

explain why many people today share certain folk-economic beliefs, many of which do not align with the consensus views of economists (e.g., Caplan 2008). However, B&P focus primarily on folk-economic beliefs about macroeconomic issues – precisely the sorts of issues that our rudimentary exchange psychology is most poorly equipped to handle. On the other hand, many microeconomic judgments – such as making predictions about other people’s choices, or making inferences about people’s preferences – are much closer to the sorts of judgments that our ancestors would have had to make in simple exchange economies. B&P’s account therefore makes an additional prediction that they do not discuss: that people will behave much more like intuitive economists when reasoning about other people’s microeconomic choices. As I will show, existing evidence supports this prediction.

First, it should be acknowledged, as B&P do, that people certainly are not intuitive economists when it comes to *making* economic choices. The behavioral economics literature is full of examples of people deviating from the prescriptions of rational choice theory. To give just a few examples, people weigh losses more heavily than gains (Kahneman & Tversky 1979), ignore opportunity costs (Frederick et al. 2009), and allow themselves to be influenced by sunk costs (Arkes & Blumer 1985; Thaler 1999). These tendencies lead people to make poor choices involving their time and money.

However, people often think about other people’s choices differently than their own choices. Whereas people’s own choices are sometimes driven by emotion, which can bias them toward making impulsive and irrational decisions, they tend to be less emotional and more objective when reasoning about other people’s choices. Trope and Liberman (2010) have shown that this is a domain-general phenomenon: As psychological distance increases (e.g., from choices someone is making for oneself to reasoning about someone else’s choices), people tend to think more abstractly. The more abstractly people think about economic problems, the more they will tend to rely on intuitions rooted in their rudimentary exchange psychology. For many microeconomic problems, these intuitions will lead people to make judgments that are in close alignment with how economists think. Evidence suggests this is true even if those people’s judgments do not align with their own behavior.

For example, people’s behavior in the two-player Ultimatum Game is often used as an example of irrational economic behavior. In the game, the first player offers a split of a sum of money between both players. The second player can either accept or reject the offer. If the second player rejects the offer, neither player receives any money. The economically rational thing for the second player to do is to accept any offer, but many people reject unfair offers (Thaler 1988). However, Kim et al. (2013) found that when subjects were asked to imagine they were playing on behalf of a stranger, thus placing some psychological distance between the subjects and their choices in the game, their acceptance rates increased for unfair offers, bringing their choices more in line with economic norms. As another example, Mazar et al. (2008) performed an experiment in which subjects were given an opportunity to cheat on a task and were given different monetary incentives for cheating. They found that the amount subjects cheated did not vary with the incentive for cheating, contrary to the predictions of economists (e.g., Becker 1968). The researchers also asked a separate group of subjects to predict the outcome of the experiment. This second group of subjects shared the intuitions of economists, expecting the first group of subjects to cheat more when the incentives for cheating were greater. Once again, people’s intuitions about other people’s choices were different than people’s actual behavior, and those intuitions were aligned with economists’ views.

Both of these examples involve predicting other people’s choices. But people are also capable of making inferences about other people’s characteristics, like their preferences, by observing the choices they make. To provide one such example from my own

work, we (Jern et al. 2017) presented subjects with different hypothetical choices that other people had made between different bags of candy and asked subjects to order them by how strong a preference the person making the choice had for red candy. We compared subjects’ mean rankings of the choices with predictions generated by the logit model, a model commonly used by economists for learning consumers’ preferences (McFadden 1974; Train 2009). We found a strong correlation between subjects’ rankings and the rankings of the logit model, suggesting that people learn others’ preferences in much the same way that the logit model does, and by extension, the way that many economists do.

Decades of empirical work and even casual observation point to the conclusion that people are not intuitive economists. B&P offer a theoretical argument for why this is the case. But, I have argued, their account can also explain why people may actually be quite astute intuitive economists under certain conditions. Although it is true that modern markets are dramatically different from the exchange economies of hunter-gatherer societies, causing our rudimentary exchange psychology to produce some faulty macroeconomic intuitions, the act of choosing from a set of options has remained largely the same over time. It therefore stands to reason that people’s microeconomic intuitions should be quite reasonable, and perhaps even consistent with prevailing economic norms.

## Why do people believe in a zero-sum economy?

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**Abstract:** Zero-sum thinking and aversion to trade pervade our society, yet fly in the face of everyday experience and the consensus of economists. Boyer & Petersen’s (B&P’s) evolutionary model invokes coalitional psychology to explain these puzzling intuitions. I raise several empirical challenges to this explanation, proposing two alternative mechanisms – intuitive mercantilism (assigning value to money rather than goods) and errors in perspective-taking.

In *The Wealth of Nations*, Adam Smith (1776/1999) overturned a dogma that had long dominated economic thinking – the mercantilist theory of trade. Mercantilism held that exporting nations “won” because they gained gold (while giving up goods) and importing nations “lost” because they gave up gold (while gaining goods). The notion that a trade can have winners and losers is nonsensical, according to Smith: Two people would not agree to a trade unless they both felt it was in their interest. Why else would a buyer and seller voluntarily execute the transaction? This basic insight is borne out by common sense, everyday experience, volumes of empirical and theoretical research, and the essentially universal consensus of economists.

Yet, zero-sum talk of “winners” and “losers” at trade pervade our society. Zero-sum thinking occupies the thoughts of powerful political leaders, and appears across a multiplicity of countries and political persuasions. What can explain the ubiquity of this idea – across both space and time – that flies in the face of so much evidence?

An evolutionary model of folk-economic beliefs provides an appealing solution to this puzzle and many others. Our inborn intuitions about physics and psychology (e.g., Carey 2009) evolved in an environment with objects and minds similar to their modern counterparts. But any inborn intuitions we have about economics evolved in a world of exchange that could hardly be more different from the modern economy, global in scale and mediated by money (Fiske 1992; Pinker 2002). Given

the mismatch in environments, it makes sense that folk-economic beliefs built atop evolved intuitions should not, in general, track modern economic realities.

To explain aversion to trade as a specific folk-economic belief, Boyer & Petersen (B&P) invoke coalitional psychology – an aversion to transferring resources to rival groups. Despite my general enthusiasm for B&P's theory, I find other mechanisms more plausible in the case of zero-sum thinking, based on recent results from my own research program.

First, B&P make the specific prediction that aversion to trade, being rooted in coalitional psychology, should “invariably occur in the context of, precisely, debates about trade between *countries*” (sect. 5.1, para. 3; emphasis theirs). As it happens, I have tested the idea that trade imbalances would be viewed as problematic even in the context of trade among U.S. states. Indeed, Arizona is seen as “losing” to Iowa when Arizonans import shoes from Iowa, albeit not to the same extent as when they import shoes from Thailand (Johnson et al. 2018a). At the very least, some other factors must explain some of the aversion to trade.

Second, an explanation based on coalitional psychology predicts that zero-sum thinking should exist at the level of international trade, but not of exchanges among individuals, particularly within the same country. Yet, in my own work, people evaluating simple monetary exchanges (e.g., Sally buying a shirt from Tony's store for \$30) frequently believed that sellers were made better off at the expense of buyers (Johnson et al. 2018b), espousing a zero-sum belief. These beliefs are no stronger when the seller comes from a different country than the buyer, and only modestly stronger when describing trade in aggregate across countries (Johnson et al. 2018a). These results are all difficult to square with the idea that coalitional psychology is an important driver of zero-sum thinking.

Third, let us consider the fact that our evolutionary ancestors exchanged goods in a world without currency. The most straightforward prediction would be that we should have difficulty intuitively assigning value to useless bits of paper. This predicts an aversion to trade imbalances – in the opposite direction. Trade imbalances should be seen as favoring the country that is *importing* (intrinsically valuable) goods in exchange for (intrinsically worthless) currency. Yet, our intuitions are the opposite: Because it imports more than it exports, the United States “loses” to China. If coalitional psychology accounted for these intuitions, it would presuppose the intuition that money is worth *more*, not less, than the goods and services it can purchase – that is, mercantilist thinking of the type Smith debunked.

Fourth, if people have special difficulty thinking about money, then one would expect currency-mediated exchanges (e.g., Sally purchasing a shirt from Tony's store) to be seen as zero-sum but barter (e.g., neighbors swapping soy sauce for vinegar) as positive-sum. In fact, people often see both types of exchanges as zero-sum, but for different reasons (Johnson et al. 2018b). For currency-mediated exchanges, buyers are seen as worse-off while sellers are seen as better-off, consistent with the mercantilist intuition that money is worth more than the goods it can purchase. But for like-kind barter, *both parties* are seen as neither gaining nor losing from the exchange. Once again, this is consistent with mercantilist thinking that equates wealth with money, since no money changes hands. But it is precisely the opposite of what an evolutionary account would seem to predict, since goods (but not currency) have intrinsic value and existed in our evolutionary environment.

I am therefore forced to conclude that coalitional psychology has a limited role in explaining our basic aversion to trade. (That said, it may well aggravate this basic anti-trade bias, causing a special aversion to trade with rival countries). Instead, I propose two alternative mechanisms. First, as suggested above, people are intuitive mercantilists, imputing to money value over-and-above the goods it can purchase. Intuitive mercantilism is encouraged by several features of money (e.g., fungibility, permanence, and communicative role for conveying relative prices). If mercantilist thinking emerges late in development, this would undercut claims of its innateness. Second, when contemplating exchanges in the abstract,

people often fail to take the perspective of the parties. When encouraged to do so, they recognize that people have self-interested reasons for exchange and that both parties are thus made better off (Johnson et al. 2018b).

Adam Smith wrote: “Give me that which I want, and you shall have this which you want, is the meaning of every [exchange]” (Smith 1776/1999, pp. 118–19). Few truths in modern life appear to be so obvious, yet so elusive.

## Does evolutionary cognitive psychology crowd out the better angels of our nature?

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**Abstract:** Although Boyer & Petersen's (B&P's) target article provides an exciting framework for political communication studies of framing effects, I raise questions concerning the presumed importance of folk-economic beliefs, the relative utility of identifying such proximate (as opposed to more generalized) drivers of public opinion, and the extent to which their model can explain variability among individuals. I conclude with thoughts on the normative implications of the evolutionary cognitive model for democratic governance.

Boyer & Petersen's (B&P's) target article on folk-economic beliefs (FEBs) and their underlying evolutionary cognitive foundation provides an exciting contribution that can guide and inspire further research in political communication. The rich literature on framing in political communication begins with the premise that issues, candidates, elections, and political actions can be framed – and thereupon interpreted – in multiple ways (e.g., Chong & Druckman 2007); for instance, a given election might be understood as an opportunity to celebrate strength in diversity or a moment to insulate the ingroup from outsiders. Some frames fall flat, some frames seize attention, some persuade, and some even go viral. B&P's evolutionary cognitive framework provides scholars with a theoretical foundation for moving political communication studies forward, by specifying, *ex ante*, which cognitive frames appeal to and resonate with those intuitive, evolutionary cognitive structures in place. In this respect, B&P's argument applies well beyond folk-economic beliefs, as it articulates an evolutionary psychology framework for unpacking framing effects in political communication. This is an exciting opportunity for scholars of political communication, as they can examine which frames are more easily processed, become more accessible, are transmitted among social networks, and are more readily marshalled into public opinion, candidate evaluation, and political behavior.

Outside of this theoretical architecture, B&P's specific focus on FEBs does raise some concerns. The first concern revolves around the presumed importance of these folk-economic beliefs. B&P argue that FEBs are important because they predict political decision-making. But to what extent are FEBs actually causal drivers of political decision-making? FEBs are, by definition, “explicit beliefs” – that is, lay explanations for economic conditions that presumably become worthy of study because they correlate with political decision-making. However, is it possible that these FEBs are merely reasonable-sounding rationalizations of evaluations and attitudes, the drivers of which exist outside of the realm of introspection? A rich line of research in psychology (e.g., Nisbett & Wilson 1977) teaches us that people are often unaware of or incapable of articulating the causal drivers of their attitudes; and, moreover, when people do generate causes, these reasonable explanations may themselves simply reflect folk beliefs of causality rather than actual causes. Moreover, insofar as people develop implicit and automatic reactions to policies (valenced reactions to