

# **The Role of Title Insurance in Mortgage Finance and Home Ownership**

By

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Report to

The American Land Title Association

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His work in title insurance includes the development of statistical and financial reporting systems adopted as the basis of title insurance regulation in dozens of states. He has testified on title insurance issues before state insurance departments, legislative committees, and the US Department of Housing and Urban Development. During 1993, he served as Coordinator of industry and consumer advisors to the Title Insurance Working Group of the National Association of Insurance Commissioners. He also serves as a consultant to various individual title insurance underwriters and underwritten title companies in areas including loss control, reserve analysis, strategic planning, and mergers and acquisitions. He is a frequent contributor to ALTA publications, and is the author of a book on the industry, *The Regulatory Economics of Title Insurance*, published in March of 1994 by Praeger Publishers and now in its second printing.

In addition to his work in the title insurance area, Dr. Lipshutz has studied the economics of many other industries, including the pulp and paper industry, the pesticide industry, the automobile industry, and the mortgage insurance industry. He has presented testimony on economic issues before the President's Council on Wage and Price Stability, the US International Trade Commission, the US Environmental Protection Agency, Federal and State courts, and the American Arbitration Association.

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## **I. What Do Title Insurers and Title Insurance Agents Do?<sup>1</sup>**

Because the law recognizes a vast spectrum of different kinds of rights in real estate, many different kinds of things can go wrong with a real estate title, ranging from a claim for unpaid real estate taxes to the unexpected appearance of someone with an easement to use the property as a thoroughfare. Therefore, a title insurer or title insurance agent must review a formidable array of public documents relating both to the insured property itself and to all parties who ever had an interest in the property. These documents include deeds, mortgages, municipal tax rolls, judgments filed in a number of state and federal courts, and various other legal instruments. In order just to locate all the documents relevant to a particular piece of real estate (termed "making a title search"), the insurer or agent must either go to the recorder's office, the courthouse, and various other locations and physically look through the appropriate files, or it must maintain a specially indexed copy of the public records (called a "title plant") on its own premises and keep the plant up to date by obtaining copies on a daily basis of all new documents filed (termed "performing a daily record takeoff") and updating the indices to reflect these new documents (termed "posting the plant"). In some cases, the insurer or agent employs a hybrid approach. It maintains a "back title plant" which extensively indexes the data collected in the course of all the searches it has previously completed, and goes to the public record to search only the period of time subsequent to the date of the latest data in its own files relevant to the property of interest.

Further, once the documents have been collected, they must be read and evaluated (or "examined") by skilled personnel who must exercise considerable judgment in

interpreting exactly what the documents mean. Many real estate titles suffer from purely technical defects that are extremely unlikely ever to have any practical consequences. Excluding such conditions from coverage would vitiate much of the value of title insurance. On the other hand, it is essential that title insurers, like other insurers, exclude from coverage known conditions that have a high probability of causing an actual economic loss to the insured. Thus, the effort and cost of searching and examining even a routine title is much greater than the expense of underwriting any but the most complicated commercial risk in P&C lines.

The expense component of title insurance is expanded even further by the fact that the title insurer or title insurance agent is frequently also responsible for the closing of the real estate transaction, a responsibility that encompasses correction of any really serious title problems prior to closing; drafting, or at least collecting, all the relevant documents, including deeds and mortgages; maintaining the escrow account; conducting the settlement itself; and recording the documents establishing the new ownership, releasing the mortgage liens of lenders who have been repaid, and recording the lien interests of the new lenders. As the secondary mortgage market has come to dominate mortgage lending (particularly residential), the complexity of the closing documentation package that must be assembled has increased exponentially.

## **II. How Does Title Insurance Benefit the Mortgage Finance System?**

Real estate title insurance serves an important economic function by reducing the financial losses by lenders and property purchasers when real estate title problems arise. However, this direct indemnification function is not the only, or even the most important, economic function the title insurance process performs.

## **A. Maintaining the Accuracy of the Public Record**

In most insurance lines, the risk insured is grounded in the uncertainty of the future, whether that risk is of a future fire, windstorm, industrial accident, flood, or famine. Because the future is unknown and unknowable, the insurer's primary function in most lines is to pay inevitable losses, and only secondarily to reduce the level of risk by paying for an underwriting process. In contrast, title insurance insures against ignorance of the past, that is, whether some unknown past event has clouded the ownership interest or lien interest in a parcel of real property that the insured believes to exist when the title insurance policy is issued. Because past events can be ascertained by careful investigative work, the title insurer's primary function is to prevent losses by reducing ignorance of the state of title to the lowest possible level, and only secondarily to pay losses when some element of ignorance has not been eliminated.<sup>2</sup>

In fact, the title insurer's or title insurance agent's work goes farther than simply examining and insuring the state of title. When titles to real property are examined as part of the transaction process, whether a sale or a refinance, the title problems brought to light are resolved prior to the closing of the purchase or refinancing transaction and the recording of a deed or mortgage.<sup>3</sup> Thus, title insurers and title insurance agents not only examine but also repair the public record. This constant repair is needed because the accuracy of the public record naturally deteriorates, as the ordinary events of everyday life, personal and business, continuously give rise to divergences between the public record and the actual legal state of title. Property owners marry and divorce, and have legitimate and illegitimate children. Individuals and businesses borrow money surreptitiously. Disputes give rise to various claims against real property. Surges in

refinance and sale transaction volumes overwhelm recorders' offices. Absent the title examination process, these title problems would accumulate endlessly.

The critical importance of a clear public record for the viability of a modern economy has been demonstrated unequivocally by contemporary research in comparative international economics. The reliable public record system we in the U.S. take so much for granted is critically lacking in much of the world, where error-riddled public records make it virtually impossible to check on the bona fides of any proposed financial transaction. In his seminal work, Hernando DeSoto notes:

“Few seem to have noticed that the legal property system of an advanced nation is the center of a complex web of connections that equips ordinary citizens to form ties with both the government and the private sector, and so to obtain additional goods and services. Without the tools of formal property, it is hard to see how assets could be used for everything they accomplish in the West. How else could financial organizations identify trustworthy borrowers on a massive scale? How could physical assets, like timber in Oregon, secure an industrial investment in Chicago? How could insurance companies find and contract customers who will pay their bills? How could information brokerage or inspection and verification services be provided efficiently and cheaply? How could tax collection work?

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In addition to public record-keeping systems, many other private services have evolved to assist parties in fixing, moving, and tracking representations [i.e. titles] so they can easily and securely produce surplus value. These include private entities that record transactions, escrow and closings organizations, abstractors, appraisers, title and fidelity insurance firms, mortgage brokers, trust services, and private custodians of documents. In the United States, title insurance companies further help by issuing policies to cover parties for specified risks, ranging from defects on titles to unenforceability of mortgages and unmarketability of title. By law, all these entities have to follow strict operating standards that govern their document-tracking capabilities, physical storage facilities, and staffing.”<sup>4</sup>

These benefits, so eloquently described by DeSoto, should not lightly be put at risk.

No one doubts these considerations are true qualitatively. But how important are they? In order to estimate the rate at which the level of error in the public record would be increased in the absence of title insurance, I have constructed a model of the error production and correction process. (The mathematical details are set forth in the Appendix.) The model is based on a few simple facts:

1. An ALTA survey of title agents<sup>5</sup> indicates that 25% of all title examinations now show the need for some curative action to be taken.
2. About 5% of the total housing stock is sold each year.<sup>6</sup> [NOTE: About half of the housing stock is owner-occupied, and half is held for rental. Typically, rental properties are held for investment and do not change hands rapidly. About 10% of the owner-occupied housing stock is sold each year.]
3. About 15% of home mortgages are refinanced each year.<sup>7</sup> [NOTE: We also assume that rental properties are refinanced with about the same frequency.]
4. The rate of increase of the U.S. housing stock is about 1.86% per year.<sup>8</sup>

Using these facts, I determined that about 2.8% of the existing housing stock [about 4.1% of the owner-occupied single-family housing stock] develops a title defect each year. I then calculated how rapidly the fraction of the housing stock with title problems would rise from the current level of 25% if the title insurers and title insurance agents stopped examining and repairing real estate titles.

Figure 1 presents the results for the case of total cessation of title examination. The figure demonstrates that in the absence of title insurers' and title insurance agents' curative activity, the prevalence of title defects would double in 12 years, from its current



level of 25% to a level of 50%. For owner-occupied single-family residences, the defect prevalence rate would rise to about 65% in the same period of time.

The damage to the public record would be substantial even if title examinations ceased only for refinance transactions. Figure 2 presents the results in this less extreme case. Even here the prevalence of title defects would increase by 36% in 12 years, from its current level of 25% to a level of 34%.

Such a large increase in title defects would impose substantial costs on U.S. homeowners and on the economy as a whole.

#### **B. Indemnifying Losses of Lenders and Secondary Market Institutions**

While title insurers pay fewer losses than other insurers, their claim payments are already far from negligible. In 2002, the industry paid close to a half billion dollars in claims, of which about 30% was paid to lenders. Payments to lenders constituted about one-quarter of the lending industry's recoveries on loans that were written off.<sup>9</sup>

Title losses would increase substantially if the state of the public record were to decay.

There are three basic reasons that title insurance losses occur: the search process misses a defect in the public record; some form of chicanery takes place; or an "off-record" risk occurs (e.g., a valid mechanic's lien existed but has not yet been filed at the search date). While the last of these issues is unaffected by the state of the public record, the first two are directly related. The more defects that exist in the public record, the more

Figure 1 Time Dependence of Prevalence of Title Defects  
After Cessation of All Title Examination and Curative Actions

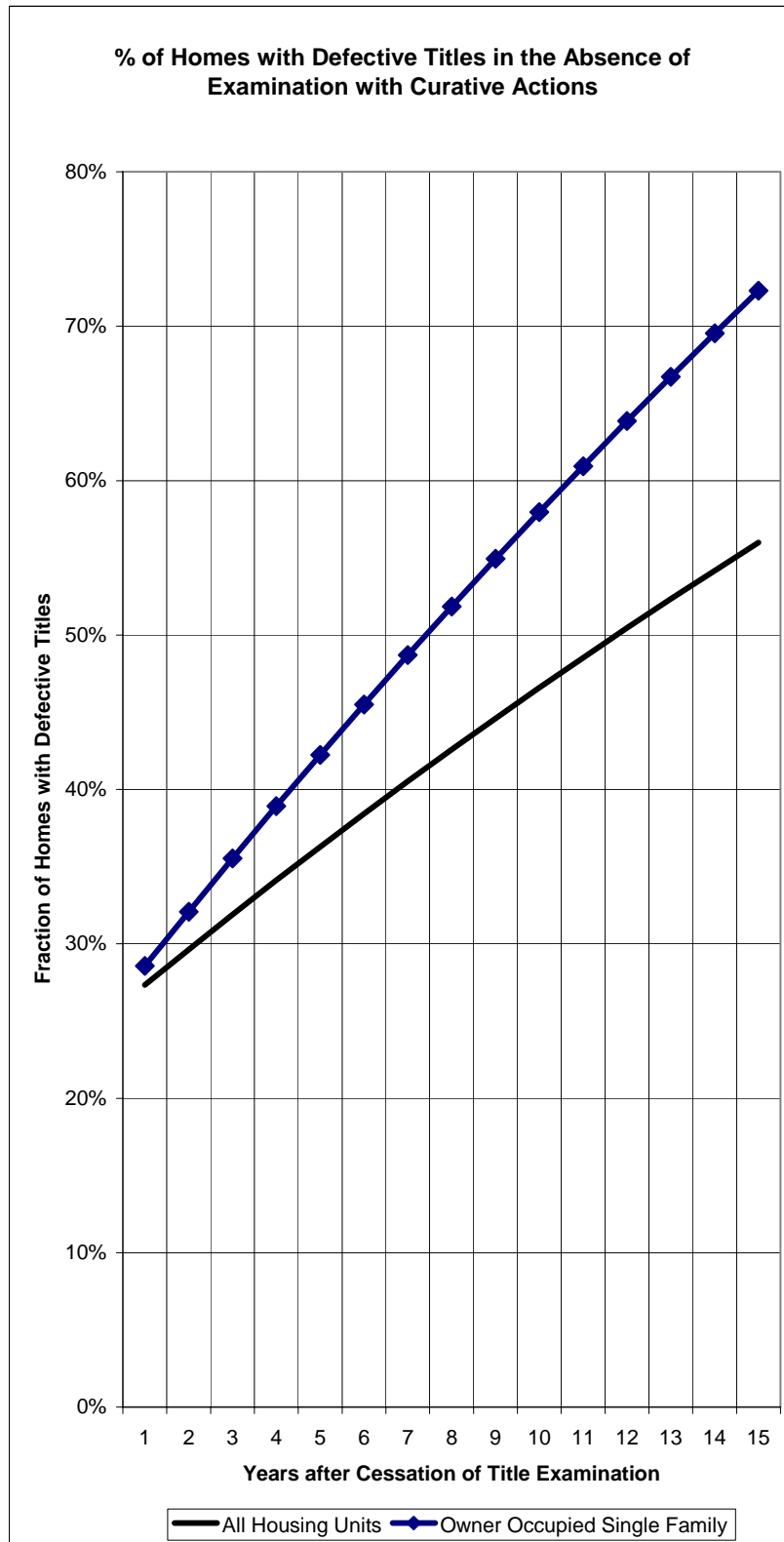
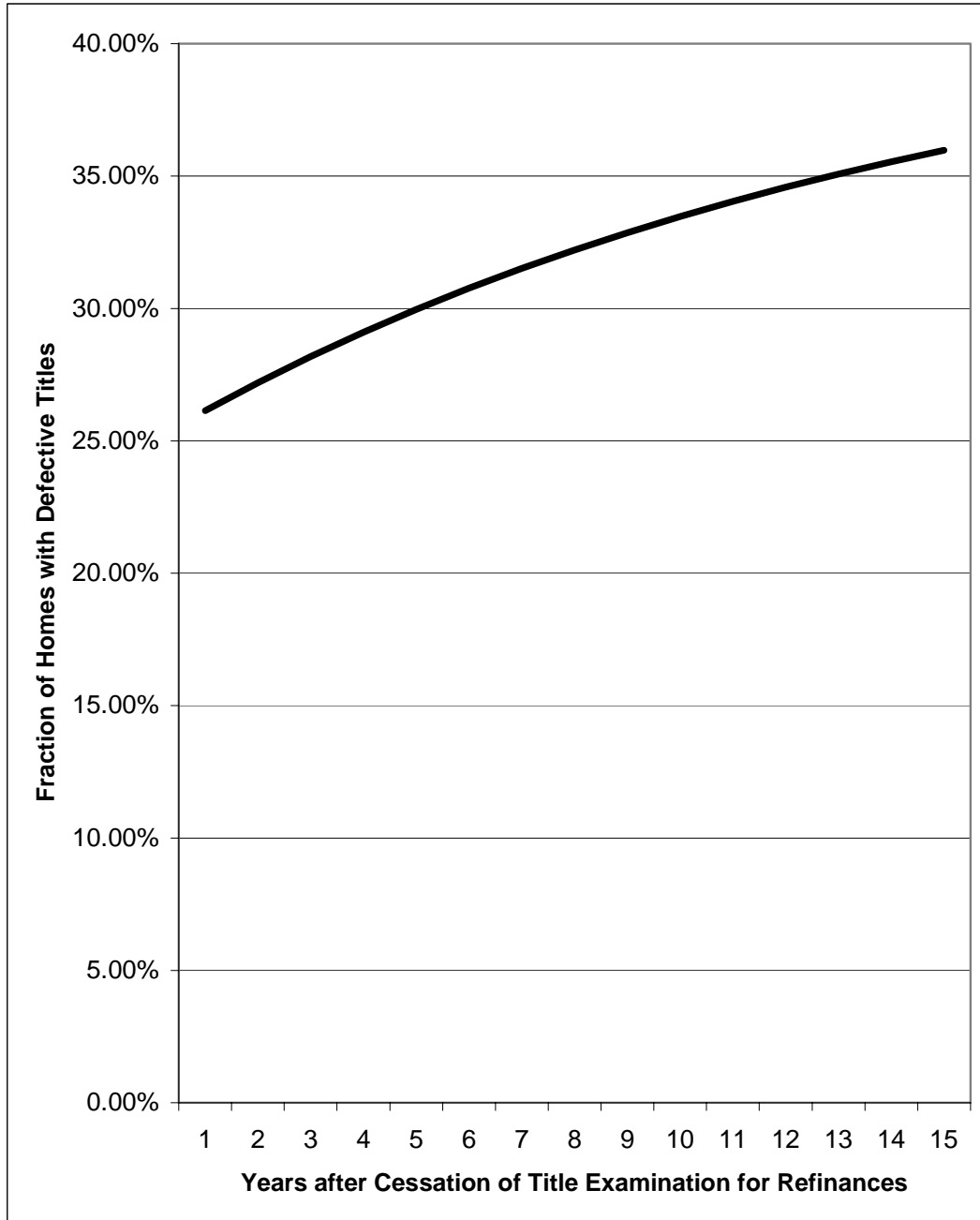


Figure 2

Time Dependence of Prevalence of Title Defects  
After Cessation of Title Examination and Curative Actions  
For Refinance Transactions



defects there are that can be missed. The messier the public record, the easier it is to commit a fraud or forgery which is difficult to detect.

While there is no national data available on the reasons why title insurance losses occur, there is some data available at the state level. The data for these states show that about two-thirds of title insurance losses are related to record defects or chicanery, both of which are proportional to the fraction of the public record that is defective. Scaling up the record-defect related component of U.S. loss experience by the percentage increase in record defects indicates that the increase in the incidence of title defects that would follow from ending title examinations for refinance transactions would increase title losses by \$2.4 billion over the next 15 years.<sup>10</sup>

Complete elimination of title examination would have even more profound effects. Simply scaling up current defect-related loss experience for the percentage of additional defects indicates that an additional \$1 billion in losses over and above the impact from unexamined refinances would occur. This estimate undoubtedly understates the impact because of the expected impact of moral hazard. Both the IRS and the traffic cop demonstrate the efficacy of examination (by audit or radar gun) in encouraging legal compliance. The same is true for title examination. As the level of title examination declines, the easier it becomes for the dishonestly-inclined to avoid detection of their misdeeds for a long period of time. Further, the skill needed to effect a plausible fraud declines as well, expanding the pool of potential malefactors.

### **III. The Capital Efficiency of Examination-Based Title Insurance**

Security of the real-estate-secured lending institution and GSE portfolios is critical to economic solvency. FDIC insured institutions hold over \$5.3 trillion in real-

estate backed assets, including portfolio loans and securitized loans.<sup>11</sup> The GSEs hold another \$1.3 trillion.<sup>12</sup> Under the title examination system, security for the validity of the claims against real property that these assets represent can be safely provided by a title insurance industry with a total capital of about \$2.7 billion,<sup>13</sup> or about 0.04% of the total assets secured. Examination-based title insurance is extremely capital efficient. A comparable level of asset protection could not be obtained with such a tiny investment if title examination-based title insurance were replaced with any alternative insurance mechanism.

#### **A. The Inferiority of Alternatives to Examination-Based Title Insurance**

Various alternatives to examination-based title insurance have been tried periodically, and each suffers from critical defects.

##### **1. Casualty Title Insurance**

Pure casualty title insurance (i.e., a title policy issued without a thorough record search) is generally illegal under state insurance laws. Nonetheless, products with significant casualty insurance elements frequently appear in the market. Many of these products have, to date, been withdrawn under regulatory pressure. Because there is continuing activity in this area, it is important to consider what the widespread adoption of such products would cause.

We are experiencing an explosion in real estate fraud accompanying the recent refinance booms. Even in the presence of title examination, land flips, forged documentation, and inflated appraisals are rampant. If no one were checking the record for errors, how many more such frauds would there be? And, equally important, how

long would it take for the public record to recover were title examination to be re-instituted after casualty methods failed?

## **2. Professional Assurance by the Transaction Closer**

This is the form of title assurance used universally until 1878, and still in use in some jurisdictions (primarily rural) in the U.S. It fails because many title defects are not the result of negligence, and this failure of coverage was the genesis of modern title insurance. Further, even for those errors that are produced by negligence, contemporary errors and omissions policies would provide little comfort in a non-examined title world. Most modern errors and omissions policies are issued on a “claims-made” basis, which means that if the closer drops coverage between the time that an error occurs and the time that the error is discovered, the E&O insurer is not liable for the claim. In the fly-by-night environment of real estate booms, closers come and go.

## **3. Minimal Search Pool Products**

The most recent product to hold itself forth as a viable title insurance alternative is so-called “lien-priority insurance,” generally offered on a pool basis for the coverage of refinance loans. We have already pointed out the impacts eliminating title examination for refinance transactions would have on the public record, a record used not just by refinancers but by everyone. But pool products also pose a significant threat to lender solvency, because they provide far less protection than it first appears, particularly for small lenders.

For example the pool lien priority product offered by Radian Guaranty, Inc. (henceforth “RLP”) is a pool insurance product, with a total limit of liability for undisclosed liens of 0.5% of the total value of the pool. While this level of coverage

might appear reasonable for extremely large pools of mortgages, it is extraordinarily low for the vast majority of mortgage pools. For example, the total coverage available for a \$2 billion mortgage pool would be \$10,000,000. If the average mortgage size in the pool were \$150,000 it would take the failure of 67 liens to exhaust the coverage. On the other hand, if the size of the pool of \$150,000 liens were \$25 million, then the coverage available would be \$125,000 and it would require only the partial failure of a single lien to exhaust the coverage and leave 99.5% of the liens unprotected.

From a statistical point of view, there is an enormous qualitative difference between 67 lien failures and a single lien failure. Radian operates with a gross profit margin of about 42%. If this same margin characterizes the RLP product, then the product has been priced on the statistical assumption that the mean number of losses a \$2 billion pool of \$150,000 mortgages will experience is about 39 (i.e.,  $67 \times (1 - 42\%)$ ). The probability that more than 67 losses would occur under these assumptions is about 0.002%.<sup>14</sup> On the other hand, if the same statistical assumptions are applied to a \$25 million pool of \$150,000 mortgages, then the expected number of losses is less than 1. Under these conditions, the probability that one or more losses will be experienced is 63%; in other words, two out of every three \$25 million dollar or smaller pools putatively insured by RLP will experience losses not covered by RLP. RLP coverage is grossly inadequate for small pools, based on Radian's own figures. ***This weakness is important, given the fact that around 80% of all mortgage pools are smaller than \$25 million.***

This conclusion is based on my analysis of the 4,607 Fannie Mae mortgage pools securitized during the period January 27 through February 24, 2003 as reported on the Fannie Mae website. (Because of the very large role played by Fannie Mae in the

secondary mortgage markets, Fannie Mae experience is representative of the markets as a whole.) Figure 3 presents the distribution and cumulative distribution of the number of pools, and shows that about 80% of the pools have a value of less than \$25 million. The fact that RLP coverage cannot provide much protection for such pools raises two serious questions. The first is whether the solvency of lenders insuring these smaller pools, who will typically be smaller, less well-capitalized lenders even if they have the technological sophistication to qualify for the RLP program, will be threatened by the inadequacy of their insurance coverage. The second is whether these small pools will continue to have capital market acceptance as the inadequacy of the coverage reveals itself over time. Because small pools are typically assembled by smaller financial institutions, loss of capital market acceptance will tend to drive the smaller players out of the market, leaving the field clear only for the largest institutions.

It might be argued that the inadequacy of RLP coverage for small pools is unimportant, because so much mortgage pooling is done by large institutions. However, the small pools play a significant role in the total secondary market mix. Figure 4 presents the distribution and cumulative distribution of total mortgage amounts contained in pools below a given size, and shows that *pools of less than \$25 million provide financing for 25% of all securitized mortgages.*

The possibility of multiple title problems in a single small loan pool is not a trivial risk. Two examples, from different causes and different regions of the U.S., clearly illustrate the nature of the problem.



Figure 3

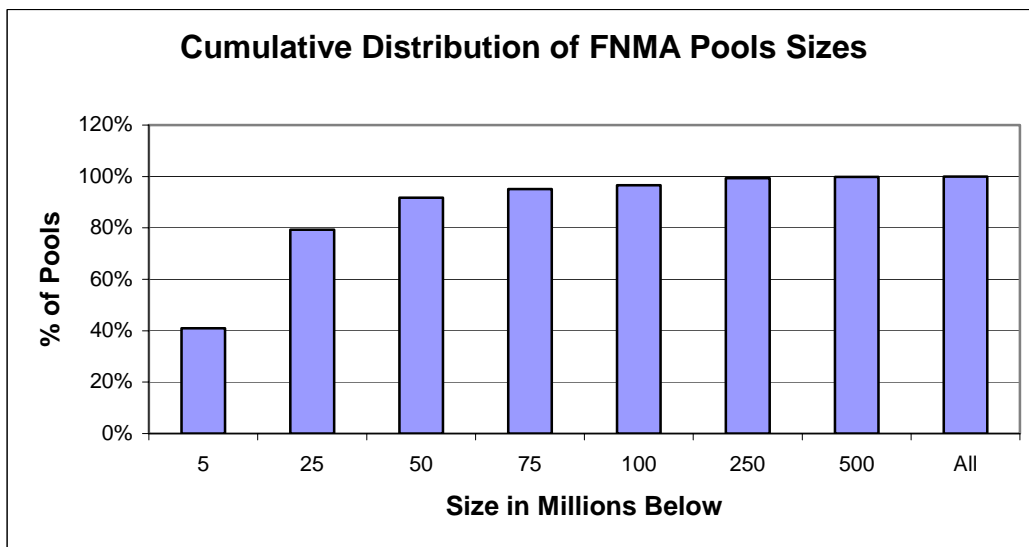
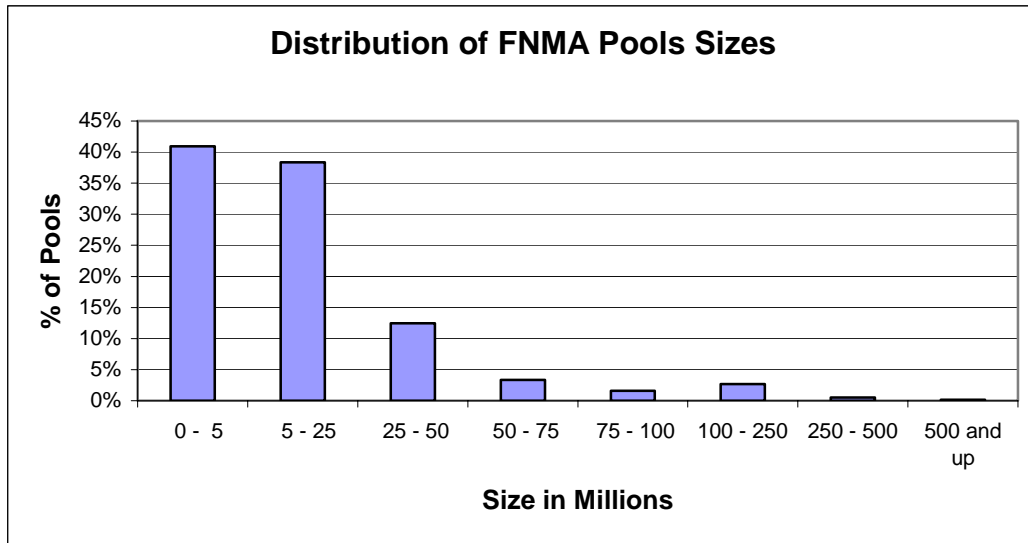
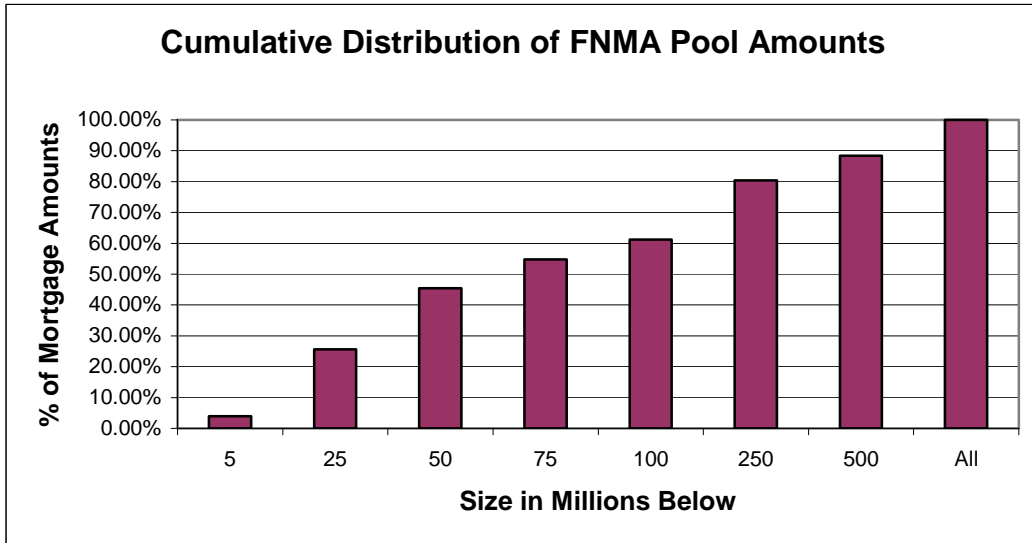
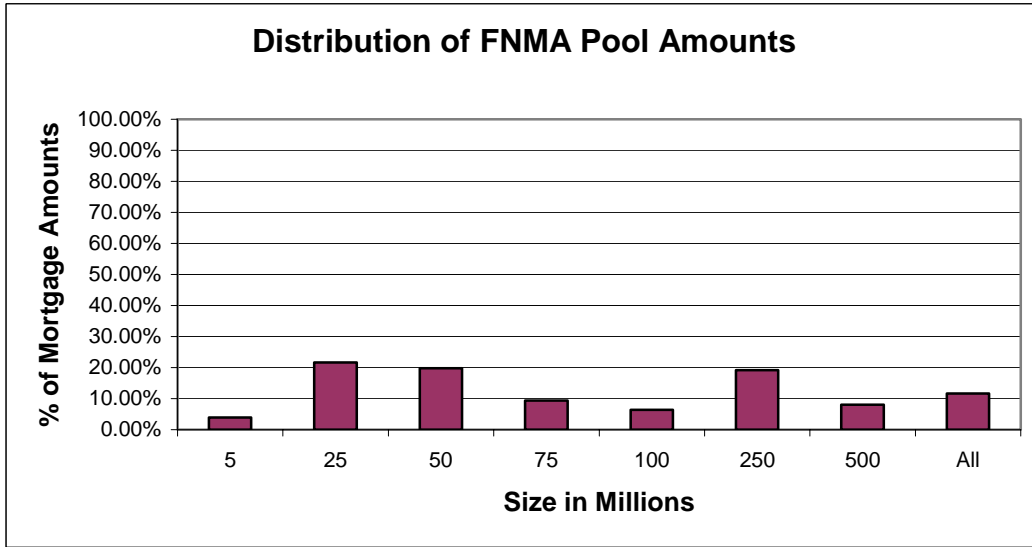


Figure 4



**a. The Bastrop County Vacancy**

Titles in the state of Texas are complex, because of Texas' history as a Spanish possession, an independent country, and finally a state. Land was surveyed to divide it into parcels under each administration, and these surveys are frequently inconsistent. Until 2001, under a 150-year-old provision of the Texas constitution, any land not included in a surveyed area (called a "vacancy") automatically became the property of the state, and was to be sold to benefit the public school system. This bizarre provision was not repealed until 2001.

In 1999, a vacancy was discovered in Bastrop county which ran through a low-income residential area.<sup>15</sup> The local owners were faced with a significant title issue, and the lien positions of all the mortgages were threatened. Title insurance covered every loan involved. However, if the loans had been in a small pool of mortgages put together by a local lender and covered by RLP, only one of the loans would have been secure.

**b. The Erpenbeck Embezzlement**

In 2002, a major builder in northern Kentucky was discovered to have stolen mortgage payoff funds on 211 properties. The mortgage claims were finally resolved through payments from 10 title insurance companies.<sup>16</sup> Again, if the mortgages involved had been in a small pool of mortgages put together by a local lender and covered by RLP, only one of the loans would have been secure.

**c. Implications for Risk to the Mortgage Finance System**

Failures of banks, even small banks, have psychological ramifications far in excess of their actual dollar amount. A recent OFHEO study<sup>17</sup> emphasizes that "the

sudden failure of a very large non-financial firm or *a large group of small firms* may lead to systemic problems.”[emphasis added]

Clusters of lien priority failures are occurring with increasing frequency because of the increase in the number of systematic real estate fraud schemes. These clusters of adverse events have not led to small bank insolvencies at prevailing bank capitalization levels because examination-based title insurance is being used. However, small bank capital resources will be strained to the breaking point in such circumstances if RLP-type products replace title insurance to any significant extent.

Small banks are still prevalent in the U.S. In 2000, there were approximately 3,500 U.S. banks with total assets of less than \$40 million.<sup>18</sup> At an average ratio of equity to assets of 10%, this implies that some 3,500 institutions have equity levels of less than \$4 million. Few if any of these institutions could absorb the losses on a \$25 million mortgage pool subjected to a clustered title accident which was insured only by an RLP-type mechanism. Secondary market sales to GSEs or others will not insulate these banks from the risk of such cluster losses. The terms under which loan pools are sold (either directly or as securities) normally specify that loans with problems are to be replaced by the originating lender with sound loans, while the bad loan is returned to the originator for resolution or disposition.

The replacement of examination-based individual loan title insurance by RLP-type packages can also impact the GSEs themselves. When the originating bank is no longer in business (as can be expected in a period of financial crisis), the title loss risk on loan pools held in a GSE portfolio remains with the GSE.

#### **IV. Ancillary Benefits of Examination-Based Title Insurance**

In addition to its impacts on the mortgage finance infrastructure, examination-based title insurance produces significant ancillary benefits.

##### **A. Direct Consumer Impacts**

Title searches clean up the public record for *all* users, including buyers, sellers, and refinancers. An impaired public record complicates all real estate sales transactions, by making it more time-consuming to establish the true state of title. While it is difficult to quantify all the costs of increased delay, one is relatively simple: interest expense for the seller.

The title insurance process allows real property to be transferred faster in the U.S. than anywhere else on earth. A seller of real estate who has his or her closing delayed ends up paying some extra mortgage payments. If an average of even one additional mortgage payment is imposed on U.S. home owners who are selling their homes by a degraded state of the public record, the total extra interest cost for all sellers will be in excess of \$3 billion per year.<sup>19</sup>

##### **B. The Impact on Law Enforcement**

The title insurance examination process provides an ongoing unified review of the public record. Information from independent and isolated sources is brought together at a single point and scanned critically for problems. Detection of these problems facilitates a variety of law enforcement activities. Two examples illustrate the point:

###### **1. Child Support Collections**

The California Department of Child Support Services routinely files a lien on the real property of a child support delinquent, even though it knows that the costs of

foreclosure generally exceed the amount of the lien.<sup>20</sup> Why? Because the Department can simply wait for the delinquent to attempt to sell or refinance the property, at which point the title examination process reveals the lien and the transaction is halted until the lien is paid. This simple curative action results in substantial child support collections. The data indicate that title clearing has resulted in the collection of \$45 million per year on average over the past three years in California. Similar benefits accrue in other states. By scaling up the California experience using data from the Federal Office of Child Support Enforcement on the amounts of child support distributed in arrears in each state,<sup>21</sup> we estimate that the title insurance industry facilitates the collection of about a quarter of a billion dollars in child support payments each year.

## **2. Fraud Detection and Prevention**

Real estate related financial fraud is a rapidly growing problem.<sup>22</sup> Title insurance is not a panacea for this problem. Indeed, the title insurance industry is itself a victim, with some 30% of all title insurance losses being fraud related.<sup>23</sup> However, it is important to recognize that a title examination is often the first place where a fraud comes to light. For example, the existence of multiple loans on a single property, each purporting to be secured by a first lien, becomes apparent to a lender only if one of the loans becomes delinquent, triggering further investigation. In contrast, the existence of a prior loan to a financial criminal becomes apparent as soon as a title search is conducted in connection with the making of the next loan. Similarly, a history of fraud on the part of a potential borrower can be revealed through the discovery of prior judgements or court proceedings.

## V. Conclusion

Title insurance plays a role in the real estate financing process which is far greater than the small size of the industry compared to other forms of insurance or to the lending industry as a whole would suggest. It is the guarantor and preserver of the critical record infrastructure that makes widespread American home ownership possible and enables Americans to use their home equity to provide liquidity for property improvement, education, medical care, and emergencies. No other approach to title assurance will both protect the public now and preserve the public record for the future.

As this report has demonstrated, the type of title assurance mechanism used has a substantial impact on the present and prospective quality of real-estate-backed debt. To be effective, risk-based capital requirements for the GSE's or other lenders must take explicit account of the presence or absence of title insurance adequate to guarantee the quality of the mortgage loans and real-estate-related securities that the institutions hold.

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<sup>1</sup> This section is drawn from Nelson R. Lipshutz, "The Regulatory Economics of Title Insurance," Praeger, 1994, chapter 1

<sup>2</sup> Ibid, chapter 1

<sup>3</sup> Palomar, J., "Title Insurance Law," Westgroup, Eaton, MN, 2000, sections 1:7 and 1:15

<sup>4</sup> DeSoto, H., "The Mystery of Capital," New York, Basic Books, 2000, pp. 60-62

<sup>5</sup> American Land Title Association Research Committee, *Abstractor and Title Agent Operations Survey 2000*, American Land Title Association, 2000, Washington, DC

<sup>6</sup> See Appendix, Table A-1. Based on data from 2000 Census, Table DP-4

<sup>7</sup> See Appendix, Table A-2. Based on data in Conner, G., K. Dynan, and W. Passmore, *Mortgage Refinancing in 2001 and Early 2002*, Federal Reserve Bulletin, December 2002, Washington, DC

<sup>8</sup> See Appendix, Table A-1

<sup>9</sup> Estimated by RRC as follows:

	Six Months Ending 6/30/03	Year Ending 12/31/02	Year Ending 12/31/01	Year Ending 12/31/00
1 Total recoveries on real estate loans in domestic offices	328,973,000	625,104,000	614,156,000	618,035,000
2 Title insurance losses paid to lenders	81,790,800	174,665,280	139,636,911	124,051,027
3 Fraction of recoveries provided by title insurance	24%	26%	22%	19%

Sources: Line 1 from FDIC - Statistics on Depository Institutions Report.

Line 2 is 30% of total title insurance losses reported for 2000 – 2002 in “CDS Performance of Title Insurance Companies - 2003 Edition,” West Chester, Corporate Development Services. First half 2003 figures from ALTA website. 30% estimated by Regulatory Research Corporation based on claim data from First American Title Insurance Company.

<sup>10</sup> Calculated as follows:

	2002	2003	2004	2005	2006	2007	2008	2009	2010
[1] Title Insurance Losses	479,907,742	519,740,085	562,878,512	609,597,428	660,194,015	714,990,118	774,334,298	838,604,044	908,208,180
[2] Fraction of Losses Related to Title Defect Prevalence	65.53%	65.53%	65.53%	65.53%	65.53%	65.53%	65.53%	65.53%	65.53%
[3] = [1] x [2] Losses Related to Title Defect Prevalence	314,491,907	340,594,735	368,864,098	399,479,818	432,636,643	468,545,484	507,434,759	549,551,844	595,164,647
[4] % Increase in Title Defects from RLP		4.5%	8.5%	12.1%	15.2%	18.0%	20.4%	22.6%	24.5%
[5] = [3] x [4] Extra Annual Title Losses		15,429,959	31,476,028	48,217,970	65,740,930	84,135,946	103,500,480	123,939,004	145,563,626
		2011	2012	2013	2014	2015	2016	2017	
[1] Title Insurance Losses		983,589,459	1,065,227,394	1,153,641,257	1,249,393,481	1,353,093,140	1,465,399,871	1,587,028,060	
[2] Fraction of Losses Related to Title Defect Prevalence		65.53%	65.53%	65.53%	65.53%	65.53%	65.53%	65.53%	
[3] = [1] x [2] Losses Related to Title Defect Prevalence		644,563,313	698,062,068	756,001,220	818,749,321	886,705,515	960,302,072	1,040,007,144	
[4] % Increase in Title Defects from RLP		26.14%	27.63%	28.94%	30.10%	31.13%	32.04%	32.84%	
[5] = [3] x [4] Extra Annual Title Losses		168,494,773	192,861,918	218,804,374	246,472,152	276,026,884	307,642,823	341,507,926	
[6] = sum of [5] Total Extra Losses		2,369,814,793							
[7] Present Value @ 25% Discount Rate		308,995,545							
SOURCES:									
[1]	CDS "Performance of Title Companies 2003 Edition"								
[2]	Based on statistical reports filed with Title Insurance Rate Service Association (New York) and Title Insurance Rating Bureau of New Jersey, as follows:								
		New Jersey	New York	Average					
	Record-Search-Related Losses	30.52%	31.83%	31.18%					
	Fraud and Related Losses	34.08%	34.63%	34.36%					
	Total Defect-Related L	64.61%	66.46%	65.53%					
	Other Losses	35.39%	33.54%	34.47%					
[3]	= [1] x [2]								
[4]	Table 5 footnote [8]								
[5]	= [3] x [4]								
[6]	= sum of [5]								
[7]	= present value of [5] @ 25% discount rate								

<sup>11</sup> Values as of 6/30/2003

1	All real estate loans	3,038,320,907,000
2	Mortgage-backed securities	1,034,425,387,000
3	Certificates of participation in pools of residential mortgages	672,258,345,000
4	Collateralized mortgage obligations (CMOs)	362,167,042,000
5	Issued by FNMA or FHLMC (includes REMICs)	268,716,077,000
6	TOTAL of lines 1 through 5	5,375,887,758,000

Source: FDIC, “Statistics on Depository Institutions Report ,” Washington, DC, 2003

Line 1 from Net Loans and Leases table  
Lines 2 through 5 from Securities table

<sup>12</sup> Values as of 12/31/2002 for FNMA and as of 12/31/2001 for FHLMC

1	FNMA Net Mortgage Portfolio	797,693,000,000
2	FHLMC	494,259,000,000
	TOTAL of lines 1 and 2	1,291,952,000,000

Sources: Line 1 from 2002 FNMA Annual Report

Line 2 from 2001 FHLMC Annual Report

<sup>13</sup> “CDS Performance of Title Insurance Companies - 2003 Edition,” West Chester, Corporate Development Services



<sup>14</sup> This calculation is based on a Poisson distribution with a mean of 39 for the number of loss events. A Poisson distribution is the appropriate distribution to use for the case of small claim numbers. For example, see W. Feller, "An Introduction to Probability Theory and Its Applications – Volume 1," New York, Wiley, 1968, pp. 156 ff.

<sup>15</sup> Jacobs, Janet, "Shock Near Elgin: The State Owns Your Land," Austin American Statesman, November 7, 1999

<sup>16</sup> "Liens Lifted from Erpenbeck Victims," The Title Report, June 9, 2003

<sup>17</sup> OFHEO, "Systemic Risk, Fannie Mae, Freddie Mac, and the Role of OFHEO," Washington, DC, Office of Federal Housing Enterprise Oversight, pg. 7

<sup>18</sup> Ennis, Huberto M., "On the Size Distribution of Banks," Federal Reserve Bank of Richmond Economic Quarterly, Volume 87/4, Fall 2001

<sup>19</sup> Calculated as follows:

IMPACT OF ONE-MONTH DELAY ON US HOMEOWNERS INTEREST EXPENDITURE

	[1]	[2]	[3]	[4]=[2]-[3]	[5]	[6]=[4]x[5]
OWNER-OCCUPIED US HOME VALUE 2003	Initial Mortgage Liability (=80% of average value)	Monthly Payment on 30 year mortgage (interest =5%) at time of sale (= 7 years)	Monthly Principal payment at time of sale (= 7 years)	Monthly Interest payment at time of sale (= 7 years)	Number of 2003 sales (=10% of current owner-occupied single-family housing stock)	One month of extra Interest expense
Less than \$50,000	\$23,883	\$128.21	\$40.52	\$87.69	545,782	\$47,857,741
\$50,000 to \$99,999	\$71,650	\$384.63	\$121.57	\$263.06	1,677,897	\$441,384,327
\$100,000 to \$149,999	\$119,417	\$641.05	\$202.62	\$438.43	1,311,038	\$574,800,191
\$150,000 to \$199,999	\$167,183	\$897.48	\$283.67	\$613.80	807,590	\$495,702,571
\$200,000 to \$299,999	\$238,834	\$1,282.11	\$405.25	\$876.86	658,305	\$577,244,022
\$300,000 to \$499,999	\$382,134	\$2,051.38	\$648.39	\$1,402.98	358,411	\$502,844,556
\$500,000 to \$999,999	\$716,501	\$3,846.33	\$1,215.74	\$2,630.60	130,812	\$344,112,499
\$1,000,000 or more	\$955,336 (a)	\$5,128.45	\$1,620.99	\$3,507.46	31,376	\$110,049,838
					5,521,211	\$3,093,995,745

SOURCES:

- [1] Based on ranges in published Census distribution of 2000 housing values
- [2] Per mortgage tables. Assumes 7-year average intersale period.
- [3] Per mortgage tables. Assumes 7-year average intersale period.
- [4] = [2] - [3]
- [5] See Appendix for derivation of sales rate.
- [6] = [4] x [5]
- (a) Minimum possible

<sup>20</sup> Private communication from Department of Child Support Services

<sup>21</sup> Calculated as follows:

CHILD SUPPORT PAYMENTS  
COLLECTED BY THE SATISFACTION OF LIENS  
DURING THE TITLE CLEARING PROCESS

Fiscal Year	[1] California Amount Collected	[2] California Fraction of Total Child Support Distributed as Arrears	[1]/[2] Estimated US Amount Collected
2000-2001	33,807,421	16.33%	207,057,960
2001-2002	46,843,164	16.91%	276,991,766
2002-2003 [a]	53,556,752	16.71%	320,488,960
Annual Average	44,735,779		268,179,562

[a] Annualized from 6 month figures July 1 through December 31, 2002

SOURCE: California Statistics compiled by California Department of Child Support Services  
Figures for Total Child Support Distributed in Arrears from  
Federal Office of Child Support Enforcement Data Reports:

	2000	2001	2002
California	913,511,232	971,670,402	1,000,000,000
National	5,594,918,716	5,745,655,874	5,984,100,000

<sup>22</sup> "Fraud! Real Estate Industry Players Team Up To Build Arsenal To Outwit Crooks," The Legal Description, July 21, 2003

<sup>23</sup> See footnote 9