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2013 Maastricht-NUS-MIT International Real Estate Finance & Economics Symposium:
Editors’ Introduction to the Special Issue

Authors:
David Geltner, MIT, dgeltner@mit.edu
Piet Eichholtz, Maastricht University, p.eichholtz@maastrichtuniversity.nl
Seow Eng Ong, National University of Singapore, seong@nus.edu.sg
The 2013 Maastricht-NUS-MIT (MNM) International Real Estate Finance and Economics Symposium was held at MIT in Cambridge, Massachusetts during October 25-26, 2013. The eight papers in the symposium that appear in this special issue were focused on three broad topics: REITs, Real estate debt questions, and Urban economics issues. In this Introduction we will briefly describe each of the papers in the order in which they appear here, which is also how they were grouped by topic during the symposium.

**REIT focused articles:**

There are three papers in this issue focusing in various ways on REITs. The lead article is on “Leverage and Returns: A Cross-Country Analysis of Public Real Estate Markets,” by Emanuela Giacomini, David Ling, and Andy Naranjo, all from the University of Florida. This paper focuses on an issue that has received heightened concern since the Great Financial Crisis of 2008 (GFC), the use of debt financing by real estate investors. The development in recent times of substantial REIT sectors in stock markets in several major countries around the world has enabled the authors to combine the market efficiency of the public REIT industry with the broad study perspective of cross-country analysis, to derive some important, if not very surprising, conclusions about the use of debt financing. After carefully isolating leverage effects in firm-level returns, the study finds that leverage has a significant effect on returns using standard asset pricing models. This finding helps to clear some of the fog surrounding the hypothesis that leverage should increase equity volatility. (It does.) In addition, the study finds
that greater use of leverage during the 2007-2008 REIT crisis period is associated with larger share price declines. ("When will they ever learn?...")

The next paper considers both the REIT and private equity real estate investment vehicles and the relationship between the two. In a paper entitled, “Sentiment-Induced Institutional Trading Behavior and Asset Pricing in Securitized Real Estate Markets,” authors Julia Freybote, Prashant Das, and Gianluca Marcato, investigate how institutional investor sentiment in the relatively inefficient (lagging) private property market affects institutional trading behavior and asset pricing in the public (REIT) market. To explain sentiment-induced trading behavior of institutional investors in the REIT market, the authors test two alternative theories: Flight to liquidity, and Style investing theory. These two investment behavior motivators are examined for the pre-crisis (2002-2006), crisis (2007-2009) and post-crisis (2010-2012) periods. It is found that in the pre-crisis period institutional investors switched capital in and out of REITs based on their sentiment in the private market (style investing). In contrast, in the crisis period institutional investors switched capital from the illiquid private market to the more liquid REIT market (flight to liquidity). The flight to liquid REITs continued into the post-crisis period, albeit to a lesser degree, at least through the mid-2012 window of the study’s data. The findings hold across different groups of REITs (e.g. high and low institutional ownership, S&P and non-S&P REITs) and different property types. Institutional real estate investor sentiment is found to introduce a non-fundamental component into REIT pricing.

The third and last of the REIT-focused articles is, ”Information Diffusion in the U.S. REIT Market,” by Masaki Mori of NUS. Mori’s study confirms the expected lead-lag relationship in which larger REITs tend to lead smaller REITs in market-wide price movements. However, this
relationship has slightly decreased during the study period from 1986 to 2012, while still remaining significant. But the process of information diffusion may be becoming unstable, as occasionally in recent years a reverse lead-lag effect from small REITs to big REITs is observed, especially when REIT market liquidity and return volatility are high. The lead-lag effect among REITs is driven largely by slow adjustment to negative information, which is magnified by a lack of information supply, especially as demand for such information increases. The study also suggests that information flow from REITs with more media coverage to those with less media coverage is more sluggish than the information flow from big REITs to small REITs.

**Real Estate Debt Behavior:**

The section of the symposium focusing on real estate debt financing behavior contained three papers, all of which appear in this special issue. The lead paper in that section brings a unique perspective. Authors Michael Seiler, Eric Walden and Mark Lane employ a very innovative research procedure (in the real estate literature), Functional Magnetic Resonance Imaging (fMRI) to physiologically study the neurological activity in the brain of subjects making decisions (in a clinical experimental setting) about whether or not to engage in strategic default behavior in owner-occupied housing, that is, to default when their house is worth less than the balance owed on the mortgage even though they have the ability to pay the loan debt service. The study also considers the herding behavior aspect of the decision. The study identifies a number of substrates within the brain that provide a neurobiological explanation for why some homeowners exercise their mortgage put option while others do not. They link the left interior parietal lobe to herding in participants who observe the default behavior of a maven (real estate expert). Somewhat alarmingly in terms of default behavior, homeowners only
significantly follow the herd when mavens advocate in favor of strategic default, not when they recommend against it.

The next paper in the debt section delves into the infamous crash in the CMBS industry during the GFC. Authors Xudong An, Yongheng Deng, Joseph Nichols and Anthony Sanders’ paper entitled: “What is Subordination About? Credit Risk and Subordination Levels in CMBS,” tests the relation between subordination levels and ex post and ex ante measures of credit risk in CMBS loan pools. They find that subordination levels did not significantly reflect credit risk, but instead were driven by non-credit risk factors, including credit supply and demand factors, deal complexity, issuer incentive and a general time trend. Their findings support the popular perception that the credit rating agencies were not doing their job before the GFC, possibly influenced by the balance of power among issuers, investors, and the credit rating agencies themselves.

The last of the three debt focused papers in the symposium was by David Downs and Pisun Xu, entitled, “Commercial Real Estate, Distress and Financial Resolution: Portfolio Lending versus Securitization.” Their paper contrasts portfolio loans versus CMBS loans regarding the resolution of distress at the loan level. The empirical analysis utilizes a large and unique data set of distressed commercial mortgages reflecting the GFC. The paper compares portfolio versus securitized loans regarding the likelihood of resolution, resolution outcome, time to resolution and capital recovery rates. Distressed loans held in a portfolio are more likely to be resolved and they experience higher foreclosure rates compared to those that are securitized. Furthermore, portfolio loans experience shorter time to resolution and higher capital recovery rates when resolution is relatively swift.
Urban Economics:

The last area of focus in the symposium is includes two papers under the general rubric of Urban Economics. The first paper is on sustainability, and the second is on spatial economics.

Constantine Kontokosta’s paper entitled, “A Market-Specific Methodology for a Commercial Building Energy Performance Index,” advances the important science (and art) of quantifying the energy performance of commercial buildings. Up to now, the industry has relied largely on simple metrics, such as Energy Use Intensity (EUI). But these fail to account for variation across occupancy, construction characteristics and other elements of a building, both its design and its use in operation, that influence building energy consumption. Using a unique dataset of building energy consumption, physical, spatial, and occupancy characteristics collected from New York City’s Local Law 84 energy disclosure database, the Primary Land Use Tax Lot Output (PLUTO) database, and the CoStar Group, Kontokosta’s paper analyzes energy consumption across commercial office buildings and presents a new methodology for a market-specific benchmarking model to measure relative energy performance across peer buildings. The paper develops a robust predictive model to normalize across multiple building characteristics and to provide the basis for a multivariate energy performance index. It concludes with recommendations for data collection standards, computational approaches for building energy disclosure data, and targeted policies using $k$-means clustering and market segmentation.

In the last paper of the symposium (and of this special issue), authors Andrea Chegut, Piet Eichholtz, and Paulo Rodrigues explore “Spatial Dependence in International Office
Markets.” The authors develop annual frequency hedonic transaction price indices for office properties spanning 2007-2013 (thus including the crash and recovery) in six world cities: London and Paris in Europe, New York and Los Angeles in North America, and Tokyo and Hong Kong in East Asia. They compare traditional hedonic estimation with spatial and spatial-temporal estimation. In some contrast to some prior literature (which has focused primarily on housing), the present study finds low economic impact from spatial dependence in all six markets, and that spatial and spatial-temporal dependence do not moderate the effects of hedonic characteristics either statistically or economically. However, the authors do find that investor and seller types, as well as neighborhood location, have a significant impact on the economic and statistical significance of the spatial and spatial-temporal parameters. Spatial office price indices for London, Paris and Tokyo appear to decline somewhat more than do the traditional hedonic indices during the crisis.