The Spillover of Systemic Ethical Behaviour

Alejandro Cañadas, Assistant Professor of Economics, School of Business, Mount St. Mary's University

Abstract

The current financial crisis not only brought us high levels of unemployment, abrupt international disruption in economic growth, disinflation of assets prices and a dry up in the credit markets, among many other things; but it also brought us a crisis in the theory of economics and finance. Even though, a discussion concerning "a crisis in the theory of finance" seems very interesting, it will miss the point. The real crisis is an "ethical crisis" that involves all the economic subjects that utilize any financial theory.

The paper argues that the current financial crisis is a result of a spillover of systemic ethical behaviour that replicates the systemic risk of a financial system. In the international financial system, banks, as well as human beings, copy other banks; they expose themselves to similar risks by making the same type of decisions. Similarly, economic agents, who are human beings, emulate other economic agents by making similar economic decisions. What is safe for one economic agent becomes dangerous if all of them do the same thing, which is even more problematic when those financial decisions are ethically questionable.

The paper argues that to solve future financial crises the role of the university is essential. Universities should highlight the importance of ethical responsibility in any human field, especially in economics and finance.

Introduction

The current financial crisis not only brought us high levels of unemployment, abrupt disruption in economic growth, disinflation of assets prices and a dry up in the credit markets, among many other things; but it also brought us a crisis in the theory of macroeconomics.

Today there are some very critical opinions about the role of macroeconomics regarding the financial crisis. Some critics like Brad DeLong of the University of California have said that Robert Lucas, a prominent Nobel Laureate in Economics from the University of Chicago and his colleagues are: "making ancient and basic analytical errors all over the place" ("What Went Wrong with Economics," *The Economist*, July 16, 2009). Paul Krugman from the University Princeton, the *New York Times* and the 2008 Nobel Laureate in Economics, argued that much of the past 30 years of macroeconomics was: "spectacularly useless at best, and positively harmful at worst" ("What Went Wrong with Economics," *The Economist*, July 16, 2009). Willem Buiter of the London School of Economics (LSE) said that in the past 30 years the macroeconomics

training at American and British universities was a: "costly waste of time" ("What Went Wrong with Economics," *The Economist*, July 16, 2009).

Two important parts of the discipline are the centre of the debate, namely, macroeconomics and financial economics. There are three main critiques: that macro and financial economists: "helped cause the crisis, that they failed to appreciate its worst symptoms, and that they now cannot agree on the best solution" ("The Other-Worldly Philosophers," *The Economist*, July 16, 2009).

Regarding these critiques, scholars blame the famous efficient-market hypothesis (EMH) and its complex mathematics that described it. EMH has been the foundation for the Wall Street profession and the financial engineering structure from which derivatives, securitization, credit-default swaps and collateralized debt obligations were created and became the "tsunami" of the current subprime financial crisis. Professor Eugene Fama from the University of Chicago defines the essence of the EMH by saying that: "the price of a financial asset reflects all available information that it relevant to its value" ("Efficiency and Beyond," *The Economist*, July 16, 2009).

This theory has very important conclusions. If the EMH were true then markets would price financial assets almost correctly. Any deviations from the equilibrium (the correct value) could not last for long. The EMH theory also implies that financial bubbles could not be formed or at least they could form but they would not last because: "a very intelligent investor would spot them and pop them" ("Efficiency and Beyond," *The Economist*, July 16, 2009).

The main assumption of the EMH theory as well as from the core of neoclassical economics is that economics agents are inherently rational, markets are purely efficient and they have perfect information.

The Problem

The problem in economics and in any other discipline is that if your theory has weak foundations, then your interpretation of reality may be deviated. So it is not surprising that "reality" frequently appears to us as chaotic or even mysterious. The problem is not with reality, but with our theories that are unable to grasp it.

Current theory begins with a set of assumptions regarding consumer psychology. But, as Anderson and McShane (2002) have shown, these assumptions cannot be verified in real subjects. Moreover, from those weak foundations mainstream economics tries to arrive at macroeconomics, by summing up individual decisions. The question is epistemological: is it possible to derive a new totality just by integrating the components of a previous level? Can we explain biology and zoology, or even psychology, just within the physic theoretic framework? Can we reduce the emergent totalities to their parts? Neoclassical economists (headed by R.

Lucas) have answered this question affirmatively (Hoover, 2001). They oversee the systematic relations between macroeconomic aggregates, and so they try to explain growth as if economies work in a vacuum.

A big part of the problem is not just in the assumptions of the theory but chiefly in the philosophical and epistemological roots of our mainstream science. This is the result of separation of the transcendental component of science, which is the negation of body and soul that constitutes the subject of the human being, and it has practical moral consequences.

This problem can be seen in the emphasis that economics and finance have given to the neoclassical theory assuming a perfectly rational subject which is not real by the spiritual dimensions of the human being.

The Challenge

Going back to the problem with mainstream economics, we cannot be naïve and believe that all economists accept the EMH as true or the neoclassical economics foundations (Anderson and McShane, 2002). These critics are not new in the profession. Criticism has been heard for many years and from many economists and non-economists. Long before the current financial meltdown, lots of economists have seen fundamental flaws in current economic theory. It is also important to recognize that there are many scholars in economics that have been very skeptical about the rational and efficient assumptions. Joseph Stiglitz won the Noble Prize in 2001 for his contributions to the theory of markets with asymmetric information and markets failures (Stiglitz and Weiss, 1981). This theory set the basis for the principal-agent problem (Rees, 1985; Stiglitz, 1987), which has explained failures in credit, insurance, labour and financial markets through the process of adverse selection (Akerlof, 1970) and moral hazard (Arrow, 1971; Baker, 1996).

Other economists have looked at "institutional frictions" in markets to explain the lack of perfection in the markets (Douglass North & Robert Fogel co-recipient of the 1993 Noble Prize).

Last but not least, Daniel Kahneman won the Noble Prize in Economics (2002) for his contribution to behavioural economics and "prospect theory" which is a theory that describes decisions between alternatives that involve risk when we do not know all the information available.

A very similar trend can be observed in a very rich literature in finance that is called "behavioural finance". This is a set of theories[1] that have been developed applying concepts from anthropology, sociology and psychology to understand the behaviour of financial agents that in real life are not fully rational in perfect markets.

[1] Among other theories in finance it is worth mentioning: Rational Bubbles (Diba and Grossman, 1988), Loss Aversion (Kahneman and Tversky 1979, Tversky and Kahneman, 1991), Overconfidence (Camerer and Lovallo, 1999), Irrational Exuberance (Shiller, 2001) and Contagion (Kenourgios, Samitas and Paltalidis, 2007).

Happiness is Contagious as well as Bad Habits

Nicholas Christakis, a medical sociologist and doctor at Harvard, and James Fowler, a political scientist at the University of California, San Diego, have used the Framingham Heart Study, which has followed 15,000 people starting back in 1948. The paper was published in the *New England Journal of Medicine* in July 2007. They try to study how social relationships affect what we experience and do. Christakis and Fowler (2007) have, for the first time, found some solid basis for a potentially powerful theory in epidemiology: that good behaviours, like quitting smoking or staying slender or being happy, pass from friend to friend almost as if they were contagious viruses. The data of the Framingham participants suggested that we can influence one another's health just by socializing. What is more, the same was true of bad behaviours; clusters of friends appeared to "infect" each other with obesity, unhappiness and smoking. It seems that staying healthy is not just a matter of our genes and our diet. Good health is also a product of our absolute proximity to other healthy people.

What we experience and how we act spreads further than we think. Christakis and Fowler's work provides an in-depth description of the functioning of social networks. This work is not only a theory of social contagion of behaviours, but also an examination of the role of social networks in the system of human behaviour. Christakis and Fowler explained a range of neuropsychological ideas such as, "subconscious social signals that we pick up from those around us, which serve as cues to what is considered normal behavior" and: "the spread of good or bad feelings, they say, might be driven partly by 'mirror neurons' in the brain that automatically mimic what we see in the faces of those around us, which is why looking at photographs of smiling people can itself often lift your mood" (Christakis and Fowler, 2007). The Framingham findings also suggest that different contagious behaviours spread in different ways. For example, co-workers did not seem to transmit happiness to one another, while personal friends did. But co-workers did transmit smoking habits; if a person at a small firm stopped smoking, the person's colleagues had a 34 per cent better chance of quitting themselves. The paper suggests that the difference is based on the nature of workplace relationships. Smokers at work tend to cluster together outside the building; if one of them stops smoking, it reduces the cordiality of the experience (if you are the last smoker outside on a freezing afternoon, your behaviour can seem completely ridiculous even to yourself).

The fact that we are all susceptible to "social contagions" has made some researchers think that we are essentially pack animals. In the family, as in the pack, we mirror one another both emotionally and physically.

Christakis and Fowler's findings also show that the gamble of increased sociability pays off, for a surprising reason: happiness is more contagious than unhappiness. According to their

statistical analysis, each additional happy friend boosts your good cheer by nine per cent, while each additional unhappy friend drags you down by only seven per cent.

Contagious Effect in Economics

There is a fair amount of interesting papers in finance about the spread of bad financial information also known as financial contagion. The evidence about financial contagion is very robust for financial markets (Pericoli and Sbracia, 2003; Cipriani and Guarino, 2008), banks (Kelly and Grada, 2000; Tsomocos et al., 2007), investment risk (Scherer and Cho, 2003), insurance companies (Brewere and Jackson, 2002) and, currency exchange markets (Camarazza, Ricci and Salgado, 2000), also within and between countries (Ishihara, 2005). These analyzes suggest that the complexity of the functioning of social networks as well as the theory of social contagion of behaviours have consequences for economics and finance.

Cañadas (2009, 2010) using spatial econometrics[2] has found that income inequality in any particular province of Argentina not only affects economic growth in the same province but also affects the economics in neighbouring provinces[3]. Therefore, there would be a spillover effect of income inequality that goes beyond the original province that originated it. Therefore, the spillover effect of economics relationships among economics agents mimics the theory of social contagion of behaviours among human beings.

The Secret of Human Evolution and Prosperity: The Sex of Ideas

In a very recent book Matt Ridley (2010) claims that human beings have existed for 300,000 years as just one species among many. However, the human being specie only took off and came to dominate the planet in the last 45,000 years. Matt Ridley explains in a Wall Street Journal article on May 22, 2010, this evolution using an economics theory called "collective intelligence" which is the "notion that what determines the inventiveness and rate of cultural change of a population is the amount of interaction between individuals" (Matt Ridley, "Humans: Why They Triumphed," *Wall Street Journal*, May 22, 2010, Weekend Journal, The Saturday Essay). That is the idea that the sophistication of the modern world not only lies in the

[2] Spatial econometrics is a very recent and feasible technique to deal with spillover or contagious effects in the social sciences. See for example, Anselin (1988).

[3] Specifically in the literature of income inequality and economic growth there is a growing literature analyzing the spillover effect of spatial patterns of inequality and in the dynamics of geographic income disparities. Since Krugman (1991), there have been concerns with levels of spatial income inequality, their persistence, and the fundamental processes that give rise to them. These issues have been investigated across the global economy down to the level of the neighbourhood Partridge (1997, 2005), Panizza (2002). Surveys of the literature on convergence at the international and regional level can be found in: Durlauf and Quah (1999), Florax and Folmer (1992), Janikas and Rey (2005); and Abreu, de Groot and Florax (2005).

individual intelligence or imagination but also in the society's collective intelligence. Looking at the world Matt Ridley explains that "the knowledge of how to design, mine, fell, extract, synthesize, combine, manufacture and market these things is fragmented among thousands, sometimes millions of heads. Once human progress started, it was no longer limited by the size of human brains. Intelligence became collective and cumulative" (Matt Ridley, "Humans: Why They Triumphed," *Wall Street Journal*, May 22, 2010, Weekend Journal, The Saturday Essay). In the modern world, innovation is a collective enterprise that relies on exchange. As Brian Arthur (2009) argues: "nearly all technologies are combinations of other technologies and new ideas come from swapping things and thoughts". He believes that: "trade and urbanization are the grand stimuli to invention, far more important than governments, money or individual genius" (Matt Ridley, "Humans: Why They Triumphed," *Wall Street Journal*, May 22, 2010, Weekend Journal, The Saturday Essay). He shows that many cities where trade has been the main economic engine like Tyre, Athens, Alexandria, London or New York, were also places where invention and discovery took place. These cities are associated with "well-endowed collective brains".

The idea that economic exchange stimulated innovation by bringing together different ideas has a close parallel in biological evolution. Sexual reproduction has a very important role in Darwinian process, making possible how creatures change by bringing together mutations from different lineages. The idea is that with sex, creatures come together and join the same team. Without sex, the "best mutations defeat the second best, which then get lost to prosperity." Therefore, sex makes evolution a "collective and cumulative process in which individual can draw on the gene pool of the whole species" (Matt Ridley, "Humans: Why They Triumphed," *Wall Street Journal*, May 22, 2010, Weekend Journal, The Saturday Essay).

Matt Ridley claims that a very similar patter occurs in cultural evolution. Economic: "trade is to culture as sex is to biology". He also says that the: "rate of cultural and economic progress depends on the rate at which ideas are having sex" (Matt Ridley, "Humans: Why They Triumphed," *Wall Street Journal*, May 22, 2010, Weekend Journal, The Saturday Essay).. In a practical way, it is the invention of economic exchange that produces specialization and division of labour that led to a mutually beneficial collective knowledge (brain), which made the human being take off, progress and dominate the world.

A Call for a Multidisciplinary Approach: Neuroeconomics

The idea that human progress is a function of individual intelligence has motivated many researchers to look for answers inside the human brain. Many have been expecting to find a type of neural or genetic breakthrough that sparked what Matt Ridley calls a "big bang of human consciousness," (Matt Ridley, "Humans: Why They Triumphed," *Wall Street Journal*, May 22, 2010, Weekend Journal, The Saturday Essay). an auspicious mutation so that people could

speak, think or plan better setting the human race on the path to continuous and exponential innovation. It is known that the proto-Neanderthals first appeared some 350,000 years ago, at a time when our Homo sapiens ancestors were still fairly primitive Homo erectus, with a brain size of 900 to 1100 cc. Neanderthal roamed Europe until 30,000 years ago, when it suddenly seems to have disappeared. Mr. Ridley also noted that Neanderthals not only had bigger brains than ours but also they seem to have inherited the same genetic mutations that facilitate speech as us. However, Mr. Ridley concludes that despite surviving until 30,000 years ago, they hardly invented any tools, so he claims that this is proof that it is quite possible: "to be intelligent and imaginative human beings (Neanderthal buried their dead) yet not experience cultural and economic progress" (Matt Ridley, "Humans: Why They Triumphed," *Wall Street Journal*, May 22, 2010, Weekend Journal, The Saturday Essay).

The idea of collective intelligence is that an individual brain is a necessary but not sufficient condition to achieve cultural progress and evolution. Individual intelligence has to spill over, it needs a community, a set of brains to create a collective intelligence that accumulates and achieves progress and evolution.

The same process has to occur in the scientific arena; only one discipline like economics (only one brain) cannot grasp the whole truth of a complex phenomenon like the progress of the human being. Economics ideas have to have "sex" with other scientific ideas coming from many different disciplines in order to create the collective intelligence that will bring a more accurate description of a complex reality. One very good example is a pretty recent and promising effort to create a "collective intelligence" called neuroeconomics which combines psychology, economics and neuroscience, to study how people make decisions. It starts at the role of the brain but it mates with microeconomics theory, behavioural and experimental sciences seeking to ground in details of how the brain works to make human decisions (Camerer, 2007).

Ethical Analysis of Economics Decisions

A nineteenth-century political philosopher called Thomas Carlyle, once described economics as the dismal science referring to the dire consequences of unchecked population growth predicted by Thomas Malthus. On another occasion, Carlyle accused economists of embracing a "pig philosophy." It is said that economics may be described as the study of the production, distribution, and consumption of scarce goods and services. Samuel Gregg says that "economics is the study of how free persons choose to cooperate through voluntary exchanges to satisfy their own and other's needs in light of the reality of limited resources" (Gregg, 2001, 9). In a practical way how economists implement their ideas will depend on the difference between positive and normative economics.

In the Aristotelian and Scholastic traditions, economics and politics were studied as part of a broader inquiry into ethics under the title of *philosophia moralis* (Alvey, 1999). Even in the European universities of the 1700s, economics was still taught as part of moral philosophy (Canterbery, 1995). As the economist and Anglican thinker, Lord Griffiths, points out the Enlightenment encouraged people to think in a more abstract, even amoral (different from immoral) manner (Griffiths, 1984). Lionel Robbins, defines economics as "the science which studies human behavior as a relationship between ends and scarce means that have alternatives uses" (Robbins, 1952, 16). The main idea is that the main goal of economics is to determine the objective effect of different choices about how scarce goods may be used. For Von Mises economics is al "theoretical science…It is not its task to tell people what ends they should aim at. It is a science of the means to be applied for the attainment of the ends chosen, not, to be sure, a science of the choosing of the ends…Science never tells a man how he should act; it merely shows how a man must act if he wants to attain definite ends" (Von Mises, 1966, 10). Both definitions indicate that economics is a positive discipline because it involves the study of cause-effect relationships with a high degree of empirical validity.

On the other hand, normative economics or political economy is what Carl Menger calls the: "basic principles for the suitable advancement (appropriate to conditions) of national economy on the part of the public authorities" (Menger, 1963, 211). The key word in Menger's argument is suitable, meaning what is appropriate when you consider its philosophical, political and ethical implications. So, normative economics is when someone renders an opinion that involves moral and/or political judgments about means, object and side effects of a potential or actual economic policy. Samuel Gregg (2001) clarifies that even considering positive economics, not all the assumptions are philosophical neutral. As Ricardo Crespo states this means: "that economics is not a value-free science" after all (Crespo, 1998, 201).

In an article about the moral implication of economics, Hayek states that: "Economic activity provides the material means for all our needs" (Hayek, 1962, 49). This assumes that the subject of the economics is the human being who makes decisions. Depending on the philosophical definition of human being, we will have different interpretations of Hayek's statement. If the human being is only material, only body, he will have to satisfy only material needs. However, if the human being is "spirit incarnated in a body", spirit and body, he will have to satisfy spiritual and material needs using scarce resources with different moral consequences. Therefore, breeding economics with philosophy by studying the philosophical definition of the human being will also create a more realistic "collective intelligence" that would improve the interpretation of our complex reality and its moral consequences.

Conclusions

The current financial crisis not only brought us an international disruption in economics and finance but has also shown us the weaknesses of economic theory that relies too much on the Neoclassical framework that presupposes a mistaken philosophical interpretation of the human being (purely rational). Moreover, the current financial crisis has reminded us about the importance of economics as a "social science" with ethical responsibilities. So, it is also an opportunity for us to rethink the role of economics.

The theory of social contagion of behaviours explained by Christakis and Fowler (2007) shows the complexity of human behaviour that depends on a system of social networks that spread good and bad behaviour/decisions as if they were contagious viruses. The same complexity of interrelationships among human beings characterized the economics decisions that people make. If this theory is correct, the implications are radical. In order to create and understand human progress, economics has a new opportunity now more than ever to construct its "collective intelligence" by "making sex" with other disciplines to better understand the decision making process in a complex society with ethical consequences.

A multidisciplinary approach to economics is the future of the social science. It has already started and it would be the "new mainstream" in economics. This was the main conclusion of the 20th Anniversary of the Oxford Round Table, "Ethical Sentiments and the World Financial Crisis," held at the Harris Manchester College, Oxford University, Oxford, England on March 2010. The conference was prepared on the 250th anniversary of Adam Smith's book: *The Theory of Moral Sentiment* (1759) which speaks of the primary, non-material motivations of justice, benevolence, and prudence, of which desire for honour, respect, social advancement, and wealth are subsets. One month later, in April 2010, the inaugural conference of the Institute for New Economic Thinking (INET) was held at King's College, Cambridge, which opened an space for young economists to adventure in new ways of doing economics thinking beyond the current rational mainstream.

The role of the university is essential to bring together not only new (behavioural) theories but also moral consequences for economics and finance. In this important role, the synergy among scholarly work from different social and scientific sciences is key. The nature of the spillover effect of systemic ethical behaviour has positive externalities that might transform schools, businesses and government organizations into healthy, thriving habitats.

The possibilities for teaching economics from a multidisciplinary perspective as well as doing more empirical research in these areas are enormous.

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