

SUPPLEMENT **M^sASI - HF LLC Fall 2011 Newsletter**

Research Initiative with Endnotes Revised

Homer Hoyt Institute Research Initiative: Developing Data and Analytics to Monitor and Identify Emerging Imbalances in the Housing Finance Market*

It is clear that the financial crisis that led to the recent great recession was not anticipated by economists and others who might have been in a position to try to prevent it by knowing there had been a change in market structure that resulted in a very fragile housing finance market.ⁱ It wasn't until the capital market froze following the burst in the housing bubble that the causes of the debacle received dramatic institutional reform efforts.ⁱⁱ

It is also clear that better data and analytic models are necessary in these institutional reform efforts in order to try to identify imbalances in the housing finance market that might emerge in the future – regardless of the cause of the imbalance.ⁱⁱⁱ The Homer Hoyt Institute has a history of finding the best academics to do research on topics related to the broad discipline of real estate including housing and commercial real estate markets.^{iv} The Institute also finds sources of funding to leverage its own funds for important research projects.^v In addition to academics who are affiliated with the Institute, many of the leading real estate professionals have an affiliation with the Institute and interact with the academics on research projects.^{vi}

The need for better data and analytic models has been put in the spotlight with the passage of the Dodd-Frank Bill which set up the Office of Financial Research (OFR) to support the missions of developing data and analytic models as part of its mission “To promote the financial stability of the United States....” This is supportive of the Homer Hoyt Institute’s Research Initiative to develop data and analytics for housing finance markets, which is built upon its larger mission of development and dissemination of the body of knowledge in real estate and closely related disciplines and to bridging the gap between academia and industry and government.^{vii}

The Institute therefore plans to facilitate ways to identify the appropriate data to collect and the appropriate analytic models to use to analyze the data on an ongoing basis to be able to know when another imbalance may be occurring in the market.^{viii & ix} The Institute is especially interested in research that has an interdisciplinary approach that recognizes that markets are a dynamic system that exhibit complex adaptive behavior which is hard to capture with traditional econometric models.^{x & xi} Research is encouraged that uses techniques such as agent based modeling as a complement to traditional models to analyze real estate markets.^{xii}

This HHI Research Initiative is an extension of the Institute’s Subprime Crisis Research Program; and it is a follow-on to its Capital Flows Research Program that was abated because of insufficient data.^{xiii} The newly created Office of Financial Research (OFR) has the authority and the mission to create data suitable for rigorous research necessary to develop appropriate models for use in monitoring capital flows. It could be a stimulus to research on the same order of CRSP tapes.

What may emerge from this research program is a number of different types of models being applied to a variety of different datasets – all with the objective of identifying when imbalances are occurring and provide an “early warning system” which was lacking in the past. Initially the focus will be on housing markets but a parallel and complementary research program is also planned to deal with commercial real estate markets since they are interrelated and part of the overall financial system that is critical to a healthy capital market.^{xiv}

* The substance of this overview was drawn from a working draft/outline of “Enhancing Balance in the System of Housing Finance: A Seminal Work in Complex Real Estate Systems by Maury Seldin prepared for the Homer Hoyt Institute’s Research Roundtable, co-hosted by Clemson University’s Richard H. Pinnell Center, Clemson at the Falls, Greenville, SC. on July 22, 2011. That research roundtable launched the Homer Hoyt Institute Research Initiative on Developing Data and Analytics to Monitor and Identify Emerging Imbalances in the Housing Finance Market. That working document will be posted on the Hoyt Wiki site for an “open source” style development.

Additionally, the research roundtable served as the planning session for the joint session between ARES/HHI at the April 2012 Annual Meeting of ARES. That joint session is part of the HHI Research Initiative that grew out of the HHI Subprime Crisis Research Program.

Weimer School Fellows and Hoyt Fellows interested in participating in the HHI Research Initiative should contact Jeff Fisher at fisher@indiana.edu.

End Notes to "Homer Hoyt Institute Research Initiative."

ⁱ The crisis was preventable according to *The Financial Crisis Inquiry Report* released on January 24, 2011 that was published by the National Commission on the Causes of the Financial and Economic Crisis in the United States. The commission, is also known as "The Financial Crisis Inquiry Commission,"... was created to examine the causes of the current financial and economic crisis in the United States. It is available as **The Financial Crisis Inquiry Report: Final Report Of The National Commission On The Causes Of The Financial And Economic Crisis In The United States**. A short film clip makes the point, go to http://therealnews.com/t2/index.php?option=com_content&task=view&id=31&Itemid=74&jumival=6166.

ⁱⁱ These reform efforts include congressional efforts to reform housing finance starting with the Dodd-Frank Wall Street Reform Bill. Additionally, Congress has received recommendations from at least three sources as follows: (1) *The Financial Crisis Inquiry Report* of the Financial Crisis Inquiry Commission created to "examine the causes of the current financial and economic crisis in the United States;" (2) *Reforming America's Housing Finance Market* The Department of the Treasury and the Department of Housing and Urban Development report to Congress titled *Reforming America's Housing Finance Market*, and, (3) The report of the United States Senate Permanent Subcommittee on Investigations Committee on Homeland Security and Governmental Affairs report just released. It is titled *WALL STREET AND THE FINANCIAL CRISIS: Anatomy of a Financial Collapse*.

ⁱⁱⁱ Provisions in the Dodd-Frank Act established the Office of Financial Research. In the story titled "Standing Up the Office of Financial Research," reported by Richard Berner (*Counselor to the Secretary of the Treasury, overseeing the implementation of the OFR*), on May 13, 2011 in *Treasury Notes* [<http://www.treasury.gov/connect/blog/Pages/Standing-Up-the-Office-of-Financial-Research.aspx>] it is reported that "Yesterday, Deputy Secretary Neal Wolin testified before the Senate Committee on Banking, Housing and Urban Affairs, where he provided an update on the implementation of the Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act), including Treasury's work standing up the Office of Financial Research (OFR).

[¶] ¶ In the years leading up to the crisis, policymakers and investors lacked sufficient data to anticipate emerging threats to financial stability and assess how shocks to one financial firm could impact the system as a whole. The Dodd-Frank Act established the OFR at the Treasury Department to help address that problem. The OFR's dual mission is to help improve the quality of financial data available to policymakers and to facilitate more robust and sophisticated analysis of the financial system." The significance of this is that as further noted in the report: **Data Standardization:** The OFR is working with regulators and industry to standardize financial reporting, including promoting the establishment of a global standard for identifying parties to financial transactions through the legal entity identifier (LEI) initiative. The OFR published an LEI framework in its November Policy Statement and is working closely with U.S. and foreign financial regulators to develop consistent requirements....**Network of Experts:** The OFR is establishing forums and networks to allow experts within and outside the regulatory system to contribute to the FSOC's mission. Later this year, the OFR, along with the National Science Foundation, will host a conference that brings together top academics in finance, economics, and computer science along with members of industry and the regulatory community to discuss systemic risk monitoring and potential responses."

^{iv} The Institute has supported research at over thirty-six- universities directly or through its supported organization, the Maury Seldin Advance Studies Institute, home of the Weimer School for Advanced Studies in Real estate and Land Economics. Its network of Weimer School Fellows includes over 135 Fellows, among which are the vast majority of leading scholars in academia, nationally and internationally. <http://www.hoyt.org/asi/fellows.phtml>

^v The projects leading up to the current Research Initiative are the Homer Hoyt Institute's Capital Flows Research program to identify and quantify the sources and costs of funds available for real estate investment during various phases of the economic cycle, [http://www.hoyt.org/research/capital_flows/index.phtml] and the Homer Hoyt Institute's Subprime Crisis Research Program is to facilitate the development, execution and dissemination of a research agenda to address critical issues in mortgage markets and their related consequences. http://www.hoyt.org/research/subprime_crisis/index.phtml

^{vi} The Homer Hoyt Institute has a division devoted to the *Hoyt Fellows*, a group of over eighty industry leaders honored for their leadership and accomplishments in the field of professional real estate. The group is designed to work closely with the programs and personnel of the Weimer School in bridging the gap between academia and industry. A Hoyt Fellows research roundtable was conducted at the May 1999 meeting on the topic Flow of Funds into REITs. The Hoyt Fellows then participated in sessions of the Weimer School on REITs, National Data Resources, and Global Real Estate Markets, and continue to be valued source in the institute's efforts at relevant research and translational discipline development. [<http://www.hoyt.org/hhi/advisory.phtml>]

^{vii} The Homer Hoyt Institute, an independent, non-profit research and educational foundation established in 1968, has contributed to improving the quality of public and private real estate decisions by: expanding and disseminating the real estate body of knowledge; stimulating innovation in the discipline of real estate and land economics; building bridges among academia, industry, and government; and, developing innovative approaches to the solution of real estate problems. [<http://www.hoyt.org/hhi/index.phtml>]

^{viii} The process for the institute, frequently including research roundtables, dates back to "... 1984 in Washington, D.C., with a session focused on *Innovations Needed in Real Estate Finance*. Some of the country's foremost authorities on land economics participated, including Gary Driggs, president of Western Savings & Loan Association, Phoenix; William C. Greenough, retired chairman, Teachers Insurance Annuity Association/College Retirement Equity Fund, New York; Leon T. Kendall, chairman of the board, Mortgage Guaranty Insurance Corporation, Milwaukee; R. J. Saulnier, professor emeritus, Columbia University, and former chairman, Council of Economic Advisers; and Norman Strunk, secretary general, International Union of Building Societies & Savings Association, Chicago."[http://www.hoyt.org/subprime/HHI_25th.pdf]

"End Notes" Continued on page S-3

End Notes to "Homer Hoyt Institute Research Initiative.." - Continued

^{ix} In progress is a work titled "Enhancing Balance in the System of Housing Finance: A Seminal Work in Complex Real Estate Systems." That "... paper focuses on one aspect (balance) of one segment (housing finance) of the capital market. That drill down in the anatomy of the national economy examines the system of housing finance (a narrow segment of the national economic system) with a very broad integration of disciplines, especially the nascent disciplines of network science and complexity theory as they are generating an impact on an emergent branch of economics known as complexity economics. The interdisciplinary approach includes behavioral economics and computational modeling (a segment of computer science). Additional disciplines are involved from both the biological and physical sciences, but also from philosophy as a precursor to science. The philosophy is in value systems as well as in the philosophy of science.

^x The contrast between complexity economics and mainstream economics is discussed by Eric D. Beinhocker, in his book, *The Origin of Wealth: Evolution, Complexity and the Radical Remaking of Economics*. He identifies five distinguishing ideas of complexity economics:

The Five Distinguishing Ideas of Complexity Economics

Traditional Economics	Complexity Economics
Individual rational choice	Emergent behavior
Optimal equilibrium	Stable disequilibrium
Reduced form models	General equilibrium
Exogenous variables	Endogenous variables
Linear causality	Nonlinear causality

Dynamics	Static, linear, profit-maximizing equilibrium	Open, dynamic, non-linear, far from equilibrium
Agents	Modeled collectively – perfect information, no errors or biases, no learning or adaptation	Modeled individually: agents subject to errors and biases; they adapt and learn over time
Networks	Agents act indirectly through the market	Model interaction of agent; networks of relationships change over time
Emergence	Micro- and macroeconomics remain separate disciplines	No distinction between micro- and macro-economics; macro patterns are emergent result of micro-level behaviors and interactions
Evolution	No mechanism for endogenously creating novelty, or growth in order and complexity	Evolutionary process of differentiation, selection, and amplification provides system with novelty and is responsible for its growth in order and complexity

Adapted from Beinhocker for an article, *A New Paradigm for Real Estate Valuation?* In press by *Journal of Property Investment and Finance*, co-authored by David Wyman, Maury Seldin, and Elaine Worzala.

^{xi} A variety of models not popular in academia but useful for policy may be included in the array of models that would be helpful to OFR.

^{xii} An agent based model (ABM) can identify key agents and their properties (characteristics) and decision rules. Examples of agents include potential homeowners, lenders, investment banks, etc. Properties are characteristics and may include the things the agent owns such as homes, capital to invest and securities that have been issued, but may also include demographic and psychographic characteristics, especially attitudes toward risk and value systems. Decision rules include deciding to lend, deciding to default, etc. The interactions of the agents over time can then be simulated to see what behavior emerges and under what conditions the system is in equilibrium or there is a potential crisis. As part of a research project a "standardized" set of agents and their properties and decision rules might be defined that would be used no matter who is doing the programming of the actual model.

^{xiii} The insufficiency of data sources for flow of funds research was identified in the institutes capital flows project that included a product titled “The “Guide to Real Estate Capital Flows Data Sources.” The abstract is as follows: “A thorough understanding of real estate fund flows will greatly enhance the capabilities of the real estate analyst. While the need for real estate capital markets data is critical to the success of such an understanding, as yet no database specifically and exclusively tracks real estate fund flows data. The purpose of this annotated bibliography is to list the 100+ sources that exist.” The report continues, “Financial data and capital flows are a large and growing component of the broader data reporting industry. Most aspects of publicly traded companies are tracked and stored in databases accessible to the investment professional. Unfortunately, the real estate industry has yet to develop such data sets. This annotated bibliography begins the process of listing available sources and contains descriptions, purpose, accessibility, and fees for existing real estate databases. While no specific source addresses all of the data needs of the real estate professional, when used together these sources may provide a data set that begins to compare to coverage found in public equities databases.” [http://www.hoyt.org/research/capital_flows/documents/Interim_Report.pdf]

^{xiv} An effective overhaul of the financial system will require understanding of what is in transition as a paradigm shift; this is necessary in order to select models and identify data requirements. Additional discipline development is essential. Historically discipline development has been impaired by obscurantism operating within a narrow set of ideas. The seemingly reasonable explanations made for phenomenon seem to work well at least most of the time, but the insistence on staying within the narrow set of ideas impeded the evolution of knowledge. The evolution of knowledge has provided some nascent disciplines that take a holistic view as well as reductionist analyses and integrates into the understanding of markets both the evolutionary aspects of biology as well as the linear analyses as the historical mainstream of the hierarchy of the physical sciences.

The results of blending the disciplines provide a basis for utilization of analytical tools that deal with the non-linearity of complex adaptive systems, especially markets and other complex real estate system. This sets the stage for a strategy for harnessing complexity.

Participation in this process by researchers is aided by their understanding how the mind works in the selection of information for processing and the patterns developed as the framework for analyses. It thus understands knowledge to be based not only on experience of empirical observation and the logic of quantitative reason, but also on the ability of the researcher to adjust her or his mental and sensory apparatus to grasp the perspective of alternative paradigms used in other disciplines.

This will be further discussed on the Hoyt Wiki site under the topic of Knowledge Creation as an Evolutionary Phenomenon: The Case of Western Civilization and Complex Real Estate Systems

The Journal of Property Investment & Finance (JPIF) and
The International Journal of Housing Markets and Analysis (IJHMA)
Announce a

Call for Papers

on the Topic of

Complex Real Estate Systems

The *Journal of Property Investment & Finance* will publish papers that relate to commercial property data and the *International Journal of Housing Markets and Analysis* will publish papers that relate to residential or housing data.

Each special issue, within each theme, will be devoted to salient issues related to the role of complexity economics in real estate. Suggested areas are:

- Agent-based modeling.
- Tipping point theory and evidence.
- The linkage between market-wide emergent behavior and property-agent behavior.
- Contagion modeling
- New perspectives on the interactions between space and capital markets.
- New perspective on the interaction between public and private markets.
- The role of complexity in decision making.
- Agent influence on market failure.

This list is obviously not exhaustive and interested authors are encouraged to submit any paper that has a major complexity content or implication. Please take note of the following requirements if you wish to have your paper considered:

- ◆ The content of the paper must conform to the terms of reference of the *Journal of Property Investment and Finance OR International Journal of Housing Markets and Analysis* respectively.
- ◆ All papers submitted will be subject to the normal double blind refereeing process undertaken by the journals.
- ◆ Submitted papers must not be under review by any other journal
- ◆ Articles must be analytic and rigorous, not merely descriptive.

The closing date for submissions is: 30th April 2012

*Full notes for contributors can be found on the respective journal websites at
<http://www.emeraldinsight.com/jpif.htm> and <http://www.emeraldinsight.com/ijhma.htm>*

Please submit your papers direct via the respective website, noting that it is a submission for the Special Issue on Complex Real Estate Systems

Guest Editor:

Stephanie Yates Rauterkus
Assistant Professor of Finance
School of Business
University of Alabama at Birmingham
Email: srauter@uab.edu