A conversation with Professor Robert Bloomfield on April 4, 2014

Participants

- Robert Bloomfield —Professor of Management and Accounting, Johnson Graduate School of Management, Cornell University
- Alexander Berger — Senior Research Analyst, GiveWell

Note: This set of conversation notes was compiled by GiveWell and gives an overview of the major points made by Professor Bloomfield.

Summary

GiveWell spoke with Professor Bloomfield as part of its shallow investigation of macroeconomic research and policymaking. The conversation focused on the use of virtual worlds to study policy-relevant questions in macroeconomics. A Wonkblog article that quoted Professor Bloomfield prompted GiveWell's interest in this topic.

Using virtual worlds to study policy-relevant economic questions

Professor Bloomfield believes that the utility of existing game environments for addressing economics questions is relatively limited, and that rather than focusing on studies of existing large multiplayer games, economists should build and study their own game environments. He has written about the design requirements for a Synthetic Economy Research Environment, which he believes would enable a variety of interesting economic experiments.

Working within the framework of existing games is difficult because they have been designed with another purpose in mind – primarily, making game designers money by being enjoyable for players. To maintain player interest, game designers often manipulate in-game economic relationships in ways that would be harmful to economic experimentation (e.g. seeding additional "natural resources" within a game or raising the rate of decay of such resources), and designers also add features to make games addictive in certain ways that would undermine economic behavior. Games also typically have basic features that violate economic logic, such as manufactured goods that trade for less than the value of the underlying natural resources, because there are additional incentives for production (e.g. "leveling up"). It is not clear whether a sufficiently early-stage collaboration with a for-profit game designer might be able to overcome some of these obstacles.

Appropriate questions to study in virtual worlds

Professor Bloomfield sees an economic game environment as an ideal venue for addressing many questions that experimental economists would like to answer in a lab, but would likely struggle to do so. Many famous economists do lab experiments to explore basic questions about trust, discounting, and other basic economic behaviors, but

games could provide a better venue for studying interaction with policy environments and phenomena that emerge in larger group interactions.

One of the first questions that such a game environment might be used to address deals with the provision of public goods and the regulation of negative externalities, like pollution. For instance, roads seem to have historically primarily been supplied by governments or quasi-governments providing them as a public good, rather than by private corporations running toll roads. Economically, it's not clear why this should be the case, and an experimental game environment would provide a helpful venue for studying this behavior. More broadly, such an environment would be invaluable for economists interested in the emergence of institutions (like states, banks, and common practices like contracting).

Initial, relatively simple games aimed at understanding the emergence of institutions might only require a hundred or so players to reach interesting inferences. For research to be published in an economics journal, reviewers would have to be convinced that the players' behavior was economically motivated, so players might have to be paid something on the order of $200/month, though there may be a tradeoff between recruitment cost and intrinsic motivation within the game.

As more complex institutions began to evolve or as more complex virtual worlds were constructed by researchers, more complicated institutions, such as central banks, and more complicated phenomena, such as inflation, unemployment, and monetary policy, might be studied. Though such studies wouldn't be possible until researchers (and players) understand simpler economies, and have created more basic institutions (like firms, contracts, and capital markets), they would allow the hypotheses of different groups of macroeconomists to be tested, which could hopefully help resolve some of the deep disagreements in that field. The simpler economies and their basic institutions would also be valuable in their own right, however, particularly for people studying developing economies, corruption, regulation and public goods.

Virtual environments as a public good for economists

There are many very serious academic economists who are doing experiments in labs, typically on very simple questions of economic theory. They would benefit substantially from the kind of research environment described above, which would allow them to test many more questions of interest. However, creating such an environment would take more time and resources than any single economist would likely be able to invest.

Once the appropriate infrastructure was created, Professor Bloomfield believes that it would be in great demand by not only economists, but researchers in many fields of business, policy, government, and more basic social sciences like psychology and sociology. Prof. Bloomfield also sees many opportunities for the platform to be used in teaching these topics, and believes that the educational benefits would be sufficient to recoup the initial investments required (and then some).

Creating an experimental virtual economy

Creating a virtual economy that will be effective for research purposes requires two components:

1. A game engine. This is a server, database, and software that regulates the basic function and rules of the game.
2. An interface. This is the client-side software that players will use to play the game. Costs will vary with how many different platforms one aims to support and the level of "bells and whistles."

Other people to talk to

There are a number of other people who have done some economic research on virtual worlds. Ted Castronova, a professor at Indiana University Bloomington, is perhaps the most prominent.

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