

RESEARCH ARTICLE

Austrian behavioral economics

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Abstract

This paper explores the potential for gains from trade between Austrian and behavioral economics, with a focus on how the two schools of thoughts can constructively critique each other. Among other things, the Austrian critique of behavioral economics would urge it to jettison its restrictive and axiomatic definition of rationality, and to treat humans as active agents rather than passive recipients of environmental and cognitive influences. Meanwhile, the behavioral critique of Austrian economics would push it to take more seriously the fundamental question of how individuals arrive at choices and to analyze how such choices can interact with ‘micro-institutional’ choice environments.

Key words: Austrian economics; behavioral economics; subjectivism; methodological individualism; spontaneous order; knowledge problem

Economics deals with the real actions of real men. Its theorems refer neither to ideal nor to perfect men, neither to the phantom of a fabulous economic man (*homo oeconomicus*) nor to the statistical notion of an average man (*homme moyen*). Man with all his weaknesses and limitations, every man as he lives and acts, is the subject matter of catallactics. Every human action is a theme of praxeology.

— Ludwig von Mises, *Human Action* (1966)

It has never been my point to say that there is something wrong with people; we are all just human beings – *homo sapiens*. Rather, the problem is with the model being used by economists, a model that replaces *homo sapiens* with a fictional creature called *homo economicus*, which I like to call an Econ for short. Compared to this fictional world of Econs, Humans do a lot of misbehaving, and that means that economic models make a lot of bad predictions...

— Richard H. Thaler, *Misbehaving* (2015)

1. Introduction

Both Austrian economics and behavioral economics purport to offer deep critiques of mainstream neoclassical economics. This simple observation suggests the possibility of synergy between the two schools of thought. At the same time, Austrian and behavioral economics often seem at odds, especially when it comes to policy recommendations. Behavioral economics has often been deployed to justify paternalist interventions on behalf of less-than-fully-rational individuals (Camerer *et al.*, 2003; Gruber and Köszegi, 2001; O’Donoghue and Rabin, 2003, 2006; Sunstein, 2014; Sunstein and Thaler, 2003; Thaler and Sunstein, 2003; 2008) – and some Austrian economists have pushed back strongly against such arguments (Devereaux, 2019; Padilla, 2009; Rizzo and Whitman, 2009a, 2009b, 2020; Whitman and Rizzo, 2015). However, this policy-level disagreement may obscure gains from trade between the two schools.

In this paper, I will explore these potential gains from trade, with a focus on how the two schools can constructively critique each other. Among other things, the Austrian critique of behavioral economics would urge it to jettison its restrictive and axiomatic definition of rationality, and to treat humans as active agents rather than passive recipients of environmental and cognitive influences. Meanwhile, the behavioral critique of Austrian economics would push it to take more seriously the fundamental question of how individuals arrive at choices and to analyze how such choices interact with ‘micro-institutional’ choice environments.

My focus is on the ‘new’ behavioral economics that has dominated the field since the 1990s, and which is associated with the work of Richard Thaler, Daniel Kahneman, Amos Tversky, and Dan Ariely, among many others. This is distinct from the ‘old’ behavioral economics that arose in the 1950s with such scholars as Herbert Simon, Harvey Leibenstein, and George Katona. As Sent (2004) has documented, the new behavioral approach began to eclipse the old one during a transitional period in the 1970s and 1980s. The new school’s greater success has derived in part from its attempt to augment rather than replace the neoclassical paradigm, particularly its use of axiomatic rationality as a normative benchmark (Sent, 2004: 747). In focusing on the new behavioral economics, my purpose is not to sideline the older school, but to concentrate on the field as now typically practiced and how it may be improved. Indeed, the older behavioral school had numerous affinities with the Austrian school (Frantz, 2013, 2017), and many insights from the old behavioral economics will prove helpful in bridging the gap between Austrian economics and the new behavioral economics. (For simplicity, when I refer to ‘behavioral economics’ without modification, I mean the newer variety.)

As a framing device, I will rely on a list of foundational principles of Austrian economics, explaining how each principle might improve behavioral work – but also how its full application would require Austrians to internalize behavioral insights. Several lists of Austrian principles have been written (Boettke, 2010a; Boettke and Coyne, 2015; Kirzner, 1987; Machlup, 1982). I will not rely on any single list, but instead consider those principles that appear across multiple lists and that seem most relevant in this context. (This will mean, for the most part, ignoring Austrian macroeconomics, inasmuch as behavioral economics remains a largely microeconomic endeavor.) Also, I do not intend to offer a comprehensive justification for any of these Austrian principles. To the extent I offer justifications, it is only to advance the broader argument for Austrian-behavioral gains from trade.

2. Subjectivism

To Austrians, subjectivism (sometimes called methodological subjectivism) refers to the idea that ‘social scientific explanations must start with the subjective mental states of the actors being studied’ (Horwitz, 1994: 17). Subjectivism may be contrasted with approaches that purport to derive social scientific explanations and predictions from objective facts about the world, such as resources, the money supply, technology, and so on. The error in the objectivist approach is that the facts of the social sciences are fundamentally subjective in character. A resource only becomes a resource when people recognize it as such; money isn’t money unless people treat it as money; technologies do not become relevant until people understand how to use them; and so on. At a deeper level, if we seek to *understand* a social phenomenon, any explanation that doesn’t rely on ‘what people think and feel, their assessments and valuations, [and] the way they see the world and their place within it’ (Storr, 2010: 30) will ultimately be incomplete and unsatisfying.

In the Austrian subjectivist perspective, analysts have privileged access to the building blocks of economic theory simply by virtue of being human. Intelligibility of human action is possible because ‘we are what we study’ (Boettke, 2010a: xiii). This means intuition and introspection play a key role in generating theories. Our understanding of economic activity begins with ‘knowledge from within’ that we gain ‘not through observation, but through intuition – the intuition we possess as economic actors’ (Evans, 2010: 8).

Here we find our first opening for a behavioral critique of Austrian economics. Our intuitions about how we make choices can be misleading. Although Austrians frequently criticize the neoclassical

notion of constrained optimization, on first consideration constrained optimization can seem quite intuitive: 'I always try to do the best I can with the means available to me', or 'I'm satisfying my preferences in the best way possible'. Even Austrians sometimes rely on the idea that a choosing person simply selects 'the option they most prefer' from the options available (e.g. Holcombe 2009: 302). By contrast, reasonably strong evidence supports cognitive processes that lack immediate intuitive appeal, such as loss aversion (Kahneman and Tversky, 1979) and responsiveness to framing (Tversky and Kahneman, 1981). Although these concepts may become intuitive once explained, they do not necessarily spring to mind from mere introspection. If the reader disagrees with these judgments of intuitive appeal, that only serves to underline the unreliability of introspection: it does not lead researchers to the same conclusions.

We should therefore be skeptical of extreme versions of aprioristic methodology that shield certain aspects of introspection from empirical testing. Austrian lodestar Ludwig von Mises, for instance, stated that:

What we know about the fundamental categories of action – action, economizing, preferring, the relationship of means and ends, and everything else that, together with these, constitutes the system of human action – is not derived from experience. We conceive all this from within, just as we conceive logical and mathematical truths, a priori, without reference to any experience. (von Mises, 2003 [1933]: 14)

There has been much debate about the best interpretation of Mises's apriorism (e.g. Koppl and Whitman, 2004; Oprea and Powell, 2010; Scheall, 2017; Zanotti and Cachanosky, 2019), a debate I will not resolve here. Mises likely intended to make a statement of great generality that could accommodate more specific (and testable) hypotheses. Nevertheless, the specific quotation above at least *seems* to shield many mental processes (such as preferring and economizing) from empirical scrutiny. Although Austrian economists have exhibited a range of perspectives on this issue, resistance to the intrusion of psychology into economic theory is common in the Austrian school and can be found among some of its leading thinkers (Vihanto, 2004: 327). The unreliability of introspection, and the resulting need to discriminate among competing intuitions, should induce Austrians to be more accepting of psychological insights, which can help to generate more specific and testable claims about human behavior.

But behavioral economics has a similar blind spot when it comes to introspection. Some of behavioral economics' leading concepts *do* have intuitive appeal, which helps to explain their sticking power in public debates. The endowment effect, status quo bias, and hyperbolic discounting, among others, may seem quite familiar and natural: 'Of course, I do that all the time!' Yet subsequent research often reveals how little we understand the actual operation of these mechanisms. For instance, hyperbolic discounting – the tendency of near-term discount rates to exceed far-term discount rates – is typically presented as resulting from impatience or procrastination, which are familiar experiences. Yet it turns out the underlying cause may have less to do with impatience than with *time compression*, the tendency to perceive a duration in the distant future as subjectively shorter than the same duration closer to the present (Zauberman *et al.*, 2009). Or the underlying cause may be related to *subadditivity*, the tendency of the discount rate for an undivided period of time to be lower than the compounded discount rate for the same period of time divided into small units (Read, 2001). Or the underlying cause might involve *similarity judgments*, which result in a tendency to see periods in the distant future as more similar to each other than time periods in the near future (Rubinstein, 2003). A behavioral concept's intuitive appeal does not imply its truth. Behavioral economics needs to be more open to refutation or weakening of its most celebrated contributions.

Despite these concerns about the trustworthiness of intuition, it remains true that good social science requires reference to the subjective understandings of the people whose behavior is to be explained. Superficially, behavioral economics seems to satisfy this principle. Yet behavioral scholars sometimes smuggle in a spurious objectivity via their conception of rationality – a conception borrowed directly from neoclassical economics. Consider the notion of framing invariance, a supposed requirement of rational behavior. In Tversky and Kahneman's formulation, 'Different representations

of the same choice problem should yield the same preference. That is, the preference between options should be independent of their description' (1986: S253). When real subjects violate this rule, behavioral economists deem them irrational. But what does it mean for the choice situation to be 'the same' despite different descriptions? The problem can be 'the same' to the analyst without being 'the same' to the subject. Two logically equivalent descriptions – pointing to the same object in the world – may not have the same significance to the individual chooser. In positing framing invariance as a requirement of rationality, behavioralists are clinging to the idea of objectively described choice situations, which misses the subjective character of how individuals interpret those situations. There is no reason to assume that agents do or should have 'deep preferences' defined over objects independent of their descriptions (Rizzo and Whitman, 2020: 73). What matters is the *meaning* the agent attaches to such objects, which can legitimately depend in part on description.

This isn't some exotic notion of choice under peculiar circumstances. *All* human choices proceed from interpretation and meaning in the mind of the chooser. For example, it is well known in the marketing literature that a product's 'psychological meaning' to consumers affects their experience of the item. Friedmann (1986) explains that the psychological meaning of a product may include 'a person's ... direct and/or his vicarious experiences, images, feelings, and associated behavioral responses that have been accumulated over time' (5).

To take a simple example, a reader might avoid buying Kahneman's book *Thinking, Fast and Slow* presented as 'an enlightening tour of the field of behavioral economics', while buying the same book presented as a 'a *tour de force* that will change how you think'. And her expectation of the book may then affect how she reads and experiences it. But it's the same book, right? What differs is how the potential buyer thinks about it, even if she already knows the subject matter. The latter description might tap into her desire for self-improvement in a way the former description doesn't. To make sense of the difference, we need to get inside the chooser's head to understand her interpretation of the situation – and thus a supposedly objective description of the situation won't do. The agent's attitude toward the object of choice matters. The same goes for other kinds of framing effect where the reason for the divergent choices is less obvious.

A behavioral economist might object to the book example on grounds that the two descriptions don't convey the same information. Perhaps one description implies the book has content that the reader finds more valuable. But the same can be true of many other descriptions that the analyst considers informationally equivalent, even though the subject may not. For instance, a patient might be more likely to agree to a surgery described as having a p success rate than the same surgery described as having a $(1 - p)$ failure rate. To the analyst, these seem to be informationally equivalent descriptions. But the patient might infer from the former description a greater optimism or an implicit recommendation on the part of the surgeon – and he might be right. Information 'leakage' can result from the selection of the frame (Sher and McKenzie, 2006). Logically equivalent statements can carry different semantic content (O'Driscoll and Rizzo, 2015: 13). This means the analyst cannot simply stipulate the informational equivalence of different frames. What the agent infers from the frame depends on the subjective preconceptions she brings to the situation.

Although subjectivism has been part of the Austrian approach since its inception, Friedrich Hayek laid a deeper foundation for it in *The Sensory Order* (1952), wherein he explained that a person does not – indeed cannot – directly apprehend the facts of the world around him. Each new experience must go through a process of mental interpretation, which necessarily is shaped by the individual's prior experiences and memories (Frantz, 2013: 11–12). This is as true of the analyst as the people studied, which hobbles attempts to define choice situations 'objectively' in a manner independent of interpretation by the agents (or subjects) involved.

2.1 Subjective preferences

Subjectivity of preferences means that economics 'takes man's ultimate ends and judgments of value as given' (Boettke and Leeson, 2003: 446), and it is a corollary of the broader principle of subjectivism

(Horwitz, 1994). To understand choice behavior, we need a story about the value that choosers themselves place on the things they are choosing. This is a simple enough point, and some version of subjective preferences has been incorporated into both neoclassical and behavioral economics. This doesn't *seem* like a point of difference with the Austrians.

But it turns out that neoclassical economics has imposed a *particular structure* on preferences. They must satisfy the axioms of completeness and transitivity, which together guarantee a consistent and unambiguous ranking of all options. Preferences satisfying these axioms are said to be rational. Behavioral economists, to their credit, have rejected these axioms as a positive description of behavior. Yet they have, oddly, accepted the axioms for normative purposes, identifying violations of them as *ipso facto* irrational (Whitman and Rizzo, 2015: 411). This is despite the fact that the preference axioms' original purpose in neoclassical economics was primarily to facilitate mathematical tractability by, among other things, justifying the use of mathematical utility functions to summarize preferences (Whitman and Rizzo, 2015: 416). Their normative status was never fully established, and there exist many reasons that reasonable people could have incomplete or intransitive preferences, including: (a) discovering their underlying preferences through experimentation and trial-and-error; (b) creating their preferences in the process of choice; and (c) economizing on effort, both cognitive and non-cognitive, that would be required to fully rationalize them (Whitman and Rizzo, 2015: 418–420).¹

A fully subjectivist approach would not impose restrictive axiomatic requirements on preferences. Rizzo and Whitman (2020: 26–27) have argued for a notion of *inclusive rationality* that would permit preferences that are context-dependent, frame-dependent, emotion-dependent, and reference-point-dependent, among many other things. In this respect, the behavioralists have something to learn from the Austrians. The key is to set aside their normative judgments about the permissibility of nonstandard preferences. In doing so, they will open themselves up to seeing how nonstandard preferences, which they have done so much to identify via empirical research, can reflect sensible ways of approaching the world.

Do Austrian economists have something to learn from behavioral economics here? As good subjectivists, Austrians generally 'talk the talk' about fully subjective preferences. For example, Stringham (2010) says:

Mapping all goods in a person's 'subjective' utility function becomes less and less possible as one considers the number of things that influence people in a given day. Little things can put people in different moods, which will change how they value other goods, so it is unclear how economists could map a utility function to include all of the things that might influence a person's mood and propensity to consume something at a given time. (Stringham, 2010: 48)

Stringham is saying that utility functions incorporating all these phenomena would be so complex as to be impossible to construct.² At the same time, he suggests it would be illegitimate to rule out such 'weird' preferences in general. Theories that ignore them run the risk of sacrificing accuracy for tractability – searching for our keys under the street lamp, as the old parable goes.

Where Austrians could go further, however, is in challenging 'utility functions' as appropriate language for thinking about preferences, *even as a metaphor*. Utility functions are built on the underlying

¹Many have argued that intransitive preferences are irrational because they could allow the agent to be turned into a 'money pump'. For an explanation of why the money pump argument does not prove the irrationality of people with intransitive preferences, see Rizzo and Whitman (2020: 67–69). The short version is that for the money pump argument to pose a genuine challenge to rationality, it would need to show that people are indeed exploited (and harmed) in this way in reality, which would require unrealistic conditions: 'hyper-aware and omnipresent bookmakers ready to take advantage of any given intransitivity', targeted agents who are oblivious to being so targeted, and transaction costs low enough to allow the process to happen repeatedly and indefinitely.

²Although some have tried. Bernheim (2016) lays out a more inclusive approach that treats many supposed 'biases' as normatively acceptable. However, the approach works in part by simply allowing multiple utility functions, each corresponding to a different decision frame. The fruitfulness of this approach remains to be seen.

assumptions of completeness and transitivity. By thinking in terms of a utility function, or any kind of unambiguous preference ordering, we may implicitly impose unjustified conditions on preferences in a way that conflicts with thoroughgoing subjectivism. Similarly, although Holcombe (2009) says the Austrian framework does not assume transitivity and is consistent with behavioral findings, he also affirms that ‘*ex ante* any human action is utility-maximizing’ (309). Yet the meaning of utility maximization is unclear in a framework that allows intransitivity and other anomalies, which can prevent the existence of a maximal element in a choice set. Better language would rely on the notion of *utility-improving* or *utility-seeking* action, which places weaker requirements on the structure of preferences than the axioms of transitivity and completeness.³ (That said, the fact that people have *some* incomplete or intransitive ‘regions’ of preference does not mean they cannot have definitive orderings in other regions or between regions. For instance, even if I have an intransitive ordering of pizza, hamburgers, and spaghetti, I may nevertheless definitively rank all three above sushi.)

Furthermore, if Austrians are serious about subjective preferences, they need to absorb empirical findings from behavioral economics, such as loss aversion (Kahneman and Tversky, 1979) and endowment effects (Thaler, 1980), that challenge the traditional conception of preferences. That doesn’t mean accepting such findings uncritically, as subsequent research can alter or even negate previous findings – and behavioral economists have sometimes been slow to recognize this, to the point of treating certain behavioral findings as truisms. But it does mean accepting that the results of empirical research can shape our modeling choices. For instance, Austrians often argue, in a manner similar although not identical to neoclassicals, that consumer demand results from the consumer consulting a mental ranking of objects in terms of their marginal utility (High, 1994: 89). But behavioral insights suggest that such a mental ranking does not always exist, and other mechanisms – such as mental budgets, choice algorithms, slow-changing buying patterns, and experimentation – could influence choices in a manner only loosely connected to marginal utility, especially when the choice set is large and complex.⁴

2.2 Subjective knowledge and beliefs

Subjectivity of knowledge is another specific implication of the broader principle of subjectivism (Horwitz, 1994: 18). But given that knowledge and beliefs are about ‘the outside world’, in what sense are they subjective? The simplest version of the argument is that people do choose based on their own beliefs, right or wrong. ‘An economist must always distinguish between what an individual economic agent knows and the actual facts, or objective reality. The economist cannot ascribe to an agent knowledge that the agent cannot possess in that situation’ (O’Driscoll, 2004: 274). The more radical version of the argument, however, is that there exist multiple valid ways of apprehending the same facts of the world. As Simon says in explaining his old-school behavioral approach, ‘Bounded rationality says that each one of us, faced with living and making decisions, looks out in the world and tries to get a picture of it; and each one of us of course gains a different picture’ (1997: 25; cited in Kesting, 2017: 38–39).

In both the neoclassical and behavioral views of the world, rational humans form and revise their beliefs in line with classical logic and Bayesian probability. A rational agent’s beliefs must be fully consistent at all times, both with each other and with the best available information from the outside world. Here, as with preferences, many behavioralists reject the neoclassical view for positive purposes but accept it for normative ones. Yet there is an alternative view, most fully articulated by Gerd

³This approach could be motivated by von Mises’s claim that people always act ‘to remove a felt uneasiness’ (1998 [1966]: loc 5006). However, note that von Mises’ assumption is very broad, and therefore more restrictive assumptions may be required to make it operational in specific models; see Koppl and Whitman (2004).

⁴See Earl (2017: 11–12): ‘However, with a large range of products that promised significantly different combinations of characteristics outputs, consumers would face a major computational challenge if they were aware of all of their possible options and tried to weigh up all of the different combinations of characteristics in order to work out which product offered the best mix. In reality, their search processes might limit the scale of the information-processing task by causing them to stop well short of discovering all the available options and, if even a partial list left them with information overload, they might cope by applying simplifying rules and routines’.

Gigerenzer and coauthors (Gigerenzer and Brighton, 2009; Berg and Gigerenzer, 2010; Brighton and Gigerenzer, 2012; Gigerenzer, 2008; Gigerenzer and Hug, 1992), whose brand of behavioral research emphasizes ‘fast and frugal’ heuristics for solving problems, including inference of information. These mental tools conserve cognitive resources while often delivering results comparable to if not better than the methods prescribed by the traditional approach. Gigerenzer’s program is a natural extension of the older behavioral economics of Simon *et al.*, with its focus on how humans adapt to a world of uncertainty, time constraints, and costly cognitive effort.

Fast-and-frugal heuristics fit naturally within an Austrian approach that conceives of rationality in terms of purposeful behavior. Purposeful behavior simply means seeking to achieve one’s goals by choosing tools that work in the relevant context (O’Driscoll and Rizzo, 2015: 11). When tools are fitted to specific purposes, they will not necessarily be consistent with each other, nor do they need to be. A heuristic that functions well in one task environment might fail in another, so we should not expect the agent to consistently apply the same tool regardless of context. Altman (2017), following Simon, criticizes conventional economics for its tendency to ‘decontextualize the meaning of rationality’ by defining it ‘in terms of norms that are often dissociated from the overall decision-making environment’ (2017: 183). Modern behavioral economics often commits the same error by treating axiomatic rationality as a universal rulebook for successful behavior.

Furthermore, just as we should not expect time- and resource-constrained individuals to have fully rationalized all of their values and preferences, we should not expect them to have fully rationalized all of their beliefs. The benefits of rooting out all inconsistencies in one’s belief system, even as more inconsistencies appear with the constant arrival of new information, are likely small compared to the costs (Rizzo and Whitman, 2020: 124).

The notion of subjective knowledge also should inform the interpretation of behavioral research. It is a mistake to assume that experimental subjects will interpret instructions provided by researchers exactly as intended, or exactly as a strictly logical reading of the words would imply. Subjects do not leave their knowledge of the world outside the laboratory door. They may, for instance, tacitly assume that experimenters will – in keeping with standard conversational norms – only provide them with relevant information (Grice, 1989; Rizzo and Whitman, 2020: 136). Or they may interpret a problem through the lens of their perceived interests, looking for violations of an implicit social contract rather than violations of a logical rule (Gigerenzer and Hug, 1992; Rizzo and Whitman, 2020: 128). Possible information leakage from a frame, discussed earlier, might also cause inference to deviate from analysts’ normative expectations.

These considerations cast doubt on behavioral economists’ frequent inference of irrationality from laboratory studies in which subjects make ‘incorrect’ inferences. The behavioral researcher assumes the existence of an *objectively correct* description of the problem situation. But if the subject doesn’t leave all their personal and cultural knowledge outside the laboratory, we cannot interpret the results of laboratory experiments without getting inside people’s heads to some degree. What task did they think they were doing? Did they assume the experimenter was behaving cooperatively or not? What additional assumptions about the situation might they have made? And so on.

The Austrian lesson for behavioral economics is clear enough: Do not treat all deviations from classical logic and Bayesian inference as failures of rationality; instead, try to understand how subjective knowledge affects the formation and revision of beliefs, in both the laboratory and real life. The behavioral lesson for Austrians, as with preferences, is to delve deeper into the psychological processes that shape choice in specific contexts; do not assume the same abstract process operates in all contexts.⁵

⁵O’Driscoll and Rizzo (2015: 11) reach a similar conclusion: ‘The challenge for Austrians is to contrast the standard and behavioral conception of rationality with the pragmatic (“praxeological”) view and to show the superiority of the pragmatic. The opportunity for Austrians is to encourage and participate in work that emphasizes the ecological rationality of behavior (Gigerenzer, 2008; Smith, 2008). Gerd Gigerenzer has developed an approach that conceptualizes heuristics as cost-saving methods of solving problems that are often superior to the application of formal systems of rational thought in the specific context in which individuals find themselves.’

3. Methodological individualism

Methodological individualism (MI) means that social scientific explanations should be expressed in terms of 'the actions (or inaction) of individuals; groups or collectives cannot act except through the actions of individual members' (Machlup, 1982: 39–40). MI often comes first in lists of Austrian principles (Boettke, 2010a; Machlup, 1982), but I find it useful to discuss it after dealing with the closely related topic of subjectivism. (MI naturally leads to subjectivism, insofar as the next question, after saying social explanations must turn on individual choices, is to ask how such choices are made.)

MI is a live concern in the Austrian critique of macroeconomics, but it doesn't *seem* to be a point of difference from either neoclassical microeconomics or behavioral economics. Both of the latter clearly work within the individualist tradition. However, there is still some question as to the role that institutions should play within MI. Evans (2010: 7) explains that the methodological debate is really among *three* positions: holism, atomism, and institutionalism. The last of these is the proper position for Austrians (Boettke, *et al.*, 2013: 289n), despite the Austrian approach sometimes inaccurately being identified with atomism. Agassi (1975) persuasively defends the merger of individualism and institutionalism. In this approach, individual choices are made within and shaped by institutions, which in turn have emerged from prior individual choices (Dequech, 2013). Institutional MI 'incorporates social constructs as both the products of, and shapers of individual choice' (Evans, 2010: 9). What makes a social scientific explanation consistent with MI, even as it allows a critical role for institutions, is that the explanation must go *through* the individual (Whitman, 2004).

Nominally, behavioral economics comports with institutional MI and is thus consistent with the Austrian approach. After all, behavioral choices do issue from individuals. In practice, however, behavioral explanations tend to have a mechanistic tone, wherein the interaction between individuals and institutions seems largely one-directional: the individual reacts to an exogenously imposed context. Individuals are manipulated by how problems are framed. They cannot help indulging their biases. They are effectively controlled by their choice environment. The Austrian approach, by contrast, emphasizes the two-way interaction between individuals and institutions. People need not be passive; they can actively engage with their choice environment, often changing it in the process.

If the individual is shaped by social context, how is it possible that he could resist its control? Why doesn't social context lead to social determinism? The Austrian insistence on the power of individual choice might sound like an echo of mind–body dualism or belief in the soul. But no such metaphysical leaps are required. The key insight is that individual choice is not determined only by present context, but by the cumulative effect of a lifetime of interpreting the social world, which provides the individual with a degree of independence from any specific present context. This form of independence is called *cognitive autonomy*, and it means that 'the cause of human behavior is more inside the individual than outside it. What matters is not the context, but precisely the way we interpret it' (Di Iorio, 2013: 153). Consequently, although individuals do react to their environments, and they are to an extent shaped by those environments, they also exert influence over their environments – and they do so in ways that depend on their subjective interpretations of the world. (Which, of course, leads back to subjectivism.) As Heiner (1983) observes, the fact that individuals often cope with the world's complexity and uncertainty by following relatively simple rules makes their behavior more predictable by others, thereby contributing to the emergence of reliable institutions.

The Austrian lesson for behavioral economists is to treat people as active participants in choice situations, not passive recipients of contextual influence. The challenge for Austrians, on the other hand, is to consider that individuals will not *always* be so active. Much as it would be cognitively burdensome to rationalize all of one's preferences and beliefs, it would be even more burdensome to challenge and interrogate the framing and context for all of one's choices. We rationally and reasonably rely on 'autopilot' for many of our choices, even as we reframe and reconceptualize others. The implications of these lessons for behavioral and Austrian economists will become more clear in the discussion of process, discovery, and entrepreneurship below, and even more so in the later section on spontaneous order.

4. Process, discovery, and entrepreneurship

Austrian critiques of neoclassical economics often focus on its reliance on equilibrium analysis; indeed, this concern has been called ‘the main intellectual difference between [the Austrian and neoclassical schools]’ (Rosen, 1997: 139). An equilibrium denotes a point of rest, wherein all relevant forces exist in a state of balance such that no further change is expected (without exogenous shocks). Mathematically, an equilibrium point occurs when all the defining equations of a system are satisfied at once; the classic example is the intersection of supply and demand curves in the standard competitive model of a market.

The Austrian concern with equilibrium modeling is that it does not adequately explain the process by which such an equilibrium is reached from an initial state of disequilibrium. For instance, in the standard model of competitive equilibrium in which all agents are price-takers, how is it possible that prices could ever change as necessary to reach the ultimate equilibrium? Economists will sometimes tell stories about buyers and sellers ‘bidding’ with different prices, but those stories are strictly speaking not part of the model itself; they are hand-waving in the vicinity of the model. Even ostensibly ‘dynamic’ neoclassical models typically involve a moving or intertemporal equilibrium rather than a process of change from a state of disequilibrium.

The Austrian alternative is to describe a process of market discovery, typically involving the alert and creative activity of entrepreneurs in moving markets toward equilibrium – or, possibly, away from it (Kirzner, 1997; Sautet, 2010; Yu, 2001). In essence, disequilibrium situations necessarily correspond to opportunities for pure gain, and there is a tendency for people to find and exploit such opportunities – and in the process close them. By contrast, ‘Entrepreneurs are not to be found in neoclassical economics’ (Rosen, 1997: 148). In the neoclassical equilibrium-always approach, there is no role for entrepreneurial activity because all opportunities for gain have already been exploited.

Although this critique mostly pertains to equilibrium *among* individuals, it also applies to equilibrium *within* the individual (Rizzo and Whitman, 2018: 204–205). As discussed earlier, there is no reason to think agents have preferences and beliefs that are pre-reconciled and fully consistent before they make any actual choices. Yet neoclassical models typically proceed on the assumption of well-defined and well-behaved preferences and beliefs. There is no room for trial-and-error, self-discovery, and self-correction because all the work ‘has already been done, instantaneously and costlessly, by assumption’ (Rizzo and Whitman, 2020: 401). Behavioral economists, again, tend to adopt this neoclassical approach as a normative standard.

The behavioral approach might seem superior because it shows how people do not, in fact, fit the equilibrium-always neoclassical model. Yet when behavioral economists construct models of choice, those models typically have a static character. For instance, they model ‘present-biased’ agents as having a quasi-hyperbolic discount function for intertemporal decision-making (e.g. Gruber and Köszegi, 2001; O’Donoghue and Rabin, 2003, 2006). This model includes an inconsistency in the discount rate, but the formula itself does not allow for the possibility of change. There is no process by which the individual might confront the inconsistency and, perhaps, find a way to resolve it or cope with it. The neoclassical model builds in a static optimality, while the behavioral model builds in a static source of error.

As Earl (2017) puts it, modern behavioral economics operates by incorporating anomalies into ‘a twisted version of the rational choice model’ (14). And like most rational-choice models, the new behavioral models offer scant room for people whose strategies evolve over time.

An Austrian-behavioral model of individual choice would allow the possibility of ‘rationality as a process’ (Rizzo and Whitman, 2018), wherein individuals discover their own inconsistencies and biases over time. Some (not all) of these discoveries might constitute opportunities for pure gain from their rationalization or correction, in which case the agents who find them would seek potential solutions. A vast array of common behaviors can be understood as examples of such ‘intrapersonal entrepreneurship’: making resolutions and commitments; joining clubs and enlisting the support of others; adopting personal reward and punishment schemes; using mental budgets to control spending;

structuring one's home or work environment to minimize temptation or maximize productivity; avoiding places and situations that might trigger undesired behaviors; and more (Rizzo and Whitman, 2020: 218–220). People discover and implement these strategies in real time, modifying and refining them as they go along.

To broaden the point, we can think of entrepreneurship as encompassing any act of conceiving (or reconceiving) a problem situation, as distinct from calculating an optimal solution within a given problem situation. Various psychological processes can be understood in this way – as processes that essentially change the parameters of a decision problem. For instance, so-called *impact bias* (the tendency to overestimate the impact of future events on one's happiness) has the salutary effect of temporarily amplifying the significance of an event to focus one's attention on the decision at hand (Damasio, 1994: 198; Rizzo and Whitman, 2020: 114–115). Exposure to strong temptations can trigger a process of *counteractive self-control* that takes the form of increasing or decreasing the value placed on certain goals (Myrseth *et al.*, 2009; Rizzo and Whitman, 2020: 222). In both cases, the psychological process involves a (partially unconscious) element of reframing or reconceptualization.

Neglecting self-regulation is a persistent blind spot of behavioral economics. Behavioral economists have tended to see self-regulation as evidence of the problem rather than the solution. In discussing policy solutions for supposed self-control issues, behavioral economists rarely consider how interventions could interact with and potentially unravel self-control strategies. The lesson for behavioral economists is clear: Do not focus on the snapshot. Look at the moving picture. What appear to be errors from a static perspective may constitute solutions from a dynamic perspective.

But what is there for the Austrian to learn here? A key question is the reliability of self-regulatory solutions. In the interpersonal market context, it is not necessary for everyone to be an entrepreneur; the social equilibration process only requires that a sufficient number of people be entrepreneurial. If one person seizes an opportunity for gain, their doing so helps to bring plans into alignment via the price mechanism and profit-and-loss mechanism, and others benefit from the process. But is there any analogous mechanism within the individual mind? Alternatively, are there social mechanisms that will tend to spur the individual toward the discovery and management of their own internal opportunities for gain?

A process view of rationality need not imply that people's strategies will evolve inexorably toward perfection. There could be psychological traps or dead ends that prove difficult to escape. However, given the idiosyncratic character of strategies within the subjectivist framework, it seems unlikely that we'll find 'inherited heuristics that make all humans "predictably irrational" (Ariely, 2009) in the same way'; we are more likely to discover 'how individuals' personally constructed systems of rules for coping with life could in some cases prove dysfunctional' (Earl, 2017: 11–12). Either way, these are questions that Austrians should explore.

5. Knowledge problem

Since Hayek's (1945) seminal paper on 'The Use of Knowledge in Society', Austrian economists have emphasized the importance of diffuse and tacit knowledge (Oguz, 2010). Up to that point, mainstream economists had relied on market models in which all relevant information about preferences, technologies, and resource supplies was treated as given. But *given for modeling purposes* is not the same as *given to a central planner* – a distinction that became clear in the famous debate on socialist calculation. The socialists argued that a central planning board equipped with all relevant information could rationally plan an economy. Hayek argued that the socialists were assuming away the problem, because a key virtue of the market economy is its ability to mobilize information that by its nature is dispersed among thousands of market participants.

A similar knowledge problem afflicts those who would use behavioral research as a basis for paternalistic interventions (Devereaux, 2019; Rizzo and Whitman, 2020: 237ff). Even if we take as given that individuals are afflicted with cognitive biases that generate poor decisions, an insurmountably

large amount of knowledge would be required for paternalist planners to craft effective policies for their correction. The taxonomy of knowledge requirements includes knowledge of true preferences; knowledge of the extent of biases; knowledge of self-debiasing and small-group debiasing; knowledge of how interventions will affect self-regulation in a dynamic fashion; knowledge of counteracting behaviors; knowledge of bias interactions; and knowledge of the distribution of all these variables across a heterogeneous population (Rizzo and Whitman, 2020: 239–270).⁶

Although this critique of behavioral economics – or rather, its facile application to policy – has been made before (Rizzo and Whitman, 2009b), behavioral economists have not yet fully absorbed it. The discipline continues to generate greater scientific knowledge of how context affects decision-making, but the policy-level assumption seems to be either that such contextual knowledge is not necessary or that the body of knowledge will eventually be great enough to proceed. What this belief misses is the distinction between scientific knowledge and local knowledge (Hayek, 1945). The idiosyncratic nature of the relevant knowledge means that individuals will always have a privileged position: ‘They have access to their inner selves and circumstances in a way that outsiders typically do not’ (Rizzo and Whitman, 2020: 236).

Policy questions aside, behavioral economists would benefit analytically from taking the Austrian-identified knowledge problem seriously. Behavioral research strongly supports the idea that behavioral effects are highly context-specific (Rizzo and Whitman, 2020: 192–196). Self-regulatory behaviors, in particular, tend to be highly heterogeneous, depending on the type of choice, cues from the environment, and other individualized factors (Rizzo and Whitman, 2020: 192–196). Some research has already been carried out in this area, but it has taken a back seat to research designed and packaged to deliver general and abstract conclusions (which also seem more policy-ready). Freed from that goal, behavioral economists can challenge themselves to explore more deeply how people discover, access, and respond to knowledge of themselves, especially in the realm of self-regulation. Much of this research would likely be field rather than laboratory research, inasmuch as laboratory experiments are typically rarefied contexts unlike those encountered in everyday life.

The challenge for Austrians is closely related to that stated in the section on process, discovery, and entrepreneurship. Although individuals do have privileged access to their own minds, that does not imply they know everything about themselves worth knowing. The question is whether there are psychological or social processes that will necessarily push them along the path of self-discovery. In other words, is there an intrapersonal solution to the intrapersonal knowledge problem? What is the intrapersonal analog to the price system?

Altman (2013: 254) states the challenge directly: ‘In production, firms must survive based on price and quality. In consumption, individuals need not pass any particular survival test. A vast array of quite different choices can persist over time, based on the preferences of individuals and their capacity to realize these preferences... These choices can be error-prone and still be sustainable. Evolutionary processes need not eliminate them’. Altman notes that such processes may be ecologically rational (in Gigerenzer’s sense of that term) but nevertheless suboptimal, in the sense that potential improvements might never be realized. When individuals fail to discover such potential improvements, the unrealized gains might be characterized as a form of intrapersonal *X*-inefficiency, to slightly repurpose Leibenstein’s (1966) terminology.⁷

When and how will individuals tend to acquire and use relevant knowledge about self-management? One possible answer is that living in society exposes individuals to a variety of tools they can adopt if they wish: learning from each other, participating in groups that improve decision-

⁶The knowledge problem is presumably greater for hard paternalist policies than for softer nudge-like policies (Sunstein 2014: 93–94). Nevertheless, it can be daunting even for softer policies; see Rizzo and Whitman (2020: 267–268).

⁷Leibenstein himself (1979) and Kirzner (1979) both considered the potential compatibility of *X*-efficiency and the Austrian theory of entrepreneurship in an interpersonal (market) context. See also Frantz (2013) on the linkages between Leibenstein and Hayek.

making (such as support groups), and employing market-provided devices (self-help books, limited portions, diet products, and so on). The individual can thus observe and choose from a wider range of self-regulatory strategies, which correspond to new knowledge and new mental models. Furthermore, social pressure from family and community – while assuredly having downsides – can steer individuals toward successful strategies of self-management and away from those with a proven record of failure. In that sense, social norms about personal behavior may convey accumulated knowledge, albeit not always knowledge tailored to the specific person.

Another possible answer: the intrapersonal analog for the price system is the price system. Prices and other market signals provide the individual with useful knowledge about trade-offs imposed by the world, and at the same time they give him an incentive to discover and use whatever knowledge he possesses privately. The market induces him to curb his biases *when and if* doing so is genuinely helpful, or failure to do so is genuinely costly. This phenomenon has been dubbed rational irrationality (Caplan, 2000; expanded in meaning by Rizzo and Whitman, 2020: 207). Interestingly, rationality irrationality was anticipated by Leibenstein's notion of *selective rationality*, which posits that strong enough 'pressure' can induce agents to engage in more calculated decision-making (Frantz, 2013; Leibenstein, 1974, 1975, 1979).

That people can seemingly alternate between calculating and rule-driven modes of decision-making suggests the usefulness of a 'pluralistic' model of choice such as that proposed by Earl (2010). Earl draws on Hayek's *Sensory Order* to explain how the individual's mental classification system enables him to *choose among different ways of choosing*, depending on the type of situation. Later, Earl (2013) shows how the same theory may provide a model for how individuals cope – or fail to cope – with novelty by trying to match new challenges to stored cognitive patterns or categories. Hodgson (1997) provides a useful typology of characteristics that encourage rule-driven choice, including uncertainty, complexity, and extensiveness – while also noting that even optimization can involve some reliance on rules (667). Loasby (2004) discusses how the mental classification system that generates choice can evolve in response to changing environments, incongruous experiences, and imaginative creation of new mental categories. Taken together, these insights suggest a theory of intrapersonal entrepreneurship. Moreover, they could provide the foundation for a broader subjectivist-behavioral model of decision-making.

6. Spontaneous order

Austrian economists have long been interested in the notion of spontaneous order, defined loosely as the emergence of social institutions that are 'the result of human action, but not the execution of any human design' (Ferguson, 2019 [1782]). The market order is the most frequent example, but the notion of spontaneous order has also been applied to language, morals, manners, and the common law. In all of these areas, we observe the emergence of order – including institutions and rules of behavior – without the existence of an overarching or system-wide plan.

Any spontaneous order necessarily influences the choice behavior of individuals operating within it. Given how much behavioral research examines the impact of context on choice, the study of spontaneous order seems a natural next step. However, as discussed earlier, behavioral economics has been hobbled by an essentially passive view of the individual agent: she is only the recipient of context, not an active interpreter and shaper of context. Incongruously, behavioral economists (particularly those of the paternalist stripe) have also tended to assume, at least implicitly, that the social context itself is deliberately chosen by someone such as a government or firm.⁸ Both of these presumptions have likely been reinforced by the discipline's frequent use of laboratory experiments whose focus is typically small-scale choices of individuals as opposed to broader social institutions, and whose setup is *seemingly* under the total control of the experimenter.

⁸In the literature on 'shrouding' of product attributes, most notably Gabaix and Laibson (2006), the assumption is explicit: the firms in the model deliberately hide characteristics to exploit myopic consumers.

Richard Thaler and Cass Sunstein have coined the term ‘choice architecture’ to refer to the totality of background features that influence choices, including the framing of a situation, the presence of a default, the menu of options available, the geographic placement of options, and so on (Thaler and Sunstein, 2008: 3). The term ‘choice architecture’ immediately suggests the existence of an *architect*, someone who deliberately designs the choice situation. Indeed, Thaler and Sunstein explicitly define a ‘choice architect’ as someone who ‘has the responsibility for organizing the context in which people make decisions’ (*ibid.*).

Of course, both designers and designed contexts do exist. The problem is the subtle implication that such contexts are more common or more important than undesigned contexts. In later work, Sunstein admits that choice architecture might or might not be ‘intentional or the product of any kind of conscious design’ (Sunstein, 2014: 21). Nevertheless, the terminology continues to be misleading. As an alternative, I would suggest ‘choice environment’, a term that does not imply any design or the lack thereof. Choice environments encompass a wide range of institutional settings, including relatively narrow ‘micro-institutional’ features such as default rules. Choice environments may be deliberately created, but they may also result from spontaneous order (Ruttan, 2006: 252).

It is easy to think of designed choice environments as typical, and spontaneous ones rare, if we focus our attention on highly specific contexts such as the arrangement of products on the shelves of a particular grocery store. Such an arrangement is very likely to have been chosen deliberately. But as Hayek (1945) emphasized, spontaneous order does not mean the absence of planning, but the absence of system-level planning. Individual plans can exist within a broader spontaneous order. And although a planner such as the manager of a firm can design a narrowly defined choice context, she cannot control the broader choice environment.

To take one example, suppose an electronics store wishes to sell more expensive personal computers. By offering three options – a low-end PC with minimal features, a high-end PC with all the frills, and a third PC somewhere in between – the store can ostensibly take advantage of *extremeness aversion* (Simonson and Tversky, 1992) to create a *decoy effect* (Ariely, 2009: 10), which induces consumers to buy more of the mid-range PCs than they would if the high-end computer weren’t on the menu. However, one store cannot control the total choice environment. There are other electronics stores in the world, including both online and brick-and-mortar outlets. The actual menu available to the consumer is much larger than one store’s selection. Moreover, the actual menu is not chosen by any one supplier, but by the joint actions of many suppliers interacting with consumers over time. The choice environment encompasses not only options on a fixed menu, but also the opportunity to choose among many different menus.

The lesson for behavioral economics is to explore how choice environments emerge spontaneously from the joint actions of the people who take part in them. This means moving beyond narrow experiments in which the choice environment is specified by the researcher. It means studying the evolution of choice environments in rich contexts where consumers and others can respond in creative ways rather than simply choosing from a narrow choice set.⁹ Also recall the earlier point that even an environment seemingly constructed by a single person is seen through the subjective filter of people exposed to a broader environment.

What Austrians can gain from behavioral economics is a greater appreciation of the many features of choice environments that are worthy of study. The market for menus, as discussed above, is one example. Default rules are another. Although behavioral economists have tended to treat defaults as either deliberately or arbitrarily chosen, Austrian economists have tended not to discuss them at all. Yet default rules do have an impact on behavior; this much the behavioral literature makes clear,

⁹To its credit, the literature on shrouding – e.g. Gabaix and Laibson (2006), Zenger (2013), de Meza and Reyniers (2012) – does treat the choice environment as the equilibrium of a two-sided market process; product characteristics may or may not be shrouded, depending on the initial parameters. This is a step in the right direction. However, the range of options for consumers is highly constrained in these models. For example, in Gabaix and Laibson (2006), a fixed fraction of consumers are initially myopic, and attempts to educate them reach a fixed fraction of the myopes. They do not learn through experience, nor from third parties or other consumers.

although the reasons are not fully understood. Therefore, the challenge is to study the emergence of market-provided default rules. One example is the widespread default rule that allows refunds and exchanges when customers request them in a reasonable time frame, despite the absence of any general rule in the United States requiring sellers to offer them (Ben-Shahar and Posner, 2011: 115–116; Rizzo and Whitman, 2020: 423–424). How did this default come to be? Another example is the evolution of boilerplate language in business contracts, which of course include numerous default rules; how do these boilerplate terms evolve over time?

Austrians have already paid a great deal of attention to the emergence and role of institutions, including norms, traditions, and customs (Coyne, 2010: 20). However, the institutional questions examined by Austrians tend to be broad and abstract: markets versus central planning (Hayek, 1945, among many others), state governance versus private governance (Leeson and Williamson, 2009), private property versus commons property (Boettke, 2010b), common law versus statutory law (Hayek, 1973; Zywicki and Stringham, 2017), the potential conflict between formal and informal institutions (Boettke *et al.*, 2008; Williamson, 2009), and so forth. Behavioral economics points to the significance of micro-institutional features that evolve *within* a given institutional umbrella such as markets and private property. Such features constitute worthy objects of study for Austrian economists.

7. Conclusion

Austrian and behavioral economists share a deep dissatisfaction with neoclassical theory, and particularly its treatment of individual choice. The neoclassical approach tends to treat the individual agent as perfect, in both the modern sense of the word (optimal) and the original Latin sense of the word (complete or finished).¹⁰ Austrians and behavioralists both wish for a more realistic picture of how real humans choose.

What troubles Austrians about behavioral economics – aside from its sometimes concerning policy recommendations – is that despite its rejection of certain aspects of neoclassical economics, it has not been radical enough. Behavioral economics still carries the baggage of its neoclassical roots in the form of a narrow and axiomatic notion of rationality, a pretense of objectivity in the description of problem situations, and a tendency to model humans as essentially static and passive. If behavioral economists abandon these unnecessary elements, they can begin using behavioral concepts to build upward from individual choice behavior toward explanations of evolved choice environments.

If the challenge for behavioral economists is building upward, the challenge for Austrians is digging downward. The Austrian approach is premised on showing how individual choices interact to generate larger social institutions – but this project requires having a strong understanding of the individual choice process. Behavioral economics offers the opportunity to learn more about that process, with more precise descriptions of what real people’s beliefs and preferences look like. If people do not simply enact a ‘scale of value’ through their choices, but instead apply a hodgepodge of psychological tools to discover and achieve their goals, surely that is relevant to constructing viable theories of how choices generate social outcomes.

A full merger of the Austrian and behavioral schools seems unlikely. Differences in research goals and general perspective will tend to keep them on separate tracks. But exchange can be most beneficial when the differences between parties are great. Both schools have something to gain from the exchange. And because exchange of ideas does not require mutual consent, no waiting is required; each school can begin to make progress immediately, whether the other agrees or not.

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¹⁰I thank Rosalino Candela for pointing this out.

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