Virtual worlds and broken economic models

TECHNOLOGY

By Aaran Fronda | Thursday, August 8th, 2013

Boom and bust economics have become the definition of insanity, trapping mankind in a recurring cycle, but the study of virtual worlds may offer the fresh perspective that the world desperately needs

Video games have come a long way since the days of space invaders and pong. Nowadays games like Icelandic developer CCP's Eve Online support massive multiplayer communities, hosting more than 500,000 players from all over the world. Within it players can customise a wide array of ships; fly through a galaxy made up of 7,500 star systems; conduct open warfare in space; trade raw materials and participate in complex markets. Gamers can create powerful trade alliances and financial institutions like banks.

Eve Online even nearly had its first economic collapse after a group of its players manipulated the game's virtual economy in their favour. That is why when Eyjólfur

Guðmundsson, the economist employed by CCP to monitor its virtual economy told the Wall Street Journal “there’s nothing virtual about this world,” it’s hard to argue with him.

Creation and simulation in virtual worlds appear to offer the best domain to test the new ideas required to tackle the very real problems of depravation, inequality, unemployment, and poverty

As video games like Eve Online and the hugely popular World of Warcraft become ever more complex in design, there is a growing need from game developers to bring on economists to help develop and nurture their virtual economies. Game designers do so to ensure their game economies remain stable and run efficiently. In turn this ensures that players get the best experience during their time playing the game. This is important considering the average player spends 22 hours a week playing them and pays out around $200 per year on subscriptions. Conversely the virtual world with its vast mines of data and ability to accurately track individual actions of participants is beginning to open new doors for economists and social researchers. Virtual worlds provide new platforms for experimentation and could even shed new light on how to develop national economies in the future. It may seem farfetched that virtual worlds could hold answers about their real-world counterparts, but as CCP Chief Executive Officer Hilmar Petursson said to the Wall Street Journal “people tend to forget that the world we live in is just a game designed by our governments. Our economic systems are just a game.”

Alternatives to our current cultural, social and economic landscape have never been in such high demand. News perpetually brings fresh stories that add to the seemingly insurmountable pile of problems facing the world, whether it is global warming or the geological dangers of fracking as a means of securing future energy demands.

Governments seem to be clear on the problems, but less so on the manner in which to tackle them. One thing that is apparent though is the solutions do not lie in current economic models, which base GDP as the primary measure of progress. “After the crash of 2008, we have no excuse to continue living in hope that economic models can be as useful to the social theorist as mathematical physics is in helping explain the universe,” says Yanis Varoufakis, a political economist and ex-economic adviser to George Papandreou. Boom and bust economics have become the definition of insanity, applying the same thinking over and over, and expecting a different result. The idea that we will find solutions to our current problems through the methods of the past is counterproductive.

Creation and simulation in virtual worlds appear to offer the best domain to test the new ideas required to tackle the very real problems of depravation, inequality, unemployment, and poverty that exist in national economies. On that note the need to see our socioeconomic institutions for the games that they really are seems even more poignant.

In the words of Vili Lehdonvirta, a leading scholar in virtual goods and currencies, the suffering we see today is “not some consequence of natural or physical law” it instead “is a result of the way we play these games.”

The “overview effect”

To some the idea of conceiving national economies as a game can be a little frightening, considering the impact that those systems can have on the individuals living within them. However, by doing so new perspectives can be gained about their origins and underlying nature. “In a virtual economy many people are shocked to find that people attribute so much value to virtual objects like swords, shields and gold coins,” explains Lehdonvirta. “Transfer that realisation to consumer culture and you realise that most of the goods we deal with today, at least in our affluent western societies have nothing to do with any kind of physical survival or subsistence but rather they are signs used in human social games.”

The study and participation in virtual economies can offer a transformative effect on ones thinking, similar to that of what author Frank White first described in 1987 as the “overview effect”. Astronauts experience this after viewing Earth from space. The event has a profoundly positive impact on the way they view themselves in relation to the planet, which they call home. Lehdonvirta believes that virtual economies can allow people to experience a similar effect. Virtual economies can allow the player to view national economies and the financial institutions within them for what they really are, which is socially constructed objects that exist largely in the mind. “Economics resembles a religion with meaningless equations and fruitless statistical models,” says Varoufakis. Put simply it can be very hard to see the flaws in that, which completely consumes the mind.

By studying decision-making in games we can see what motivates behaviour in an environment that is somewhere between the real and virtual world

Virtual economies not only offer a new perspective on the nature of economic systems, but they may be able to grant a new lease of life for economic theory. In an

interview with the Washington Post, Varoufakis described economic theory as “coming to a dead end.” More specifically, he was referring to main stream neoclassical economics, which has received criticism for placing too much emphasis on analytical rigor and mathematical modelling.

It isn’t completely without merit though. Fellow economist Edward Castronova and Professor of Telecommunications at Indiana University Bloomington explains that simple concepts like the Invisible Hand and Nash Equilibrium are still extremely useful.

However, he argues that “complex economic models rely far too much on human rationality and worse, they do a terrible job of predicting events.” Conversely virtual worlds allow researchers access to new and exciting means of experimentation and simulation. Traditionally assumptions about human decision-making have been tested in a laboratory environment. Hypotheses derived from such experiments tend to lack validity when transferred to a real-world context. Travis Ross, a PhD candidate at Indiana University Bloomington who co-authored a chapter with Castronova on the current empirical methods in virtual world research believes that “by studying decision-making in games we can see what motivates behaviour in an environment that is somewhere between the real and virtual world.” He concludes that games are helping to build a “theoretical bridge between individual motivation and the collective outcomes of more complex economies.”

Resurrecting economics

Mainstream economic theory may be seen as dead, but there is plenty of interesting discussion taking place at the fringes of the discipline. Environmental economics is one example. Some economists now focus their attention on what is known as steady state economies. Such concepts provide an alternative to the current model, which relies on constant growth and consumption to provide employment and welfare for citizens. It also takes a substantial toll on the environment. Virtual economies, however, may already be playing their part in reducing mankind’s environmental footprint. In his paper Virtual Consumption: Case Habbo Hotel Lehdonvirta suggests that virtual commodities act in essentially the same social roles as material goods. He even proposes that virtual consumption could perhaps be a substitute to material consumerism in the future. He reflects on his childhood and how he and the other boys on his block used to boast about their respective action figures and whose was best. “Today if you look at 12 year olds now they do the same with their World of Warcraft avatars.” He concludes that such a statement may sound a bit depressing to early internet thinkers like John Perry Barlow, who had hoped that digital abundance would create a post material culture of sharing. “I don’t think that we can get rid of our commodity fetish, as Marx would call it, but what we can do is digitise it,” Lehdonvirta added. “Therefore the virtual world gives us the opportunity to decouple

economic growth based on consumerism and the environmental impact, which is the holy grail of environmental economics.” The development of virtual economies and the digitalisation of goods may very well alleviate the burden consumption has on the environment, but only by the tiniest of margins. The reality is that the internet is just a tool and like all tools it is only as useful as the user of it. Castronova concludes that “the economic system does not destroy the environment; culture does.”

Human beings have placed their faith in a new saviour, that of mathematics and technology and while it certainly has many benefits as a means of self discovery, it like all things has its limitations

As games become ever more complicated developers benefit from the assistance of economists like Varoufakis, who was employed as economist-in-residence at Valve Corporation to assist in linking economies in two virtual environments. With that in mind, if national economies are in fact just complex socioeconomic games developed by our governments, could they not benefit from a game developers perspective. Eino Joas works for Eve Online developers CCP Games and would argue that game designers may well be in a better position to contribute to economic design than many would first think. “The reason is simple: people who run virtual economies have a front-seat to learning about behaviour and the efficacy of different policies,” he said. “Good economic design is about making rules that are understandable, solid and provide the right incentives, and game developers have the advantage of being able to use trial and error to figure out the things that work.” Video game developers could also provide some innovative solutions not simply on the development of economic policy. Companies like Quest 2 Learn is an innovative school that uses video games like Little Big Planet’s physics engine to assist in students understanding of Newtonian physics. Video games after all are designed specifically to encourage active participation. “Game developers could be brilliant at designing educational programs that engage students,” claims Isaac Knowles, a virtual economist whose work focuses on virtual economic activities and their relationship with the real economy. “Programs designed to change behaviour are more or less effective based on how well they engage the target group. That is where game designers are effective.”

Lessons to learn

Mankind’s need to understand the world has led to many triumphs and many failures. In our pursuit to split the atom we discovered new ways to power cities, while

simultaneously creating more devastating means to destroy them. The development of 3-D printers is leading to the 'democratisation of manufacturing,' but also the bypassing of regulation in regard to the printing of items like 'Wiki Weapons'. Similarly economics in its attempt to eliminate risk and understand human behaviour has helped develop systems that better facilitate economic development. However, the process has been too reductive in its nature, leading to a confidence in mathematical modelling that has bordered on arrogance. Point in case the Black-Scholes option pricing formula. This almost religious belief in mathematical formulae as a means of predicting financial markets and human rationality on a number of occasions has wrecked devastation across national economies.

We live in a random world. This fact is made most clear by the 'double-slit experiment' where the quantum mechanical phenomena known as the wave-particle duality principle can be observed. Subscribers to organised religion may be on the decline, but the reality is mankind has just found a new God. Human beings have placed their faith in a new saviour, that of mathematics and technology and while it certainly has many benefits as a means of self discovery, it like all things has its limitations. What virtual economies offer to us is a new, safer means of testing economic theory, before unleashing it on the world in the manner we have done in the past. Virtual worlds allow for the opportunity to step back and take stock of the man-made structures we have created and see them for what they are. After all these economic models and institutions are only as powerful as the belief invested in them and that should never be lost sight of.

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economic model if it corresponds to the reality of the economy. This article makes this point in full, arguing that economics needs to move past models like the Black-Scholes model that you mention when they have proven to be disastrous failures.

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