

### Hayek's Marvel /

All in all, prediction markets have been quite successful in terms of the aggregate accuracy of the resulting "prices." Why is this? The best place to start is with Friedrich Hayek, the great twentieth-century critic of socialism and economic planning. Throughout his life, Hayek was concerned with how to obtain dispersed information. His emphasis was on markets rather than on deliberation, to which he devoted no attention.

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Hayek's most important contribution to social thought is captured in his short 1945 paper, "The Use of Knowledge in Society."<sup>35</sup> Hayek claims that the great advantage of prices is that they aggregate both the information and the tastes of numerous people, incorporating far more material than could possibly be assembled by any central planner or board. He emphasizes the unshared nature of information, the "dispersed bits of incomplete and frequently contradictory knowledge which all the separate individuals possess."<sup>36</sup> That knowledge certainly includes facts about products, but it also includes preferences and tastes, and all of these must be taken into account by a well-functioning market. Hayek stresses above all the "very important but unorganized knowledge which cannot possibly be called scientific in the sense of general rules: the knowledge of the particular circumstances of time and place."<sup>37</sup>

For Hayek, the key economic question is how to incorporate that unorganized and dispersed knowledge. That problem cannot possibly be solved by any particular person or board. Central planners cannot have access to all of the knowledge held by particular people. Taken as a whole, the knowledge held by those people is far greater than that held by even the most well-chosen experts. Recall here Aristotle's claims about deliberating groups: When diverse groups "all come together . . . they may surpass—collectively and as a body, although not individually—the quality of the few best. . . . Some appreciate one part, some another, and all together appreciate all."<sup>38</sup> Hayek's argument is that, whether or not Aristotle was right about deliberation, the possibility of surpassing the quality of the few best certainly does hold for free markets.

Hayek adds here a point about the immense importance of change as such. Economic planners typically underrate

the need for frequent changes in prices and output. Even economists neglect the constant little changes that constitute the whole economic picture. But society must find some way to make the necessary adaptations as conditions shift. No expert or deliberating group can anticipate all relevant changes; those changes are too numerous and too small. Sensible decisions must be a product of some kind of decentralized process, one that incorporates many minds. What might that process look like?

Here Hayek offers his central point: The best solution comes from the price system. In a system in which knowledge of relevant facts is dispersed among many people, prices act as an astonishingly concise and accurate coordinating and signaling device. They incorporate that dispersed knowledge and in a sense also publicize it, because the price itself operates as a signal to all.

Equally important, the price system has a wonderfully automatic quality, particularly in its capacity to respond to change. If fresh information shows that a product—a television, a car, a watch—doesn't always work, people's demand for it will rapidly fall, and so, too, the price. And when a commodity suddenly becomes more scarce, its users must respond to that fact. The market works remarkably well as a whole, not because any participant can see all its features, but because the relevant information is communicated to everyone through prices.

Hayek claims that it "is more than a metaphor to describe the price system as a kind of machinery for registering changes, or a system of telecommunications which enables individual producers to watch merely the movement of a few pointers."<sup>39</sup> Hayek describes this process as a "marvel," and adds that he has chosen that word on

purpose so as “to shock the reader out of the complacency with which we often take the working of the mechanism for granted.”<sup>40</sup>

Hayek believes that this marvel has analogies in “nearly all truly social phenomena, with language and with most of our cultural inheritance. . . . We make constant use of formulas, symbols, and rules whose meaning we do not understand and through the use of which we avail ourselves of the assistance of knowledge which individually we do not possess.”<sup>41</sup> Language and culture itself are produced not by a single mind but by widely dispersed people with their own bits of information, producing goods from which all of us can benefit. And each of these evolves rapidly over time, incorporating and discarding material as human communities organize themselves.

Whenever a system creates a price, and many people participate in creating that price, Hayek’s arguments are available. We can see a link not only between Aristotle and Hayek but also between Hayek’s view and the Condorcet Jury Theorem; let us consider a Condorcetian reading of Hayek. Precisely because many people are making purchasing decisions, their aggregate judgments are highly likely to be correct, at least if most purchasers have relevant information. And simply because purchasers are purchasers, and hence are willing to put money on the line, they probably do have some such information, at least most of the time. Thus, Hayek’s arguments can be seen to have a Condorcetian feature, but with a special twist: When people are willing to put their money where their mouth is, there is an increased likelihood that they will be right.

Why do prediction markets work? That, in a nutshell, is the answer.

