2011

Law as Asymmetric Information: Theory, Application, and Results in the Context of Foreign Direct Investment in Real Estate

Patrick J. Glen

Georgetown University Law Center, pjg32@law.georgetown.edu

Georgetown Public Law and Legal Theory Research Paper No. 10-57

Georgetown Business, Economics and Regulatory Law Research Paper No. 10-14

8 Berkeley Bus. L.J. 116-151 (2011)

Law as Asymmetric Information: Theory, Application, and Results in the Context of Foreign Direct Investment in Real Estate

Patrick J. Glen

TABLE OF CONTENTS

Berkeley Business Law Journal Vol. 8, 2010

Law as Asymmetric Information: Theory, Application, and Results in the Context of Foreign Direct Investment in Real Estate

INTRODUCTION

In his 1970 article, *The Market for "Lemons": Quality Uncertainty and the Market Mechanism*, George Akerlof posited that there is a potential for market failure in situations where the buyer and seller possess asymmetrical valuation information.[1] Akerlof further concluded that if valuation information is an endemic concern in a market susceptible to asymmetries, higher value products will be increasingly driven out by lower value products, as there will be no mechanism by which buyers will be able to correctly or approximately discern the value of a specific product. The importance of accurate information about value has only increased in the four decades since the publication of Akerlof's article. Global trade has enabled individuals, once unable to transact, to trade in goods, commodities, and securities on a daily basis. Measured by both volume and value, these newly empowered trades show extensive growth.[2] In regional and international markets, valuation information is extraordinarily important, yet even in an increasingly connected age where information is readily available, certain types of valuation information may still prove elusive to even the most discerning buyer.

The purpose of this article is to explore the ramifications of potential asymmetric information in a discrete subclass of valuation information: the law. The legal attributes of a given tradable good may or may not be relevant to its ultimate valuation, but in those cases where the legal attribute does serve as a significant basis for the buyer's initial valuation, information asymmetries have the potential to not only arise, but be of such dimension that they could contribute to a market failure. The clearest case of such asymmetric information would concern issues of ultimate ownership, but the class of legal attributes that could be subsumed within the category of asymmetric information is broad, varied, and nuanced. The globalization of law and legal

1. George A. Akerlof, *The Market for "Lemons": Quality Uncertainty and the Market Mechanism*, 84 Q. J. ECON. 488 (1970).

2. *See*, *e.g.*, Gregory W. Bowman, *Thinking Outside the Border: Homeland Security and the Forward Deployment of the U.S. Border*, 44 HOUS. L. REV. 189, 196-97 (2007) ("WTO trade statistics show that in goods alone, world trade levels have increased approximately seventy-fold since 1960, not accounting for inflation.") (citing World Trade Organization Statistics Database, http://stat.wto.org/Home/WSDBHome.aspx?Language (last visited Oct. 23, 2010))); Alan Dignam & Michael Galanis, *Corporate Governance and the Importance of Macroeconomic Context*, 28 OXFORD J. LEGAL STUD. 201, 213 (2008) ("[R]ising industrial output also led to the increase of international trade from the 1950s onward with substantial increases after each successive GATT agreement.").

practice is likely to both assuage and exacerbate these concerns, as complexity will beget greater complexity, even as the knowledge of buyers, sellers, and their lawyers advances with each successive advent of greater complexity.

This article is concerned with both the general applicability of Akerlof's model of asymmetric information and the specific application of that model to the market for foreign direct investment in real estate. Part I addresses Akerlof's initial theory of lemons markets, along with subsequent empirical tests of the theory. Part II reviews prevailing applications of the theory to the field of law, while also proposing a general extension of how law itself may be a relevant source of asymmetric information. Part III marks the beginning of the more specific aspects of this article, which are concerned with how legal attributes may constitute a source of asymmetric information in a particular market: the real estate market. Accordingly, this part reviews the relevant economic literature regarding the application of the lemons theory to domestic real estate markets. Additionally, this part offers a more complete model of asymmetric information in real estate markets by including a discrete subclass of such information under the rubric "legal attributes." This theoretical model of asymmetric information is then tested in the context of foreign direct investment in both real estate and stock in real estate, in order to ascertain whether market failure results from such asymmetries. In concluding, this article proposes legal and institutional reforms that could mitigate or eliminate asymmetric information in the context of legal attributes. These reforms will be most relevant to developing and transitional economies, where institutional disadvantages play a significant role in impeding investment in the domestic economy. Ultimately, this article seeks to highlight the need for legal and institutional protections as a means to combat market asymmetries and channel needed foreign investment to countries that could substantially benefit from such investment.

I. AKERLOF'S LEMONS MODEL

The basis for Akerlof's lemons model was his assumption that, in certain markets, sellers will have a tendency to market poorer quality goods, as the benefits associated with the sale of quality goods will accrue to the entire group of sellers constituting the market rather than to the individual sellers offering the higher quality good alone.[3] This process will gradually lead to the prevalence of poorer quality goods in the market as the share of quality goods in the market decreases, and then to a market failure where sales of the relevant good will not take place regardless of the price.[4] Akerlof applied this theory to the market for cars. In the car market, there are both new and used cars, good

3. Akerlof, *supra* note 1, at 488.
4. *Id.*

cars and lemons, and a new and used car can be either a good car or a lemon. In both the new and used car markets, a buyer will not know the exact quality of the car he is purchasing. Each buyer faces the possibility that the car he is about to purchase is either a quality car, notated by Akerlof as q, or a lemon, notated as 1—q. However, because the buyer does not have adequate information to evaluate whether the car is a lemon or a quality car, his valuation of each car, regardless of its actual quality, is based on the initial q / 1—q probability.[5] The buyer will subsequently gain knowledge regarding the actual value of the purchased car, and thus adjust his estimate of the car's value. Yet when this buyer reenters the market to sell the car the new prospective buyer of the car will face the same initial valuation of the car, namely q / 1—q. Thus good cars and lemons will tend towards the same price valuation. "[B]ad cars sell at the same price as good cars since it is impossible for a buyer to tell the difference between a good and a bar car; only the seller knows."[6]

This in turn means that a good car is unlikely to be sold at its true or expected value, thus continually increasing the prevalence of lemons in the market which in turn contributes to a greater decrease in good cars, until the lemons entirely push the good cars from the market. In addition to the used car market, Akerlof also noted the potential repercussions of asymmetric information in the insurance market, in the context of minority employment hiring, and credit markets in underdeveloped countries.[7] Market failure is not a necessary end to this process, but it is a possibility, as lower quality goods may increasingly drive out higher quality goods ultimately causing the market for that good to cease to exist at all.[8]

Market failure may be forestalled, however, by certain counteracting institutions which, in essence, act as a minimal warrant of quality or value in situations where asymmetric information might potentially be present. These institutions include: 1) guarantees, which shift risk to the seller; 2) brand-names, which indicate a uniform quality and give the buyer recourse if the quality is inferior; 3) chains, which operate in a manner similar to brand-names by ensuring quality across geographical regions; and 4) licensing and certification practices, which ensure a minimal level of competency and proficiency.[9] Despite the possibility of palliative counteracting institutions, however, Akerlof concluded that the root cause of information asymmetries in markets is the very existence of those markets. "[T]he difficulty of distinguishing good quality from bad is inherent in the business world; this may indeed explain many economic institutions and may in fact be one of the more

5. *Id.* at 489.
6. *Id.* at 489-90.
7. *Id.* at 492-94, 494-95, 497-99.
8. *See id.* at 490.
9. *Id.* at 499-500.

important aspects of uncertainty."[10]

The importance of asymmetric information to the functioning of markets has lead to several tests and refinements of Akerlof's lemons model in the years since the article's first publication. The literature in response to Akerlof's model helps to explain the nature of market situations where quality uncertainty might predominate, and also introduces factors which may effectively counteract informational asymmetries. This literature review proceeds by assessing substantive critiques of Akerlof's theory itself, followed by market tests of the model, before concluding with two articles refining the initial parameters of the lemons model.

In 1976, Geoffrey Heal offered the first substantive critique of Akerlof's lemons model. Heal theorized that market failure would only stem from short-sighted traders, and would not be a likely outcome in a market where the interested participants assumed that there would be multiple transactions rather than a single sale.[11] In markets where a course of conduct between buyers and sellers can be assumed, then, "the chances of bad products driving out good fall as the weight that traders give to future benefits rises; in other words, we can only be sure that bad products will drive out good if traders are sufficiently shortsighted."[12] In response, Akerlof agreed with the essence of Heal's claim, but contended that any continuity in the relationship of traders is likely buttressed by the types of counteracting institutions he had previously noted.[13] Akerlof asserted that counteracting institutions such as brand names, credit ratings, and labor accreditation functioned to " link the past, the present, and the future so that players can know that the game indeed is repetitive."[14]

Empirical tests have provided mixed evidence of actual lemons markets, as well as competing views as to why a particular market is or is not a lemons market. Two significant contributions to the literature debated whether or not the market for used pickup trucks is a lemons market. In a 1982 study, Eric Bond argued that the market for used pickup trucks is not a lemons market, either because counteracting institutions, such as warranties, are prevalent, or because buyers can obtain sufficient information to negate any asymmetry.[15] In a response to Bond, Michael Pratt and George Hoffer contended that the market for used pickup trucks is a lemons market, basing their conclusion on expenditure data related to the repairs actually made to those classes of pickup trucks that were and were not transacted during a set timeframe.[16] Disagreeing

10. *Id.* at 500.

11. Geoffrey Heal, *Do Bad Products Drive Out Good?*, 90 Q. J. ECON. 499, 500-01 (1976).

12. *Id.* at 501.

13. *See* George A. Akerlof, *Reply to Professor Heal*, 90 Q. J. ECON. 503 (1976).

14. *Id.* at 503.

15. Eric W. Bond, *A Direct Test of the "Lemons" Model: The Market for Used Pickup Trucks*, 72 AM. ECON. REV. 836, 836-37 (1982).

16. Michael D. Pratt & George E. Hoffer, *Test of the Lemons Model: Comment*, 74 AM. ECON.

with the results reached by Pratt and Hoffer, Bond replied that their determination of a lemons market was most likely a result of their failure to control for observable quality differences in the trucks, as well as their inclusion of older trucks in their data samples.[17] Accordingly, Bond reiterated his conclusion that the market for used pickup trucks is not a lemons market.[18]

Rather than test whether a given market is a lemons market along the metrics of Akerlof's original article, Jae-Cheol Kim proposed a refinement of the initial model. In doing so, he determined that the used car market need not be a lemons market if the potential changeability of the agent's status is incorporated into the model.[19] Kim's model thus incorporated the fact that the denomination "buyer" and "seller" is not static in durable goods markets. Kim's expanded model also took into account additional endogenous valuation factors, including those pertaining to maintenance and driving habits, rather than purely stochastic elements.[20] Finally, Igal Hendel and Alessandro Lizzeri noted that a used goods market need not tend towards failure if the market is responsive to the dynamic interactions between the new and used goods market.[21] Specifically, Hendel and Lizzeri pointed out the fact that buyers may be able to easily transact in either a used or new goods market for any given good, thus assuring a minimum level of quality in the used goods market based on the possibility of other choices should quality tend to drop too precipitously.[22]

Although these studies reach different conclusions, they all highlight the importance of information to economic transactions, either by finding market failure in situations of asymmetric information, or by determining that the presence of counteracting institutions forestalls possible market failure by filling the information gap between the buyer and seller. Despite challenges and modifications, Akerlof's lemons model remains central to information economics. It is because of the theory's intuitive appeal and its relative success in withstanding empirical scrutiny that the fundamentals of the lemons model, namely the problems of adverse selection and asymmetric information, remain central to the project of information economics.

REV. 798 (1984).

17. Eric W. Bond, *Test of the Lemons Model: Reply*, 74 AM. ECON. REV. 801 (1984).

18. *See id.*

19. *See generally* Jae-Cheol Kim, *The Market for "Lemons" Reconsidered: A Model of the Used Car Market with Asymmetric Information*, 75 AM. ECON. REV. 836 (1985).

20. *Id.* at 836.

21. *See generally* Igal Hendel & Alessandro Lizzeri, *Adverse Selection in Durable Goods Markets*, 89 AM. ECON. REV. 1097 (1999).

22. *Id.* at 1113.

II. LEGAL IMPLICATIONS OF THE LEMONS MODEL

The preceding part dealt entirely with the economic aspects of the problem of asymmetric information. That is, where quality uncertainty is present, buyers will have to undertake a course of action based only on an incomplete understanding of the quality of the good being purchased. This could lead to a market failure in the given market, adverse selection by the buyer, or the rise of counteracting institutions which seek to eliminate the impact of asymmetric information on transaction potential. Although a monolithic conception of the law does not fit comfortably within the classes of counteracting institutions noted by Akerlof, it does operate in specific circumstances as a warranty or guarantee against poor quality. The purpose of this part is to explore the legal implications of asymmetric information along two possible dimensions. The first addresses those situations where law acts as a counteracting institution in markets prone to information asymmetries. The second dimension, and the main concern of this article, is when law itself constitutes a base of asymmetric information between a buyer and seller.

Taking a cue from Akerlof's explicit use of the used car market as his test case, the clearest impact of the lemons model has been in the enactment of "Lemon Laws." Such laws act as a counteracting institution of sorts. These laws do not eliminate the potentialities of asymmetric information, but, rather, provide recourse to a buyer if he happens to buy a "lemon" rather than a good car.[23] The vast majority of states have enacted some form of a lemon law, although these laws differ significantly from state to state concerning what vehicles fall within their protections, what sellers are liable under the law, and what recourse an injured buyer may have.[24] Nonetheless, the underlying rationale is identical—the seller is responsible to the buyer for injuries caused by defects that were unascertainble to the buyer.[25] The seller's responsibility

23. *See* Patricia C. Kussmann, Annotation, *Validity, Construction and Effect of State Motor Vehicle Warranty Legislation (Lemon Laws)*, 88 A.L.R.5th 301 § 2[a] (2001) ("Although no two lemon laws are exactly alike, generally, they provide that if a consumer, who has purchased a motor vehicle reports a defect or nonconformity covered by the manufacturer's express warranty within a specified time, the manufacturer or its agent must make the repairs necessary to correct the problem.").

24. *See generally id.*; *see also* Heather Newton, *When Life Gives You A Lemon: North Carolina Adopts Automobile Warranty Legislation*, 66 N.C. L. REV. 1080, 1080 (1988).

25. *See* Cagiva N. Am. v. Schenk, 680 A.2d 964, 971 (Conn. 1996) ("[T]he rationale behind the lemon bill has been to improve and enhance the responsiveness an[d] accountability of automobile manufacturers to consumer complaints with defective new cars…. The lemon bill … gives [the] consumer rights against … the party responsible for the defective car.") (alterations in original, internal citations omitted) (quoting 25 H.R. Proc., Pt. 10, 1982 Sess., at 3163, 3123) (statements of Rep. Woodcock); Subaru of Am. v. Peters, 500 S.E.2d 803, 804 (Va. 1998) (Virginia's law "provides that if a consumer has purchased a motor vehicle . . . and reports, within a specified period of time, a defect or nonconformity . . . the manufacturer or its agent must perform the repairs necessary to correct the problem. If the vehicle cannot be conformed to the warranty after a reasonable number of attempts, the consumer is entitled to replacement of the vehicle or refund of the purchase price."). *See also* Joan Vogel, *Squeezing Consumers: Lemon Laws, Consumer Warranties, and a Proposal for Reform*, 1985 ARIZ. ST. L.J. 589, 615-47 (1985) (discussing the substantive provisions of 31 state lemon laws,

ranges from a responsibility to reimburse the buyer for the cost of injuries or provide a replacement vehicle. Such legislation also seeks to influence behavior by placing the financial responsibility for poor quality sales on the seller, thus hopefully inducing a minimal level of quality in the goods which enter that market. Here, the law acts as a warranty in certain circumstances, and, in essence, as a third-party guarantee. Such laws stem directly from Akerlof's initial model, but they are not without their critics. These critiques focus on the fact that there is little reason to institute potentially costly and wasteful counteracting institutions such as warranties when there is little evidence that the used car market functions in an inefficient manner and where the potential for an actual market failure is attenuated at best.[26] In such circumstances, the counteracting institution may do more harm than good by interrupting or altering the otherwise efficient operation of the market.

Although lemon laws are the clearest legal progeny of Akerlof's theory, application of the model has expanded in recent years to take account of a greater number of situations presenting a confluence of legal and economic theory. University of Toronto law professor Ariel Katz has defended pharmaceutical regulation on the basis that the market for pharmaceuticals has the potential to constitute a lemons market in the absence of effective counteracting institutions.[27] Such regulation, which ensures quality, prevents the industry from embarking on a race to the bottom. Scholars have noted the deleterious aspects of asymmetric information in the context of the emerging markets for genetically modified foods, where a lack of accurate information about the various benefits of engineered foods has hindered the broader development of markets in such products.[28] Legal reforms to reduce the potential for asymmetric information in the insured-insurer relationship have also been proposed as an extension of Akerlof's initial work, most recently in the context of the possibility that genetic information could be used to decline coverage.[29] Further academic work has also been undertaken in the context of criminal law sentencing and juvenile expungement regimes,[30] labor and

including the rationale for the passage of the laws).

26. *See, e.g.*, Bruce Mann & Thomas J. Holdych, *When Lemons are Better than Lemonade: The Case Against Mandatory Used Car Warranties*, 15 YALE L. & POL'Y REV. 1 (1996).

27. Ariel Katz, *Pharmaceutical Lemons: Innovation and Regulation in the Drug Industry*, 14 MICH. TELECOMM. & TECH. L. REV. 1 (2007).

28. Kim JoDene Donat, Note, *Engineering Akerlof Lemons: Information Asymmetry, Externalities, and Market Intervention in the Genetically Modified Food Market*, 12 MINN. J. GLOBAL TRADE 417 (2003).

29. *See* Kathleen Tradash, Note, *Preventing a Market for "Lemons": A Voluntary Disclosure Model as an Alternative to the Prohibition of Genetic Discrimination and the Distortion of Allocative Efficiency*, 34 CONN. L. REV. 1353 (2002).

30. T. Markus Funk & Daniel D. Polsby, *Distributional Consequences of Expunging Juvenile Delinquency Records: The Problem of Lemons*, 52 WASH. U.J. URB. & CONTEMP. L. 161 (1997) (arguing differential expungement regimes may give rise to later informational asymmetries in the context of, e.g., adult sentencing, whereby a full picture of an individual's criminal history will be

employment contracting,[31] and asset securitization.[32] Each of these diverse applications of the lemons model has approached the economic problem by showing how the law itself can counteract the effects of asymmetric information. Law, in these cases, aims to rectify or forestall any harm attributable to the prevalence of asymmetric information by acting on the market itself. Law thus counteracts market asymmetries in myriad ways: it may provide a cause of action against a seller, introduce a regulatory scheme to establish minimal quality guarantees, or mandate certain disclosures to eliminate asymmetric information. Whatever role it takes on, however, it takes on the guise of a palliative or a limited solution. It may help to restore the status quo as between the buyer and the seller, but it does not address or otherwise alleviate the underlying fact of asymmetric information.

Instances where the law acts as a counteracting institution do not exhaust the range of interaction between law and information economics. Far from being remedial, law itself can constitute a ground of asymmetric information between buyer and seller. This can undoubtedly be true in the purely domestic context. But the issue is exacerbated in the transnational or international context, where a domestic seller's market may be peopled by foreign buyers. Accordingly, this article examines transactions between a foreign buyer and a domestic seller in order to highlight the importance of information concerning the governing legal system. Additionally, although it is likely that information asymmetries regarding law can and will arise regardless of the specific legal system, the development and status of effective counteracting institutions is also significant, insofar as such institutions may protect foreign buyers in several discrete ways. It is these institutions which may be sorely lacking or underdeveloped in transition economies, leading to a greater potential for market failure if law otherwise constitutes a ground of asymmetric information.

Law may act as asymmetric information in several ways, some more, others less virulent, some intractable, others easily remediable. One party's ignorance of the law is the most obvious basis for asymmetry, but this can arise from several factors, including linguistic barriers and a general misunderstanding of a legal system that differs fundamentally from one's own. One example of this unilateral ignorance occurs when one party is familiar with civil law traditions whereas the other party operates under the common law. Asymmetries on these grounds may be remediable through the retention of local counsel whom

unavailable for review).

31. Walter Kamiat, *Labor and Lemons: Efficient Norms in the Internal Labor Market and the Possible Failures of Individual Contracting*, 144 U. PA. L. REV. 1953 (1996) (positing asymmetric information between employers and employees as the cause behind certain patterns in labor contract provisions).

32. Claire A. Hill, *Securitization: A Low-Cost Sweetener for Lemons*, 74 WASH. U. L.Q. 1061 (1996) (arguing that securitization may effectively signal or impart valuable information regarding the securitizing firm's financial state).

otherwise possesses the relevant information and expertise in the subject country. Ignorance of the law can take another, more problematic form, however, if the basis of ignorance results from the failures or obfuscations of the domestic legal system itself. This type of ignorance could be attributable to the inadequate publication or dissemination of rules of law and procedure by the relevant domestic authority, meaning that appeal to local counsel or an expert may be unavailing to the foreign buyer. Even if the law is "known" in some superficial sense, there could be a general inability to ascertain whether a particular principle applies in a given case or context. Perhaps the law is new, rarely or erratically applied, or is simply written in inaccessible terms. Relatedly, unnecessary complexity in the law can cause informational asymmetry. The domestic law pertaining to a given issue may be too complex to provide any objectively correct answer to anyone not intimately familiar with the governing standards, which will, more likely than not, include foreign buyers. This complexity might make the buyer's rights and obligations unclear, and obfuscate relevant issues on the buyer's side, including ownership and the nature of any interest sought to be conveyed.

Additionally, there may be tensions between central legal rules and processes and local rules. If there are multiple political subdivisions within a state, as in countries with a federal structure like the United States, there may be significant differences in the law despite ostensible proximity between locations. Location specific legal rules could potentially pertain to issues of court procedure, filing, and notice requirements, and could differ dramatically from other local rules as well as national rules. These rules may or may not be written, and could be passed down more as a matter of custom and tradition than as a function of positive law.[33] They may be entirely unwritten and unknowable, save for those individuals already operating within the system. These various competing domestic legal systems add to the potential for confusion or information asymmetry when attempting to ascertain the various rights and obligations of agents seeking to engage in a transaction. Additionally, there may be informal systems operating instead of, or beside, the recognized formal state legal system. Such community based systems are common in developing countries, especially in the context of real estate, whereby title and other rights of land are supported by informal rules and procedures rather than by the formal state legal system.[34] The rules in this system could be formal to a high degree, in as much as they present an elaborate way of transacting business, providing for dispute settlement, and recognizing various interests; yet, again, they might be inaccessible to an outsider seeking to transact within the system.

33. *See infra* note 43.

34. *See* HERNANDO DE SOTO, THE MYSTERY OF CAPITAL 15-37 (Basic Books 2000).

Law as Asymmetric Information

As noted in the preceding, law can also provide a backstop for the protection of rights and interests, even if a buyer is harmed in a transaction involving quality uncertainty. Law, when it acts in this way, constitutes a counteracting institution that mitigates the impact of potential asymmetric information. For law to act in this way, however, there must be a fully functioning state, capable of passing relevant laws and regulations, as well as a fully functioning and independent judiciary, or other quasi-judicial body, to enforce those laws and regulations. The lack of an independent and fairly functioning judiciary, the lack of institutional safeguards by which to recognize interests and ownership rights, and the inability or unwillingness of a state to pass a relevant regulatory or statutory scheme could all contribute to further transactional failures in a market already prone to asymmetric information.

III. ASYMMETRIC INFORMATION IN REAL ESTATE MARKETS

As a test case, this article proceeds by examining the potential impact of asymmetric information in the context of real estate, focusing on "legal attributes" as the relevant ground of asymmetric information. More specifically, this test is conducted in the context of foreign direct investment ("FDI"), which more likely than not will present the situation where an outside-buyer has less information concerning the governing legal standards in a country than the domestic-seller. The hypothesis is that real estate foreign direct investment should constitute a smaller percentage of a country's total FDI in countries that have weak legal institutions coupled with more complicated, informal, or community-based property systems, than in those countries with strong legal institutions and formalized property systems.

This part proceeds in three subparts. The first reviews a small sample of the economic literature concerning information asymmetries in real estate markets. Specifically, this subpart focuses on a study conducted in the Hong Kong real estate market tending to show that that market does not constitute a lemons market. The second subpart more fully theorizes a lemons model for the real estate market by taking into account the possibility that legal attributes will be a ground of asymmetric information. The final subpart tests the hypothesis against FDI data pertaining to both real estate investment and investment in real estate stocks across a broad range of countries in North and South America, Asia, Europe, and Africa. This part attempts to discern whether there is any meaningful difference in the levels of FDI investment in real estate and stock between countries with significantly differing levels of institutional and legal development.

A. Brief Review of the Economic Literature

Academic literature has consistently appreciated the potential for

asymmetric information to disrupt the optimal functioning of real estate markets.[35] These asymmetries may take several forms. For instance, Jaren Pope has observed that location specific disamenities, specifically flooding, lead to a higher sales price for the real estate if the buyer is ignorant about the disamenity, and that seller disclosures generally reduced the sales price of such homes.[36] This means that the real estate was valued more accurately after the advent of disclosure laws rather than prior to their publication because this valuation was now based on more symmetric components than asymmetric ones. Similarly, Steven Levitt and Chad Syverson found that houses sold by real estate agent-owners sold for a statistically significant higher price than those houses that were sold by non-real estate agent-owners, and remained on the market for an average of approximately ten days longer.[37] This fact was attributed to informational distortions between the agent and non-agent seller, and a remuneration framework that inadequately aligns the interests of the seller and his agent.

In a recent study, a group of researchers at the University of Hong Kong sought to extend Akerlof's lemons model to the real estate market, and test its assertions by analyzing empirical evidence from the Hong Kong real estate market.[38] For purposes of testing the model in the context of the real estate market, the researchers divided information regarding real estate into two classes: latent attributes and land attributes. Latent attributes relate to the building, structure, or, potentially, certain aspects of the land itself, and include seepage, cracks, blockages, noise, flooding, and other hidden or difficult to ascertain structural defects.[39] Land attributes, on the other hand, include the location of the property, its accessibility, views, etc.[40] While it is possible that asymmetric information could occur in both classes of information, it is more likely to occur in the context of latent attributes. This is because latent attributes will be harder for a discerning buyer to ascertain than most of the land attributes. Accordingly, a prerequisite for any given sale will be that the buyer of real estate values the symmetric-based information higher than the asymmetric, i.e., that the value he attributes to the land characteristics is higher than the value he assigns to the latent attributes, which he may or may not

35. *See* Mark J. Garmaise & Tobias J. Moskowitz, *Confronting Information Asymmetries: Evidence from Real Estate Markets*, (Center for Research in Security Prices, Working Paper No. 507, 1999).

36. Jaren C. Pope, *Do Seller Disclosures Affect Property Values? Buyer Information and the Hedonic Model*, 84 LAND ECON. 551 (2008).

37. Steven D. Levitt & Chad Syverson, *Market Distortions when Agents are Better Informed: The Value of Information in Real Estate Transactions*, 90 REV. ECON. & STAT. 599, 600 (2008).

38. Siu Kei Wong, Chung Yim Yiu & Kwong Wing Chau, *Liquidity and Information Asymmetry in the Real Estate Market* (Jan. 20, 2010) (unpublished manuscript, *available at* http://www.ssrn.com/abstract=1539599).

39. *Id.* at 3-4.

40. *Id.* at 4.

know with any specificity.[41] In testing this model, the researchers found, among other things, that real estate with a high land value relative to the latent valuation is more liquid. Although the study concluded that the Hong Kong real estate market was not a lemons market, the findings buttress the claim that information is integral to an accurate valuation of property, and without accurate valuation, transactions may not occur.

B. Legal Sources of Asymmetric Information in the Context of Real Estate FDI

The Hong Kong study provides an insufficient model by which to gauge the potential effects of asymmetric information on real estate and property markets. While the categories of land and latent attributes encompass a broad range of information about a given property, they may not represent the whole set of relevant information that informs a buyer's decision to enter into a transaction. In order to account for this failure and sufficiently reflect the sources of potential asymmetric information a third category should be added: legal attributes. The preceding part addressed the law as asymmetric information in a general sense; this part will provide a more specific explication of this concept by reference to the ways such information may arise in the real estate market.

The most obvious legal attribute relevant to a prospective buyer would be ownership: whether the seller has a conveyable interest, or the exact interest he is attempting to convey. In some systems this may become complicated. For instance, the real property on which a structure is built may have a separate owner from the structure itself, or a different party may have ownership rights to the minerals or gases underneath the property. Ownership in this context simply looks to an objective confluence of expectation: what the buyer is purchasing is both what the seller is selling and is able to legally sell.

A second legal attribute that has become increasingly important, especially in the United States, is the encumbrance. For purposes of this article, the term will be used broadly to refer to two categories of encumbrance: financial and land. A financial encumbrance is a mortgage on a property, a lien, or some other monetary attachment, which could hinder the full and free enjoyment of the land by a prospective buyer. A land encumbrance refers to conditions, such as rights-of-way, setbacks, and other regulatory or legal "defects" that act on the property itself in favor of some third-party, whether a government or a natural person.

As noted previously, legal attributes will more likely be categorized as asymmetric information in transactions involving a resident-seller and a non-resident-buyer. In a formal property system, i.e., a system with a formal and functioning title registry, government regulation, and dispute settlement

41. *See id.* at 6.

mechanism, such asymmetries may arise due to the complexity of the domestic property law system. The law in the jurisdiction may be obscure or overly complicated; alternately, the necessary purchasing and registration processes that a buyer must follow may be unclear, or lead to significant gaps concerning ownership information, as well as potential time-lags that leave the ownership or formal title vague or unascertainable.[42] Asymmetries arise in this context because of such inefficiencies in the legal system itself. These inefficiencies consequently obscure those aspects of the law that are dependent on an efficiently functioning legal system. In an informal property system, titling requirements and issues of enforceability will be based on community norms and local knowledge, rather than on any centralized, formal, or published notion of "law."[43] Within such systems the development of the local "legal" system, the identity of the parties, and the concomitant development of effective internal dispute settlement mechanisms ensures a smooth enforcement and transfer of interests. Nonetheless, an outside buyer will have neither knowledge of nor ready access to peculiarly local information or knowledge, including the relevant procedures by which to purchase and validate interests, or by which to challenge other claims. This lack of information and access to it will contribute to the existence of asymmetric information as between the outside buyer and local seller.

Combining this notion of legal attributes with the foundational premise of the Hong Kong study, information that will be factored into any valuation calculation can be divided into the following categories:

1. Land ≡ location, view, size, aesthetic appeal, etc.
2. Latent / Structural ≡ latent defects, leakages, cracks in foundation, etc.
3. Legal ≡ ownership (including all probable permutations), encumbrance

Land attributes will almost entirely fall within the category of symmetric information. It is improbable that a buyer and seller would be differently informed concerning such attributes of the property. Although there may be cases where all the land attributes are not readily apparent to a buyer, especially in jurisdictions without property disclosure requirements, even in those cases it seems likely that symmetric information will predominate over asymmetric. Structural attributes are more likely to be a source of asymmetric information unless the buyer undertakes a comprehensive inspection of the property,

42. *See* DE SOTO, *supra* note 34, at 15-37.

43. *See, e.g.*, Karol C. Boudreaux, *The Human Face of Resource Conflict: Property and Power in Nigeria*, 7 SAN DIEGO INT'L L.J. 61, 71-77 (2005) (exploring the range of interests and conveyances possible under the communal system in parts of Nigeria); Alyssa A. Vegter, Comment, *Forsaking the Forests for the Trees: Forestry Law in Papua New Guinea Inhibits Indigenous Customary Ownership*, 14 PAC. RIM L. & POL'Y J. 545, 550-54 (2005) (exploring same for Papua New Guinea).

perhaps with the aid of a professional. Even in such cases, information might be difficult to gather, and the outcome of the inspection might solely be the quantification of unknowns. Furthermore, even if one assumes a savvy buyer, in most cases it seems probable that asymmetric information will predominate over symmetric information concerning the structural attributes of a given property. Yet as the Hong Kong study made clear, land attributes will tend to be valued higher than structural attributes, and thus as long as the symmetric information is valued higher than the asymmetric "defects" of information, transactions will take place.

But then how do legal attributes fit into this picture?

From an American perspective, legal attributes would fall within the scope of symmetric information. Title and encumbrance can be, for the most part, verified through deed and title registries, depending on the state and the county in which the property lies. The buyer and seller enjoy equal access to this information, and barring filing overlaps, errors, fraud, or other legal circumstances, such as adverse possession, this information should be fully determinative of the ultimate legal attributes of the property. If symmetric information otherwise predominated in the buyer's calculus, the addition of the category of legal attributes has no real effect—the symmetric information will simply be even more predominant than the asymmetric. The truth of this fact is, however, heavily dependent on the legal and regulatory landscape of the United States. Information on legal attributes falls within the scope of symmetric information because it is a matter of public knowledge equally available to buyers and sellers. Moreover, the more general institutional structure of United States law, which establishes both the registries that allow legal attributes to be checked and a well-functioning court system in which disputes can be litigated, gives a buyer confidence that even if there is information that he does not know, there are adequate outlets by which to vindicate his rights. These structural and institutional safeguards, although not peculiar to the United States system, are nonetheless representative of formal property systems shared by only a percentage of the countries in the world. The remaining countries rely on a mix of formal and informal elements. Although it is not the purpose of this article to explore the myriad differences that characterize various property regimes across the globe, a cursory examination of the most pertinent elements will illuminate why the addition of the legal attributes category could have significant effects on transactions in non-formalized systems.

The most significant difference will be the lack of an institutional repository for official records relating to the ownership of property and encumbrances. While one can check for rights-of-way, ownership of subterranean interests, outstanding financial liens, etc., in the United States and other countries with formal property systems, such access to information is likely to be absent from informal property systems and severely lacking in

transition economies that straddle the informal/formal dichotomy. In such informal systems, a buyer will have to take the seller at his word, whatever that may be, and hope for the best regarding actual ownership. The actual state of affairs in this context, i.e., whether the seller owns the interest he purports to, must, in the informal setting, reside within the asymmetric category of information. A corollary to this point is the fact that many local communities in less-developed countries undertake their own type of record-keeping, away from official governmental interference. This is basically a community-based system by which to keep track of who owns what, what the nature of the right held is, etc. The problem with this situation is not the objective reality—whether the seller actually owns the property being sold—but the subjective position of the buyer and whether he will chose to put any matter of weight on local, informal records. A title written on a scrap of paper and tucked into the sleeve of an old binder is unlikely to assuage the fears of a non-local purchaser. There is no problem with this type of record keeping within the system; it is solely the view from outside that might give one pause in transacting, thus placing this information into the asymmetric category for certain classes of buyers.

This asymmetry may not alone be enough to dissuade potential buyers from transacting within an informal property system. If asymmetric information is not yet valued highly enough to overcome the valuation of the symmetric information and forestall the purchase, then the buyer is likely to ask at least one more question: if the seller has misrepresented himself, or is mistaken about his interest, or is similarly ignorant concerning an important attribute of the property, is there a way to vindicate his rights as an injured buyer? This question is itself complicated. For legal vindication, there must be laws in place that recognize a right of recovery and establish a procedure to follow in order to obtain relief. This presumes a functioning judicial system, one in which an aggrieved party can seek redress before an impartial tribunal applying clear law within a reasonable period of time following the injury. Some or all of these definitional points will be lacking in a country or locality that has an informal property system, or in a transition economy that has a quasi-formal system. Among other problems, court cases may take an extremely long period of time, or the law itself may be inadequate in granting rights or offering avenues of redress. In these circumstances, the question of whether one will be able to enforce rights may be enough to stem transacting. One may be able to live with a mistake when it is remediable. When it will not be, reason dictates avoiding the situation in the first place.

Assuming that the institutional structure of the judiciary and government will often be problematic, and thus keeping it as a constant negative factor in the equation that may lead to transactions, the problem of transition economies is likely to be more subtle than that of strictly informal systems. Take two

concrete examples: a non-exclusive registration system and an immensely complicated registration system.

Hernando De Soto emphasizes the complexity and time-consuming nature of property systems in developing countries.[44] This may mean that ownership at any given time, as reflected in the governmental records, is inadequate as an indicator of potential sales. Perhaps other individuals are in the process of purchasing the land simultaneously, or have already effectuated a purchase that the records have not yet been amended to reflect. If it may take years to effectuate a purchase and record the existence of that interest, there is the likelihood of a logjam: multiple buyers with multiple sellers, all believing that they are conveying an interest they own or to which they are entitled. The potential for a nightmare from the buyer's perspective is compounded by the inadequacy and complexity of the recording systems as well as ineffective courts that are unlikely to vindicate any rights or enforce many obligations. In this circumstance, it is the cumbersome nature of the system itself that gives rise to potential difficulties, which in turn may give rise to information asymmetry.

The Russian experience provides a different kind of problem for potential buyers. The story of transition from the centrally-planned economy of the Soviet Union, with its lack of private property, to the quasi-market based economy of Russia, complete with certain levels of private ownership of vast categories of property, is a necessarily complex one that reflects a reversal of almost 80 years of practice and expectation.[45] Obviously, such a vast transformation cannot occur overnight, but the problems the Russian system faces are grave and paradigmatic of the concerns other transition economies must face. First, there are inadequate institutional safeguards in place. The courts are incapable of impartially resolving disputes in an efficient manner, the laws that they are required to apply are porous and oftentimes non-determinative of the issue at hand, and the title registries themselves are not up to date or required to reflect all real ownership interests.[46] Furthermore, the

44. *See* DE SOTO, *supra* note 34, at 15-37.

45. *See generally* Andrei A. Baev, *The Privatization of Land in Russia: Reforms and Impediments*, 17 LOY. L.A. INT. & COMP. L.J. 1 (1994); Olga Floroff & Susan W. Tiefenbrun, *Land Ownership in the Russian Federation: Laws and Obstacles*, 37 ST. LOUIS U. L.J. 235 (1993); Douglas R. Haddock, *Private Property and Russia's Leap of Faith*, 24 ST. MARY'S L.J. 495 (1993); Mary Holland, *An Emerging Conception of Fundamental Rights in Contemporary Russia*, 1 NEW EUR. L. REV. 1 (1992); Richard C. Schneider, Jr., *Property and Small-Scale Privatization in Russia*, 24 ST. MARY'S L.J. 507 (1993); Patricia G. Woods, *From Feudal to Modern: The Evolution of Real Estate Finance in Russia*, 8 EMORY INT'L L. REV. 749 (1994).

46. *See, e.g.*, Serguey Braguinsky, *Enforcement of Property Rights During the Russian Transition: Problems and Some Approaches to a New Liberal Solution*, 28 J. LEGAL STUD. 515 (1999) (noting a lack of public enforcement mechanisms regarding property rights); Oksana M. Kozyr, *The Legal Treatment of Immovables Under the Civil Code of the Russian Federation*, 44 MCGILL L.J. 327 (1999) (exploring the range and types of rights to property ownership under Russian law, as well as the structure and types of transactions permitted); Evgueny A. Sukhanov, *The Right of Ownership in the*

system as constructed leads to corruption at the local level. While the government has moved towards a more centralized and uniform application of its property laws, the effects of such an approach have yet to be realized. Second, while the law concerning registration of interests has evolved greatly since the first steps towards privatization, it is still not sufficiently comprehensive.[47] Often, it is the interplay of these two problems that gives rise to difficulties, such as the former law's exemption from registration of state owned property and the resulting lack of institutional representation of such ownership to potential buyers. Although a legal system such as Russia's imbues greater investor and buyer confidence than a local property system in a developing country, it is often only superficial. Russia has taken significant steps towards a market-based economy and impartial judicial system, but these have proved to be insufficient. Existing faults in the framework must be addressed before transactions can take place where "legal attributes" would be firmly placed within the symmetric component of information.

There are, thus, many ways in which a property system can fail to give adequate notice to buyers. What is presented in the preceding is certainly not meant to be exhaustive. The main point is that the structure of a property system can have a significant impact on the ability of agents to realize what the Hong Kong study deemed the necessary condition—the necessary organization of information that will permit transactions.[48]

C. Foreign Direct Investment in Real Estate & Stock in Real Estate

If market failure results from asymmetric information about the legal attributes of property, then such failure should be most apparent in the context of FDI. In the FDI market, the investor is non-local and consequently more vulnerable to a lack of information. This will be gauged by comparing FDI inflows in real estate and stock in real estate to the total FDI inflows for a given range of countries. If asymmetric information regarding legal attributes does have the potential to act to forestall transactions, this should be seen in a

Contemporary Civil Law of Russia, 44 MCGILL L.J. 301 (1999) (presenting an overview of Russia's property rights regime).

47. *See, e.g.*, William P. Kratzke, *Russia's New Land Code: A Two Percent Solution*, 12 MINN. J. GLOBAL TRADE 109 (2003) (recognizing the course of reform in Russia's treatment of private property rights, as well as the fact that further and more expansive reform will be necessary); Matthew J. Madalo, Comment, *The Controversial Land Code of the Russian Federation: A Balanced Approach to Resolving Russia's Land Reform Question and Encouraging Foreign Investment*, 42 SANTA CLARA L. REV. 577 (2002) (noting specifically the lack of meaningful reform or regulation in the context of the agricultural sector, one of the largest classes of property in Russia).

48. Hong Kong's property regime is not perfectly formalized, but it is more than capable of alerting prospective buyers to relevant legal information. *See generally* W.K. Thomson, *The Land Registration Ordinance of Hong Kong: Historical and Legal Aspects*, 4 HONG KONG L.J. 242 (1974); Lydia Chan, *Hong Kong Land Titles Ordinance: The Shape of Things to Come*, 35 HONG KONG L.J. 627 (2005). Accordingly, there is little likelihood that the inclusion of the category "legal attributes" in that model would have altered the results of that study.

comparison of real estate and stock inflows as a percentage of a country's total inflows, as compared across countries with differing levels of legal development and protections. The data provided below is based on the foreign direct investment information collected by the United Nations Conference on Trade and Development ("UNCTAD").[49]

The United States provides a useful and concise starting point because although its property regime is governed at the local level, it is uniformly formal. Accordingly, if the hypothesis of this article is correct, one should expect to see higher shares held by FDI in real estate and stock as compared to countries with less developed property rights regimes.

Table 1: United States FDI (in millions)

	Total FDI Inflow	Real Estate Inflow	Share
1990	48422	6608	0.1365
1991	22799	-256	n/a
1992	19222	859	0.0447
1993	50663	196	0.0039
1994	45095	259	0.0057
1995	58772	-639	n/a
1996	84455	2535	0.0300
1997	103398	3962	0.0383
1998	174434	1760	0.0101
1999	283376	1930	0.0068
2000	314007	1071	0.0034
2001	159461	-2407	n/a
2002	62870	2099	0.0334
2003	29722	-760	n/a

49. *See* United Nations Conference on Trade and Development FDI Country Profile: UNITED STATES, http://www.unctad.org/Templates/Page.asp?intItemID=3198&lang=1 (follow drop-down menu under "FDI Country Profiles" and select "United States of America").

Table 2: United States FDI in Stocks (in millions)

	FDI in Stocks	Real Estate Stocks	Share
1990	393911	34939	0.0885
1991	419108	33577	0.0801
1992	423131	32486	0.0768
1993	467412	32213	0.0689
1994	480667	31613	0.0658
1995	535553	30170	0.0563
1996	598021	35169	0.0588
1997	681842	38241	0.0561
1998	778418	39545	0.0508
1999	955726	39397	0.0412
2000	1256867	40933	0.0326
2001	1343987	35270	0.0262
2002	1340011	35986	0.0268
2003	1378001	39956	0.02899

In contrast to the state of property rights and law in the United States, Africa would presumably provide a counterpoint concerning both the formality of the regime and the development of the background institutional framework in which property rights could be transferred and enjoyed. Table 3 provides data for the four countries where data was available via the UNCTAD regarding FDI inflows, whereas Table 4 provides data regarding FDI in stocks. A point of reference: all currency denominations provided herein are generic. They may be pounds, yen, euro, etc. The exact denomination does not matter, since the percentage is the important factor. For interested parties, the source data at the UNCTAD does provide information pertaining to the currency in which each country's data is denominated.

Table 3: Africa FDI (in millions)

	Uganda	Egypt	Morocco	Tanzania
1993 (FDI Inflow / Real Estate / Share)	43.500 5.100 .1172	——	——	——
1994	87.400 10.300 .1178	——	——	——
1995	110.000 13.000 .1182	——	——	——
1996	115.600 19.200 .1178	——	2,850 392 .1375	——
1997	163.000 19.200 .1178	——	11,499 305 .0265	——
1998	190.000 22.400 .1179	——	4,418 442 .1000	——
1999	230.000 27.200 .1183	——	16,069 451 .0281	541.500 3.600 .066
2000	267.800 31.600 .1180	——	4,998 575 .1150	282.00 .100 .00035
2001	227.600 26.900 .1182	——	32,486 811 .0249	467.200 1.200 .0026
2002	230.700 27.200 .1180	——	5,876 1,825 .3106	——
2003	——	——	23,257 1,685 .0725	——
2004	——	——	9,485 2,040 .2151	——
2005	——	——	26,708 2,422 .0907	——
2006	——	13,084 39.000 .0030	26,070 4,117 .1579	——

Table 4: Africa FDI in Stocks (in millions)

	Uganda	Botswana	Malawi	Morocco	Tanzania
1997 (FDI Stocks / Real Estate / Share)	——	4,877 65 .0133	——	——	——
1998	——	6,160 112 .0182	——	——	3,386 n/a n/a
1999	584.300 .900 .0015	7,348 144 .0196	——	——	2,419 3 .0012
2000	702.300 4.300 .0061	9,826 161 .0164	358.000 1.000 .0028	——	3,038 20 .0066
2001	——	9,696 115 .0119	491.000 2.000 .0041	——	3,777 21 .0056
2002	——	4,822 93 .0190	——	123,327 10,618 .0861	——
2003	——	5,187 118 .0227	——	149,677 11,670 .0779	——
2004	——	4,204 93 .0221	——	163,393 13,745 .0841	——
2005	——	4,445 94 .02111	——	191,939 15,489 .0807	——
2006	——	——	——	253,180 20,451 .0808	——

Asia provides a picture of developed and modern market economies, like Japan, closed and totalitarian systems, like the military junta-led Myanmar, and many shades of gray in-between these poles. Tables 5 and 6 provide the relevant date pertaining to FDI in real estate and stock in real estate, respectively.

Table 5: Asia/Eurasia FDI (in millions)

	Brunei	Kyrgyzstan	Kazakhstan	Japan	Myanmar
1990 (FDI Inflow / Real Estate / Share)	——	——	——	404,645 3,542 .0087	280.600 n/a n/a
1991	——	——	——	589,612 9,369 .0159	5.900 n/a n/a
1992	——	——	——	530,600 30,699 .0578	103.700 n/a n/a
1993	——	——	1,271.400 n/a n/a	358,596 10,722 .0299	377.600 n/a n/a
1994	——	——	659.700 n/a n/a	432,702 3,220 .0074	1,351.900 n/a n/a
1995	——	96.100 n/a n/a	964.300 n/a n/a	369,659 1,554 .0042	668.200 251.500 .3762
1996	——	47.200 n/a n/a	1,136.900 n/a n/a	770,686 26,478 .0343	2,814.200 623.500 .2215
1997	——	83.800 n/a n/a	1,321.300 9.600 .0073	678,197 48,153 .0710	1,012.900 122.200 .1206
1998	——-	109.200 .100 .00091	1,151.500 3.200 .0028	1,340,386 41,597 .0310	54.400 n/a n/a
1999	747.600 n/a n/a	44.400 .200 .0045	1,471.700 1.300 .00088	2,399,259 16,810 .0070	58.200 n/a n/a
2000	549.200 .060 .00011	-2.400 n/a n/a	1,282.500 3.300 .0026	3,125,083 34,589 .0110	217.700 28.000 .1286
2001	526.400 .070 .00013	5.000 n/a n/a	2,823 2.300 .00081	2,177,904 73,560 .0338	19.000 n/a n/a
2002	1,035 n/a n/a	4.800 1.600 .3333	2,560.600 25.400 .0099	2,186,320 29,093 .0133	86.900 n/a n/a
2003	——	——	——	2,116,118 68,868 .0325	——

Table 6: Asia/Eurasia FDI in Stocks (in millions)

	Kazakhstan	Myanmar
1990 (FDI Stocks / Real Estate / Share)	——	730.100 n/a n/a
1991	——	736.000 n/a n/a
1992	——	839.700 n/a n/a
1993	1,271.400 n/a n/a	1,217.300 n/a n/a
1994	1,193.100 n/a n/a	2,569.200 n/a n/a
1995	2,915.400 n/a n/a	3,237.400 251.500 .0777
1996	4,589.100 n/a n/a	6,051.600 875.000 .1146
1997	6,696.100 n/a n/a	7,064.500 997.200 .1411
1998	7,929.400 n/a n/a	7,188.900 997.200 .1387
1999	——	7,177.100 997.200 .1389
2000	——	7,394.800 1,025.200 .1386
2001	12,871.400 51.900 .0040	7,413.800 1,025.200 .1383
2002	15,353.800 78.300 .0051	7,500.700 1,025.200 .1367

Law as Asymmetric Information

Countries in Latin America and the Caribbean enjoyed special attention in De Soto's *The Mystery of Capital*. Noting the obstacles that legality could pose in property transactions, De Soto found that purchasing a home in Peru involves proceeding through five stages, the first of which has 207 discrete steps to be taken.[50] Such complications contribute to rampant uncertainty regarding the true and legal state of title and inhibit transacting in the first place. Tables 7 and 8 address the relevant data for a number of countries in Latin America and the Caribbean.

50. DE SOTO, *supra* note 34, at 18-20.

Table 7: Latin America/Caribbean FDI (in millions)

	Brazil	Chile	Mexico	Paraguay	Peru	Venezuela
1990 (FDI Inflow / Real Estate / Share)	——	——	——	71.100 n/a n/a	——	778.200 64.900 .0834
1991	——	——	——	81 n/a n/a	——	231.200 5.100 .0200
1992	——	998.900 10.700 .0107	——	117.100 n/a n/a	166.900 n/a n/a	1,937.400 n/a n/a
1993	——	1,734.100 11.500 .006	——	69.600 n/a n/a	137.900 1.000 .0072	417.600 n/a n/a
1994	——	2,521.300 12.900 .0051	15,045.200 221.700 .0147	122.500 n/a n/a	2,809.500 .200 .000071	813 n/a n/a
1995	——	3,040.600 18.900 .0062	9,646.400 64.700 .0067	147.400 n/a n/a	609.200 .300 .00049	985 n/a n/a
1996	9,644 83 .0086	4,821.900 45.800 .0095	9,943.100 64.200 .0064	139.600 n/a n/a	1,176.800 .100 .000085	2,183 n/a n/a
1997	17,879 40 .0022	5,229.800 24.100 .0046	14,159.700 58.600 .0041	225.800 n/a n/a	1,043.300 3.200 .0031	5,536 n/a n/a
1998	26,346 26 .00098	5,972.700 38.500 .0064	12,169.600 56.700 .0046	333.400 .200 .00059	795.400 .400 .00050	4,495 n/a n/a
1999	31,235 84 .0027	9,085.600 24.300 .0027	12,856 169.800 .0132	86.700 4.400 .0507	1,398.900 2.300 .0016	3,290 n/a n/a
2000	33,331 21 .00063	2,977.300 7.700 .0026	15,484.400 269.600 .0174	112.400 .200 .0018	1,432.900 .200 .00013	4,464 n/a n/a
2001	21,042 187 .0089	4,847.700 21.200 .0044	25,334.400 118.300 .0047	75.400 .200 .0026	696.200 1.600 .0023	3,448 n/a n/a
2002	18,778 197 .0140	3,322.100 3.400 .0010	9,696.400 52.100 .0054	——	669.300 -.700 n/a	1,368 n/a n/a

Table 8: Latin America/Caribbean FDI in Stocks (in millions)

	Brazil	Paraguay	Peru	Venezuela
1990 (FDI Stocks / Real Estate / Share)	37,243 161 .0043	——	1,303.700 5.800 .0044	3,864.700 161.700 .0418
1991	38,580 163 .0042	——	1,336.600 5.800 .0043	4,095.800 166.800 .0407
1992	39,975 124 .0031	——	1,503.500 5.800 .0038	6,033.200 166.800 .0276
1993	47,036 132 .0028	——	1,641.500 6.800 .0041	6,450.800 166.800 .0259
1994	56,549 147 .0026	——	4,450.900 7.000 .0016	7,263.800 166.800 .0229
1995	41,696 1,109 .0266	642.500 1.200 .0018	5,060.200 7.200 .0014	8,248.800 166.800 .0202
1996	50,195 1,140 .0227	756.900 1.200 .0016	6,237.000 7.300 .0012	10,431.800 166.800 .0159
1997	65,506 1,181 .0180	895 1.100 .0012	7,280.200 10.500 .0014	15,967.800 166.800 .0104
1998	88,778 1,206 .0136	1,104.700 1.200 .0011	8,075.600 10.900 .0013	20,462.800 166.800 .0081
1999	——	1,116.400 5.600 .0050	9,474.500 13.200 .0014	23,752.800 166.800 .0070
2000	103,015 798 .0077	1,210 5.400 .0047	10,907.400 13.400 .0012	28,216.800 166.800 .0059
2001	——	1,032.100 4.600 .0046	11,603.600 15 .0013	31.664.800 166.800 .0053
2002	——	——	12,273 14.300 .0011	33,032.800 166.800 .0050

Finally, Europe is an area that, like Asia before it, spans almost the entire length of existing property systems, from the formalized systems of the longer-term democracies of Western Europe, to the mixed systems of the transition economies of Central and Eastern Europe. Europe thus may provide a basis of comparison not only externally by reference to other geographical regions, but internally as well. The concluding tables in this article address the relevant data for 17 European countries. A side-note: Russia is included within this group, but this inclusion should not be taken as a substantive assertion regarding that country's place in world politics or economics. Russia could as easily have been placed in the Asia/Eurasia grouping.

Table 9.1: Europe FDI (in millions)

	Belgium & Luxem-bourg	Austria	Bulgaria	Hungary	Germany	France	Finland
1990 (FDI Inflow / Real Estate / Share)	——	——	——	——	2,447 n/a n/a	7,512 1,097 .1460	——
1991	——	——	——	——	4,011 n/a n/a	9,553 1,100 .1151	——
1992	——	——	——	——	-1,668 88 n/a	12,849 1,464 .1139	306 n/a n/a
1993	——	——	——	——	311 -295 n/a	10,568 1,245 .1178	832 n/a n/a
1994	——	——	——	——	5,920 -21 n/a	9,295 1,269 .1365	1,386 1 .00072
1995	164,321 1,321 .0080	——	——	——	8,811 32 .0036	10,172 1,102 .1083	781 n/a n/a
1996	266,223 3,790 .0142	——	——	——	5,057 -61 n/a	17,128 1,019 .0595	857 11 .0128
1997	177,938 -53,442 n/a	2,354 151 .0641	——	——	10,856 -529 n/a	20,619 627 .0304	1,846 21 .0114
1998	——	4,078 89 .0218	537.300 .100 .00018	——	22,127 24 .0011	27,866 1,808 .0649	10,915 82 .0075

1999	5,395,946 -1,694 n/a	2,792 199 .0713	818.800 1.100 .0013	473,478 25,391 .0536	52,634 139 .0026	43,688 3,613 .0827	4,327 n/a n/a
2000	9,674,153 -1,372 n/a	9,595 369 .0384	1,001.500 6.300 .0063	464,117 35,133 .0757	215,209 -161 n/a	46,945 1,091 .0232	9,588 n/a n/a
2001	3,818,373 2,098 .00055	6,574 266 .0404	——	——	23,622 562 .0238	56,407 2,230 .0395	4,172 n/a n/a
2002	——	379 223 .5884	——	——	38,269 -200 n/a	51,965 2,651 .0510	8,415 n/a n/a
2003	——	6,485 852 .1314	——	——	11,400 -16 n/a	41,627 2,844 .0683	——

Table 9.2: Europe FDI (in millions)

	Denmark	**Czech Rep.**	**Lithuania**	**Poland**	**Portugal**	**Russian Fed.**
1991 (FDI Inflow / Real Estate / Share)	9,333 n/a n/a	——	——	——	——	——
1992	6,127 n/a n/a	——	——	——	——	——
1993	10,819 n/a n/a	653.500 n/a n/a	——	——	——	——
1994	31,150 n/a n/a	868.500 n/a n/a	——	——	1,038.500 48.200 .0464	——
1995	23,423 n/a n/a	2,562.200 n/a n/a	——	——	495.400 53.100 .1072	——
1996	4,453 n/a n/a	1,428.400 n/a n/a	——	4,498 50.100 .0111	1,145 15.100 .0132	——
1997	18,482 500 .0270	1,300.400 42 .0323	1,418 33.600 .0237	4,908.200 44.900 .0091	2,165.700 87.500 .0404	——
1998	51,757 n/a n/a	3,717.900 340 .0914	3,702 53.400 .0144	6,364.900 27.400 .0043	2,824.700 -50.900 n/a	3,361 6 .0018

1999	116,853 n/a n/a	6,324 421 .06657	1,945.800 46.500 .0239	7,269.600 144.300 .0198	1,157.800 111.400 .0962	4,260 n/a n/a	
2000	273,354 n/a n/a	4,986.300 749 .1502	1,515.500 88.700 .0585	9,342.300 283.800 .0303	6,998.300 110.100 .0157	4,429 2 .00045	
2001	95,919 n/a n/a	——	——	——	6,584.500 155.800 .0237	——	
2002	52,344 n/a n/a	——	——	——	1,959.800 12.200 .0062	——	
2003	17,092 n/a n/a	——	——	——	852.200 147.400 .1729	——	
2004	-64,236 n/a n/a	——	——	——	——	——	

Table 10.1: Europe FDI in Stocks (in millions)

	Austria	**Hungary**	**Germany**	**France**	**Finland**	**Denmark**	**Czech Rep.**	**Croatia**
1991 (FDI Stocks / Real Estate / Share)	——	——	96,109 2,379 .0247	——	2,934 n/a n/a	87,200 n/a n/a	——	——
1992	——	——	98,998 2,891 .0292	107,353 12,330 .1148	3,254 n/a n/a	——	——	——
1993	——	——	102,505 2,526 .0246	121,403 13,995 .1152	4,102 n/a n/a	——	——	——
1994	11,801 n/a n/a	——	110,194 2,859 .0259	133,208 14,920 .1120	5,356 6 .0011	108,554 n/a n/a	——	——
1995	14,458 n/a n/a	——	121,605 3,512 .0289	143,001 16,011 .1119	6,205 22 .0035	——	——	——

1996	15.626 n/a n/a	——	129,191 4,214 .0326	159,750 18,747 .1174	6,871 7 .0010	132,800 3,500 .0264	——	——
1997	17,922 n/a n/a	2,046.200 169.200 .0826	145,536 3,844 .0264	178,842 19,717 .1102	8,688 n/a n/a	——	9,233.700 312 .0338	——
1998	20,117 235 .0117	2,364.400 238.200 .1007	176,875 4,555 .0257	211,026 21,693 .1028	14,103 107 .0076	199,078 n/a n/a	14,375. 100 794.500 .0553	——
1999	23,364 283 .0121	2,624.500 353.100 .1345	234,177 4,772 .0203	243,547 22,949 .0942	18,236 n/a n/a	311,045 n/a n/a	17,552. 100 1,297.6 00 .0739	——
2000	32,704 293 .0089	2,935.500 461.500 .1572	291,900 4,703 .0161	279,179 26,718 .0957	26,086 n/a n/a	534,976 n/a n/a	21,643. 700 1,994.5 00 .0922	5,192.50 0 24.600 .0047
2001	38,952 243 .0062	——	308,812 5,199 .0168	335,086 33,389 .0996	27,312 n/a n/a	567,087 n/a n/a	——	——
2002	41,488 446 .0107	——	283,968 4,926 .0173	368,590 40,785 .1106	32,428 n/a n/a	521,472 n/a n/a	——	——
2003	——	——	306,042 5,072 .0165	411,910 48,700 .1182	——	515,968 n/a n/a	——	——

Table 10.2: Europe FDI in Stocks (in millions)

	Latvia	Lithuania	Poland	Portugal	Russian Fed.	Slovakia	Slovenia
1994 (FDI Stocks / Real Estate / Share)	——	——	——	——	——	——	1,325.92 .0015
1995	——	——	——	13,338.5 612.6 .0459	——	——	1,763.44.7 .0026
1996	——	2,801.225.8 .0092	——	15,503.4 790 .0509	——	1,446.840.7 .0281	1,998.17.5 .0037
1997	——	4,162.567.1 .0161	11,463.459.8 .0052	17,636.9 829.1 .047	——	1,670.654.1 .0324	2,207.313.7 .0062
1998	——	6,501.293 .0143	14,587.291.8 .0063	20,968.1 805.4 .0384	11,769 114 .0097	2,128.485.8 .0403	2,765.841.1 .0148
1999	——	8,252.1138.6 .0168	22,479.2152.5 .0068	23,411 1,090.2 .0465	12,757 92 .0072	2,272.2106.1 .0467	2,656.540 .015
2000	1,277.469,800 .0546	9,337.3252.2 .027	26,074.9558 .0214	30,264.8 1,199.1 .0396	16,125 98 .0061	3,733 108.4 .0290	2,808.524 .0085
2001	1,494.8186.3 .1246	——	34,227 1,057.3 .0308	39,229.9 36.8 .00094	——	——	——
2002	——	——	——	41,191.2 39.8 .00097	——	——	——

IV. IS THE MARKET FOR FDI IN REAL ESTATE A LEMONS MARKET?

The evidence regarding FDI and stock in real estate does not contradict the hypothesis that percentages of both should be higher in countries with formal property systems and adequate institutional and legal development to support and vindicate the existence of property rights. Yet the data provided herein does not unequivocally support this hypothesis either.

In the United States, FDI in real estate ranged from under one percent of total FDI, to over thirteen percent, with a value in the range of three percent approximating a mean. Stock in real estate ranged from two-and-a-half percent to almost nine percent, with a mean of approximately five percent. Such investment is, however, robust in the United States in terms of both direct

purchases and stock.

Africa, followed by Asia, provides a more nuanced picture. There is robust FDI in real estate in Uganda, where real estate FDI consistently accounted for nearly twelve percent of total FDI, Botswana, where the percentage generally ranged between one and two percent, and Morocco, where the percentage ranged broadly between approximately two percent and over thirty-one percent. Nonetheless, such investment was anemic in Egypt, Malawi, and Tanzania for the few years of data available for these countries, and data on real estate FDI for the over forty other countries on the African continent was not available via the UNCTAD. Arguing from negatives is often dangerous, but the lack of such data at least indicates the possibility that investment in real estate is extraordinarily low to non-existent on most of the African continent.

The same negative and lack of significant data is at issue in Asia and Eurasia, where only four countries provided data indicating any investment in real estate. Such direct investment was generally under one percent of the total, and most of the time significantly under one percent. The obvious exception to this "rule" is Japan, where investment was robust and ranged from approximately one percent through over seven percent, with a mean in the range of three percent. Myanmar also provided a counterpoint. Although there were many years indicating no such investment, in the years investment is noted it is generally high. Yet this data also incorporates aid inflows and other sources that may not be considered traditional investment, potentially skewing any conclusion that could be drawn from the evidence in Myanmar.

Real estate FDI in Latin America and the Caribbean is comparatively low and, for the most part, accounts for less than one percent of total inflows noted by the UNCTAD. Additionally, like Africa and Asia before it, the region has only six countries with relevant data, lending credence to the negative inference that such investment is either nascent or non-existent.

Regarding Europe, real estate FDI is generally robust in the traditional Western liberal democracies, i.e., old Europe. Austria, France and Portugal all have significant levels of FDI in real estate, while Germany has a significant share of investment in stock. Real estate FDI and stock investment is similarly robust in Hungary, Poland, Lithuania, and Latvia, but those countries offer less data to go by, while other countries formerly within the orbit of the Soviet regime, including Bulgaria, Slovakia, Slovenia, and Russia itself, are short on both relevant data and investment. This fact is generally consistent with the thesis of this article, as it is these emergent economies that would have to develop property rights regimes and institutional frameworks within which those rights can be exercised and protected. As noted previously with Russia, despite some steps forward, such broad initiatives and reforms have been largely not undertaken or insufficiently developed.

To conclude this brief review, the data collected and analyzed lends

cautious support to the hypothesis that investment in real estate will be anemic in countries where property rights regimes are insufficiently developed and where there is a lack of competent and independent counteracting institutions to balance the explicit shortcomings of the systems. Yet the data is not unequivocal and there are exceptions on both sides—developed economies with little or no such investment, and developing and transition economies that evidence strong FDI in real estate and stock. Could the potential explanation for these outliers undermine the hypothesis posed herein? Or is the hypothesis simply in need of a more accurate empirical measure?

First, there are undoubtedly problems with the use of FDI as the relevant indicator. Although there have been moves towards the greater standardization of how, when, and what data is collected, countries generally disregard these standards when collecting and categorizing their investment flows. Such categorization might obscure evidence regarding commercial investment in real estate if that data is simply folded into a broader "business" category of investment. Countries may also be lethargic in collecting and reporting data. This is apparent from the small sample of countries where data is available, as well as the gaps in data provided by those countries. Additionally, countries may reclassify or exclude certain types of potentially relevant information, including cross-border non-commercial real estate transactions, as insufficiently "investment" oriented. There is also the problem of reporting the net, rather than gross, inflow. This leads to the problem of negative FDI, as evidenced by the case of the United States and Germany. Here, what is reported is the net inflow of investment in real estate, balanced against the investment made by the domestic country. This skews a comparison of the percentage of the inflow that real estate investment represents, as it is not the gross inflow of such investment, but the net, that is being measured. This at times minimizes the data relevant for this article, as, again in the cases of the United States and Germany. It may also lead to errors on the other side, as in the case of Kyrgyzstan's data in 2002, when nearly all sectors but the real estate sector were negative, thus falsely inflating the real estate percentage for that year.

Second, outside any issues of collection or reporting, FDI might itself be a weak indicator of relevant investment patterns on account of the very nature of foreign investment. Although foreign investment has exploded in recent years, it is by no means spread evenly across the countries in the world. So there is a threshold issue concerning the coverage of FDI as an indicator. Many countries might have no FDI to speak of, let alone FDI in real estate, although this fact alone may point to relevant shortcomings in the domestic legal and institutional regimes. On the other hand, countries might have robust FDI in certain sectors or along certain measures, which square with their domestic economies. Finland, for example, is home to many transnational corporations, but real estate FDI is not particularly high. To this end, many countries domestic

economies or circumstances might simply be geared towards indicators other than real estate. The lack of significant levels of FDI in real estate may say nothing about the adequacy of the domestic property law system. So, on this rationale, FDI in real estate, although fitting as an intuitive matter, might, in the end, not be the best empirical measure of this article's hypothesis. Of course, if the problems noted in the preceding paragraphs could be cured or controlled for, FDI may, in the end, still give an accurate empirical test.

Leaving aside the specific issue of testing "law as asymmetric information" in the context of real estate transactions, are there better metrics to test the general theory that law might constitute asymmetric information and thereby lead to market failure? The investment composition of domestic stock exchanges might provide an empirical measure. As finance and investment has grown, the prevalence of stocks exchanges has risen, even in countries with weaker institutional legal and securities frameworks. Measuring the level of foreign investment in domestic exchanges might provide a measure of whether potential asymmetries in information hinder foreign investment in domestic stock. At the same time, however, stock by its nature provides both a certain warrant of quality and protections to investors.[51] In the case of real estate, many countries had higher investment in stock in real estate than in real estate generally, as the securitization provides, in some measure, information. Accordingly, if stock were to be used, it must be used generally rather than as an industry specific measure, i.e., the total composition of foreign investment on a domestic exchange would be the appropriate measure, rather than investment in certain limited sectors where asymmetric information may or may not be present in the underlying legal regimes.

There are sure to be additional and perhaps more accurate ways to measure the effects of asymmetric information concerning legal attributes on transnational financing and investment. This article represents only an introductory step down this path, but also reinforces the importance of functioning and independent domestic legal and judicial systems to development.[52] If weak or biased institutions are present, they are unlikely to give the kind of institutional structure to a domestic economy that foreign investment needs. The development of such institutions, on the other hand, should lead to cyclical developmental processes, where initial development increases investment, which in turn sparks greater domestic reform. This reform can then attract more varied and higher levels of investment. Without some measure of legal certainty, however, investment is unlikely to reach

51. *See generally* Hill, *supra* note 32.

52. *See* Symposium, *The History of CEELI, the ABA's Rule of Law Initiative, and the Rule of Law Movement Going Forward*, 18 MINN.. J. INT'L L. 304 (2009); Mariana Prado & Michael Trebilcock, *Path Dependence, Development, and the Dynamics of Institutional Reform*, 59 U. TORONTO L.J. 341 (2009).

significant levels. It is this level of legal uncertainty that needs to be quantified and measured in the years to come, as investment and trade become even more global than they are at present.

CONCLUSION

The importance and value of information in economic transactions is only likely to increase in the years to come. Trade, investment, and business can no longer be understood as matters of purely local or national concern between similarly situated buyers and sellers, but rather as transnational affairs, often comprised of multiple parties of multiple nationalities proceeding under potentially multiple conceptions of how the law should operate. This conceptual distance between buyers and sellers has the potential to create value uncertainty; as part of that value uncertainty, asymmetric information regarding the governing law may arise. This article represents an attempt to quantify this potential for asymmetric information regarding legal attributes in the narrow context of real estate FDI. While more study is certainly warranted, it may be inevitable that a certain level of asymmetry in information regarding legal attributes will infect most transnational economic transactions. What need not be inevitable, however, is a failure of transactions on this account. Rather, states must undertake the necessary reforms to institute effective counteracting institutions, while also minimizing the potential for asymmetric information regarding legal attributes.

In the context of real estate investment, these reforms would include a formal title registry, clarifications regarding what interests can be conveyed and the form such conveyances should take, and a simplification of the process. More generally, an independent and impartial judiciary is a necessary counteracting institution no matter what the specific legal context; clear and lucid statutes and regulations are similarly necessary. Adequate publication and dissemination of legal principles should also be undertaken by the relevant authorities. These reforms, as more fully addressed in the foregoing, would have the effect of shrinking the knowledge gap between sellers and buyers, while also providing effective dispute settlement mechanisms that would limit the impact of asymmetric information. Through these reforms, developing countries and transition economies can initiate a productive cycle of reform, followed by investment, which may fuel further reforms. Accordingly, by minimizing the impact of asymmetric information, or eliminating such information itself, countries that have long been avoided by investors could become attractive destinations for foreign direct investment.