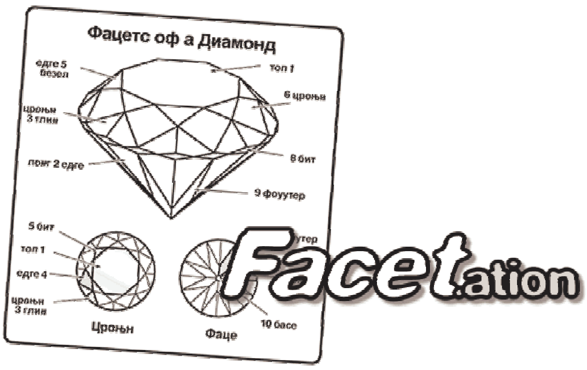
The Market Dynamics of Speculation:

Hayekian Market Signals and the Rise of the Culture Industries

London ON, 14/06/2003



Market Dynamics of Speculation

Hayekian Market Signals and the Rise of the Culture Industries

The IPO bubble has popped. The shine of Internet companies and dot.coms has faded. How did this happen? I propose a model of market dysfunction that is based on the Shannon-Weaver model of information transfer and the media's role in disrupting market signals.

george_goodall@yahoo.com

“Commerce is our goal here at Tyrell. 'More human than human' is our motto. Rachael is an experiment. Nothing more.” Dr. Eldon Tyrell [Bladerunner]

"When the rest of the world is mad, we must imitate them in some measure." John Carswell (1960). The South Sea Bubble. London: Cresset Press. p.161

"A fad is a bubble if the contagion of the fad occurs through price" Robert J. Schiller (1993). Market Volatility. Cambridge: MIT Press. p.56

Introduction

Welcome to the third millennium. Welcome to uncertainty and simulacra. Welcome to the market.

We live in a time of unprecedented access to information and knowledge. The pundits claimed that a new era is upon us –a third wave– that will result in extreme prosperity for the entire world. Instead we are witnessing the rise of democratic despotism is the wake of a speculative bubble that eroded consumer confidence and emptied savings plans and retirement funds.

How did this happen? If information greases the market, how could the market collapse when consumers have more information than ever before? Does neither knowledge nor information play a role in contemporary market dynamics?

I propose that knowledge still plays an essential role in today's market economy. Unfortunately, our information streams have been corrupted with channel noise and that the operation of the market has turned into a spectacle. By co-opting the mass media, capital is undermining the infrastructure that supports it. Just ask anyone who lost money during the Internet bubble of the late 90's.

A new sort of Liberalism

The importance of information in the operation of the market has long been recognized. The economist Friedrich Hayek published an influential article called *The Use of Knowledge in Society* in 1945. Although may of Hayek's ideas were dismissed in the era of the Keynesian welfare state, his ideas figured prominently in both the United States and Britain with the almost simultaneous election of Margaret Thatcher and Ronald Regan.[1] During 1981, Thatcher proclaimed: “I am a great admirer of Professor Hayek. Some of his books are absolutely supreme... and would well be read by almost every honourable member.”[2]

Hayek's basic philosophy is that perfect information is not available in the market place. Indeed, “the fact that the method by which such knowledge can be made as widely available as possible is precisely the problem to which we have to find an answer.”[3] Hayek maintains that only through the pricing mechanism can individuals access the information they need to make appropriate decisions:

> The most significant fact about this system is the economy of knowledge with which it operates, or how little the individual participants need to know in order to be able to take the right action. In abbreviated form, by a kind of symbol, only the

1. Jim Tomlinson provides an overview of Hayek's role in the revival of New Right ideas. See Tomlinson, J. (1990). *Hayek and the Market.* Pluto, Winchester. p.x.
2. From 1981 Hansard as reported in Tomlinson (1990).
3. Hayek, F. (1984 [1945]). *Use of Knowledge in Society*. Taken from *The Essence of Hayek* eds. Chiaki Nishiyama & Kurt R. Leube. Hoover Institution Press. p.215.

> most essential information is passed on and passed on only to those concerned. It is more than a metaphor to describe the price system as a kind of machinery for registering change, or a system of telecommunications which enables individual producers to watch merely the movement of a few pointers, as an engineer might watch the hands of a few dials, in order to adjust their activities to changes of which they may never know more than is reflected in the price movement.[4]

Unfortunately, consumers no longer understand what their dials mean. Hayek's pricing machinery has been broken by the omnipresence of the mass media.

Objective Knowledge

Despite the importance of Hayek's philosophy to recent economic ideology, his ideas have met with criticism. Hayek writes about information as if it were a metaphysical ether enveloping the daily activities of consumers. The advent of Information Theory (introduced by Claude Shannon in 1948)[5] resulted in a new objective conceptualization of information as quanta exchanged between transmitters and receivers. As discreet packets, market information is susceptible to processing and telecommunication demands that require time and energy. Cockshott and Cottrell claim that the computational energy required to support this market information is so extensive that the pricing function can't possibly occur as Hayek claims:

> Were this a realistic model, it would if anything demonstrate the impossibility of any large scale competitive economy because of the highly non-linear informational cost function associated with the number of agents... The lack of realism in such models stems from two factors: the idea that information can somehow be broadcast to all participants in a single operation, and the idea that each agent must process messages from all others.[6]

4. Hayek p.219
5. Shannon, C.E. (1948). A Mathematical Theory of Communication. *The Bell Systems Technical Journal. Vol.27*, p. 279-423, 623-656.
6. Cockshott, W.P. & Cottrell, A.F. (1997). Information and Economics: A critique of Hayek. *Research in*

De Vany extends this argument to invalidate both Hayek's claims and many arguments in support of centralized planning. Through extensive econometric modeling, De Vany tells us that "it would take centuries [of computation] to put together even small optimal economic organizations."[7] We now have to wonder how economic stability happens at all. It seems that there is something else in the Hayekian economic messages that get passed back and forth than just quantitative data. There is prima facie evidence that it doesn't require a century to determine the price of bananas at the grocery store. Some other mechanism is likely at play that allows individuals to make optimal or near optimal decisions such that they don't have to calculate every conceivable pricing combination and permutation. Without this guidance, the market mechanisms would tip into an uncontrolled chaotic state.

Hayek himself provides us with an indication that he is dealing with some sort of super-information:

> This is, perhaps, also the point where I should briefly mention the fact that the sort of knowledge with which I have been concerned is knowledge of the kind which by its nature cannot enter into statistics and therefor cannot be conveyed to any central authority in statistical form.[8]

Political Economy, vol. 16, p. 177-202

7. De Vany, A. (1998). How Much Information is there is an Economic Organization and Why Can't Large Ones be Optimal?. Online document. Retrieved on April 1, 2003 from http://www.google.com/search?q=cache:oT3u1EjdragC:www.beje.decon.ufpe.br/vany/information.htm+hayek+%22information+theory%22+shannon&hl=en&ie=UTF-8
8. Hayek p.217

What kind of non-statistical information is required to maintain the market balance? What kind of cultural values are loaded into the signals that allow the system from slipping into chaos? What else is communicated in price movements? I propose that the price signals are loaded with additional meta information that is particular to the consumer's environment and behavior. Furthermore, the meta-information has become corrupted and is causing extensive market imbalance.

Humans as Rational Agents

Much of traditional economic analysis assumes that homo economicus is a rational utility maximising agent who is fully informed of all information required to make a decision.[9] This assumption is wrong. Akerlof's pioneering work concerning the pricing of used cars[10] determined that incomplete information significantly effects buyer behaviour. Likewise, Kahneman and Tversky have demonstrated the irrationality of buyer decisions[11]. Prospect Theory maintains that consumers price risk premiums into their purchasing behaviour. This non-traditional economic behaviour may be consistent with Hayek's understanding of behaviour resulting from "non-statistical" information. Perhaps these signals incorporate the meta-information required to maintain market stability.

Where does the pricing information –or lack of information– and meta-information come from? According to Hayek, it can only be "the most essential information" and it must be

9. See Sungky Min's *Assymetric Information and Shareholder's Wealth* (1997, Garland Publishing: New York) for detailed discussion and numerical treatment of assymtric information.
10. Akerlof, G. (1970). The Market for 'Lemons:' Quality Uncertainty and the Market Mechanism. *Quarterly Journal of Economics, February 1970*. pp.488-500.
11. Kahneman, D. & Tversky, A. (1979). Prospect Theory: An Analysis of Decision under Risk. *Econometrica, Vol.47, No.2* pp.263-292. Retrieved March 13, 2003 from http://links.jstor.org/sici?sici=0012-9682%28197903%2947%3A2%3C263%3APTAAOD%3E2.0.CO%3B2-3.

"passed only to those concerned." Most of all, however, it must be the appropriate information to maintain market stability.

We're hunting a very strange sort of informational animal that has apparently evaded capitalist hunters. Adorno and Horkheimer caught it back in 1944. They realized that the sort of information transmitted isn't as important as the condition of the receiver. Their insight is that capital breaks consumers to a particular sort of "most essential information" and cleanly stratifies "those concerned":

> Everybody must behave (as if spontaneously) in accordance with his [sic] previously determined and indexed level, and choose the category of mass product turned out for his type.[12]

Our animal is the Culture Industry; the purveyors of mass media that represent capital's need to create our needs and wants. The Culture Industry produces quanta of information that interact with Hayek's pricing signals. Recently, however, it seems that the signals produced by the Culture Industry represent channel noise that obfuscates signal information and creates market instability. The noise has manifested itself in two forms: *kipple* and *spectacle*.

12. Adorno, T. & Horkheimer, M. (1993[1944]). *The Culture Industry: Enlightenment as Mass Deception* (from *Dialectic of Enlightenment*). Continuum. New York. Originally published as *Dialektik der Aufklarung*, 1944. Retrieved on March 13, 2003 from http://www.marxists.org/reference/subject/philosophy/works/ge/adorno.htm.

Kipple

In *Do Androids Dream of Electric Sheep?* Phillip K. Dick introduces us to a world that has run down: socially, environmentally, and technologically. In short, the world has collapsed to the base state of homogeneous “kipple:”

> ...just as individuals can hasten the entropy of their own bodies, social systems can quicken their own decay and that of the natural world. As an energy-devouring, resource-depleting, waste-producing, not-stop-guzzling megamachine of growth and accumulation, advanced capitalism rapidly accelerates entropic breakdown.[13]

This homogenization is inherently assisted by the Culture Industries. Perception of real differences is eliminated as consumers contend with representations of objects. In a kippleized state there is nothing real to differentiate objects. The meta-information is homogenized out of existence and the signal channel is suppressed in a field of grey noise. Adorno and Horkheimer provide a snapshot of the beginnings of kippleization in America:

> That the difference between the Chrysler range and General Motors products is basically illusory strikes every child with a keen interest in varieties. What connoisseurs discuss as good or bad points serve only to perpetuate the semblance of competition and range of choice. The same applies to the Warner Brothers and Metro Goldwyn Mayer productions. But even the differences between the more expensive and cheaper models put out by the same firm steadily diminish: for automobiles, there are such differences as the number of cylinders, cubic capacity, details of patented gadgets; and for films there are the number of stars, the extravagant use of technology, labor, and equipment, and the introduction of the latest psychological formulas.[14]

The kippleized state is created by the Culture Industries. In terms of Information Theory, the homogeneous signals created by the Culture Industries completely dominate the

---

13. Best, S. & Kellner, D. (2001). *The Postmodern Adventure: Science, technological, and cultural studies at the third millenium.* Guilford Press. New York. p. 262-263
14. Adorno, T. & Horkheimer, M.

information space that consumers use to make decisions. At kipple, only the rarefied signals of the Culture Industries remain. Hayek's information signals are suppressed and the economy tips into the chaotic state where a century is required to price bananas.

Spectacle

Bakhtin would be proud. The new millennium promises to bring us spectacle like never before. Already we have witnessed *Election 2000*, *Enron*, and *Gulf War II*. The Culture Industries have ensured that "'Citizens'... become spectators of media presentations and discourse which arbitrate public discussion and reduce them for its audiences to objects of news, information, and public affairs."[15] As passive viewers, consumers no longer even recognize the signals as signals. Instead, the signals have become a type of entertainment stripped of significance. To extend Hayek's price mechanism metaphor, the engineer is no longer even bothering to watch the dials. The engineers who do watch are just playing a game. The Cultural Industries have "colonize[d] everyday life, distracting individuals form their own and society's decisive problems as they get lost in the trivia of tabloid entertainment."[16]

By destroying the signified, Hayekian market signals are now masquerading as noise. The Shannon/Weaver receiver is broken but the transmitter is still working.

Like all good cybernetic systems, the market economy has a safety mechanism. If messages from the transmitter are distorted or dropped, the economy begins to slide out

---

15. Kellner, D. (200?). *The Frankfurt School.* Online document. Retrieved on March 12, 2003 from http://www.gseis.ucla.edu/faculty/kellner/papers/fs.htm
16. Best, S. & Kellner, D. p.262

of balance and calculation difficulties appear. Inflation climbs out of control or investment drops precipitously resulting in mass unemployment. Governments have learned to control these cycles —largely due to Hayek's influence— through interest rate control practiced by central banks. In the late 90's, however, the feedback mechanism broke. Capital had found a new way to finance itself.

Euphoria and Speculation

The Internet bubble represented a nearly unprecedented wave of speculation in the financial markets. As this article goes to press, the Dow Jones Industrial Average is off about 25% from its high. Not to be outdone, the technology heavy NASDAQ is off by over 70% from its high in the spring of 2000.[17] What happened? I posit that this speculative bubble was largely the result of Hayek signal distortions caused by the mass media.

Media Domination

In 1944, Adorno and Horkheimer precongnitively determined a cause of the Internet bubble:

> The dependence of the most powerful broadcasting company on the electrical industry, or of the motion picture industry on the banks, is characteristic of the whole sphere, whose individual branches are themselves economically interwoven. All are in such close contact that the extreme concentration of mental forces allows demarcation lines between different firms and technical branches to be ignored.[18]

17. Numbers provided by www.clearstation.com on March 29, 2003
18. Adorno, T. & Horkheimer, M.

The broadcasting company they referred to was RCA. In 1932, the Justice Department filed an antitrust suit against the electrical industry –General Electric– and forced GE to sell their interests in RCA. In June of 1986, GE reclaimed the company they had spawned including the RCA broadcaster: NBC. The Justice Department remained silent.[19]

As a devision of GE, NBC went on to create CNBC –a network devoted to covering the phenomena of the new market order that was emerging in the 90's. CNBC was to become a major cultural force in the formation of the Internet bubble. In his book *dot.con: The Greatest Story Every Sold*, John Cassidy tells us that CNBC captured the market zeitgeist:

> NBC didn't create the stock market boom, but it did help to perpetuate and amplify it. To borrow a term from biology, the network acted as a "propagation mechanism" for the investing epidemic. All across the country–in bars, banks, health clubs, airports, and doctors' waiting rooms–televisions were permanently switched to CNBC. The network's reporters didn't hype stocks directly. Rather, they helped to create a populist investing culture in which adulation of the stock market was the norm... CNBC treated the stock market as a sport, and there was never any doubt which side was the home team.[20]

CNBC dominated the information channel. Commentators such as Joe Kernen and Maria Bartiromo –the “Money Honey”– were the preachers of a new religion and the congregation begged for salvation. True to the faith, converts disregarded dissenting views and drank the cool aid. They bought anything that started with “e-” or ended with “.com.”

19. See the description of GE's history available at http://www.museum.tv/archives/etv/R/htmlR/radiocorpora/radiocorpora.htm.
20. Cassidy, J. (2002). *Dot.con: The greatest story ever sold.* Harper Collins. New York. p.168

While the Internet orgy of excess raged, market signals said “sell.” Despite the protestations of seasoned investors such as George Sorros and Warren Buffett, the market continued to rise accompanied by the cheers of CNBC and their companions such as CNNfn.[21] By controlling the mass media, capital had ensured that only one message remained: “buy.” Other messages had been squeezed out. At kipple, there is no place for alternate views or behaviours.

The homogenization of information caused by capital's marriage with media was undermining the basis of market efficiency. With the masking of the Hayekian signals, the market began to swing out of control. Unfortunately, the cybernetic control – inflation– didn't budge. There didn't appear to be an explanation for the booming equity market. The speculation reached feverish heights fuelled by capital's new attack vector.

Spectacle to Carnival

As CNBC became a cultural phenomenon consumers were drawn to the spectacle. The story of the day was the equities market. Entrepreneurs became paper millionaires overnight as they released their ideas to the market in the form of an IPO. Everyone wanted a piece of the action. Hayek's price dials lacked significance. It was important just to be watching the action. With the advent of the Internet, however, the spectacle became a carnival that democratically allowed all to participate in the masochism. If consumers couldn't start a company they were sure to buy in to the market: “Damn the limit order, give me market price!”

21. CNN was acquired by Time Warner in 1996. Time Warner and AOL merged in 2000 to form a juggernaut of capital. See Cassidy 2002 for details.

> A critical element in individual investing in Internet stocks was the Internet itself, which created a virtual community of risk takers where none had existed before.
>
> In the Internet era... the individual investor had the information, the technical capacity, and the moral support to become a professional speculator.[22]

With the Internet, market participation was only a mouse click away. Essentially, everyone became an information transmitter. Nobody heeded Hayekian signals. The only signal received was the channel noise produced by capital through its mouthpiece: the Culture Industry. With the destruction of the receiver, the market was blind to discursive signals and the economic system tipped out of balance.

The speculative bubble raged.

Come Down: Capital Wins

The market collapsed. How could this happen? The market inflation indicated that we would never have to work again. CNBC concurred. Instead, fortunes were lost and jobs disappeared. We should have listened to Hayek's warning:

> The chief conclusion I want to demonstrate is that the longer the inflation lasts, the larger will be the number of workers whose jobs depend on a continuation of the inflation, often even on a continuing acceleration of the rate of inflation–not because they would not have found employment without the inflation, but because they were drawn by the inflation into temporarily attractive jobs which after a slowing down or cessation of the inflation will again disappear.[23]

22. Cassidy, J. p.125
23. Hayek, F. (1984 [1945]). *Inflation, Labour, and Unemployment.* Taken from *The Essence of Hayek* eds. Chiaki Nishiyama & Kurt R. Leube. Hoover Institution Press. p.11

The pundits are quick to point out that throughout the Internet bubble, inflation never reached levels that would result in an interest rate change. Inflation had indeed occurred but in a form –to borrow from Hayek– that "cannot be conveyed to any central authority in statistical form."[24] The inflation had occurred in the market valuation of technology companies. How else could a journeyman corporate entity like AOL acquire a behometh like Time Warner?

What is telling in this account is how capital was able to distort market forces to extract value from consumers. Capital's attack vector was the Initial Public Offering. Combined with a suppression of Hayekian market signals, the IPO enabled capital to circumvent pernicious laws for consumer protection and central bank controls. The result was a massive liquidation of shareholder wealth; a destruction of entropic energy bringing us all closer to kipple.

The first act of capital's conquest of the Internet was its unholy wedding with the Culture Industries. Through the mass media, the information that stabilizes the market was suppressed and capital introduced their Trojan horse: the IPO.

Epilogue

As per Hayek, the market is starting to rebound at the expense of business investment and unemployment. It seems that we have passed through the speculative bubble and that consumers are heeding information signals that govern equity prices. The engineers are

24. Hayek, F. (1984 [1945]). *Use of Knowledge in Society*. Taken from *The Essence of Hayek* eds. Chiaki Nishiyama & Kurt R. Leube. Hoover Institution Press p.217

once again watching the dials. The Culture Industries, however, are still dominated by capital.[25] It may only be a matter of time before *kipple* and *spectacle* again throw the markets out of balance so capital can once again "hack" the market's cybernetic control. The most recent spectacle –Gulf War II– has already resulted in increased market volatility that may represent capital's opening salvo.[26]

Federal policy may be a greater risk to market dynamics than Iraq. Behind Washington's closed doors, a proposal has been created that would shift oversight of media and cable mergers from the Federal Trade Commission to the Department of Justice. Advocates and experts claim this shift will facilitate media mergers.[27] In response to the proposal, Lawrence Lessig has stated:

> I am very concerned. The FTC has taken a broader view of these issues, keeping the general competitive context in mind. This is especially important in the context of media mergers affecting the Internet, because we just don't know the range of values at stake yet. Careful review here is critical.[28]

To me, the "values" are pretty clear: a working market.

---

25. Capital's domination of the media is far from assured. See Nick Dyer-Witheford's *Cyber-Marx: Cycles and Circuits of Struggle in High Technology Capitalism* for a description of discursive applications of modern communications technology.
26. Stewart, J.B. (2003). *A War-Torn Market.* [Smartmoney.com March 25, 2003]. Retrieved on April 4, 2003 from http://www.smartmoney.com/commonsense/index.cfm?story=20030325.
27. Benner, J. (2002). *Media Mergers: Who Should Rule?* [Wired News February 01, 2002]. Retrieved on April 4, 2003 from http://www.wired.com/news/politics/0,1283,50145,00.html
28. Reported in Benner (2002).