

## Real economy versus virtual economy – New challenges for nowadays society

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***Abstract:** In the paper Real Economy versus Virtual Economy – New Challenges for Nowadays Society our goal is to present the importance of both real economy and virtual economy.*

*At the begging of our research, we have presented the main views of some specialists concerning both virtual and real economy. After that we have compared the two types of economies and we have stressed the most important aspects connected to them. The main reason why we have decided to approach this complex subject is due to the increasing interest in the virtual economy matters and the relation that this particular type of economy develops with the real economy.*

***Key words:** real economy, virtual economy, Internet games, virtual goods, digital economy, digital micro tasks, real goods and services, economic calculations*

### Introduction

The economy is extremely complex and very difficult to understand by someone. In this particular matter, we can easily talk about the virtual economy, on one hand, and of real economy, on the other hand:

- Virtual economy, represented by its very complex computer games, especially

massively multiplayer online games, contains narrative and mechanisms that mimic real economic activities, such as production, trade, and consumption, which has made some specialists to apply the concepts and techniques from economics to study the complicated interactions inside games worlds ([http://en.wikipedia.org/wiki/Virtual\\_economy](http://en.wikipedia.org/wiki/Virtual_economy)). A virtual economy (also known as the

synthetic economy) is an emergent economy existing in a virtual persistent world, usually exchanging virtual goods in the context of an Internet game. People enter these virtual economies for recreation and entertainment rather than necessity, which means that virtual economies lack the aspects of a real economy that are not considered to be “fun” (<http://virtualeconomics.com/>).

- Real economy is the part of the economy that is concerned with actually producing goods and services, as opposed to the part of the economy that is concerned with buying and selling on the financial markets. To study the economy of a country or region, one must begin by looking at all of the activities that are involved in the production, distribution and consumption of goods and services. The economy is constantly being studied and it is used to make future predictions, set interest rates, and plays a role in setting prices for goods and services (<http://lexicon.ft.com/Term?term=real-economy>). There are many methods, theories and models that are used to study and interpret the economy. One such method is the real economy which is used to specifically account for the factor of inflation or deflation into the economy.

### 1. Literature review

- It is a generally known that economics is a discipline not usually associated with the study of computer games, but as increasingly elaborate game worlds are fashioned and their interaction with the real world grows thanks to the real-money trade of games, scientist have become concerned of resource allocation. In this matter, some economic models are better at explaining reality, while some are worse. Economics is

often criticized for being alienated from actual reality, focusing excessively on abstract models that are internally valid but out of touch with the society.

### Types of economies

**Classical economy: Adam Smith, David Ricardo and Karl Marx:**

- Classical economy puts a great accent on society and politics as much as production and commerce.

- Economic activity is being highly connected with other aspects of the society which made it absolutely necessary to discuss them together.

### Industrialized economy

- Economic activity was gradually liberated in industrialized countries.

- It became possible to study production, consumption, trade and commerce as a discipline of its own.

- The term economics was first used around 1870.

- Inspired by the success of natural sciences, economists set out to find the universal “laws of the market” using mathematics and objective reasoning.

### Rational choice theory

- Rational choice theory: Appears where economic theory fails to connect with reality, reasons can often be sought from its assumptions. A central assumption is the so-called rational choice theory.

- In this type of theory individuals are modeled as “rational agents”, which when faced with a decision, calculate the costs and benefits of each choice with a view to maximizing their own well-being.

► Other assumptions include those related to the availability of information and the ease of transacting on a market.

► Contemporary economics is able to work around some of these issues, but assumptions remain that the limit applicability of the theories to economic phenomena.

#### **Quantitative economic analysis**

► Quantitative economic analysis: Is being applied in situations that previously were the exclusive domain of sociology or social psychology.

► Rational choice theory and cost-benefit analysis are being used to study human relationships, which is, in fact, the perspective called the social exchange theory. The validity of the results again depends on whether the context actually matches with the premises of the theory.

#### **Virtual worlds and virtual economies and Artificial economies**

► Virtual worlds and virtual economies: Artificial economies running inside computer systems are not a new idea to economists. Agent-based computational simulations have been used for some time as a research method by economists in various fields (Tesfatsion, 2003).

► Virtual worlds and virtual economies can be used to study complex dynamic problems when analytical solutions cannot be readily obtained.

► It has been shown that the validity of the results is limited by the accuracy of the model.

► It is a fact that modeling human behavior is one of the harder challenges.

► Virtual economy, represented by its very complex computer games, especially massively multiplayer online games,

contains narrative and mechanisms that mimic real economic activities, such as production, trade, and consumption, which has made some specialists to apply the concepts and techniques from economics to study the complicated interactions inside games worlds.

► A virtual economy (also known as the synthetic economy) is an emergent economy existing in a virtual persistent world, usually exchanging virtual goods in the context of an Internet game. People enter these virtual economies for recreation and entertainment rather than necessity, which means that virtual economies lack the aspects of a real economy that are not considered to be "fun".

#### **Real economy**

► Real economy is the part of the economy that is concerned with actually producing goods and services, as opposed to the part of the economy that is concerned with buying and selling on the financial markets.

► To study the economy of a country or region, one must begin by looking at all of the activities that are involved in the production, distribution and consumption of goods and services. The economy is constantly being studied and it is used to make future predictions, set interest rates, and plays a role in setting prices for goods and services.

► There are many methods, theories and models that are used to study and interpret the economy. One such method is the real economy which is used to specifically account for the factor of inflation or deflation into the economy.

Virtual economies ([http://en.wikipedia.org/wiki/Virtual\\_economy](http://en.wikipedia.org/wiki/Virtual_economy)) are observed in MUDs and massively multi player online role-playing games (MMORPGs).

Nowadays, the largest virtual economies are currently found in MMORPGs. Virtual economies also exist in life simulation games which may have taken the most radical steps toward linking a virtual economy with the real world. Virtual property is a label that can refer to any resource that is controlled by the powers-that-be, including virtual objects, avatars, or user accounts.

## 2. Real Economy versus Virtual Economy

In the rows bellow we have presented a short description of how specialists see both the real economy and the virtual economy.

### **Virtual economy – a short presentation McClure & Mears, 1986**

► Early research was centered around the suspicions concerning negative effects of video games on players.

#### **Bradley and Froomkin, (2004)**

► Examine the possibility of using virtual worlds as a test bed for legal rules.

#### **Ravaja et al., 2005**

► Show that the scope of virtual economy is obviously much wider, starting from emotional responses to game events. Today the scope is obviously much wider, from emotional responses to game events.

#### **Kolo & Baur, 2004**

► Have shown a great interest to the social dynamics of massively multiplayer games in virtual economy.

► Referring to the unprecedented technological requirements of the virtual economy and its strong social significance.

#### **Castronova, 2002**

► Has wrote in his studies that, at the begging, economists completely absent from

the area of virtual economy showing emotional responses to game events or to the interest to the social dynamics of massively multiplayer games in virtual economy.

► Edward Castronova was perhaps the first economist to become interested in virtual worlds, and no doubt remains the most important. His first paper on the subject, *Virtual Worlds: A First-Hand Account of Market and Society on the Cyberian Frontier* (2001), examines *Norrath*, the world of the popular MMORPG *EverQuest* (Verant, 1999). The paper became quite famous in the popular media as it treated *Norrath* much like a real country, producing provocative results such as claiming that *Norrath's* gross national product per capita was between that of Russia and Bulgaria. Castronova's second paper, *On Virtual Economies* (2002), elaborates some of the observations made in (2001), but is largely centered around developing a formal model that explains how people allocate time between virtual worlds and the real world.

► In the two seminal papers, Castronova made various observations regarding which basic assumptions of elementary economics hold in the virtual environment, and which do not.

► The observation that in his view legitimizes the whole study is that consumers perceive virtual assets as possessing real value. From the perspective of mainstream economics, their value is equally "real" as that of any tangible earthly object. This casts aside any doubts concerning their worthiness as a subject of study. Castronova summarizes the subjective theory of value as follows: "the value of objects does not depend on their characteristics or their components, but rather on their contribution to the well-being of the people who use them." (Castronova 2002).

►Castronova notes that time spent in a virtual world is a substitute to activities in the real world, prompting him to call those who spend a significant portion of their time in a virtual world “immigrants” (2002).

►He also observes the familiar real-world concepts of labor specialization and comparative advantage (2001), as well as a foreign exchange market, which enables him to put a real dollar value on Norrath’s assets.

**Shankar & Bayus, 2003**

►Economists were originally completely absent from the areas mentioned above, contributing on game business but not on games or gaming per se. media studies, literary criticism, anthropology and computer science.

**McClure & Mears, 1986**

►Have stated that early research was centered around the suspicions concerning negative effects of video games on players.

**Esbensen, 2005**

►The rise of massively multiplayer games represents a revolution in the game industry. This claim can be justified by referring to their unprecedented technological requirements.

**MacInnes, 2005**

►Talks about the new revenue models associated with the unprecedented technological requirements of the virtual economy and its strong social significance. Massively multiplayer games have also taken the complexity of games to a new level, prompting the use of the term virtual world.

**Justin Nash and Evan Schneyer, 2004**

►Examine a specific virtual world in their unpublished manuscript *Virtual Economies: An In-Depth Look at the Virtual World of Final Fantasy XI: Online* (2004).

**Simpson, 1999**

►Describes the Ultima Online economy in more casual terms from a developer’s perspective.

**Hiroshi Yamaguchi, 2004**

►Focuses on virtual currencies.

Computer games often involve activities that bear a resemblance to what in the real world economists would call production, trade, consumption or labor:

a) In simple games:

- The characteristics of the virtual economy can be derived directly from the game mechanics.
- This kind of analysis does not bring any added value on top of what is already known about the game mechanics.

b) In more complex games:

- Massively multiplayer games in particular, the virtual economy can be more difficult to understand by referring to game mechanics alone.
- There are multiple reasons why such understanding is nevertheless needed.
- The game designer’s perspective provides the most obvious reason: to be able to design, the designer needs to have some understanding of the relationship between the choices she makes and the play that takes place.

The emergence of real-money trade of game items and other virtual assets alerted businesses to the fact that revenues can actually be made by selling assets that exist in a virtual economy.

Consumer researchers should be interested in identifying the institutions and

mechanisms that result in players perceiving “nonexistent” items as being worth significant sums of money.

On one hand, virtual economy products bring to hundreds of companies hundreds or even thousands of dollars. Some of these companies sell multiple virtual goods for a single game and others sell multiple virtual services based upon various games. Although virtual markets may represent a growth area, it is unclear to what extent they can scale to supporting large numbers of businesses, due to the inherent substitutability of goods on these markets plus the lack of factors such as location to dispense demand. In these virtual economies, the value of in-game resources is frequently tied to the in-game power they confer upon the owner. This power allows the user, usually, to acquire more rare and valuable items. In this regard, in-game resources are not just tradable objects but can play the role of capital. Players also acquire human capital as they become more powerful. Powerful guilds often recruit powerful players so that player can acquire better items which can only be acquired by the cooperation among many players. Virtual economies have also been said to exist in the “meta-game” worlds of live-action role-playing games and collectible card games.

However, the virtual economy is much wider than as mere online game economies, although online game economies are big part of it. Other sectors of the virtual economy are markets for such things as Facebook, Twitter followers, and digital micro tasks. All of these are valuable digital assets that have emerged as the so-called “digital economy” of online services has grown. The development potential refers to the potential to provide

income opportunities to poor and undereducated people in developing countries, and to support the development of local ICT infrastructure. Specials have stated that the total revenues of the on-line game industry are estimated at 3.0 billion USD (<http://www.forbes.com/2010/01/04/virtual-economy-gaming-technology-breakthroughs-levchin.html>).

There is also another sector of the virtual economy that represents an unequivocally positive contribution to society: the market for micro work, or small tasks such as tagging an image or transcribing a snippet of hand-written text. E-commerce sites and other companies need such work. With suitable technology, this demand translates to income opportunities for digitally connected individuals in developing countries. In the report, we examine the value chain of this industry and assess its development potential. One important point to make is that micro work is distinct from the related concept of crowd sourcing. Crowd sourcing refers to the outsourcing of all kinds of tasks to a crowd via an open call. Micro work refers to tiny, digitally distributed tasks, whether these are sourced via an open call or, as is also common, through closed networks (<http://www.forbes.com/2010/01/04/virtual-economy-gaming-technology-breakthroughs-levchin.html>).

On the other hand, when studying the real economy of a country, a better view of real goods and services are seen at a constant dollar value without the interference of inflation (<http://lexicon.ft.com/Term?term=real-economy>). Inflation is the rise or decrease, or deflation, of goods and services during a certain time frame. This rise in the cost of goods and services is measured by two common methods, including the Consumer Price Index and The Producers Price Index.

By making economic calculations based on the real economy, business owners are better able to determine the real value of their goods and services. This view gives business owners a better understanding of the change in their goods and/or services over several years, which can look skewed when inflation is factored in.

Real values allow economists to compare goods and services at many different points in time and the value of the dollar will not play a part in the calculation. A real value must always be used as a comparison between two or more points of time, because a single real value does not provide any information. However, when an economist or business manager wants to know the reality of how well their product or service has progressed between different points of time; the real economy is the best way to make this analysis. They will be better able to calculate their real income.

The real economy is used to evaluate the real economic growth rate for a country or region. The real economic growth rate is a percentage that is determined to measure how the economy has grown or reduced from one period to the next. Many economists look toward this growth rate to see a true analysis that is not distorted by the inflation or deflation changes that constantly occur through time. This helps determine how much the nation's gross domestic product changes from year to year and helps make better predictions about the country's economic future.

### Conclusions

Virtual economy products bring to hundreds of companies hundreds or even thousands of dollars. Some of these companies sell multiple virtual goods for a single

game and others sell multiple virtual services based upon various games. However, the virtual economy is much wider than as mere online game economies, although online game economies are big part of it. Other sectors of the virtual economy are markets for such things as Facebook, Twitter followers, and digital micro tasks. All of these are valuable digital assets that have emerged as the so-called "digital economy" of online services has grown. The development potential refers to the potential to provide income opportunities to poor and undereducated people in developing countries, and to support the development of local ICT infrastructure. Specialists have stated that the total revenues of the on-line game industry are estimated at 3.0 billion USD. There is also another sector of the virtual economy that represents an unequivocally positive contribution to society: the market for micro work, or small tasks such as tagging an image or transcribing a snippet of hand-written text. E-commerce sites and other companies need such work.

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