***“That’s Your Bloody GDP, Not Ours.” On Citizen Engagement, Values, and,***

***the Case for Citizen Economics.***

*Jeroen Van Bouwel*

*Ghent University (Belgium)*

(This paper is accepted for publication in the journal *Œconomia. History, Methodology, Philosophy.*)

**Abstract:** *Given that values influence the scientific process, including when doing economics, we should be asking under what conditions this influence is justifiable. In this paper, I argue that citizen engagement could be the best way to scrutinize and justify value influences in economics. To do so, I analyze a number of citizen engagement initiatives in economics and discuss how they contribute to value scrutiny. Next, I look at the rationales that have been formulated for such a citizen economics, like, e.g., increasing economic literacy, democratization, and, strengthening the legitimacy of economics, and I evaluate their benefits for the scrutiny of values. Overall, the paper concludes that citizen engagement is a promising way to address value judgments in economics and to make economics epistemically more robust even though there are still some challenges to be addressed for it to become part of a broadened economic methodology.*

**Keywords:** *citizen engagement, citizen economics, science and values, social epistemology, value judgments in economics*

JEL codes : A13, A20, B40

***Acknowledgments:*** The author would like to thank Michiru Nagatsu and other participants in the 2019 meeting of the *European Philosophy of Science Association* in Geneva as well as two anonymous referees and the editor of this journal for their helpful comments on earlier versions of this article.

It is now commonly held among philosophers of science that values —including so-called non-epistemic values— influence the scientific process, unavoidably. Values may, *inter alia*, play a role in data collection (Zahle, 2018), measurement procedures (Reiss, 2013), evaluating evidence (Douglas, 2009), and, choosing among scientific models (Potochnik, 2012). Before analyzing where and how exactly values play a role in science, let me give a short characterization of what I understand as being *values* here. Broadly speaking, we can define a value as “something that is desirable or worthy of pursuit” (Elliott, 2017, 11). To make it more concrete, scientists could value predictive accuracy, logical consistency, internal coherence, theoretical simplicity, … , all so-called *epistemic* values, but also *non-epistemic* ones like economic development, high employment rates, renewable energy, public health, the promotion of inclusion, and so on (for a more detailed account, see Elliott, 2022, 3-6). It is mainly *non-epistemic* values (putting between brackets the question of whether we can at all draw a clear distinction between *epistemic* and *non-epistemic* values) that many think should be kept out of science as it might be a threat to scientific objectivity and trust in science. Let us see how that is working out.

Kevin Elliott (2017; 2022) shows how science is permeated with value influences and he distinguishes five avenues where value judgments are prominent, connected to five questions that regularly show up and whose answers shape scientific research:

1. What research topics to choose or to prioritize? Values steer the direction of research.
2. What specific questions to raise, assumptions to make, concepts and methods to use, and measurement procedures to select? Values influence the design of research.
3. What are the aims of inquiry in this particular context (weighing a variety of theoretical and practical goals, e.g., a quick or inexpensive fix rather than a slower, more detailed result)? Values specify the goals of research.
4. How to deal with questions of uncertainty (e.g., when is the available evidence sufficient for particular sorts of conclusions)?Values specify the interpretation of research results.
5. How to report and frame the conclusions of scientific research (e.g., what terminology, categories, or metaphors to employ in providing scientific information, what not to report)? Values define the way in which scientific information is spread and used.

Doing science implies answering these questions and thus making value judgments, be it implicitly or explicitly. The question that follows is: under what conditions is the influence of these values justifiable? In his overview of the science and values debates, Elliott (2017) discusses three conditions to consider in justifying the influences of values; value influences should be (1) made *transparent*, (2) *representative* of our major social and ethical priorities, and (3) scrutinized through *engagement* between different stakeholders.

When we zoom in on economics, we notice similar challenges as to how to deal with values. Recent contributions that acknowledge the unavoidability of value judgments in economics are, i.a., Alexandrova (2017), Hausman et al. (2017), Malecka (2021), Reiss (2017). While these contributions show the impossibility of value-free economics, one does not necessarily have to give up the *aspiration* of value freedom. In earlier research, however, I showed why cultivating this aspiration is detrimental, and it is epistemically much more beneficial to explore ways of productively dealing with values (Van Bouwel, forthcoming). Thus, in economics too, the challenge becomes to find the best way of dealing with values and justifying value judgments made by economists.

In this paper, I want to focus on Elliott’s third condition in justifying value judgments, namely citizen engagement, which has received scarce attention in relation to economics so far except for the few exceptions that are being discussed below.[[1]](#footnote-1) My general aim is to analyze whether citizen engagement could be the best way in dealing with, scrutinizing, and justifying values influencing economics. In order to do so, I start in Section 1 by exploring the epistemic benefits of citizen science and how it helps in scrutinizing value influences. Section 2 zeroes in on economics and citizen engagement, providing concrete examples and discussing how they contribute to value scrutiny. In Section 3, I further analyze what the exact contribution of citizen economics might be and I argue that it offers a solution for value scrutiny that is preferable to other solutions. In Section 4, I discuss some of the doubts raised about the role citizens could play in economics.

**1. Citizen Science**

Citizen engagement in science, in particular so-called “citizen science,” its development and reflection on it, is a thriving area. Let me first emphasize that “citizen science” comes in many varieties; I want to distinguish (at least) two forms. The first form, which is probably the most well-known and widespread, considers citizen science as (merely) *contributory*, e.g. counting birds or the Galaxy Zoo project, where citizens contribute online to classifying telescope images of galaxies, with the agenda mainly set by scientists and the citizens helping out. The second form conceives of citizen science as democratic, sometimes collaborative, sometimes contestational, as a *dialogue* in which citizens engage critically with science, and scientists are expected to be responsive to the citizens’ questions, suggestions, and critiques (*cf*. Irwin, 1995; Elam and Bertilsson, 2003; Kosolosky and Van Bouwel, 2014).

What does citizen science achieve in general? Based on case studies in Cavalier and Kennedy (2016), several epistemic contributions of citizen science can be identified:

* foregrounding understudied issues or formulating original research questions grown directly out of the questions and concerns of citizens, scientific topics citizens stumble upon in their daily life which may not be on scientists’ radars;
* providing testimonies of local experiences (one might otherwise not have access to) that might significantly differ from scientists’ experiences;
* identifying relevant variables and sources of data, informed by local knowledge, that professional scientists would miss—non-scientists can have access to relevant information that the scientific field might not even be aware of because the experiences, values, and problem framing of non-scientists sometimes differ from those of scientific experts and lead them to collect different sorts of information;
* knowledge and evidence about the local efficacy of instruments, technologies, and policies; the citizens actually using these might have that knowledge;
* using innovative methods, including DIY instruments;
* reflection on citizens’ questions and methods that often, implicitly or explicitly, challenge the adequacy of standard scientific approaches, make previously unnoticed biases visible, highlight local knowledge, and so on.

Now let us zoom in on how citizen science, as a form of citizen engagement, contributes to scrutinizing value judgments in science. To illustrate the connection between citizen science and the scrutiny of values, Gwen Ottinger’s (2010) paper provides us with a helpful example. Ottinger’s focus is on the second form of citizen science just mentioned, the more than just contributory, often contestational one. In her paper, she analyses the contribution of a coalition of environmental and community groups that conducted air sampling in US states affected by fracking and natural gas production activities, an example of what she calls *social movement-based citizen science*. Their air sampling led the coalition to demand expanded air monitoring by environmental regulatory agencies and a precautionary approach to regulating the industry.

This kind of social movement-based citizen science is per definition political and therefore often dismissed or discounted as insufficiently objective. Ottinger counters this, well in line with contemporary philosophy of science:

Because social movement-based citizen science produces knowledge with an explicit goal of creating social change, critics charge it with “bias.” Even those who might be sympathetic to citizen scientists’ causes are tempted to regard their data-gathering activities as political, not scientific, endeavors. This view draws on the widely held but erroneous belief that scientific investigations led by credentialed scientists are free of social values – except in anomalous cases involving corrupt scientists. In reality, *no*scienceis devoid of social values. (Ottinger, 2016, 100)

Rather than discredit, the political character of citizen science could benefit science, according to Ottinger:

… given that value judgments are inevitable in all scientific investigations, the explicitly political nature of citizen science grounded in social movements suggests ways that all forms of citizen science—and science in general—could become more robust by being more transparent and more deliberate about their own values. Furthermore, by diversifying the values that inform scientific inquiry, social movement-based citizen science can help scientists identify fruitful new methods and avenues of investigation. (Ottinger, 2016, 91)

Thus, Ottinger highlights two aspects. First, citizen science helps scientists to become more transparent and more deliberate about value judgments:

Unlike mainstream scientists, activists are transparent about the values that inform their scientific activities. And in their critiques of standard scientific practice, they call attention to implicit value judgments being made by scientists that might not seem appropriate when viewed from other perspectives. (Ottinger, 2016, 101)

Second, in diversifying values scientific inquiry might develop in new directions:

Responsibly conducted, the science conducted by activist groups can make a contribution to scientific knowledge writ large, not only by helping to amass data that credentialed scientists do not or could not collect. It can also diversify the values that inform scientific research and prompt discussions of what values ought to be informing scientific practice. By doing so, this kind of citizen science could help to identify new and fruitful areas of inquiry, and approaches to pursuing them that have the potential to be of greater benefit to society. (Ottinger, 2016, 101)

Choosing specific research questions, for instance, involves value judgments. For the citizen scientists, those questions arise from their local experiences with air pollution. Also, the choice of methods and instruments (DIY air monitors with a level of precision dictated by the questions of the citizens) as well as the standards are specific to the citizen’s aims of inquiry. As concerns the standards in Ottinger’s case study, obvious questions are: When is there enough evidence to conclude that environmental pollution is affecting citizens’ health? And, what level of statistical significance do we want to be certain that identified diseases could not have occurred randomly, unrelated to the pollution? The public health agencies might prefer to err on the side of saying that there is no problem when there is, rather than risking to declare there is a problem when there isn’t one. The citizen scientists, on the other hand, might not follow these agencies’ standards and rather intervene more quickly to protect their own health while simultaneously pushing a more precautionary approach with less evidence required and a lower bar for statistical significance (Ottinger, 2016, 97). Society as a whole might find the citizen scientists’ stance—erring on the side of caution—more reasonable than the high level of statistical significance that epidemiologists insist on when protecting people’s health against pernicious effects of pollution.

Summarizing, Ottinger defends social movement-based citizen science not only for not being unscientific, even if politically motivated, but also for strengthening scientific knowledge, making it more robust, by making value judgments more transparent as well as diversifying values and as such keeping science adjusted to societal needs and priorities. Ottinger’s analysis of citizen science dovetails with Elliott’s idea of engagement to scrutinize and justify values presented in the introduction. In what follows, I want to explore how citizen science could play a similar role in the field of economics.

**2. Citizen Economics?**

Debates about the presence (or not) of value judgments in economics abound in the history of the discipline. I will not revisit all of these debates here. Rather, I will take up Malecka (2021)’s suggestion to consider how discussions on *science and values* in the philosophy of science might offer us insights about diverse normative commitments influencing economics, something she believes economic methodologists would benefit from. Let us thus explore citizen engagement, the importance of which for scrutinizing values was highlighted by philosopher of science Kevin Elliott. The general idea of Elliott’s engagement condition is that value influences be scrutinized by engaging with a wide variety of stakeholders like, *inter alia*, citizens, policymakers, communities, other scientists or scholars, in order to identify value-laden aspects of science and to consider how to deal with them. In Elliott’s words:

By “engagement,” I mean efforts to interact with other people or institutions in order to exchange views, highlight problems, deliberate, and foster positive change. Four forms of engagement appear to be particularly promising … each … can help to highlight the ways that values are explicitly or implicitly influencing science. They also provide opportunities to challenge or critique value influences that run counter to people’s needs and priorities. Finally, they provide opportunities to reflect on the values that would better serve social needs and to incorporate those values in scientific practice. (Elliot, 2017, 138)

The four forms of engagement Elliott distinguishes are (1) bottom-up engagement, where citizens or community groups engage with scientists; (2) top-down, where formal engagement exercises engage the public to give input about scientific issues, including important value judgments in science; (3) interdisciplinary engagement between scholars with diverse backgrounds; and (4)engagement with institutions, laws, policies that structure the practice of scientific research. Below, I will focus on types (1) and (2), bottom-up and top-down citizen engagement.

***2.1 Citizen Engagement in Economics: Some Examples***

In the title of this article, I mention “citizen economics”. It is not commonly used as a label (yet), but my suggestion here is to apply *citizen science*ideas to the field of economics and analyze to what extent some of these ideas are present in economics and/or desirable. It is more difficult to find examples of citizen science in economics than in the natural, environmental, or biomedical sciences, as is confirmed by Tauginiene et al.:

CS [citizen science] has been predominantly pursued within the realms of the natural sciences … . Activities and projects following social sciences and humanities (SSH) topics and approaches are less easily discernible in CS practice, although they may be fuelled by some genuine and challenging questions … . A survey of CS projects in Europe revealed that more than 80% of current CS practice is confined to life and natural sciences and only 11% to the social sciences and humanities … (Tauginiene et al., 2020, 2)

However, I found some economics examples that will help to discuss the pros and cons of engagement frameworks within which citizens contribute.

Let us start with Elliott’s first type of bottom-up, citizen-led initiatives. One group of citizens which is very vocal in contesting economics’ research choices and priorities are economics students.[[2]](#footnote-2) Many student groups have been critical of what is often called *mainstream* economics, think for instance of groups like Rethinking Economics, theInternational Student Initiative for Pluralism in Economics*,* and thePost-Crash Economics Society*.* After the Great Financial Crisis of 2008, there were more of those groups than ever, but there have been earlier ones, like, e.g., the Post-Autistic Economics Movementin 2000(*cf.* Van Bouwel, 2004). What these student groups have in common is that they are disappointed in the economics they are being taught, demand changes, and plead for economics that helps them understand the reality in which they live and is apt for addressing the important economic questions and challenges they (will) have to address.

Another example of a bottom-up, citizen-led initiative is[Economy](http://www.ecnmy.org) (www.ecnmy.org), a charity that emerged out of Rethinking Economics.Economy aims to find out how people perceive economics, increase economic literacy, create new ways of talking about economics, reform economics (and the ways in which it communicates with the public), and campaign for understandable economics across the board, so that citizens be able to contribute to economic conversations and decisions on issues which affect them, fully taking part in democracy. We will further explore some of their actions below in Section 2.2.

The second type of engagement Elliott discusses, is top-down, third-party organized engagement.As an example, we could consider the*Citizens’ Economic Council*organized by the UK’s Royal Society for the Encouragement of Arts, Manufactures and Commerce (RSA). The Citizens' Economic Council programme stands for—in its own words—“another way of doing economics”, using the lived experience of citizens to question the choices and values incarnated in economics, as well as exploring how “economics can be more accessible, reflective of, and responsive to the experiences of the wider public”. (Patel and Gibbon, 2017, 24)

The Citizens Economic Council programmeran from 2016 to 2018 and introduced different formats among which: (a) *A Citizens’ Economic Council* engaging 54 citizens on national economic policy over a period of five days in five months; (b) An Economic Inclusion Roadshow engaging 190 citizens across some of the UK’s areas that are most ‘left-behind’ by economic policy on their experiences of the economy and economics, and exploring the disconnect between experts and citizens; (c) The use of civic technology and crowdsourcing, engaging with over 1000 citizens and RSA Fellows on an online platform; sourcing 47 high-quality economic policy ideas in response to challenges identified by the citizens; (d) Stakeholder engagement, engaging directly with economists, politicians, policymakers in face-to-face-meetings and public events.

By running the programme, the organization intends to explore “different ways of conceptualising what economic success looks like, at both a local and national level”, “build better relationships of trust and respect between experts, economists, politicians and citizens” as well as develop “a more public culture of economics” (Patel and Gibbon, 2017, 6-7). A lot of the findings of the report are perhaps caught in this quote from a participant: “Policymakers often don’t know what it’s like to be poorer or come from a different background. This [the Citizens’ Economic Council] is more representative of the nation.” (Patel et al., 2018, 48) More generally:

The Roadshow illustrated the extent to which many people both engage with and respond to economic issues (interest rates, debt, low pay, the effects of deindustrialisation) by connecting their personal experiences with national economic change. Economists have much to gain by recognising this ‘expertise by experience’, in particular at a regional and national level, when thinking through the implications of economic decisions. (Patel et al., 2018, 48)

Reading the report makes one very much aware of the disconnect between economics and the public (the report speaks of the lack of relevance of economics), economic expertise is being contested by citizens, specific examples of which will be given below in Section 2.2.

Another example of this second type of citizen engagement can be found in Alexandrova and Fabian (2021). They discuss an initiative set up by Turn2us, a national anti-poverty charity in the UK, in which citizens—in particular people whose thriving is or was undermined by sudden financial insecurity—were invited to co-produce a concept and measure of “thriving”, especially focusing on what thriving means in the context of financial hardship. Alexandrova and Fabian carefully explain the process of citizen engagement as well as the roles and epistemic contributions of different participants in co-producing the concept and measure. Three groups are involved in this exercise, namely, (a) people whose thriving is or was undermined, (b) employees of Turn2us, and (c) economists and other scholars who study thriving and poverty. Thus, a measure for a specific context is being co-produced, a thick concept—partly descriptive, partly value-laden—is being developed and democratically justified. One could imagine similar exercises for, e.g., “economic growth”, “unemployment” or “economic development” (nowadays often trumped by “poverty alleviation”).

***2.2. How Citizen Economics Might Help to Scrutinize Value Judgments***

Having briefly sketched some examples of citizen engagement in economics, let us now consider what they contribute with respect to the scrutiny of value influences in economics—the focus is on how citizen participation might help without going too much into the technical details of the specific economic discussions.

***GDP and Value Judgments.*** One striking passage in the RSA-report covering the *Economic Inclusion Roadshow* and a good illustration of the disconnect between economists and the public is the following: “a point somewhat more bluntly made by a Newcastle resident when Europe expert Anand Menon invited an audience to contemplate a plunge in the UK’s GDP as a consequence of Brexit. She yelled at him, “that’s your bloody GDP. Not ours.”” (Patel et al., 2018, 50)

Let me add some reflections here to frame this statement:

1. GDP or other aggregates (even when expressed per capita) may not provide an accurate assessment of the situation in which people find themselves. They do not reflect actual distribution, inequalities between regions, income brackets, genders, etc., and consequently, inequalities, varying levels of income and wealth, are often overlooked or rendered invisible.
2. It is well-known that GDP captures some contributions (e.g., building prisons, increased use of gasoline), but ignores others, like voluntary work, unpaid housework, etc. It renders some invisible, not valued.
3. There may be a gap between triumphal national GDP growth stories reported by experts and the lived experience of individuals or certain regions of the country. That might cause some discontent or irritation (e.g. when economists, politicians, or journalists draw moralizing conclusions—related to each and every individual—based on GDP numbers).

So, a first step might be to try to understand where the yelling of citizens comes from, a second is to use this discontent to scrutinize the value judgments underlying (the use of) GDP. GDP is a widely-spread standardized measurement procedure (*cf*. UN’s System of National Accounts) that assures at face value a certain (procedural) objectivity. Upon closer scrutiny, it is obvious that in constructing GDP as an indicator there are many value judgments involved: what is (not) being measured (*cf*. monetizable or not, exclusion of non-market transactions) and thus being “valued”, how to deal with changes that are hard to measure (changing quality of the same product/innovation), what is “wrongly” measured as positive (longer traffic jams), how does it at all reflect the depletion of scarce natural resources by some economic activities, or the irreversible ecological damage done, and so on. Notwithstanding the many doubts uttered about the use of GDP, it is still a lodestar for economists as well as for a whole range of policies, signaling where to go.

The suggestion here is not that it would be an error for economics to use GDP, but rather that it is important to highlight, make transparent, and, discuss the underlying value judgments, which might also lead to considering alternative ways of calculating the state of “the economy” or society as a whole (cf. the benefits of citizen engagement articulated by both Elliott and Ottinger). In the RSA final report, we read:

Many of the participants in the Council described the need to measure things we consider of value to society, lest they be overlooked in order to improve conditions and measure progress. Some citizens challenged the focus on growth in GDP without regard to how this growth and wealth are distributed. Others suggested measuring environmental and social factors, such as improving health and wellbeing, in order to “put a human face” on the economy. Additional indexes and measures such as the Human Development Index and GINI coefficient were also mentioned in dialogue with experts, as adding depth to the measure of a country’s overall economic situation. (Patel et al., 2018, 65)

There may be alternative indicators—based on different value judgments—that can be considered more adequate than GDP for some situations or purposes, e.g. Genuine Progress Indicator (GPI), Index of Sustainable Economic Welfare (ISEW), SDGs, ... Some of the alternative indicators might capture the experiences of some part of the population better (there is, for instance, the well-known graph comparing the evolution of GDP and GPI for the USA since 1970, where the GPI is slowly declining over the years, while the GDP shows a steady “growth”). Considering several alternatives might also question whether using a single master number (like GDP or an alternative indicator) as a guide for policy-making is a good idea.

The engagement of citizens and their clear critique of the primacy of GDP growth as a goal urges economists to take a more active stance in the use and evaluation of GDP. Not that all economists consider GDP to be unproblematic, see, e.g., Philipsen (2015) and Hoekstra (2019) for thorough critiques. The citizen engagement, however, underlines the urgency of paying more attention to the implicit value judgments in GDP and the disconnect between large parts of economics and the public, a disconnect which is strikingly worded in “that’s your bloody GDP. Not ours.” Making their own value judgments more explicit in deliberating about them with citizens, might teach economists more precisely where values diverge, what aspects run counter people’s needs and priorities, what values would better serve social needs, and, where new avenues of investigation should be opened up (an exercise that might eventually end up in more robust economic knowledge).

Similar to the Turn2us initiative discussed by Alexandrova and Fabian (2021), with respect to GDP and its underlying values, one could think of co-producing “growth” as a concept. *Economic growth* is a thick concept, inextricably linking a descriptive component with a value-laden one, that only relatively recently got a very specific content within economics with GDP: “To use economic growth as the barometer of success is a historically novel idea. To use GDP as the ultimate measure of economic performance is of even more recent vintage.” (Philipsen, 2015, 12) A public scrutiny of the concept and its values could help to develop new directions, making it more adjusted to societal needs and priorities. I want to stress that Alexandrova and Fabian distinguish three groups involved in such an exercise, namely (a) members of the public, (b) scholarly researchers, and (c) policy-makers and service providers, each with a distinctive expertise, namely (a) lived expertise, (b) technical expertise about theories underlying measurement, (c) professional expertise about delivery and implementation. Each of these is relevant in the co-production of a concept and its measurement, but some form of division of labor among them is likely in developing the characterization, representation, and, procedures of measurement. Thus, citizens are not replacing economists here; economists will have a strong grip on the representation part which requires a characterization to be connected to indicators whose values should fall along a scale and demands more technical expertise. The citizens, members of the public, (and their lived expertise) will rather be contributing to the articulation of content and boundaries of the concept, the characterization stage, by weighing alternatives and making different value judgments explicit.

***Inflation Indices and Value Judgments.*** Let us look at the [Economy](file:///C:\Users\jeroe\Downloads\ecnmy.org) project for another example. It isthe case of Joanne Wilcock (participant in a project of Economy), in her motorized wheelchair, commenting on the latest inflation figures, “everything is much more expensive when you’re disabled”. Another example of how citizen engagement could deliver testimonies of lived experience that give impetus to the scrutiny of values underlying economics.

Inflation figures are being calculated by making use of the Consumer Price Index (CPI), with CPI measuring the average change in prices over time that consumers pay for a basket of goods and services. Reiss (2013, 150-157) discusses the number of choices and value judgments going into measuring CPI. To give just one example, consider the *aggregation* and the question of how to decide the relative weight of every good or service in the basket. One answer is to weigh every good in proportion to its expenditure share in the total expenditure, so if five percent of national expenditures goes into cars, then cars will have a 5 percent weight in the CPI. This would imply that richer households, spending more on consumption, are overrepresented. Their spending is weighted by their share in expenditure. You get what Reiss calls a “plutocratic index”, governed by wealth. An alternative way of weighing is to give every household’s expenditure the same weight. That would result in a “democratic index”. Engel’s law tells us after all that consumption patterns change considerably with income, moving from the current plutocratic index to a democratic index would have a considerable impact on inflation figures.

The bottom line is not that one is correct and the other not, or one is always better than the other, it is about scrutinizing what value influences go into it (and reflecting on those value influences, e.g., making explicit who wins/loses depending on the choice made in calculating inflation). Returning to the testimony of Joanne Wilcock, if one understands how inflation figures are calculated one can also see that for some groups the official inflation number will be very little in line with their lived experience (imagine a social group that spends 15 percent of its income on electricity, while electricity is weighted for 3 percent in the basket, and the price of electricity happens to go up sharply …).

Here as well, we have an important economic indicator with a big impact on our lives which might be seemingly objectively constructed (at least the impression one gets when you hear *inflation* being used), but it is important to subject it to citizens’ engagement and critiques, to be part of public scrutiny and making the underlying value-judgments explicit. What citizen engagement underlines is that a seemingly objective economic measure, left to be determined by economists and policymakers, actually involves important political questions—questions that one would think to pertain to wider, public deliberation in democratic societies.[[3]](#footnote-3) The choice of index has a direct impact on how, for instance, social security benefits are being calculated, or wage increases, housing rents, and so on. One way of thinking about the alternative indices—with different underlying values—is to use them depending on the purpose they should serve. This is what Reiss suggests: “Different purposes require different weights. If social security recipients are to be compensated for changes in the cost of living, it seems that their budgets are the relevant ones, not those of wealthy households or the population at large. If, by contrast, the index is used for macroeconomic purposes such as testing the quantity theory of money, it seems reasonable to weight households by their expenditures—as this is where the money goes.” (Reiss, 2013, 157)

While this is no doubt a reasonable suggestion, it might not be easy to find a consensus about exactly when which mode of measurement is to be used. The best we can do might be to explicitly deliberate, spell out disagreements, make the respective value judgments transparent, and, by diversifying values develop inquiry in new directions – steps that can be taken through the citizen engagement exercises.

***The Economics Curriculum as a Site for the Scrutiny of Value Influences.*** Student groups write manifestos to give voice to their discontent with the economics that they are being taught. Rethinking Economics, for instance, writes in its 2016 manifesto: “Over the last 30 years, economics education has become increasingly narrow and detached from the real world. Lecturers teach one perspective as if it is the only legitimate way to study the economy.” The students’ complaints are summarized around: lack of critical thinking, lack of alternative perspectives, lack of real-world application, and, lack of ethical and political context (see the [*Manifesto for Curriculum Reform*](https://www.rethinkeconomics.org/wp-content/uploads/2016/10/Manifesto-for-Curriculum-Reform.pdf)). These criticisms oblige the profession to pay attention to the content of curricula, what support there would be for it, why some approaches get more attention than others, why many students are demanding more “real-world economics” apt to address the economic questions of their time, and so on. These challenges highlight that certain choices have been made, certain values prevailed, in deciding how to shape the minds of the next generation of economists and policymakers. Making these values transparent triggers the debate about them as well as the pondering of (better) alternatives.

One example of the engagement of students in the scrutiny of value influences and the introduction of a wider range of values (“diversifying values”, as Ottinger described it, cf. supra) can be found in the development of new textbooks that take into account the students’ criticisms. CORE (Curriculum Open-Access Resources in Economics), for instance, is a group that produced a new free online introductory textbook titled [*The Economy*](https://www.core-econ.org/the-economy/?lang=en). This initiative was led by Samuel Bowles and Wendy Carlin, and in the process of developing this new textbook Bowles and Carlin *engaged* with students worldwide (*cf*. Bowles and Carlin 2020, 177-178). It is just one example of how questioning values underlying the economics curricula, in this case textbooks, can give rise to alternatives that aim to better address the interests and needs of students.

***2.3 A Variety of Formats of Citizen Engagement***

As I have mentioned above, there are still relatively few examples of citizen engagement in economics (in comparison to, e.g., environmental sciences), so the debates about what the respective strengths and weaknesses of the variety of deliberative formats would be, or the different ways in which citizen economics could be institutionalized, have not taken place yet. With respect to the natural sciences, there are some interesting recent proposals, so let me just discuss one in order to inspire future citizen engagement in economics.

Zeynep Pamuk (2021) finds that current deliberative bodies engaging randomly selected citizens are too influenced by moderators and organizers. Therefore, she suggests an alternative, the science court, “an adversarial institution that can be initiated by citizens, and where competing experts make the case for dif­ferent positions.” (Pamuk, 2021, 100-101) In these courts, competing experts would present different scientific views and positions on questions “with a significant scientific component” (Pamuk, 2021, 100-101) in front of a citizen jury. Adding adversarial procedures enables participants to evaluate disagreements among experts, overcoming the knowledge asymmetry between experts and citizens.

The format would include different stages: (a) initiation of the court and agenda setting (ordinary citizens initiate the proceedings by petition and have control over the framing of the question);(b) adversarial proceedings (each invited expert/scientist makes a case for their own position against competing positions and they cross-examine each other so you get “a confrontation between opposing views by design” (Pamuk, 2021, 115); this confrontation enables exposing “background assumptions, political biases, and omissions of rival views as well as clarify the levels of uncertainty” (Pamuk, 2021, 100-101) and facilitates the critical scrutiny of positions for the citizen jury); (c) the citizen jury, made up of randomly selected citizens, interrogates the experts, deliberates, votes, and, then delivers a decision on the questions posed to the court, evaluating the facts and their practical implications together. “The deliberation would evaluate the dif­ferent claims and evidence presented by the experts, focusing on both the scientific aspects and value judgments required to reach a decision.” (Pamuk, 2021, 121) The science courts would then make recommendations to government policy-makers.

Thus, Pamuk presents a format to scrutinize scientific advice, advice that given the value judgments that are always unavoidably present, should not be accepted without scrutiny in a democracy. Pamuk’s approach emphasizes the adversarial; it is important to be able to contrast or trade-off between clearly distinguished, well-developed alternatives (this kind of format requires the availability of different expert perspectives, and that scientific disciplines cultivate a plurality of perspectives, something that is not always obvious in economics, cf. section 3.2 below). The science court is a very apt format in cases where you have to make a choice between clear alternatives, it ensures that citizens can participate effectively on scientific issues having the most favorable epistemic conditions for scrutiny and holding experts accountable under conditions of asymmetrical knowledge. There might however be other goals, like the critical scrutiny of values present in a certain thick concept, the exploration of alternative values for stipulating that concept, instructions for further research linked to a particular pressing problem, and so on, where science courts are not helpful. It is unlikely that there is some generalizable best format for all possible goals. The way forward in establishing procedures and institutions seems to be to carefully analyze concrete formats of engagement, e.g., deliberative workshops of the CEC, instances of participatory budgeting, or a World Café on circular economy, and learn what their respective strengths and weaknesses are with respect to the goals they are trying to reach.

**3. Rationales for Citizen Economics**

I sketched some examples of how making values explicit, challenging them, and exploring different directions could work with the help of citizen economics. Now, I want to further investigate what citizen economics exactly contributes and why it is preferable to other ways of scrutinizing values in economics. To do so, I will first discuss some rationales to promote citizen engagement, and demonstrate how they are present in the economics examples discussed above. Second, looking into these rationales will help me to spell out how citizen engagement offers a solution for value scrutiny that is preferable to other solutions.

One can distinguish at least five primary rationales or motivations in the academic literature and science policy documents for public engagement in science (Weingart et al., 2021). These are:

1. education: inform and educate the public about science, improve public access to scientific knowledge;
2. inspiration: inspire and raise interest in science and future students for science careers;
3. democratization: empower citizens to participate competently in science (democratization of science) and/or society (democratization of society);
4. innovation: promote innovation whereby citizens are considered to be a valuable source of knowledge, with, *inter alia*, local expertise, and possible contributors to knowledge production;
5. legitimation: to promote public trust in science.

With respect to economics, three rationales seem to stand out: increasing economic literacy—which covers motivations (a) and (b)—, fostering a dialogue to elicit public input—covering (c) and (d)—, and building trust or strengthening legitimacy—covering (e).

***3.1 Increasing Economic Literacy***

One way of reaching out to the public, prominent in the first wave of science communication (in the 1980s), was based on the so-called deficit model. The idea was that expert scientists inform the citizens who are supposed to be ignorant and need to be given facts by scientists to fill the “knowledge deficit”. This reasoning is present in research that emphasizes the knowledge gap in economic literacy (see, e.g., Jappelli, 2010).[[4]](#footnote-4) It might result in a one-directional relation with economists telling citizens what the dominant views in economics are and expecting that getting to know the science better prompts the public to come to agree with the scientists. However, it has become clear that increased scientific literacy does not necessarily lead to increased agreement with the views of scientists. The Yale Cultural Cognition Project, for instance,found that acceptance of the expert consensus on climate change is unrelated to (increasing) scientific literacy (Kahan, 2015). Work on vaccine hesitancy also points out that scientific illiteracy, or lack of scientific information, is not what is driving vaccine hesitancy and refusal; these result, rather from a problem of public mistrust of scientific institutions (cf. Goldenberg, 2019, I will return to mistrust below). Such findings imply that public engagement better goes beyond merely communicating research findings aiming to close the alleged knowledge gap, if it wants to reach its goals. However, in many cases, we still see the persistence of the deficit model in which the “dialogue” is conceived as scientists making sure the citizens understand them better (and will agree with them) and with a lack of mechanisms for integrating feedback from the public.

Even if increasing literacy might not be enough, or not result in what one had hoped for, and questions about the presuppositions of the deficit model should be raised, there seem to be valid reasons to increase economic literacy among the public. Ha-Joon Chang (2014b) advocates for more involvement of citizens by stating that “the economy is too important to be left to professional economists (and that includes me). As citizens, we should all learn economics and challenge what the professionals tell us to believe.” Chang’s reasoning goes as follows:

All economic theories have underlying political and ethical assumptions, which makes it impossible to prove them right or wrong in the way we can with theories in physics or chemistry. This is why there are a dozen or so schools in economics, with their respective strengths and weaknesses, with three varieties for free-market economics alone – classical, neoclassical, and the Austrian. (Chang, 2014b)

These different schools each emphasize “different aspects of complex reality, making different moral and political value judgements and drawing different conclusions.” Therefore, “If there is no one right answer in economics, then we cannot leave it to the experts alone. This means that every responsible citizen needs to learn some economics.” (2014a, 5) “What this means is that, as citizens in a democracy, all of us have the duty to learn at least some economics and engage in economic debates.” (2014b)

Chang’s reasoning puts a lot of responsibility on the citizens. He envisions that citizens

learn economics in such a way that one becomes aware of different types of economic arguments and develops the critical faculty to judge which argument makes most sense in a given economic circumstance and in light of which moral values and political goals (note that I am not saying ‘which argument is correct’). (Chang, 2014a, 5)

According to Chang

it is entirely possible for people who are not professional economists to have sound judgments on economic issues, based on some knowledge of key economic theories and appreciation of the political and ethical assumptions underlying various theories. Very often, the judgments by ordinary citizens may be better than those by professional economists, being more rooted in reality and less narrowly focused. Indeed, willingness to challenge professional economists and other experts is a foundation stone of democracy. If all we have to do is to listen to the experts, what is the point of having democracy? (Chang, 2014b, )

Here, Chang connects motivation (a) *education* for citizen engagement in science with motivation (c) *democratization* (we will return to *democratization* below).

Chang’s education rationale is in line with the mission of [Economy](file:///C:\Users\jeroe\Downloads\Ecnmy.org), the citizens’ initiative discussed above. [Economy](file:///C:\Users\jeroe\Downloads\Ecnmy.org)aims at increasing economic literacy, without this implying an increased agreement with the dominant views among economists. Insisting on increasing the knowledge about a plurality of schools with attention to their ethical and political assumptions, as Chang does, also dovetails with the students’ critique of mainstream economics education and the development of a more adequate curriculum. One site of value scrutiny mentioned above is economics textbooks, like the new CORE textbook, as well as other initiatives revising introductory economics courses. There is already some evidence for some of these initiatives to be “effective in increasing interest in economics among all students. Our evidence is consistent with the idea that the increased interest is a result of broadening perceptions of what economists do.” (Owen and Hagstrom, 2021, 187) Broader groups become interested in taking economics as an academic subject. Although not explicitly invoked by the initiatives discussed above, citizen engagement in economics can thus also result in “inspiration”, one of the motivations mentioned by Weingart et al. (2021), i.e., raising more interest in economics.

While the motivation of education for citizen engagement seemed originally be driven by the (flawed) assumption that more scientific knowledge—reducing the knowledge deficit—would lead to agreement with the scientists’ conclusions, some of the current pleas for increasing economic literacy seem motivated by enabling a more fruitful dialogue between citizens and economists. Let us turn to that now.

***3.2 Engaging in a Dialogue with Public Input and an Adjusted Social-Epistemic Constellation***

Rather than filling the knowledge gaps of citizens, citizen engagement can also be conceived as a two-way street, a dialogue in which citizens engage critically with economics, and economists are expected to be responsive to questions, suggestions, and criticisms. Let us first look at the part of the citizens in the dialogue. As we have noticed above when looking into Ha-Joon Chang’s contribution, motivation (c)—democratization—is also being invoked as a rationale for engaging citizens in economics. Chang pointed at the different moral and political value judgments made by the different schools in dealing with complex economic realities. Given these different schools, with their respective strengths and weaknesses, and there not being one right answer, we cannot leave economics to the experts alone, we have to engage citizens, and by doing so democratize economics. Democratizationcan be understood as empowering the citizens, making economics better in serving the citizens’ epistemic interests, but also as improving the discipline of economics as a whole in becoming epistemically more productive and responsive.[[5]](#footnote-5)

The engagement with citizens helps to make the values of mainstream economics approaches explicit as well as question them as we have seen in the examples of citizen engagement in Section 2; the questions about GDP, CPI, the assumptions and choices being made in measurement procedures, the students questioning the choice of topics in the economics curricula, the dominant methods, the implicit value judgments, and so on. Value judgments are playing a role in all of those choices, in what (not) to include, and citizen engagement makes that more transparent and challenges them: Are they representative, or are there better ones to be found? Citizens are both alerting economists of citizens’ concerns not being addressed by mainstream approaches as well as pointing at problematic or partial assumptions of the dominant approaches in economics. Taking into account different sets of values furthers democratization.

In line with Section 1 and the example of Ottinger discussed there, we might anticipate that such a critical dialogue with economics ends up empowering citizens and strengthening their sense of epistemic agency and influence; their epistemic interests better served, their local experiences being addressed, their understanding of their specific problem-situation and how they seek to solve it taken into account—an active role for citizens in clarifying, defining, intervening and solving public problems rather than fully outsourcing it to economists setting up general criteria and goals, operating with measurements on a single/universal scale.

It would obviously be too optimistic to expect that the input of the public will always result in fruitful exchange and correction, it might just result in explicating a plurality of perspectives on and in society (while some also consider citizen engagement to be just a machinery for manufacturing consensus, see the pessimistic takes on citizen engagement discussed in Section 4). Nonetheless, we want to highlight the opportunities citizen engagement provides to question dominant values in economics, flip ignorance as well as assure epistemic contestability (cf. Kosolosky and Van Bouwel, 2014, 82, in which “epistemic contestability” is understood as providing participants in an engagement exercise the possibility to challenge epistemic homogenization and the marginalization of certain epistemic interests).

So far for the public input into the dialogue, the responsibility of citizens, let us now have a look at the responsibility of professional economists, the reception and uptake of citizens’ input as well as how citizen engagement would allow or oblige the economics discipline to adjust in order to take advantage of local, situated knowledge (through the dialogue) and be part of democratization in empowering citizens to participate competently in economic policy debates. Required adjustments of the economics discipline could involve, *inter alia*: (1) pluralization of perspectives; (2) dealing with sins of omission; (3) questioning conformism.

***Pluralization of Perspectives.*** Taking up the criticisms and concerns formulated within the venues of citizen engagement could be one avenue to increase attention for neglected perspectives within the discipline of economics. The concerns, questions, and values being made explicit through dialogue and engagement with citizens might question the representativeness of values dominant in the discipline (and demand exploring more and different values), lead to further requirements of transparency of values, and demands for democratization. In order to better address the concerns and questions of citizens, economics would benefit from actively cultivating diverse approaches and perspectives (cf. Van Bouwel, 2004; 2014; 2023) assuring a better representation of different values (cf. Van Bouwel, 2021; 2023). It is not just a moral imperative, but also epistemically desirable. Failing to do so would imply an epistemic loss. (This is complementary to other pleas for scientific pluralism and having diverse approaches, e.g., Hasok Chang, 2012; Longino, 2013).

Citizen economics can contribute to making the social-epistemic constellation of the discipline more conducive for critical interaction (changing the distribution of perspectives, within the discipline) to improve the collective epistemic outcome; assuring mutual criticism, increased epistemic productivity, and avoiding epistemic loss. This might result in a more democratic culture of economics and lead to better, more successful policies as the RSA report also seeks:

We believe better policy and a better chance of success in pursuing that policy will result from a more publicculture of economics, one in which power is more evenly dispersed and shared among economic actors, including private, civic and public organisations and people in their roles as workers, consumers, investors and citizens. (Patel and Gibbon, 2017, 7)

***Dealing with Sins of Omission.*** The discipline of economics might not only be obliged to invigorate neglected perspectives to best address citizens’ concerns and questions but also to become more tolerant of different methods. In his 2020 paper, George Akerlof deplores that the economics discipline gives rewards that favor “hard” methods (more quantitative ones, mathematical modeling, statistical analysis) at the expense of “softer” methods. This leads, according to Akerlof, to “sins of omission”, i.e. ignoring a set of important topics and problems because they are difficult to be approached with a hard method. (Akerlof, 2020, 405) One of the examples of variables that have been omitted Akerlof gives are the stories people are telling themselves as motivations (Akerlof, 2020, 412-415). Some of the public’s concerns or questions cannot be raised let alone answered in the best way possible using only the dominant hard methods. Therefore, Akerlof pleads for the economics discipline to allow for more methodological flexibility broadening its capacity to address the public’s problems. This will require some changes in terms of social epistemology, journals, evaluation processes, selection into the profession, issues Akerlof also discusses. Let us turn to those now.

***The Social Epistemology of Economics: Questioning Conformism.*** Akerlof (2020) highlights three possible reasons for the economists’ tendency toward hard methods, namely (a) the place in the scientific hierarchy vis-à-vis other social sciences, (b) the research evaluation processes (e.g. for the top journals), (c) the selection into the profession reproducing “hardness”. Fourcade et al. (2015) lay out how the discipline of economics is strongly hierarchical as well as insular from other disciplines, often linked to prosperous schools of finance and business with high levels of wealth compared to most other academic disciplines. They also observe not only distance from other disciplines, but also from the public and the “growing social distance of economists from the public at large would be irrelevant if economists were not making it their mission to maximize the welfare of ordinary people.” (Fourcade et al., 2015, 19)

One of the central elements of power concentration and the strongly hierarchical nature of the discipline is the research evaluation process. Carlo D’Ippoliti (2020, chap. 3) analyzes how conformism is baked into the discipline via formal and centralized research evaluation schemes and bibliometrics that increase uniformity and homogenization rather than cultivate pluralism (qua perspectives and methods). Such conformism not only precludes some important concerns and questions of the public to be addressed but also obstructs opportunities for “innovation”. An economics discipline that wants to reap the benefits of citizen engagement like democratization and innovation will have to unblock its social-epistemic constellation accordingly.

***3.3. Building Trust and Strengthening Legitimacy***

A last possible motivation for citizen engagement mentioned by Weingart et al. (2021) is *(e)*legitimation; that is, to use citizen engagement to promote public trust or to strengthen the legitimacy of a discipline. The RSA report explicitly invokes this rationale. It starts with diagnosing that there is a decline of deference to economists and economics is going through a crisis in legitimacy and trust: “We live in a world in which economics is experiencing a crisis in legitimacy and public trust, at the same time as holding disproportionate influence and power.” (Patel and Gibbon, 2017, 10)[[6]](#footnote-6) The RSA report continues: “It has prompted the RSA to think about a better, more expansive, approach to democracy—engaging with the question of how we can effectively build better relationships of trust and respect between experts, economists, politicians and citizens, as well as to address the growing legitimacy deficit that economic decision-makers face.” (Patel and Gibbon, 2017, 6) And, “the Citizens’ Economic Council was designed to be an experimental, iterative programme that prototypes deliberative and discursive interventions that seek to test and deepen our understanding of how legitimacy can be strengthened through the use of innovative participatory techniques.” (Patel and Gibbon, 2017, 11)

The examples of GDP and inflation discussed above illustrate the skepticism toward economics. Participants in the Citizens’ Economic Council and the Roadshow “highlighted how a discrepancy between narratives about the economy and their own experience of it contributed to a sense of mistrust and scepticism about economics.” (Patel et al., 2018, 50) Citizens do not see theirown experiences reflected in the official numbers as told to them by experts. Philosopher of science Heather Douglas writes:

Members of the public can dispute scientific claims because they think scientists are asking the wrong questions. As noted above, social and ethical values legitimately shape the attention of scientists to certain topics or questions. But if what scientists care about asking does not align with what members of the public care about knowing, statements based on the findings can be greeted with skepticism, because the public thinks the scientists are not answering the crucial questions. (Douglas, 2017, 91-92)

Many questions citizens have, might not get a satisfying answer because they have not (yet) been extensively researched. Think about the person in the wheelchair and her skepticism vis-à-vis inflation numbers as they do not at all square with her lived experience and relevant numbers for her are not available. Douglas again: “Similar concerns can be raised regarding the environmental safety of some GMOs and regional climate forecasts. In such cases, what some citizens think are the crucial questions have not been well studied (as of yet). The values of those citizens and the values of the scientists are not aligning, producing skepticism about what scientists are reporting. The scientists are not answering the questions on the topic that are of import to the skeptical citizens.” (Douglas, 2017, 92)

Citizen engagement can be motivated by a will to address this skepticism highlighting differences in values and what important questions are being missed by economists. As the RSA report states:

When done well, good engagement and participation strengthen economic institutions’ ability to respond to citizen voice, as well as to create policy that works in the interests of the majority. The twin issues of legitimacy and efficacy are, of course, not distinct. We argue that legitimacy is core to securing public impact and efficacy, but that efficacy - good policymaking (which works)—will be able to consider and take into account the interests, needs and preferences of a wide range of citizens. In such instances, we encounter a virtuous circle of public engagement and participation, where increased responsiveness strengthens citizens’ trust in the process of engagement, which in turn encourages continued participation and engagement.(Patel et al., 2018, 51)

Thus, citizen engagement hopes to lower skepticism, build trust, and strengthen legitimacy.[[7]](#footnote-7)

Many commentators note, however, that not just any type of citizen engagement will contribute to restoring trust. Brian Wynne (2006), for instance, sees a persistence of deficit model thinking in many engagement exercises. He argues that public mistrust might not just be the result of a public misunderstanding of science, rather: “What is typically called ‘public rejection of science’ is properly described as public rejection of commitments based on value commitments that are misunderstood and misrepresented by scientists and policy-experts as if solely scientifically determined.” (Wynne, 2006, 214) Therefore, in order to address public mistrust, scientists and scientific institutions should reflect on their own “authoritarian institutional-cultural style” (Wynne, 2006, 217) and engage in a dialogue to understand that citizens might have other legitimate concerns and definitions of what an issue means to them rather than dismiss it with reference to illiteracy or lack of information. This requires a real change from one-directional to two-directional/mutual education.

***3.4 Citizen Engagement for the Scrutiny of Values***

With what we have learned about the different rationales, I can now make my argument in favor of citizen economics as the best way to scrutinize values. Several proposals regarding the scrutiny of values—what values are (not) allowed or should (not) play a role—have been developed by philosophers of science over the years. In a nutshell, they boiled down to emphasizing either *kinds*, *roles*, *guidelines*, or *norms of interaction*. Put succinctly, *kinds* focuses on distinguishing the kind of values that should be allowed (e.g., epistemic values) from the kind of values that shouldn’t. It turns out to be very hard to identify the exact list of “acceptable” values (and their relative weight) as well as to clearly distinguish them from ”non-acceptable” values (see, e.g., Rooney, 1992 for the discussion around kinds of values).

When looking at *roles* that values would be allowed to play in science (often distinguishing different stages in science, some in which values do play an acceptable role while in others they should not be allowed), Heather Douglas (2009), for instance, distinguishes an “indirect role” from a “direct role”of values.According to her, in the stage of evaluation of evidence, an indirect role of values is acceptable in evaluating whether available evidence is sufficient to support a hypothesis, while a direct role of values, where values are considered as a form of evidence or as reasons in themselves to accept a hypothesis, is unacceptable. In the stage of choosing research topics, on the other hand, a direct role of values is acceptable. Whether the distinction between *roles* is tenable has been questioned too (e.g. Brigandt, 2015).

Besides attempts to stipulate allowable *kinds* or *roles*, there have been proposals to give *guidelines* or prescribe *a set of rules* to scientists on how to deal with values. One example is how in certain disciplines there are specific guidelines about how to be transparent (about values). These guidelines might have serious downsides, skewing a field, and leading to epistemically suboptimal situations as I have argued in earlier research (Van Bouwel, 2023). Thus, in short, kinds, roles, and guidelines, all have their problems.

A fourth way explored by philosophers of science does not focus on prescribing what values (not) to use (when), but rather reflects on the way in which (the use of) values should be discussed, outlining norms of interaction*.* Longino (2002)‘s demand for critical interaction between approaches respecting four norms would be an example of such an approach. Considering this fourth way, one can see that there are different options here. Do we organize the critical interaction discussing values among scientists from the same discipline, or as an interdisciplinary discussion within the scientific community, or do we involve stakeholders and citizens from outside the scientific community?

Translating this question to the field of economics, one could organize the value scrutiny within the community of economists (with or without more attention to heterodox scholarship, more inclusion and diversity within the profession to reduce the risk of groupthink), or defend increased interdisciplinary, e.g., in interaction with scholars from other social sciences. However, I want to argue that citizen engagement, involving a broader group, is superior for the scrutiny of values; it offers a solution for value scrutiny that is preferable to the other solutions. In democracies, there are no experts on values. Restricting the scrutiny and justification of values to the economics community or an interdisciplinary scientific community seems therefore hard to defend. Moreover, as laid out above, involving citizens results in epistemic benefits for the economics community, failing to do so would imply an epistemic loss. For the citizens engaged, it creates moments to learn (without it implying agreement with dominant views among economists) enabling them to participate in value scrutiny and deliberation (making values more transparent, advancing their own epistemic interests, ascertaining that their understanding of specific problem-situations and local experiences are taken into account), and, to increase trust in economics. Overall, the more inclusive the citizen engagement is, the broader the scrutiny and deliberation of values, the lower the risk of missing out on important epistemic benefits, and the higher the epistemic productivity. Optimizing the scrutiny and justification of values requires however that the scientific community is organized in a way that there are real opportunities for dissent and (institutionalized) formats for deliberation and evaluation of research through citizen engagement. That is also the reason why we have to carefully analyze the social-epistemic constellation and dynamics of the economics discipline as well as how it should interact with the public (what I aimed to do in this Section 3).

**4. Possible Critiques of Citizen Economics**

Having discussed these promising rationales and possible benefits of citizen economics, let us also briefly look into some criticisms and potential downsides. First, we list some general critiques on public engagement in science, and second, we zoom in on economics in particular.

Returning criticisms of citizen engagement in science discussed in the academic literature are (cf. Weingart et al., 2021):

(1) Do not lose sight of the practical limitations of engagement; the lack of time and resources, infrastructure, constraints of group size to organize the engagement, while also consuming resources that scientists could employ in their research. Some scientists seem to consider it more of an administrative burden diverting energy and resources (see, e.g., Carrier and Gartzlaff, 2020, 163-164).

(2) Scientists are not (yet) trained for engagement, they may lack skills. Furthermore, being involved with these practices, means that scientists are personally exposed to the public eye, which might lead to experiencing undesirable consequences such as personal threats, political attacks, and so on – strategies to protect them from these dangers seems to be lacking too (for now).

(3) On the side of the ”public”, there are questions about its homogeneity; does a single public for engagement actually exist or how to deal with the diversity of audiences and their needs (see, e.g., Medvecky et al., 2017)? There are also worries about the engagement just leading to the perpetuation of unjust power dynamics, as the more vocal influential citizens might be the ones actually participating in engagement exercises (and, consequently, their interests prioritized over those of other members of society), or about the public engagement exercises risking to be hijacked by special interest groups (sometimes becoming a public relations tool, e.g., Blacker et al., 2021).

(4) A further issue to be attentive to, is the true intention of engagement. Citizen engagement exercises should be more than acceptance politics, than choreographies to manufacture consensus. The input of the citizens should be taken up, affect decision-making and be more than a mere tokenistic gesture. It is often not made explicit what will happen with thecitizens’ recommendations, concerns, and questions raised, what the mechanisms of uptake or for integrating the citizens’ feedback actually are*.* Weingart et al. (2021, 2) write: “Skeptical observers have drawn attention to the paradox of the engagement rhetoric itself: the engagement that is supposed to be a dialogue at eye level between scientists and the public is nevertheless initiated and orchestrated by scientists, their organizations, or governments.”[[8]](#footnote-8) So it is important to consider how engagement is being set up and its results being implemented. Weingart’s comment relates to forms of *invited* participation. There are of course also forms of *uninvited* participation, like the instance discussed by Ottinger (cf. above). In those latter cases, the risk of citizens being fully controlled by scientists, organizations, or governments during the engagement exercise is definitely smaller.

(5) In general, it is of course important to note that many of the public engagement formats are still in their infancy. Several researchers have emphasized the need for more systematic evaluations of public engagement activities. A larger number of evaluations could help us learn about the strengths and weaknesses of specific formats for particular questions or problems.[[9]](#footnote-9)

(6) Further challenges for citizen engagement are the lack of incentives for scientists to be involved in public engagement practices; the lack of recognition, professional reward, benefits for career advancement; engagement being considered at odds with an academic career and not well-regarded in the scientific community; lack of institutional support; lack of pro-engagement culture.

If we zoom in on the discipline of economics, in particular, several critiques of public engagement have been raised that refer to the ignorance, incompetence, or incomprehension of the public with respect to economics. First, there is the domain of folk economics questioning views about the economy held by laypeople. Second, there are surveys of economic literacy that would suggest that the public is ignorant about economics. Let us briefly look at those.

First, while *folk economics* is commonly used to refer to plausibly-sounding but wrongheaded views of the economy held by the public, it is also an object of scientific study. Boyer & Petersen (2018), for instance, look into widespread *folk-economic beliefs* (FEB) held by individuals without systematic training in economic theory, that concern topics like the causes of inequality or unemployment, the relation between work and wages, the benefits or downsides of markets and international trade, the effects of regulation, or the economic consequences of immigration. They approach the FEBs from a developmental psychology angle, explaining them with reference to universally present adaptive and automatic inference systems. Assuming the presence of these psychological systems, the FEBs are then sometimes described as the outcome of specific “biases”. Familiar examples of these are being too influenced by sunk costs or the failure to consider opportunity costs in evaluating different possible actions.

Some might see these evolved universal inference systems that support FEBs as being an iron cage that obstructs non-economists from meaningfully contributing to economics. On the other hand, some researchers have emphasized that “different people can hold different FEBs, and a person can hold seemingly contradictory FEBs. … Indeed, changing a person's experiences may change their endorsement of a particular FEB.” (Liberman and Kinzler, 2018). An increased understanding of how these FEBs are actually activated and shaped would enable social learning, for instance, on how to prioritize one set of evolved intuitions at the expense of another, or how to counter—what one would identify given one’s normative agenda as—normatively undesirable FEBs. Thus, it seems that this cognitive psychology research on folk economics is interesting and informative, but not necessarily an obstacle to elaborating citizen economics.

A second way of questioning the engagement of citizens in economics refers to the results of surveys of economic literacy. These surveys show a knowledge gap between economists and non-economists (Blendon et al., 1997; Caplan, 2001; Wobker et al., 2014) and often lead to the conclusion that the public is ignorant and not to be trusted when discussing economics or economic policies as non-expert citizens would be poorly informed about economic matters, so the judging is better left to economic experts (cf. Brennan, 2016).[[10]](#footnote-10)

Dekker and Kuchar (2020) examine two major surveys that tested the economic literacy of non-economists, namely the *Minimal Economic Knowledge Survey* from Germany and the *Standards in Economics Survey* from the United States. Although the results of these tests seem to confirm a considerable lack of economic knowledge among the participants, Dekker and Kuchar demonstrate how these surveys actually fail to test the economic knowledge of the public and are closer to an *Economics 101* exam, with many questions testing the knowledge of definitions or being formulated on a very abstract (decontextualized) level. In that sense, the tests do not really inquire about what the public knows or the economic understanding of the public, but rather its knowledge of economic theory.

In their analysis of the actual questions raised in those surveys, they notice that the answers given are sometimes “practically right even if theoretically ‘wrong’” (Dekker and Kuchar 2020, 7). They highlight several instances where participants answer questions ‘wrongly’ but do demonstrate solid economic reasoning (often informed by practical experience). Dekker and Kuchar interpret these responses as proof of economic literacy rather than ignorance. Yet many economists seem to be convinced that theirs is the only type of economic knowledge worth having and are quick to fault the public, rather than engaging to understand why perspectives differ, let alone which perspective is the most relevant (in a given situation). Dekker and Kuchar plead, first, to acknowledge that different types of economic knowledge (and there is more than one type of economic knowledge worth having) can exist simultaneously, and, second, to make use of the economic knowledge of the public, an untapped resource for the improvement of economic knowledge. Their conclusions about these surveys seem to highlight the importance of considering different perspectives, including the ones that traditionally are not widespread among economists. Just invoking the alleged ignorance of citizens concerning economic questions seems an option that would lead to suboptimal economic knowledge, while more citizen engagement promises to optimize it.

Let it be clear that I do not plead for leaving economics and economic policy-making entirely up to non-economists from now on. Rather, I want to question those that discredit public engagement by referring to the ignorance, incompetence, or incomprehension of the public. It seems too short-sighted, leading to missing out on much-needed discussion of value judgments in economics and better economic knowledge. I agree with Medvecky and Macknight when they write: “But what if, instead of starting with a presumption of ignorance, we asked people what they *do* know about economics? And what they care about and use in their locally embedded lives? The public may not know about the technical instruments economists use to measure, theorise, and impact the economy. But they do know something of what they want economics to do for them, their families, their communities and their environment. … Perhaps ordinary people, and economists too, could perform economics better and more effectively if they had more dialogue, and in particular if a key aim was the development of a shared language. If economics is to be a responsive and responsible social science these are things we need to know.” (Medvecky and Macknight, 2017, 5)

**Conclusion**

I started this paper by pointing at the different avenues for value influences in science, value influences that turned out to be unavoidable. We explored how citizen engagement could help to make those value influences more transparent, raise questions about them and reflect on different values that could be used. The examples of citizen engagement in economics show how engagement exercises contribute to revealing implicit values, identifying neglected questions, probing established assumptions, suggesting alternatives, and so on.

The suggestion here is that for values to play a justified role in economics which requires identifying value commitments as well as deliberating over them, citizen engagement is the best solution. Similar to what Ottinger highlighted in her example above, we have to develop ways to value local knowledge and experience through engaged citizens. In the current situation, taking into account the findings about “the superiority of economists” of Fourcade et al. (2015) in combination with the powerful role economists play in society—in deciding how to calculate inflation figures, setting interest rates, designing economic policies, and so on—one would think that economists have an interest in being perceived as more trustworthy and positively engaged rather than distant and suspicious. An engagement with citizens and their values, reducing the distance between economists and citizens, might moreover lead to better, more productive economic knowledge. One could imagine citizen engagement for scrutinizing value commitments in economics as being part of a broadened economic methodology. It will however imply some necessary adjustments to the social-epistemic set-up of the economics discipline in order to fully benefit from citizen engagement, as I argued above.

Critics invoke the ignorance and incompetence of citizens in matters of economics as arguments against citizen engagement, but these arguments do not convince (cf. Section 4). This does not imply that engagement exercises and experiments are never difficult or frustrating. There also remain a lot of questions to be addressed like: When have we sufficiently engaged citizens to scrutinize value influences? Who has (not) to be engaged? In what way should the citizens interact? Should all views count as heavily? Who interprets citizens’ views? When is the experiment or exercise to be considered successful? And so on. These are big questions and a generalizable model for citizen engagement does not seem in sight. One way forward is to scrutinize concrete formats of engagement and see how they tackle these questions, e.g., deliberative workshops of CEC, instances of participatory budgeting, examples of science courts, or, a World Café on circular economy.

Although these exercises are not easy (cf. the challenges enlisted in section 4), the question is whether in the long term, the technocratic solution is any “easier”. We are experiencing an increasing alienation of the public from different forms of scientific expertise, something which does not seem to be satisfactorily answerable with increased technocracy and paternalism. The costs of this alienation are rising quickly. Citizen engagement seems to be a way to turn the tide, to seek better involvement of and take-up by communities (with attention to local specificities), to make citizens agents of their life again, and, simultaneously, make economic knowledge more robust. This does neither mean that average Joe is to write the economics textbooks from now on, nor that we do not need the technical knowledge of economists any longer. Ideally, it implies that the unavoidable value judgments in economics are consciously being deliberated to best serve our needs, so what comes out of economics is not only yours but also ours.

**References**

Akerlof, George. 2020. Sins of Omission and the Practice of Economics. *Journal of Economic Literature,* *58*(2): 405-18.

Alexandrova, Anna. 2017. *A Philosophy for the Science of Well-Being*. Oxford: Oxford University Press.

Alexandrova, Anna and Mark Fabian. 2021. Democratising Measurement: or Why Thick Concepts Call for Coproduction. *European Journal for Philosophy of Science,* *12*(1): 1-23.

Blacker Sarah, Aya Kimura, and Abby Kinchy. 2021. When citizen science is public relations. *Social Studies of Science,* *51*(5): 780-796.

Blendon, Robert, Benson, John, Brodie, Mollyann, Morin, Richard, Altman, Drew, Gitterman, Daniel, Brossard, Mario, and, James, Matt. 1997. Bridging the Gap between the Public's and Economists' Views of the Economy. *The Journal of Economic Perspectives,* *11*(3): 105-118.

Bowles, Samuel and Wendy Carlin. 2020. What Students Learn in Economics 101: Time for a Change. *Journal of Economic Literature,* *58*(1): 176-214.

Boyer, Pascal and Michael Petersen.2018. Folk-economic beliefs: An evolutionary cognitive model. *Behavioral and Brain Sciences, 41*: E158.

Brennan, Jason. 2016. *Against Democracy*. Princeton: Princeton University Press.

Brigandt, Ingo. 2015. Social values influence the adequacy conditions of scientific theories: beyond inductive risk.*Canadian Journal of Philosophy,**45*(3): 326-356.

Burnazoglu, Merve and Francis Ostermeijer. 2020. Rethinking what every economics student needs to know. *Journal of Economic Methodology,* *27*(2): 179-184.

Caplan, Bryan. 2001. What Makes People Think Like Economists? Evidence on Economic Cognition from the “Survey of Americans and Economists on the Economy”. *Journal of Law and Economics,* *44*(2): 395-426.

Carrier, Martin and Minea Gartzlaff. 2020. Responsible research and innovation: hopes and fears in the scientific community in Europe. *Journal of Responsible Innovation,* *7*(2): 149-169.

Cavalier, Darlene, and Eric Kennedy (eds.) 2016. *The Rightful Place of Science: Citizen Science*. Tampa, AZ: Consortium for Science, Policy & Outcomes.

Chang, Ha-Joon. 2014a. *Economics: The User’s Guide.* London: Penguin Books.

Chang, Ha-Joon. 2014b. Opinion: Economics is too important to leave to the experts. *The Guardian*, 30 April 2014. https://www.theguardian.com/commentisfree/2014/apr/30/economics-experts-economists

Chang, Hasok. 2012. *Is Water H2o? Evidence, Realism and Pluralism*. Berlin: Springer.

Dekker, Erwin and Pavel Kuchař. 2020. The epistemological break in economics: What does the public know about the economy and what do economists know about the public? doi:10.2139/ssrn.3643406.

D’Ippoliti, Carlo. 2020. *Democratizing the Economics Debate. Pluralism and Research Evaluation.* New York: Routledge.

Douglas, Heather. 2009. *Science, Policy, and the Value-Free Ideal.* Pittsburgh: University of Pittsburgh Press.

Douglas, Heather. 2017. Science, Values, and Citizens. InA.Adams, Z. Biener, U. Feest and J. Sullivan (eds.), *Oppure Si Mouve: Doing History and Philosophy of Science with Peter Machamer*. Berlin: Springer, 83-96.

Elam, Mark and Margareta Bertilsson. 2003. Consuming, Engaging and Confronting Science. The Emerging Dimensions of Scientific Citizenship. *European Journal of Social Theory,* *6*(2): 233-251.

Elliott, Kevin. 2017. *A Tapestry of Values: An Introduction to Values in Science.* New York: Oxford University Press.

Elliott, Kevin. 2022. *Values in Science*. Cambridge: Cambridge University Press.

Fourcade, Marion, Etienne Ollion, and Yann Algan. 2015. The Superiority of Economists. *Journal of Economic Perspectives,* *29*(1): 89-114.

Goldenberg, Maya. 2019. Vaccines, values and science. *Canadian Medical Association Journal,* *191*(14): E397-E398.

Haenssgen, Marco. 2019. New impulses from international development for more comprehensive and balanced public engagement evaluation. *Global Health Action,* *12*: supplement 1.

Hausman, Daniel, Michael McPherson, and Debra Satz. 2017. *Economic Analysis, Moral Philosophy, and Public Policy*. Cambridge: Cambridge University Press.

Hoekstra, Rutger. 2019. *Replacing GDP by 2030.* Cambridge: Cambridge University Press.

Irwin, Alan. 1995. *Citizen Science. A Study of People, Expertise and Sustainable Development.* London:Routledge.

Jappelli, Tullio. 2010. Economic Literacy: An International Comparison. *The Economic Journal,* *120* (548): F429–F451.

Jarvie, Ian. 2001. Science in a Democratic Republic. *Philosophy of Science,* *68*(4): 545-564.

Kahan, Dan. 2015. Climate-Science Communication and the Measurement Problem. *Advances in Political Psychology,* *36*: 1-43.

Kosolosky, Laszlo and Jeroen Van Bouwel. 2014. Explicating ways of consensus-making: Distinguishing the academic, the interface and the meta-consensus. In Carlo Martini and Marcel Boumans (eds.), *Experts and Consensus in Social Science.* Berlin:Springer, 71-92.

Liberman, Zoe and Katherine Kinzler. 2018. Understanding the development of folk-economic beliefs. *Behavioral and Brain Sciences,* *41*: E177.

Longino, Helen. 2002. *The Fate of Knowledge.* Princeton: Princeton University Press.

Longino, Helen 2013. *Studying Human Behavior. How Scientists Investigate Aggression and Sexuality.* Chicago: University of Chicago Press.

Malecka, Magdalena. 2021. Values in economics: a recent revival with a twist. *Journal of Economic Methodology,* *28*(1): 88-97.

*Manifesto for Curriculum Reform*. http://www.rethinkeconomics.org/wp-content/uploads/2016/10/Manifesto-for-Curriculum-Reform.pdf

Medvecky, Fabien and Vicki Macknight. 2017. Building the economic-public relationship: learning from science communication and science studies. *Journal of Science Communication,* *16*(02): A01.

Mügge, Daniel. 2019. The Revenge of Political Arithmetick. Economic Statistics and Political Purpose. *Fickle Formulas Working Paper, 2-2019*.

Ottinger, Gwen. 2010. Buckets of Resistance: Standards and the Effectiveness of Citizen Science. *Science, Technology, and Values,**35*(2): 244–270.

Ottinger, Gwen. 2016. Social movement-based citizen science. In Darlene Cavalier and Eric Kennedy (eds.), 2016. *The Rightful Place of Science: Citizen Science*. Tampa, AZ: Consortium for Science, Policy & Outcomes, 89-103.

Owen, Ann and Paul Hagstrom. 2021. Broadening perceptions of economics in a new introductory economics sequence. *The Journal of Economic Education,* *52*(3): 175-191.

Pamuk, Zeynep. 2021. *Politics and expertise: How to use science in a democratic society.* Princeton: Princeton University Press.

Patel, Reema and Kayshani Gibbon. 2017. *Citizens, Participation and the Economy. Interim Report of the RSA Citizens' Economic Council.* London: Royal Society for the encouragement of Arts, Manufactures and Commerce.

Patel, Reema, Kayshani Gibbon and Tony Greenham. 2018. *Building a Public Culture of Economics. Final Report of the RSA Citizens' Economic Council.* London: Royal Society for the encouragement of Arts, Manufactures and Commerce.

Philipsen, Dirk. 2015. *The Little Big Number. How GDP came to rule the world and what to do about it*. Princeton: Princeton University Press.

Potochnik, Angela. 2012. Feminist Implications of Model-Based Science. *Studies in History and Philosophy of Science,* *43*: 383-89.

Reiss, Julian. 2013. *Philosophy of Economics: A Contemporary Introduction*. London: Routledge.

Reiss, Julian. 2017. Fact-value Entanglement in Positive Economics. *Journal of Economic Methodology,* *24*: 134-149

Rooney, Phyllis. 1992. On values in science: Is the epistemic/non-epistemic distinction useful? In *PSA: Proceedings of the biennial meeting of the philosophy of science association* (Vol. 1992, 1). Cincinnati, OH: Philosophy of Science Association, 13-22.

Tauginiene, L., Butkevičienė, E., Vohland, K., Heinisch, B., Daskolia, M., Suškevičs, M., Portela, M., Balázs, B. & Prūse, B.  2020. Citizen science in the social sciences and humanities: the power of interdisciplinarity. *Palgrave Communications,* *6*(89). https://doi.org/10.1057/s41599-020-0471-y

Van Bouwel, Jeroen. 2004. Imperialistische tendensen in de economiebeoefening en politieke wetenschappen. Over heterodoxie en pluralisme in de sociale wetenschappen. [Imperialist tendencies in economics and political science. On heterodoxy and pluralism in the social sciences.] [*Ethiek & Maatschappij*](http://www.google.com/url?q=http%3A%2F%2Fwww.ethiekenmaatschappij.ugent.be%2Fjg-7-n%25B0-1-2004&sa=D&sntz=1&usg=AOvVaw0Qq3SLJS5la6Yisi6T4b75), *7*(1): 32-45.

Van Bouwel, Jeroen. 2014. “Explanatory Strategies Beyond the Individualism/holism Debate.” In Julie Zahle and Finn Collin (eds.), *Rethinking the Individualism/Holism Debate*. Berlin: Springer, 153-175.

Van Bouwel, Jeroen. 2021. Are *Transparency* and *Representativeness of Values* Hampering Scientific Pluralism? In Peter Hartl and Adam Tuboly (eds.), *Science, Freedom, and Democracy*. London: Routledge, 181-205.

Van Bouwel, Jeroen. 2023. How to Deal with Values in Political Science? In Harold Kincaid and Jeroen Van Bouwel (eds.), *The Oxford Handbook of Philosophy of Political Science*. New York: Oxford University Press, 493-520.

Van Bouwel, Jeroen. *Forthcoming*. Questioning the ideal of value neutrality in science.

Weingart, Peter, Marina Joubert and Karien Connoway. 2021. Public engagement with science—Origins, motives and impact in academic literature and science policy. *PLoS ONE,* *16*(7): e0254201.

Wobker, Inga, Kenning, Peter, Lehmann-Waffenschmidt, Marco, and, Gigerenzer, Gerd 2014. What do consumers know about the economy? A test of minimal economic knowledge in Germany. *Journal of Consumer Protection and Food Safety, 9*: 231–242.

Wynne, Brian. 2006. Public Engagement as a means of restoring public trust in science: hitting the notes but missing the music? *Public Health Genomics,* *9*(3): 211-220.

Zahle, Julie. 2018. Values and Data Collection in Social Research. *Philosophy of Science, 85*: 144-163.

1. I discussed and evaluated Elliott’s conditions (1)transparency and (2) representativeness with respect to economics in earlier papers (Van Bouwel, 2021; 2023). As one reviewer remarked, these discussions ultimately bear on how to organise “the Republic of Science” and debates about the governance of science and its place within democratic societies that can be traced back to authors like Michael Polanyi and Karl Popper (see, e.g. Jarvie, 2001). [↑](#footnote-ref-1)
2. We have to add an obvious caveat here: there is a certain delay and/or mismatch between actual economics research and economics education, *cf*. Burnazoglu and Ostermeijer (2020). However, this does not undermine the role students could play in value scrutiny, see below 2.2. [↑](#footnote-ref-2)
3. For some well-documented examples of how the numbers of economists, although being presented as objective, technocratic data, have a lot of values and politics going on underneath, I can recommend the work of Daniel Mügge (2019). [↑](#footnote-ref-3)
4. One could raise the question of whether we see a knowledge gap concerning the way the economy works or a knowledge gap concerning the content of economics textbooks. We will return to this in Section 4. [↑](#footnote-ref-4)
5. The productivity of science is to be understood as its capacity to answer our important questions effectively (cf. AU). [↑](#footnote-ref-5)
6. Medvecky and Macknight (2017, 3) agree: “More troubling, there is also a major lack of public confidence in economics. Indeed, a recent survey show [sic] that the American public have little confidence in economics even to solve the types of problems that are generally assumed, at least by economists, to be part of economics’ core domain.” [↑](#footnote-ref-6)
7. Legitimacy might involve both the legitimacy of economics as well as the legitimacy of the policies based on the economic knowledge provided by economics.  [↑](#footnote-ref-7)
8. This is something Pamuk (2021) wanted to avoid by having citizens initiate science courts, see section 2.3 above. [↑](#footnote-ref-8)
9. For some of the challenges and paths forward, see Haenssgen (2019). [↑](#footnote-ref-9)
10. Dekker and Kuchar (2020, 2) remark: “It is somewhat paradoxical that the same discipline which has put the individual with his or her stable preferences and superhuman rational capabilities at the center stage of market analysis, is so distrustful of the opinion of the public when it comes to matters of economic literacy and public policy views.” [↑](#footnote-ref-10)