



# On the efficiency of the UPREIT organizational form: Implications for the subprime crisis and CDO's

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## ABSTRACT

This paper studies optimal real estate organizational forms as a means of enhancing real estate values in the ongoing subprime crisis. We model the organizational response to stakeholder conflicts and regulatory changes to show how they evolve to an optimal form and undertake an optimal capital structure to enhance the welfare of investors. Using the examples of the REIT and RELP organizational forms, we show how the rivalry between taxable and institutional investors shapes the UPREIT form. We employ a two-period partial equilibrium model to demonstrate that UPREITs adapt to regulatory changes by (i) meticulously acquiring a hybrid form that contains the desirable features of both REITs and RELPs, and (ii) efficiently trading off debt claims between their constituent investor bases. This adaptation enhances welfare by mitigating administrative costs, agency costs, bankruptcy costs, illiquidity costs and taxes.

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## 1. Introduction

*"Although the existing theories (of a firm) have delivered very important and useful insights, they seem to be quite ineffective in helping us cope with the new types of firms that are emerging." (Zingales, 2000, p. 1623)*

The efficient structure of organizations is of interest to academics, policy makers and practitioners. Organizations typically evolve to the form that helps them survive the competitive environment to deliver the products demanded by their customers at the lowest prices by mitigating transaction costs (see Coase, 1937; Alchian, 1950).

A critical analysis of how efficient real estate organizational forms reinforce optimal employment of both real and financial resources is the need of the hour. This is because the ongoing subprime crisis has devastated property values and the capital base of financial institutions funding them on both sides of the Atlantic. It has also thrown global financial markets in a wild tailspin. This adverse economic situation has led policy makers to search for innovative ideas to foster the recovery of the real estate sector of the economy. One such solution contemplated is setting up special real estate organizational forms to

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attract capital, increase liquidity in the sector and revive the beleaguered financial markets and institutions to jump start the global economy (see Boston, 2008). This behavior is akin to that of American policy makers who initiated similar reforms during the post Savings and Loans crisis of the 1980s and 1990s, which had a damaging impact on real estate values as described below.

The real estate industry in countries such as Australia, Belgium, Finland, France, Germany, Hong Kong, Italy, Japan, Netherlands, Singapore, Spain, and United Kingdom have successfully lobbied their respective governments to allow them to structure closed-end type property funds (termed Real Estate Investment Trust, REIT, in the United States – described in detail in the following section). The government subsidies help economic development by harnessing the competition between taxable individuals and non-taxable institutions.

The purpose of this study is to investigate the dominance of a new form of REIT called the Umbrella Partnership REIT (UPREIT). This issue is intriguing, as UPREITs gained their prominence after the passage of the Omnibus Budget Reconciliation Act of 1993 (OBRA 93) by the 103rd US Congress on August 10, 1993. This act was passed to encourage institutional (especially pension fund) investment in the moribund real estate sector of the economy, which had eroded the collateral of many financial institutions and the tax base of metropolitan areas nationwide (see Downs, 1998). We examine real estate investment from the perspectives of heterogeneous agents and alternative organizational forms to answer the following interrelated intriguing issues (ranging from a macro to a micro-level): (i) How does an efficient organizational form evolve (given a particular set of claims) in a dynamic regulatory environment? (ii) How stable is this efficient organizational form? (iii) What are the sources of the welfare gains? (iv) How does competition between heterogeneous economic agents allocate these claims (given a real estate organization)? (v) Does capital structure matter for real estate entities?

In general, any analysis of optimal organizational form for real estate entities should cover five areas. First, it should link organizational form with its capital structure (Miller, 1977; Guenther, 1992). Second, it should incorporate the rivalry between taxable and (non-taxable) institutional investors (Auerbach and King, 1983).<sup>1,2</sup> Third, it should embody non-tax factors such as administrative costs; limited liability (related to bankruptcy costs); and marketability (related to liquidity or trading of shares/units in secondary markets) (Lentz and Stern, 1991; Barber, 1996; MacKie-Mason and Gordon, 1997; Scholes et al., 2002). Fourth, it should integrate the entity's investment and financing policies in a non-linear framework instead of a linear framework (Gentry and Mayer, 2002). Fifth, it should segregate the demand and supply sides of financing to incorporate the agency perspective of equity and debt in a non-linear framework, where value-additivity advocated in capital structure theorems does not hold (Varian, 1987).<sup>3,4</sup>

This paper studies the optimal structuring of economically viable organizational forms such as REITs, Real Estate Limited Partnerships (RELPs) and UPREITs. We demarcate the underlying property cash flows into their component equity (real estate security) and debt (mortgage) stakeholder cash flows, and model the agency perspective of risk-averse investors [with non-linear objective functions] in the economy. This approach is consistent with that of Allen (2001), who recommends researchers in financial institutions to focus on the conflict of interest (agency issue) between equity and debt.<sup>5</sup> The present study, however, employs a rational expectations equilibrium (REE) to evaluate Pareto-optimal debt contracts, where the deadweight costs of bankruptcy, related to limited liability, and tax parameters are assumed to be exogenous.<sup>6,7</sup> We implicitly assume the existence of an information architecture, where property rights, foreclosure procedures, needed for real estate to serve as collateral, and accurate methods of valuing property are well established (see Levine et al., 2000). Finally, the welfare of both Pareto-efficient stakeholders in the REIT and RELP forms is contrasted to arrive at the Pareto-optimal hybrid UPREIT organizational form.

<sup>1</sup> We assume that non-taxable institutional investors are exogenous as they constitute a wide array of economic agents such as pension funds, university endowments and not-for-profit entities. This assumption is consistent with the literature (see Allen et al., 2000).

<sup>2</sup> Modeling the rivalry between taxable and non-taxable investors is an intricate issue as one cannot use the standard mean-variance CAPM framework. This is because differential taxes imply heterogeneous expectations. This segregates the efficient frontier for both economic agents, breaching the well-known Two Fund Separation Theorem proposed by Tobin (1958). This is illustrated further in Appendix.

<sup>3</sup> Agency cost of debt refers to distortions in managerial decision making that are caused by conflicts of interest between stockholders and bondholders. The finance literature generally attributes agency issues to the presence of asymmetric information (see Allen, 2001). Financing real estate investment, however, constitutes a special case, where lenders (principals) can costlessly decipher any proprietary (ex-ante) information held by borrowers (agents) by trading financial claims over a multi-period horizon. This is substantiated in the literature on multi-period insurance contracting (see Cooper and Hayes, 1987; Hosios and Peters, 1989). In the real world, lenders also have access to information on ex-post risk and return on various classes of properties to help them underwrite their facilities appropriately. Adverse selection (stemming from ex-ante information asymmetry) is reduced further by releasing funds in the escrow process when the title of the specific property is exchanged for cash. Lenders also reduce moral hazard (stemming from ex-post change in borrower behavior) by mandating the following in the mortgage covenants: (i) minimum maintenance of the property; (ii) payment of taxes; and (iii) adequate insurance coverage.

<sup>4</sup> Segregating the demand and supply sides of financing incorporates the agency perspective of both net-borrower (agent) and net-lender (principal) to endogenously determine the equilibrium parameters of a loan contrary to the prognosis of Modigliani and Miller (1958, 1963) and Miller (1977) (see Ebrahim and Mathur, 2007).

<sup>5</sup> Our model employs a two-period version of the well-known Lucas (1978) model to study real estate organizational forms.

<sup>6</sup> We opt for a setting involving symmetric information, as equilibrium asset prices aggregate and reveal private information (see Biais et al., 2010). Thus, capital market participants can easily interpret private information held by counterparties by observing their trading patterns. This result is a consequence of the Efficient Market Hypothesis (EMH – see Fama, 1970; Bray, 1981; Sheffrin, 1996; Malkiel, 2003).

<sup>7</sup> Rational Expectations is defined by Maddock and Carter (1982) as the application of the principle of rational behaviour to the acquisition and processing of information and to the formation of expectations. Bray (1981) explains it further by classifying rational expectations equilibrium as "self-fulfilling," as economic agents form correct expectations given the pricing model and information.

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