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The Housing Problem and the Economic Crisis: Evaluating Policy Prescriptions†

Subprime Crisis Research Program

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Executive Summary♦

The so called subprime crisis is likely to be a major historic milestone for the U.S. and the world economy. The speculative bubble in the housing market began to burst in the United States in 2006, and has been followed by ruptures in virtually every asset market in almost every country in the world (with rare exceptions, such as the U.S. Treasury market). The forces unleashed by the subprime crisis in the United States will probably take many years to dissipate, threatening additional interactive collateral damage in asset markets as well as to the financial system. There are those who believe that the subprime crisis has set in motion fundamental socio-economic changes that will profoundly affect consumer behavior, influence economic outcomes and societal tastes and preferences.

While the housing market and the attendant mortgage sector in the United States is the focus of our analysis, the solutions that we evaluate must be understood in the broader context of the global financial crisis and the entire financial value-chain. It is necessary to "stabilize" the U.S. housing market and the mortgage sector in order to restore economic growth and confidence at home and abroad. However, policies to stabilize the housing market are unlikely to succeed fully unless many of the other asset markets and financial institutions are stabilized simultaneously. *(Continued on page S-2)*

The Great Recession: Vision Problems of the Experts and Concepts Useful in Avoiding Such Debacles[1]

> "A new scientific truth does not triumph by convincing its opponents and making them see the light, but rather because its opponents eventually die, and new generation grows up that is familiar with it." [3]

By Maury Seldin[2]

Some Useful Concepts in Avoiding Debacles

Former Federal Reserve Chairman Alan Greenspan testified before Congress "I did not forecast a significant decline because we never had a significant decline in prices." He was referring to housing prices. A decade earlier, the debacle of Long-Term Capital Management, with leadership from two Nobel Prize winners, occurred when forces exogenous to the sophisticated mathematical models drove prices down to devastating levels. Both cases were outliers in the distribution of expected events seen by application of the inductive reasoning used in the sophisticated econometric models.

It helps to understand how econometric models are constructed, and the concept of outliers. Also, that social science is built upon inductive reasoning, generalizing from the particular experience. A major difficulty is with improbable events, the subject of a book by Nassim Nicholas Taleb, *The Black Swan: The Impact of the Highly Improbable*. The problem is that social scientists operate "under the false belief that their tools could measure uncertainty." (The prologue discusses three characteristics of Black Swans. One is that they are an outlier. The second is that they have a big impact. The third is that we concoct explanations after the fact that would make it predictable.) *(Continued on page S-4)*

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♦ The complete report is available on the Hoyt Group website http://www.hoyt.org/index2.html

1 This essay is intended to induce the reader to link to my blog, Maury Seldin on Strategy Matters. http://www.hoyt.org/decision_making.phtml, and see the main essay and heavily annotated bibliography.

2 Dr. Seldin , a chaired professor emeritus from The American University in Washington D.C., is Chairman of the Board of Directors of the Homer Hoyt Institute (HHI), an independent not-for-profit organization dedicated to the improvement of real estate decisions by fostering the development and dissemination of knowledge. The views presented are his views and may not represent the views of HHI.

3 The statement was made by Max Planck as quoted in *The First Moderns* by William R. Everdell. It was used in an essay published by the Advanced Studies Institute in the spring of 2009, http://www.hoyt.org/asi/spring99.html.

Our analysis addresses three intertwined issues:

- What is the genesis of the subprime crisis?
- How effective will existing and proposed housing-mortgage policies be for fixing the subprime crisis?
- What needs to be done, both in terms of research and policy, for a better understanding of the crisis and for the development of policy solutions?

Root Causes of the Subprime Crisis

The confluence of Macroeconomic, social and financial factors caused the housing bubble in the US. Macroeconomic conditions provided several crucial elements. The US consumer debt fueled the trade deficit, which was financed substantially with savings by US trading partners. These global imbalances and capital inflows combined with official Fed interest rate policy (in response to the dot com bust and the recession of 2002) generated cheap debt. There was cheap mortgage money for homebuyers at one end, and a willing pool of global investors in securitized mortgages, at the other.

New borrowers emerged to meet the expanding supply of mortgage money. Homeownership rates rose among younger and lower income households. The financial sector frenetically expanded products to meet the demand from homeowners and satisfy yield starved investors. Through financial alchemy, investment firms created derivatives with higher ratings than what the underlying securities would support. The fee structure rewarded lenders, mortgage brokers, and securitizers for originations rather than financial product viability, thereby creating incentives for increased transactions. Regulatory laxness passively permitted diluted underwriting standards and predatory lending practices, supporting the growth of subprime and Alt-A mortgages, which were then securitized and sold to investors around the world.

Subsequently, with lower growth in demand for homes, prices began to stabilize or dip slightly and the boom in home construction collapsed. Simultaneously, the many subprime mortgages with interest reset provisions started to come due. Combined with lower sales activity and prices, a self-sustaining loop was created, causing marginal borrowers to default, further worsening the housing market. As home prices sank and mortgage default rates rose, the value of mortgage securities began to decline and the derivatives market started unraveling. The failure of major U.S. financial institutions, heavily invested in dodgy assets, and the repeated need for tens and then hundreds of billions of dollars in government provided funds to keep them afloat, led to a much broader financial crisis not only within the US but globally.

Regional Variations

While this broad process worked its way through the housing market throughout the US, there was considerable geographic variation. For example, median 2007 home values ranged from $88,000 in Mississippi to $536,000 in California. At present, states with the largest home value losses are California, Nevada, Florida, Arizona and Michigan. The top five states for subprime shares in total mortgage outstanding (end 2005) were Nevada, Florida, Tennessee, Texas and Arizona, and the top five states with highest share of foreclosures (end of 2007) were Michigan, Ohio, Florida, Nevada and Indiana.

A statistical analysis confirms that the highest share of subprime mortgages were issued in states with populations with younger median age, higher average price growth rates in the recent past (2000-2005), and weaker state-level financial regulatory structures (proxied by per capita expenditures on financial administration and supervision). Higher subprime shares in the recent past were the single most important determinant of higher foreclosure rates. These statewide variations suggest that policy programs will need to take account of regional variations, and that states with strong preexisting regulatory and institutional frameworks may be better positioned to partner workout programs.

Initial Responses at the Federal Level

The avalanche of foreclosures at the local level has drawn responses from both state and federal legislative bodies. At the state level, much of the initial response has been to institute protections for those facing foreclosure and to limit the ability of financial institutions to repeat the mistakes that led to this crisis. The collapse of critical, publicly traded financial institutions and the failure of government sponsored enterprises have drawn responses at the executive and legislative levels of the federal government. At the same time, Congress, as well as regulatory bodies such as the FDIC, have begun crafting measures to deal not only with the large scale collapse of the credit system, but with the local and individual issues directly related to mortgage default and foreclosure.

The mortgage default and foreclosure problem manifests in several different ways, each of which contributes to the larger crisis: 1) Individual borrowers face payment distress, either because they were not able to afford the initial loan, because rate adjustment decreases their ability to pay, or because of change in income status (such as job loss) has impacted their ability to pay. 2) In weak market areas, the incentive to continue mortgage payments may be eroded by declining values leading to negative equity and "under water" loans. 3) Price decline may accelerate in neighborhoods with numerous foreclosures, because of slower sales where prices are expected to decline further and the impacts of neighborhood quality where foreclosed vacant units pockmark the area. 4) Resolving mortgage issues in problem homes and problem neighborhoods becomes more difficult if the home is underwater, if the loan has been securitized, or if there is more than one lien on the property.*(Continued on page S-3)*

Policy responses to date have nibbled at these issues, but leave large chunks unresolved. Several different programs deal directly with one or more segments of the existing borrower population, with some variation in the types of modifications available.

- HOPE NOW began in late 2007 and was entirely voluntary, with the government role limited to bringing together housing assistance organizations and lenders in the process of reworking loans for distressed borrowers. The program addresses only delinquent loans for single family owner occupants who are not in bankruptcy, and whose loan to value ratio is too high to allow standard refinancing. The primary adjustment offered is to decrease payments to 38 percent of household income, by lowering interest rates, increasing loan duration, or principal forbearance.
- Hope for Homeowners, established by Congressional measure in mid-2008, is also a voluntary agreement between borrower and lender. Borrower owner- occupants may be in default but must have a history of at least 6 payments, may not own a second home, and must have payments greater than 31 percent of income. Both principal and interest rate may be adjusted into a fixed rate loan of no more than 96.5 percent loan to value. Any decrease in principal is offset by shared equity appreciation in the future.
- FDIC has a program for adjusting interest rates and forbearance of principal on at-risk loans in the portfolios of institutions in receivership that has been a proving ground for some of the current government strategies.

Alternative Proposals

Large segments of loans are not addressed by these programs and a number of academics and finance experts have offered advice on how to reach larger groups of borrowers, tackle the negative equity disincentives, or provide further home buying stimulus.

- Caplin, Cunningham, Engler and Pollack suggest a 2-loan solution, one interest bearing with a standard LTV, and a second shared appreciation mortgage with no interest, but a payoff on sale or at the end of the mortgage term.
- Martin Feldstein recommends a supplemental government low cost loan for up to 20 percent of the mortgage, with rates based on the cost of funds.
- The Qualified Impaired Mortgage program gives the lender the deed and releases the borrower from the loan. The home occupant may enter a 5 year recovery lease with the option to repurchase the home at its current fair market price at the end of the lease (Alpert).
- Zingales recommends standardized renegotiation at the zip code level, based on changes in the home price index. The mortgage face value would be reduced by the average price decline of the local index, wherever prices had decreased more than 20 percent. On sale, the mortgage holder would receive half of the difference between mortgage value and sale price.
- Hubbard/Mayer call for lowering the mortgage spread between 30 year fixed and 10 year Treasury to its 20-year average of 1.6 percent. They also call for the creation of a modern HOLC, which would share losses on negative equity with lenders, but would also share in future appreciation with homeowners.
- Geanakoplos and Koniak recommend transferring the reworking function from the paralyzed master servicers to government appointed community-based "blind" trustees to work out problem mortgages.
- Blinder, Roubini and others suggest establishing a HOLC-type entity to buy and rework problem loans, while providing counseling to at-risk borrowers and determining when foreclosure is necessary.
- Fix-Housing-First (FHF) recommends stimulating home-buying by an expanded version of this program, applicable to all homebuyers, with "credits" of up to 3.5 percent of the conforming loan limit (possibly as high as $22,000). They suggest tying requiring repayment only if the home is sold in the first three years. The program would include a subsidized interest rate for a thirty-year fixed rate loan.

The Obama Plan

The program instituted in February 2009 by the Obama administration incorporates a number of existing and recommended approaches, but still falls short of a comprehensive all-inclusive residential rescue program. The major components of the current program are:

- Refinancing for borrowers in good standing-This program helps borrowers with loans held by the GSEs to refinance if reduced equity makes them ineligible for refinancing without assistance.
- Reworked loans for borrowers at-risk of foreclosure-Uses a Treasury-backed plan to reduce monthly payments. Lenders and the program share the costs of reducing payments to equal or less than 31 percent of income. Incentives are offered to servicers to rework loans (in increments over time, to encourage workable loans), to borrowers to stay current, and to lenders through insurance on further declines in home value. *(Continued on page S-4)*

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(Conclusion)

- Increased investment in GSEs to increase confidence in mortgage backed securities, expand availability of loans
- Other types of assistance, from allowing bankruptcy judges to modify mortgages, to renter and neighborhood stabilization assistance.

Several important factors are not addressed in the current version of the Obama plan. First, troubled borrowers still require case-by-case workouts, a time consuming process. If the plan is indeed intended to stem foreclosures, then some type of foreclosure "breathing room" may be necessary for the workout process to succeed. Second, a very large number of the subprime mortgages have been securitized, often into several different products. Legislative action is needed to provide servicers the flexibility and incentives to rework these loans. Third, many of the problems of loans that are deeply under water have not been resolved by the stability initiative. Fourth, many homeowners carry multiple mortgages; there may need to be a more explicit role and responsibility for holders of second mortgages to allow the plan to work smoothly. Fifth, a monitoring system of home prices by region would be useful to determine if the restriction of action to conforming loans is capturing most of the problem.

A Check List for Moving Forward

A quick solution to the mortgage/home price/foreclosure problems will likely engender stabilizing forces for other critical sectors of the economy. Applying our benchmark criteria of i) future mitigation of moral hazard, ii) bang for the buck, iii) fairness and distributive aspects, and iv) judicious mix of short-term and long term solutions, we evaluate all the major, existing housing and mortgage proposals. Going forward, several factors will be important for fostering stability in the housing and residential finance markets;

1. A sustainable, viable plan is likely to require elements of a standardized approach (e.g. for interest rate reduction), as well as triage for case-by-case analysis for loan modifications.
2. Losses and gains may have to be shared among three parties: lenders, borrowers and Government.
3. Legal reform may be necessary in order that refinancing will delink servicers from security investors.
4. Targeting home-buying assistance to areas with high foreclosure rates would bring the support directly to the areas most in need of stabilization.
5. There is little data on "jingle mail" share of foreclosures and on investor-landlords. A method for addressing these homes, perhaps tied to rental assistance, could keep the homes occupied and off the market..
6. An overhaul, restructuring and redistribution of federal and state regulatory responsibilities might combine the best institutional features of both. -END-

The Great Recession: Vision Problems of the Experts and Concepts Useful in Avoiding Such Debacles

(Continued from page S-1)

The difference between risk and uncertainty is explained in a book by Edgar R. Peters, *Complexity, Risks, and Financial Market.* Peters explains that uncertainty provides the opportunity to make progress. That opportunity arises because markets are complex systems in that they self organize. The self organization operates without a plan. It is built upon communication among the participants without a plan.

The communication system is built with nodes and links as in the science of networks which "While knowing the rule that govern the behavior of individuals does not necessarily help us to predict the behavior of the mob, we may be able to predict the very same mob behavior without knowing very much at all about the unique personalities and characteristics of the individuals that make it up." So writes Duncan J. Watts, in his book, *Six Degrees: The Science of a Connected Age*. Albert-László Barabási in his book *Linked: The New Science of Networks* discusses the science of networks in the context of complexity. He notes that we have learned a good deal about the pieces of nature through reductionism, but that "...nature is not a well designed puzzle with only one way to put it back together. In complex systems the components can fit in so many ways that it would take billions of years for us to try them all." We simply don't know the laws of self organization.

We do know that in networks some nodes are a stronger influence than other nodes because they have more links of greater influence. Furthermore, we can learn a great deal by going beyond the strong links because they reassure us of what we already think we know, but the weak links can give us new information that may help in better forecasts of outcomes. Thus, the significance of this is in the predictability of the behavior of the system. This predictability is attributable to some underlying principles in the order of the system. Furthermore, since one's ability to predict outcomes is enhanced in some measure by going outside the circle of close ties; could that mean going beyond one's own discipline?

Emergence is a concept helpful in viewing the system. Steven Johnson in his book *Emergence: The Connected Lives of Ants, Brains, Cities, and Software* writes that emergence is a self organization, a bottom-up system. As complex adaptive systems, "...agents residing on one scale start producing behavior that lies one scale above them: ants create colonies; urbanites create neighborhoods...The movement from low level rules to higher-level sophistication is what we call emergence."

The economy in a free society is a complex adaptive system. Michael Shermer writes in his book, *The Mind of the Market: How Biology and Psychology Shape Our Economic Lives*, "Evolution and economics are not just analogous to one another; they are actually two different examples of a larger phenomenon called complex adaptive systems, in which individual elements, parts, organisms, or people interact, process information, and adapt their behavior to changing conditions...they contain self-driving feedback loops... *(Continued on page S-5)*

The vision problem of the experts is more akin to tunnel vision that myopia. This is an outgrowth of the way that science and society have advanced, especially since the Scientific Revolution and the Age of Reason, also known as the Enlightenment. Knowledge has become more and more compartmentalized as new disciplines sprout out of established disciplines. Furthermore, the organizational structures of universities generally are built upon discipline organization, although some interdisciplinary programs are breaking from the pattern. Additionally, the incentive system at the major universities rewards on the basis of rigorous research published in the learned journals rather than based on the relevance of research to the issues confronted by society. It takes a wise and patient academic scholar to break from the "strong ties" of the credentialed discipline and venture to the "weak ties" of related disciplines. But, that is how paradigm shifts are most likely to occur, along with greater relevance in the creation of knowledge.

The Vision Problem of Experts

A couple examples of the vision problem of experts were noted in the opening paragraph of this essay. These experts are among the brightest of our nation and well versed in their disciplines. How then can we deal with vision problems when the vast majority of us are not as bright and not as well versed in our disciplines?

There is no easy answer, no silver bullet for this issue of vision, for the *Great Recession* and its trigger, the wealth destruction of the subprime crisis. The Great Recession is the label I used early last year when I saw the character of the emerging recession was different from previous recessions and was likely to be deeper and longer than anything experienced since the Great Depression. My focus was on the subprime crisis and while I saw the freezing up of the credit markets as the salient concern of public policy it was clear to me that the trigger was excessive foreclosures destroying household wealth.

In the fall of 2007 I wrote an essay, *"Don't Panic Yet: A Strategy for Dealing with the Risk of the Emergence of a Housing Bubble Resulting from the Interdependence of Space and Capital Markets."* It was the first of a series of essays linked to the Subprime Crisis Research Program of the Homer Hoyt Institute (HHI). http://www.hoyt.org/asi/fall2007.pdf It reflected my vision of the situation and the priority that I saw in a triage to prevent a devastating fallout from the problem.

What emerged from the crisis was so close to my concerns expressed then and as the problem worsened that biased that I am I saw my thinking as prescient. There were some more published essays, but many memos to my colleagues at the Subprime Crisis Research Program continued with the support provided to the Subprime Crisis Research Council (SCRC), a group formed by HHI to deal with the research issues and headed by two co-chairs, each of which served as an Assistant Secretary for Policy Development and Research at HUD, one under a Democratic administration and the other under a Republican administration. The balance in perspectives of the leadership was an important consideration, especially because HHI is not a political partisan, does not engage in lobbying; rather, HHI focuses on facilitating research that improves the quality of real estate related decisions.

That program was launched with a research roundtable, a long established procedure with HHI. That is described in Chapter 3 of a draft report on the activities of SCRC along with the essays in later chapters. The link is as follows: http://www.hoyt.org/decision_making_document.phtml?page_id=2

What is the final essay in the series, thus far except for this essay, is *"Subprime Crisis Strategic Decision? Making: A Discussion of What Went Wrong and Strategies to Deal With It*." A quote from that essay is "The purpose of this essay is to foster thinking about ways to enhance our understanding of our rapidly changing system. The intent is twofold: (1) to share a perspective that will assist others in modifying their perspectives and methodologies so as to better forecast outcomes, and (2) to inspire research relevant to facilitating better decision-making, especially by applications of interdisciplinary analyses and the use of a holistic approach."

After retiring from American University in 1990 and moving to Florida, where I became even more active in community organizations than I had been in Washington, D.C., I really wondered "what were they thinking?" when I participated in meetings resulting in wisdom challenged decisions. The prevailing logic seemed short of what I was accustomed to in Washington where many of the organizations were national in scope. Even the local organizations had higher caliber decision makers; they drew from a larger pool of professionals.

My interdisciplinary perspective went back at least to my senior year at UCLA where in a management course we had collateral reading of *Strategy in Poker, Business and War.* It was buttressed when I took an oil painting class at AU when I saw balance in composition operating on the same principles as balance in the high school physics class that I had taken almost two decades earlier. The crowning touch though, was when in my search for understanding more I read Edward O. Wilson's book *Consilience: The Unity of Knowledge*. In it he argues for the fundamental unity of all knowledge. The idea is that, "everything in our world is organized in terms of a small number of fundamental natural laws that comprise the principles underlying every branch of learning." Since 1990 I have been reading a wide variety of books in order to better understand decision making. *(Continued on page S-6)*

Some of those are in the annotated bibliography on the blog site, One of them, an earlier work by Wilson, *On Human Nature,* has a paragraph that would have made my search much less difficult. An excerpt from the paragraph is as follows: "...A schema is a configuration within the brain, either inborn or learned, against which the input of nerve cells is compared. The matching of the real and expected patterns can have one or the other of several effects. The schema can contribute to a person's mental 'set,' the screening out of certain details in favor of others, so that the conscious mind perceives a certain part of the environment more vividly than others and is likely to favor one kind of decision over another. It can fill in details that are missing from the actual sensory input and create a pattern in the mind that is not entirely present in reality. In this way the gestalt of objects - the impression they give of being a square, a face, a tree, or whatever - is aided by the taxonomic powers of the schemata."

The key was in the continued search for understanding the influences on that perception, including the selection of facts to process and the underlying values. There is abundant nature/nurture literature, and in my alleged retirement I was able to pursue a lot more than had I stayed on with my university responsibilities.

I would like to make it less difficult for academicians to access the relevant literature and not have to go through many books or even read all of a single book in order to pick up on the salient concepts. The blog is a vehicle that will facilitate that process. Previously I have been using essays published as inserts to the Advanced Studies Institute newsletter and then a monograph, *The Challenge to Our Thought Leaders.*

The Advanced Studies Institute's Weimer School of Advanced Studies in Real Estate and Land Economics has over one hundred Fellows, five or maybe six are added each year. It has programs for a few academicians at the beginning of their career, but those are for recognition without an ongoing educational program. ASI became very successful in part because it has been managed with reliance on an emergent philosophy; it brings together talented people with common interests and facilitates the communication process. In that sense, the Weimer School is an emergent system for the most part, though it takes some nudging. One of the books on the annotated bibliography, as you may have noticed is *Nudge.*

The major difficulty with the approach is with our major constituents of senior academics in that they are at their prime, with high opportunity costs and a reluctance to pursue investments in development and application of new knowledge that requires a substantial investment with benefits likely to take substantial time to evolve. The opening quote "A new scientific truth does not triumph by convincing its opponents and making them see the light, but rather because its opponents eventually die, and a new generation grows up that is familiar with it" is quite relevant here.

We will draw some of the leadership from the Weimer School Fellows and the Weimer Fellows, the industry counterpart. However, there is room for other senior leadership and especially faculty in the early stages of their career. The web discussions will draw in experts from other disciplines and will foster expanding participants from economics and finance. Getting out of this recession is going to take longer than generally anticipated, but there is a resilience that should take the economy to a better form and structure than before the debacle.

The character of what emerges will continue to evolve. Academia's structure and contribution is deficient, but its future and that of our society will be influenced by a great many choices of individuals which will in turn be influenced by their communications among themselves and to societal leadership. Universities provide great leverage for academic thought, but the web can leverage the leveragers. Come be a part of better visions by broadening the understanding of concepts from many disciplines so that you can play a bigger role in lessening the likelihood of the occurrence or at least the severity of the next debacle. The Great Recession should be the last of the great downturns of depression, recession, or whatever. What you do makes a difference!

Supplemental Comments on The Great Recession

By Maury Seldin

In the item posted as *The Great Recession: Vision Problems of the Experts and Concepts Useful in Avoiding Such Debacles: Some Useful Concepts in Avoiding Debacles*, the opening sentences deserve an additional comment. The opening is posted as follows: "Former Federal Reserve Chairman Alan Greenspan testified before Congress 'I did not forecast a significant decline because we never had a significant decline in prices.' He was referring to housing prices."

Alan Greenspan is a brilliant professional, and that is the point in noting that he missed the Black Swan referred to in the discussion of the great recession and vision problems of experts. The point of this supplemental entry is to pose a potential explanation of why that happened in order to aid in enhancing the body of knowledge and improving analytical systems.

The premise for the position spoken by Chairman Greenspan is that that housing prices would not develop behavior different from previous behavior. However, my reading of the Greenspan book, *The Age of Turbulence: Adventures in a New World,* indicates that may be a too simplistic answer. It could work for congressional testimony, but a better answer is far more complex.

Part of it may be precedent. That part is built upon the fact that econometric models use historic data. However, Greenspan points out that econometricians may make ad hoc adjustments called "add factors." *(Continued on page S-7)*

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He notes that "Modern, dynamic economies do not stay still long enough for an accurate reading of their underlying structures." [See page 36.] He makes the point that "add factors," ad hoc adjusts are "…often far more important to the forecast than the results of the equations themselves." He also notes that "But business-cycle and financial models still do not adequately address the innate human responses that result in swings between euphoria and fear and repeat themselves generation after generation with little evidence of a learning curve…we tend to label such behavioral responses as irrational. But forecasters' concerns should not be whether human response is rational or irrational, only that it is observable and systematic." He sees this as a missing variable treated with add-factoring. [See page 522.]

Obviously there is a shortfall in that econometric models (containing the missing variable he is discussing) are not interdisciplinary in the sense of being models of behavioral economics. Add factors may or may not be the state of the art, but obviously a lot more needs to be done.

Greenspan also notes "The most credible explanation why risk management based on state-of-the-art statistical models can perform so poorly is that the underlying data used to estimate a model's structure are usually drawn from both periods of euphoria and periods of fear - that is, from regimes with significantly dynamics." [See page 522.] He advocates modeling each phase of the cycle separately and identifying signals indicating a shift in regimes.

That approach is moving in the right direction but falls short of focusing on what I call a bio-economic approach. That approach uses a paradigm of the market as an organ in the biological system of economics. This approach is discussed in an essay titled *Improving the Forecast of Market Outcomes: The Case of the Subprime Debacle and Its Aftermath of The Great Recession.* Although it is not ready for posting, a background posted item is the foundation of the concept. - *Consilience: A Biological Example* .

Chairman Greenspan recognizes that structures change over time with historic shifts. [See page 166.] Although the focus of discussion quoted shortly was monetary policy relative to the high tech bubble, the basic idea is relevant to the current debacle. His discussion of not being too quick to raise interest rates included the two sentences that follow: "This [referring to productivity gains from innovation in high tech not reflected in productivity statistics] was a classic example of why you can't just decide monetary policy based on an econometric model. As Joseph Schumpeter might have pointed out, models are subject to creative destruction too." [See page 174.]

In the high tech bubble case Greenspan saw productivity numbers that did not look reasonable and proceeded to have his staff develop better data. He wasn't satisfied with the data for his model and so he proceeded to get better data. But, in the case of the subprime crisis, he seemed to be satisfied with the model. That is the big issue; the model that would provide a better forecast of outcomes and the data necessary for its operation.

The subprime crisis had non-creative destruction because the market system with inadequate regulation permitted the creation and distribution of toxic mortgage derivatives. Creative destruction is a great contribution of free markets. The issue may be stated as policy to reasonably restrain markets from producing non-creative destruction much in the same way as health care management seeks to reduce cancers. In both cases, the self correcting systems, biology of the economic system and the biology of the human body, may be insufficient to stop a cascading of toxic behavior unless there is intervention.

In exploring the operation of markets and intervention with appropriate regulatory policy it is useful to consider a particular paragraph in Greenspan's "irrational exuberance" speech of December 5, 1966. The discussion was about which prices matter, referring to prices of "…equities, real estate, or other earning assets?" [See page 177.] Additionally, his earlier discussion [page 168] noted that while General Motors announced in November 2005 it was contracting with "…plans to terminate up to 30,000 employees and close twelve plants by 2008…[it was] …directing billions of dollars it might historically used to create products or build factories into [employee benefit funds]… these funds were investing the capital where returns were most promising - in areas like high tech."

The point here is not the myopia of GM leadership as competitors in a changing market, but rather the general myopia in the flow of funds. The irrational exuberance of asset values in the stock market was repeated in the first decade of the 21st century in house prices. Even though there are differences in basic value-based philosophical views, the debate would do well to consider the data that would indicate the development of imbalances that may lead to the cancer of cascading. Flow of funds data can provide excellent clues that Greenspan might have believed useful in shifting between models based on euphoria and models based on fear, a difference referred to earlier in this discussion.

(Conclusion on page S-8)

Supplemental Comments on the Great Recession

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Greenspan skirts around some of the disciplines in the readings recommended [http://www.hoyt.org/documents/readingimprove.htm] when he discusses discontinuities and he writes "We will never be able to anticipate all discontinuities in financial markets. [See page 322.] But, the science of networks, emergence, and complex systems are discipline components that could provide a better understanding of the market system and its historic evolution en route to better forecast of outcomes as the biology of markets change.

Although Greenspan writes, "Our country has long since abandoned the notion that we should leave crises to be resolved solely by the marketplace." He also writes that he "...is skeptical of notions that stepped-up regulation of financial markets could improve their performance - particularly the idea of expanding the mandate of the Federal Reserve to become the market-stability regulator, with broad authority to unearth incipient imbalances and bubbles." [See pages 526-528.] What policy changes and what authorities to administer new policies are issues of substantial difference, as are the underlying value-systems. Academia, however, can make a substantial contribution by research and analyses referred to in this comment and some of the links. That is what Project New Initiative is all about. -END-

Home Page of Maury Seldin on Strategy Matters

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The Great Recession: Vision Problems of the Experts
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Subprime Crisis Seminar on Improving Strategic Decisions

Maury's Notes for Three Books
Maury's web notes for discussion
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[There are additional items on the web that space accommodation in this supplement would not allow.]

These are selected blog comments and supplemental submissions.

Preventing Foreclosure and Housing Policy **Institutional Changes and Public Policy** **Other Interdisciplinary Discussions**