia is a well-known example, see Australian Competition & Consumer Commission, Guidelines for Authorisation of Conduct (non-merger), March 2019, available at: <https://www.accc.gov.au/publications/guidelines-for-authorisation-of-conduct-non-merger> (last accessed 2 December 2021), at 8.7: “When considering whether there is a public benefit from proposed conduct, the ACCC considers whether benefits are of value to the community generally and, if so, how much weight society attaches to those benefits. Of particular relevance will be the number and identity of the likely beneficiaries” (ACCC 2013); or: “For example, if the proposed conduct was likely to increase pollution or reduce public health and safety, the ACCC would take this into account in balancing the public benefits and detriments.”

⁹ 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 2 December 2021). Concerns of green-washing are raised in Maarten Pieter Schinkel, Yossi Spiegel, *Can Collusion Promote Sustainable Consumption and Production?* 53 International Journal of Industrial Organization 371-398 (2017) and Maarten Pieter Schinkel, Lukáš Tóth,

focus of our article. Still, a multi-goals approach certainly faces the issue of how diverse objectives shall ultimately be balanced. If such sustainability objectives impose separate constraints, this contradicts the maximization of welfare, whether it is according to a consumer welfare standard or a broader welfare standard.¹⁰ Such contradictions no longer arise when sustainability benefits are integrated in one and the same metric. In this contribution, we explore how this is possible under a consumer welfare standard.

Before we further delineate our contribution, we are transparent about its limitations. With the restriction to consumer welfare, our focus rests exclusively on so-called “within-market benefits.” We stress again that we thereby do not take a stance on whether the inclusion of “out-of-market benefits” is either feasible in a particular jurisdiction or whether this is desirable. The current emphasis of the enforcement practice in many jurisdictions on consumer welfare, however, warrants such a focus. Even if one were to endorse a multi-goals approach, in which sustainability constitutes an enforcement goal in its own right, it would be expedient to explore the scope of the consumer welfare doctrine in that regard in order to define precisely where sustainability as a goal in itself becomes relevant.

For this reason, we narrow our perspective on consumer welfare as follows: We restrict the consideration of effects to the welfare of consumers within the same (relevant) market. We acknowledge that while this seems to represent current enforcement practice, various contributors have supported a (much) wider definition of consumers.¹¹ A connected issue is whether consumers must be fully compensated for any competitive harm, as it is typically required. Even if this requirement may not follow necessarily from the respective laws in a given jurisdiction,¹² the problems of a conceptualization and measurement of (within-market) benefits of consumers remain.

We sharpen our discussion of potentially appreciable sustainability benefits by focusing on externalities in this article. Hence, we specifically ask to what extent the consumer welfare approach is capable of incorporating externalities. It is well recognized in economics that externalities in production or consumption can give rise

Compensatory Public Good Provision by a Private Cartel (2020), available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3509062 (last accessed 2 December 2021).

¹⁰ For a formal statement of this, see Louis Kaplow & Steven Shavell, Any Non-welfarist Method of Policy Assessment Violates the Pareto Principle 109 J. Polit. Econ. 281-286 (2001).

¹¹ Hellenic Competition Commission, Draft Staff Discussion Paper on Sustainability Issues and Competition Law, 2020, at 71: “Users are simultaneously active in various social spheres, and have wider interests than their narrow financial ones in the specific relevant market.” Available at: <https://www.epant.gr/en/enimerosi/competition-law-sustainability.html> (last accessed 2 December 2021).

¹² In the language of Article 101 (3) TFEU, for the competitive assessment of cooperations this boils down to the interpretation of the term “fair share”, which consumers must receive of any realized efficiencies. Typically, this has been interpreted as full compensation of any associated harm.

to market failures.¹³ This provides scope for welfare enhancing 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. The consideration of such externalities may thus be seen rather a matter of environmental regulation and policy, and not, to put it bluntly, an excuse for the softening of the competition rules.¹⁴ As with the debate on the multi-goals approach of competition law, however, we do not take a stance on whether society is indeed best served when each institution, such as an antitrust agency or an environmental agency, is given a single, one-dimensional task – and we see both arguments in favor and against such a view from a conceptual and a practical perspective. That said, the reference to existing (environmental) norms will be important in our subsequent arguments. As we will argue, when externalities are considered, one also needs to take a stance, explicitly or implicitly, on whether existing norms are an adequate and full expression of societal objectives, including, for instance, about the trade-off between a welfarist approach and individual liberties. This is important as benefits resulting from a cooperation or a merger will, in the cases that are of importance here, typically exceed what is already legally required to be provided under an existing legal sustainability standard. This ties our analysis to another larger, ongoing discussion as to whether and why public policy could fall short of what would be dictated by societal preferences, and why competition law and its enforcement would need to step in to close such a gap.¹⁵ As we will explain below, we suggest to incorporate this into an assessment as part of the analysis of the indispensability of the competitive restrictions imposed by a measure.

The preceding discussion speaks to the relevance of our topic. It connects to various debates on how society overall and competition law and its enforcement need to react to growing concerns for sustainability and, in particular, the greater acknowledgement of environmental sustainability as the key challenge of our time. Rather than only contributing to these debates on a conceptual level, we see our subsequent analysis also as a contribution to the practice of competition law enforcement, as we discuss, inter alia, various (modified) tools

¹³ For economists, such (non-internalized) externalities arise from the absence of property rights and missing markets for such rights.

¹⁴ We acknowledge also a more fundamental discussion about whether unrestrained competition can become a cause for societal harm and how society should react, *see* from a legal perspective MAURICE STUCKE & ARIEL EZRACHI, *COMPETITION OVERDOSE: HOW FREE MARKET IDEOLOGY TRANSFORMED US FROM CITIZEN KINGS TO MARKET SERVANTS* (HARPERCOLLINS 2020); and in economics, focussing on common pool resources, ELINOR OSTROM, *GOVERNING THE COMMONS: THE EVOLUTION OF INSTITUTIONS FOR COLLECTIVE ACTION* (Cambridge University Press 1990).

¹⁵ 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*, 1 *Econ. Energy Environ. Policy*, 2012, 121–132).

of the measurement of sustainability benefits. It is also for this reason that we will introduce a leading example.

Leading (Hypothetical) Example

Our example considers consumers that choose between a more sustainable product, which however provides no direct benefits for the consumer (i.e., no additional use-value¹⁶) but reduces externalities on others (even if only by a very small amount), and a less sustainable variant. We make the following, purely hypothetical specifications: Suppose that firms could introduce a new car fuel that would result in less 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 emissions 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 a proposed agreement between potentially all competing providers of fuel, 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.

In line with our preceding observations, 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, and 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. And it requires that consumers are compensated for the higher price of the new fuel and the respective restriction in choice.

Representing our Results

With this example at hand, we now present an overview over our subsequent results. Given that consumers observably refused to pay a higher price for the more sustainable product, based on actual purchase data their willingness-to-pay should lie below the price increment. In terms of externalities, consumers appear, thus, not to seem willing to sufficiently internalize the negative effect (or its absence) on others, and this would,

¹⁶ When we speak of "use-value" we refer to product characteristics that provide a direct benefit for the life of the consumer. 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.

therefore, define the limits of any consumer welfare defense under the antitrust laws. Yet, we argue that such a conclusion would be premature for various reasons:

First, one may argue that the consumer's willingness-to-pay would be higher if only the consumer were fully aware of the respective consequences of her consumption. And one may add that precisely such a change in information and awareness would manifest itself in the counterfactual scenario. We show how such willingness-to-pay in the counterfactual scenario can be elicited in a contingent valuation or conjoint analysis, but we also point out potential drawbacks.

Second, it could be presumed that even when consumers had all the relevant information, it might be a too complicated task for the consumer to take into account all such consequences. Therefore, 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. This would then lead to the question of whether the achievement of sustainability should be super-imposed from outside. We critically discuss an extension of the inclusion of externalities through such a "laundering" of preferences, but we also discuss, as an alternative, the elicitation of willingness-to-pay in contexts that are less prone to the supposed biases.

The elicitation of appreciated benefits has focused so far only on a consumer's preference for her own choice and thus the willingness-to-pay for reducing externalities generated by her own consumption. A consumer's preference for her own choice clearly does not reflect externalities that she suffers from the choice of others. Our third set of results relates to such an extension within a consumer welfare analysis. There, the relevant comparison is, consequently, that of a scenario where not only the consumer, *ceteris paribus*, changes her own individual consumption, but where also other consumers change their consumption concomitantly, with the respective reduction in externalities on the given individual consumer. In our example, this would relate to the lower emissions of the more sustainable petrol, to the extent that the consumer was previously affected by it. If properly understood by consumers, such benefits could be assessed, again, by measuring their willingness-to-pay, as revealed in a hypothetical analysis that compares different scenarios. Such measurements are typical in cost-benefit analysis conducted for collective decision-making and public policy in environmental and resource economics. We refer to this as a "collective consumer welfare analysis". The respective benefits of reduced externalities, e.g., on one's own health, may, however, not be fully understood by consumers. We therefore also point to other instruments borrowed from such cost-benefit analysis in environmental and resource economics. Even though we demonstrate the general practicability of measuring the respective externalities, we express concerns regarding their inclusion as benefits under a consumer welfare paradigm.

All the discussed steps 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 argue, however, we may thereby cross various important lines. One is that between what we term an *individualistic* consumer welfare analysis and a *collective* consumer welfare analysis. 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. In fact, this is just an alternative way of stating that it captures the externalities imposed by the consumption of others. When incorporating this into a consumer welfare analysis, it is paramount to be transparent about which of such preferences are considered sufficiently legitimate to constrain other consumers' freedom of choice – and which are not. 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.

We organize our discussion as follows: In Section II, we analyze ways of how to extend the scope of an individualistic consumer welfare analysis. In Section III, we consider the incorporation of externalities by the choices of other consumers. Section IV concludes.

II Extending the Scope of Individualistic Consumer Welfare Analysis

We first recall our leading hypothetical example, where firms wish to jointly phase out a less sustainable fuel and introduce a more sustainable variant. And we recall, again, that we confine ourselves to a consumer welfare analysis. Consequently, the competitive assessment does not consider (reduced) externalities on other citizens or measure directly how the agreement would contribute to a specific policy goal outside the realm of competition. We though return to this in our concluding remark. Furthermore, the consumer welfare analysis will, for now, remain individualistic in the following way: Holding all else equal, the analysis intends to extract the (incremental) willingness-to-pay for the more sustainable product. A consumer will thus enjoy sustainability benefits to the extent that she takes into account the externalities of her consumption on others.

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

Recall further that we suppose in our example that one firm had previously tried to introduce the more expensive, more sustainable variant. 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 value from the particular product.¹⁷ 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 when her preferences are elicited in such context. 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 and resource economics or marketing.¹⁸ The thereby elicited willingness-to-pay may also differ even from that extracted out of actual purchasing data to the extent that the latter is available.¹⁹ At the supermarket counter or the gas station, a consumer might be time constrained, might follow particular ingrained routines and heuristics, or might decide based on limited information about the impact of her choice on sustainability.²⁰

The approach proposed in our companion paper, thus, takes as the starting point consumers' willingness-to-pay as elicited in potentially different contexts.²¹ 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

¹⁷ See Roman Inderst & Stefan Thomas, *Reflective Willingness to Pay: Preferences for Sustainable Consumption in a Consumer Welfare Analysis*, 2021 *Journal of Competition Law & Economics*, nhab016, <https://doi.org/10.1093/joclec/nhab016>. 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).

¹⁸ 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 2 December 2021).

¹⁹ Even if such purchasing data is available at the level of individual consumers, in practice it may be difficult to extract willingness-to-pay. For this, the same consumer would have to be exposed to different prices over time, and there needs to be sufficient variation in prices. We note also that the current purpose of such analysis is to measure (incremental) consumer welfare. If we were interested only in the actual response of demand to prices, i.e., the elasticity of demand, e.g., in the context of an analysis of the upward pricing pressure of a merger, the analysis should rely on actual behavior in the market.

²⁰ See Roman Inderst & Stefan Thomas, *Reflective Willingness to Pay*, supra footnote 17. 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.

²¹ See Roman Inderst & Stefan Thomas, *Reflective Willingness to Pay*, supra footnote 17. There, we also acknowledge the various challenges that the adopted techniques pose.

contexts.²² Still, one may end up with a potential range of values that represent expressions of consumer 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. Such legal endorsement serves as a justification for choosing the willingness-to-pay value that attributes the greatest weight to sustainability.²³

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

²² 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 2 December 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 FOUNDATIONS OF POSITIVE AND NORMATIVE ECONOMICS: A HANDBOOK 155-192 (Andrew Caplin & Andrew Schotter, eds., 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).

²³ 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.

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 to 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.

II.ii Taking into Account Changes in Preferences, Changes in Norms, and Free-Riding

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 will be 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.²⁴ 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 to buy the less sustainable variant.²⁵ If the analysis were confined to extracting the willingness-to-pay in the current situation, in which

²⁴ See Roman Inderst, Felix Rhiel & Stefan Thomas, *Sustainability Agreements and Social Norms*, 2021, available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3887314 (last accessed 2 December 2021).

²⁵ 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).

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.²⁶ In the light of our subsequent discussion of a collective consumer welfare analysis, it is important to stress the 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. 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.²⁷

We note that the observed or anticipated behavior of others may change the willingness-to-pay of an individual consumer also as this overcomes a free-riding problem. Out of fairness considerations or inequity aversion, an individual consumer may be willing to contribute to the larger good only when she expects such contribution also from other consumers, which is why again her willingness-to-pay changes when an agreement leads to a wider change in consumption choices.

Also, the social norm can 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 a companion paper, we explored in detail how this time dimension bears on the elicitation of willingness-to-pay.²⁸ 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.²⁹

²⁶ 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.

²⁷ On that *see* also *infra* III.ii.

²⁸ *See* Roman Inderst & Stefan Thomas, *Prospective Welfare Analysis—Extending Willingness-To-Pay Assessment to Embrace Sustainability*, 2021 *Journal of Competition Law & Economics*, nhab021, <https://doi.org/10.1093/joclec/nhab021>.

²⁹ 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"). Here, we should note that the respective discounting does not (only)

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

We introduced, above, the possibility of eliciting 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 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, such as the information that we provide to consumers before eliciting 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.³⁰ 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*".³¹

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

concern the respective trade-off for an individual consumer, but over different cohorts ("social discount rate"). 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.)

³⁰ 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).

³¹ Cass Sunstein & Richard Thaler, *Libertarian paternalism is not an oxymoron*, 70 *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* (Yale University Press, 2008).

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.³² Returning to sustainability and externalities, we could likewise suppose that a consumer, both when facing real as well as hypothetical choices, always takes a short-sighted 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.

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,

³² Firms may have incentives to engage in such an agreement for fear of future liability.

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. As we have, however, discussed as well, when there are serious concerns that consumers' expressed willingness-to-pay may fall short of their "true" preferences, one option is to elicit preferences in a different choice setting that is less prone to the supposed (behavioral) biases and errors.

III Collective Consumer Welfare Analysis (“Within-Market Externalities”)

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' preference, 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. Thereby, she may express her preferences for a reduction of the negative externalities imposed on her by other consumers.

As mentioned above, this is what we refer to as *collective* consumer welfare. In what follows, we hone 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. But we also offer guidance on its realization. Should such within-market externalities be recognized, we suggest, in particular, to impose a strict requirement of indispensability.

III.i Willingness-to-Pay for a Change in Other Consumers' Choices

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 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.³³

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, 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., Nx , which comprises the effect on herself and on all other consumers (with 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 Nx , i.e., N^2x . When we now aggregate welfare, given that we assumed that all citizens are also consumers, each individual consumer should purchase the sustainable variant when Nx exceeds p (and obviously all consumers should switch when N^2x exceeds Np , 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*) framework,³⁴ 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 Nx . 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

³³ 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.

³⁴ 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.

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 of buying 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.³⁵

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 first take another example, this time without “physical” externalities. But we will return to the case of environmental externalities below, where we also discuss methods of their measurement.

In a classic example, the Nobel price laureate Amartya Sen considered the distribution of a book with what could be called soft pornographic content.³⁶ Certain citizens may have a preference that others do not read this book: That others read and enjoy such context may cause disutility on them. Sen recognized a deep tension between welfarism and individual rights. The so-called Sen paradox 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

³⁵ Precisely, comparing only scenarios where, say, either the more or less expensive fuel is available, a consumer who has only a 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 a 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.

³⁶ Amartya Sen, *The Impossibility of a Paretian liberal*, 78 J. of Pol. Econ., 152-157 (1970). His example referred to the book *Lady Chatterley’s Lover*, which, at least up to the 1960s, was indexed because of explicit passages.

wages? The crux lies in determining when such preferences are deemed acceptable and when they are, instead, considered intolerant and “meddlesome.”³⁷ 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. In some jurisdictions this could be again the case with ecological sustainability (e.g., in the European Union with reference to 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 that need to be considered. We first highlight, once more, the distributional implications that are, at least in this extreme way, 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 a 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 own low demand).³⁸ 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.

³⁷ 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)).

³⁸ 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.

This discussion clearly relates to the definition of the market and with it that of (potential) consumers. As we discussed in the Introduction, in this article we limit the consideration to (within-market) benefits for consumers in the respective market, though we acknowledge that other contributors to the discussion of sustainability and antitrust advocate a wider definition of the concept of consumers. Still, even when taking a narrow view, the definition of potential consumers whose collective willingness-to-pay is elicited is essential. If the group of such (potential) buyers is made too large, it may include individuals who have no willingness to purchase the respective product even at the prevailing lower price and who are thus not affected by a higher price, but who may express strong preferences about the consumption of others. In a more standard consumer welfare analysis such an over-extension is instead inconsequential, as the respective individuals realize the same welfare before and after the price increase, simply as they do not consider purchasing the product. Hence, while the incremental welfare from their inclusion is zero under the traditional analysis, this is no longer the case under the collective willingness-to-pay analysis. Trying to overcome a perceived failure to incorporate out-of-market externalities by such overextension of the set of potential buyers seems, however, to fall outside the scope of the traditional consumer welfare paradigm³⁹ as underlying the present paper.⁴⁰

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 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

³⁹ Since those persons are merely affected by the externality to a greater or lesser extent yet do not buy or receive any service or good.

⁴⁰ A different issue is that of incorporating future (cohorts of) consumers, which is necessary in particular if the considered measure or its absence, such as a horizontal agreement, has implications that are at least to some extent irreversible. As we have discussed elsewhere (see Roman Inderst & Stefan Thomas, *Prospective Willingness to Pay*, supra footnote 28), this may make it necessary to forecast also possible changes in willingness-to-pay compared to that of the present cohort. Yet another issue is that of which time frame is taken for such an inclusion, as is that of weighing gains and losses over time. Importantly, the latter does not refer to such a trade-off for a given consumer, which is the typical perspective also in a typical competitive assessment, but it refers to the so-called social discount rate as we compare gains and losses for different cohorts. See Roman Inderst, Efthios Sartzetakis & Anastasios Xepapadeas, Technical Report on Sustainability and Competition, supra footnote 18.

instead be deprived of her preferred choice only because other consumers have expressed preferences about her consumption.

We acknowledge that such a deprivation of consumers' previously preferred choice (or making this sufficiently expensive) is clearly at the heart of the internalization of externalities. And we also acknowledge that without an agreement a consumer who suffers from such externalities does not have the freedom to choose an outcome without such externalities (or with lower externalities). In this way, we may also regard the factual situation without the agreement as one where some consumers have less choice. But the factual situation may be *prima facie* regarded as the outcome of the societal (or political) process that has led to the particular norm and regulation that allows for such type of consumption. That the more sustainable fuel is (still) permitted by law may thus be regarded as the outcome of a trade-off between a utilitarian (welfarist) perspective and the recognition of individual liberties, or it may also reflect distributional implications, as higher fuel prices may hit particular groups of society more than others.

In the light of these observations, we now proceed as follows: We have recognized that, in principle, within-market externalities can be recognized within a consumer welfare standard. We have also shown how this can be operationalized via the introduced tools of contingent valuation or conjoint analysis. Notably environmental externalities may, however, be less conducive to such instruments, e.g., as a consumer may be well informed about the benefits and costs of her own consumption decision, but less on how the consumption decisions of other consumers affect herself. For this reason, we next provide a short glimpse at the tools borrowed from environmental and resource economics that allow to capture such externalities. While we thus offer also practical guidance on how to measure and integrate such within-market externalities, our preceding discussion has also unearthed several possible reservations against extending the consumer welfare paradigm in this way. In particular, we have stressed the importance of ringfencing those preferences over the consumption of others (and their externalities) that one would consider as legitimate for an appreciation in a competitive assessment. We offer in what follows also an additional instrument that may serve to include such within-market externalities more cautiously, namely the adjustment of the indispensability requirement. In a final section, we will clarify that the integration of externalities via a collective consumer welfare analysis is different from the previously discussed implication of social norms (through which the consumption choices of others also affect individual willingness-to-pay).

III.iii Additional Tools to Capture Environmental Externalities

Here, we briefly focus entirely on environmental sustainability benefits and externalities. In our example, this relates to the reduction of harmful emissions by other consumers' choice of the less sustainable fuel. We recall, however, that we still restrict attention to within-market externalities on the respective consumers. When the concerned environmental externalities are thus diffuse and when consumers in the relevant market

represent only a small fraction of affected citizen, clearly only a small fraction of such externalities can be captured.

As already discussed, in principle, the benefits from reduced externalities of other consumers' choices can be captured, again, by eliciting individual willingness-to-pay. However, in contrast to the implications of their own choices, typically consumers may have little experience with the assessment of the impact of such externalities on themselves. A vast literature in environmental and resource economics has developed measurement techniques to fill this gap.⁴¹

For instance, consumers' preferences may be revealed by other choices that consumers undertake. Hedonic pricing methods consider such prices in markets that are related to the (non-traded) good that is presently of interest. A standard example is that of air quality (i.e., the reduction of air quality by the considered emissions). Here, a surrogate market could be that for residential real estate, the value of which is reduced if air quality is lower. Alternatively, information can be extracted from consumers' averting or defensive expenditure, e.g., to reduce noise or shield against air pollution. Also, the considered emissions could be directly related to health implications, and this relation could be measured. Noxious particulate matters may reduce life expectancy. There is a long tradition of monetizing such increased morbidity risk. Care must, however, be exerted in ensuring that the respective values are indeed applicable to the considered consumers.

III.iv Indispensability as a Way to Safeguard against an Over-Extension of Within-Market Externalities

The recognition of efficiencies to compensate competitive harm typically requires also the proof of indispensability.⁴² This applies also to sustainability benefits.

In this article, we do not have the space to deal with this question at large. With respect to those sustainability benefits that are captured by a standard (individualistic) willingness-to-pay analysis, we confine ourselves only to a few short notes. We noted that the nature of sustainability benefits, such as their non-use value, the complexity of potential implications of different choices, or the role of social norms, may imply that consumer willingness-to-pay in the market, notably when only one firm introduces the respective more sustainable product, may be lower than when this is elicited in a different context, including additional information provision, greater awareness of the respective sustainable attributes, or changes in the observed or anticipated behavior also of other consumers. This, as well as more standard reasons such as shared R&D

⁴¹ See Roman Inderst, Efsthios Sartzetakis & Anastasios Xepapadeas, Technical Report on Sustainability and Competition, supra footnote 18.

⁴² In the European Union, under Article 101(3) TFEU all elements of an agreement must be necessary for the realization of the objective and benefits.

expenditures or the need for standardization, may justify the indispensability of a horizontal agreement. That said, however, we always need to take into account that typically it is competition and not its absence, as when a dominant firm exerts market power or firms cooperate, that guarantees static and dynamic efficiency. Indeed, over the last decades, a substantial empirical literature has emerged, both in economics and in management science, that testifies to the virtues of competition also in the sustainability (or wider corporate social responsibility) space. As long as consumers show sufficient appreciation, innovative firms can differentiate themselves and monetize such a comparative advantage.⁴³

We now turn to within-market externalities, as captured, for instance, by the discussed collective willingness-to-pay analysis or alternatively, in the case of environmental externalities, by the discussed additional tools borrowed from environmental and resource economics. When a consumer does not (fully) internalize the externalities that her consumption has on others, such externalities do not enter her willingness-to-pay, and more sustainable firms can only monetize the respective fraction of reduced externalities. Consequently, from this perspective, even when we consider only within-market externalities, the lack of full internalization could prima facie be considered a market failure, justifying, for instance, a horizontal agreement that would phase out the less sustainable fuel. As competition would not deliver such an outcome, the agreement would thus seem indispensable to achieve such higher sustainability.

We already expressed some reservation against an unreflected consideration of such externalities (in a collective willingness-to-pay analysis). While, in principle, this still measures consumer welfare, we noted that its spirit is different, and one needs at least to discuss which preferences over the consumption of others are deemed legitimate for such an assessment. We now present an alternative instrument to safeguard against an over-extension of within-market externalities: an adjustment of the requirement of indispensability.

Again, we take up our fuel example. We recall that the less sustainable fuel that a horizontal agreement intends to phase out, while introducing a more sustainable but also more expensive variant, satisfies all legal requirements (with respect to emissions). The horizontal agreement thus goes beyond of what is legally required. We now first interpret the existing norms and standards as the complete expression of societal preferences. Such preferences may then involve, in particular, a trade-off between a utilitarian inclusion of emission externalities and distributional implications of higher fuel prices. In that case, the prima facie supposed market failure may rather be an expression of such a societal choice. Existing regulation may, however, have come into place at a time when there was little knowledge of such an alternative, more

⁴³ Important early references are Pratima Bansal & Kendall Roth, *Why Companies Go Green: A Model of Ecological Responsiveness*, 43 *Academy of Management Journal* 717-736 (2000) and Michael E. Porter & Mark R. Kramer, *Strategy and Society: The Link Between Competitive Advantage and Corporate Social Responsibility-Response*, 85 *Harv. Bus. Rev.* 78-93 (2006); see more recently AL IANNUZZI, *GREENER PRODUCTS: THE MAKING AND MARKETING OF SUSTAINABLE BRANDS*, (CRC Press 2017).

sustainable fuel, in which case the presently realized externalities may indeed be seen as a combination of market failure and regulatory failure (or inertia).⁴⁴ While this is far from straightforward, we suggest that such a wider discussion of indispensability should be essential when including externalities in a competitive assessment, also when they are still within the market.

III.v The Difference between Social Norms or Free-Riding 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 or to reduce free-riding 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.⁴⁵ Also, e.g., from considerations of fairness or inequity aversion, a consumer may be willing to contribute to a particular goal of sustainability only if others undertake the same or a similar step. 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 or the reduction of such free-riding in order to measure the counterfactual willingness-to-pay for the more sustainable product variant. What is characteristic for this approach, however, is that the willingness-to-pay, as measured accordingly, is considered purely as an incremental increase. The change of, e.g., 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.⁴⁶ That is why we referred to it as a *collective* consumer welfare analysis, and we have voiced some concerns about whether it reconciles with the determinants of competition law analysis.

⁴⁴ See the discussion and literature in footnote 15.

⁴⁵ See Roman Inderst, Felix Rhiel & Stefan Thomas, *Sustainability Agreements and Social Norms*, supra footnote 24.

⁴⁶ If the consumer does not act strategically in a choice experiment, this would be the highest acceptable price difference between the two scenarios.

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.vi 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",⁴⁷ John Harsanyi between "subjective preferences" and "ethical preferences",⁴⁸ and Amartya Sen sees social preferences, in difference to individual preferences, as arising from self-commitment of individuals.⁴⁹ We find it helpful, instead, to borrow from the possibly wider known philosophical notion of John Rawls' "veil of ignorance."⁵⁰ 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.⁵¹

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 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

⁴⁷ KENNETH ARROW, *SOCIAL CHOICE AND INDIVIDUAL VALUES* (Yale University Press 1963).

⁴⁸ John C. Harsanyi, *Cardinal Welfare, Individualistic Ethics, and Interpersonal Comparisons of Utility*, 63 J. of Pol. Econ., 309-321 (1955).

⁴⁹ AMARTYA SEN, *COLLECTIVE CHOICE AND SOCIAL WELFARE* (Harvard University Press 1970).

⁵⁰ JOHN RAWLS, *A THEORY OF JUSTICE* (Harvard University Press 1971).

⁵¹ 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).

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 difficult to reconcile with competition analysis.⁵²

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 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 externalities 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 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.

⁵² See already *infra* III.i.

When a product is consumed by a large fraction of the 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. As a special case we also dealt with the (objective) measurement of emission externalities through methods common in environmental and resource economics. While this seems both feasible and, in principle, within a consumer-welfare approach, we also expressed reservations. Which of such preferences about other consumers' choices would be deemed appreciable and which too "meddlesome"? The distributional implications would typically 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. Despite these reservations, the question of an incorporation of such sustainability considerations remains a normative one, and we have illustrated how this is in principle possible under a consumer welfare approach. Should a competitive assessment include sustainability benefits and externalities even under such a wider perspective, we suggested to carefully rethink the requirement of indispensability of a particular measure, such as a horizontal agreement, given that extant standards and regulation are already an expression of societal preferences, including those over a trade-off between welfare and individual liberties.

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. 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 of 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.⁵³ It is at least doubtful whether antitrust agencies are well-placed to perform such a wider balancing exercise.

⁵³ 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*, supra footnote 18, it is also shown how a welfarist metric can be derived from such policy goals.