appear to have been evaluated at this point, but such considerations should be a part of any policy assessment conducted with respect to debate over changing the existing laws.

THE MORTGAGE FINANCE INDUSTRY

This section examines the mortgage finance industry. We describe the prevalent industry attitude regarding whether real estate loan commitments should be conditioned on an agreement by the borrower to protect the security property by earthquake insurance during the loan term. We explore the methods whereby the industry might impose and enforce such a requirement, and illustrate the types of activities associated therewith which might provoke antitrust challenge. We probe the prospect that the secondary mortgage finance market might provide the most functional seat from which to insist upon earthquake insurance protection for real estate collateral. We also note alternative means whereby that market might achieve more effective and less costly protection of its real property interests from earthquake risks without demanding that mortgagors procure and maintain earthquake insurance. We touch briefly on the prospect that the mortgage lending industry might be able to influence governmental land-use decisions to achieve mitigation of earthquake damage and seek to indicate why, in the short term, this is not a promising approach. We then offer a few concluding remarks before finally examining in greater depth the vulnerability of the insurance and mortgage industries to antitrust challenge if one or both active-

ly promote widespread private acquisition of earthquake insurance.

It must be noted here that it is rather unrealistic to presume that the mortgage finance industry is readily manipulable for the national purpose of influencing mortgagor acquisition of earthquake insurance coverage, when such acquisition is at most of marginal concern to that industry. Nonetheless, the potential exists, and it is possible that someday the industry might conclude that it is in its best interest to demand that any real property it accepts as collateral be protected by earthquake insurance, if the property is located in an area of known or suspected seismic activity. There is probably a greater likelihood that the secondary market principals, and perhaps major loan originators as well, will prefer portfolio coverage. It is beyond the scope of this paper to document why this is true. What we do seek to provide here is a limited perspective on those operational activities and interactions of the industry that might bear a relationship to antitrust considerations.

The Primary Market Situation and Developments

During the past decade or more, there have been complex and revolutionary changes both in the primary and secondary mortgage finance industry. The industry's size, operational scope, complexity, economic risk exposures, opportunities, investment leverages, marketing tactics, and institutional structure have experienced remarkable changes. The revolution is not yet over, and future projections necessarily contain a considerable degree

of speculative assessment. Compared with the dynamic changes affecting the industry, our particular consideration, the industry's possible promotion of the private purchase of earthquake insurance and such action's potential antitrust transgressions, could hardly be viewed internally as being of momentous concern. In essence, the industry, after considering whether it need be concerned with earthquake risks, seems to have concluded that, given the present state of affairs and of knowledge, it can live with the risks.

Considerations Relating to the Point of Lender Imposition of a Demand for Earthquake Insurance

The mortgage finance industry is, on the one hand, in a theoretical position to readily exercise influence that could induce its clients in the private sector to procure earthquake insurance as a prerequisite to obtaining a loan and as a requirement of continuing applicability, breach of which would constitute a default. On the other hand, the industry has obviously been very reluctant to impose such a requirement, even though it has traditionally required fire insurance and some form of extended coverage. There are several good reasons for this caution. One is that, without federal directives,[12] individual members of the industry are, arguably, reluctant to take the initiative in such matters for fear of subjecting themselves to a competitive disadvantage (see, for example, Anderson et al., 1981, p. III-54). Before presuming that the small cost of prorating a yearly premium that has typically been estimated at not over $2.00 per $1000 of value is not a serious competitive matter, one should

recall that this industry has conditioned itself to compete on such relatively minute economic specifics as fractional differences in "points of discount" and interest rates. Lenders are understandably hesitant to unilaterally impose a requirement for added protection beneficial to the lender which will add $15 to $20 or more to the monthly payment for debt service. It might be responsible management for lending officials within a marketing area to get together and agree that it is in the best interests of mortgagors and mortgagees to require the earthquake endorsement. Yet, again, the members tread on treacherous ground if they consult with one another in any manner and shortly thereafter initiate a new demand and charge.

The point for imposition of any condition upon which a loan commitment is dependent must be the originating lender. It might seem that the ease of identifying the point of imposition of such a requirement should reflect the ease of the imposition itself. To the contrary, the mortgage finance industry, vast, complex, and highly competitive, is responsive to a number of regulatory bodies, and reflects a variety of policies and purposes, often in tension. Any decision process weighing the advisability of requiring earthquake insurance would involve financial and risk considerations of broad socioeconomic scope, not the least of which is the issue of whether the industry is willing to incur the considerable additional loan-service monitoring responsibility associated with an earthquake insurance requirement attached to each individual mortgage or deed of trust.

Alternatives Possibly Attractive to the Industry

To require this type of protection, the industry must be convinced that it is sufficiently at risk to justify the costs, financial and otherwise, and that the process suggested is the most efficient method of achieving its purposes. Unless forced to require that each borrower must provide an earthquake endorsement, the industry, if it recognizes the need for this sort of protection, may conclude that an alternative approach is preferable. One alternative that has been practiced to some extent within the industry is for a lender to purchase earthquake insurance to protect its own portfolio of security property. Such a process clearly involves a somewhat different PML assessment, in which the geographic distribution of the security property in an insurable portfolio is a particularly important element to evaluate. By indemnifying itself against loss, the servicing mortgagee (or, at another level, the ultimate investor entity) not only retains direct, single-point control over the maintenance of the protection purchased, but should be able to manage the quality of the security portfolio and negotiate an attractive rate structure.[13] If such a process will suffice for the needs of the lender, then a mandate (which would have to emanate from a government entity) to institute as a condition for making each loan that the borrower procure an "Earthquake Damage Assumption Endorsement" or similar protection would tend to put into question the purpose of such an imposed demand, and could pose due-process and equal-protection issues.

Earthquake Insurance as a Condition of Loan: Discretion in Marketing

Within the above set of considerations, there seems to be little incentive for lenders voluntarily to impose a demand for earthquake insurance on residential or small business owner-borrowers. However, this presumption may not be valid, and the question remains: if lenders did decide to require earthquake insurance as a condition of loan, could they readily do so, and what sort of process might evolve that would be reasonably palatable to them? It is clearly within the theoretical province of each originating lender to impose on each new mortgage the requirement that earthquake insurance be provided, but, as is the case with any loan application, the lender will exercise discretion in the decision process. That discretion can include consideration of such matters as the apparent capacity of the applicant to repay the loan in accordance with agreed terms and the security value of the property offered as collateral. Furthermore, lenders (and insurers) do business subject to regulatory guidance and review designed to assure a state of dependable solvency. A spectrum of information sources and institutional structures, ranging from microzonation studies to branch banking, make it possible for many lenders to distribute their loan investments across a sufficiently broad geographical area to justify expectations that no earthquake would inflict damage in excess of the lenders' PML/surplus ratio, and to enhance such expectation by refusing to accept for security an interest in any property determined to be structurally deficient

or locationally at unusual risk. Most lenders could manage their business so as to take advantage of such potentials. Those who do so might well conclude that the dispersion available within the marketplace assures the potential to hold earthquake-related losses within financial tolerance.

Following the above lines of reasoning, a lender, individually or in collaboration with others, clearly can gain by exerting influence directed toward mitigative activities obtained through legislative direction or educational endeavors. Encouraging borrowing to accomplish seismic-stress-resistant improvements is generally beneficial and is not competitively detrimental when engaged in by individual institutions.

Hard facts have a habit of upsetting beautiful theories, however. Whether or not there is general credibility accorded to predictions that a severe earthquake can be expected in the Midwest within the next several decades, Boulder workshop participants were advised by an official from FHLMC and by an officer of a major insurance association that lenders in several western Kentucky counties are now requiring earthquake insurance for residential loans. The counties involved reflect political boundary delineations juxtaposed to and tracing the Mercalli Intensity VII contour projected for a major earthquake on the New Madrid fault. The insurance industry official also advised that the insurance companies writing this endorsement are imposing only a 2%-3% deductible and charging a quite nominal premium. He

said that he had advised these companies to increase the figures because they "don't begin to cover the cost of underwriting."

"Redlining"—A Word of Caution

One problem that will be with us for some time is how to deal with older properties, many of which are particularly vulnerable to earthquake damage. Institutions practicing the strategy of being locationally selective in making loan commitments risk restraint of trade potentials, and/or may violate state or federal laws and regulations designed to discourage "redlining."

"Pooling"—A Tool for Making "Bad Risks" More Tolerable

Governments have recognized that some situations, some locations, and some circumstances have inherent greater risk of loss or damage. One solution, applied to automobile insurance and in a number of other areas including property insurance, has been to institute a process whereby "bad risks" are "pooled" and distributed on an equitable basis among all insurers doing business within the jurisdiction and underwriting in the particular field. California's FAIR Plan (discussed previously), originated to provided for riot damage, is one example. A similar approach, with a different orientation and with some reflections of the federal catastrophe-reinsurance concept now being studied by various industry and governmental groups, was adopted a few years ago by the state of Texas to cope with the rapid growth of "six-figure homes" being constructed on hurricane-vulnerable Padre Island. Resisting pressures to down-zone this fragile barrier

island, Texas elected to permit construction to proceed. Anticipating, however, that a major hurricane could inflict hundreds of millions of dollars worth of damage, the state set up an insurance "catastrophe pool" to respond to losses that otherwise would exceed the safe coverage capacity of affected insurance carriers.[14]

Lenders will have to weigh whether some or all forms of pooling of earthquake insurance coverages pose an added locational risk, an increased risk of debtor default, or a reason for insisting that indemnification of loss payments by insurers be rated giving priority to satisfaction of any indebtedness secured by the damaged insured property. The very fact of pooling, particularly if there is a state (or federal) reinsurance backup, may diminish the strength of lender arguments disclaiming any impermissible discrimination. Lenders may safely lobby for protection against such a vulnerability, but if they consult with each other regarding whether or how to establish a reasonably uniform decision process for avoiding unsound lending, they run a risk of impermissibly acting in restraint of trade. There is nothing in lending circles which mirrors "pooling" for insurance risk purposes. There are mechanisms, public and private, for insuring or assuring against full loss on default by a borrower. The lender's increased risk beyond conventional loans is primarily in working under a higher loan-to-value ratio. "Bad" loans invite attention from examiners, and therein lies one constraint; but what is one lender's bad loan is another's astute investment.

Without coordination, it might be that the most irresponsible lender sets the standard through competition. The choices to be made may be hard ones, with a variety of competing risks.

Secondary Market Influence in Earthquake Insurance Demands

The U.S. Supreme Court's decision in De La Cuesta[15] left little doubt that the federal government, if it so desired, could impose the requirement that earthquake insurance protection be a prerequisite a) to assigning or otherwise channeling a mortgage loan into the secondary market, b) to the insuring or guaranteeing of loan funds, or c) to permitting participation in the FDIC or the FSLIC by any federally assisted and/or regulated financial institution. Whether the insurance industry could satisfy the demand thereby created is another matter. The politics attendant to such a decision and the economic consequences it would produce are matters outside the scope of this study.

Use of FNMA/FHLMC Uniform Instruments as the Earthquake Insurance Demand Mechanism

We should keep in mind that individual lenders have always had the contractual opportunity and the authority to require earthquake insurance for security property. We noted in the section above on "Response to Demands by Mortgagees" that the FNMA and FHLMC could impose a specific earthquake insurance requirement as a condition for acceptance of a mortgage security into the secondary market, and that such a demand could be geographically selective. We also noted that lenders have the right to apply insurance payments, made in satisfaction of claims in-

volving property damage, toward the settlement or the reduction of the outstanding secured indebtedness.

Indeed, lenders have considerable leeway, following a major earthquake, to declare restoration or repair not economically feasible or security of the deed of trust impaired, regardless of the degree of damage incurred. In part, this is so simply because the costs of labor and materials for repair, following a major earthquake, can be expected to be much more than pre-quake costs, and, if the damaged area is sufficiently extensive, the availability of materials and/or skilled labor necessary to effect essential repairs may be so limited that many damaged properties may incur substantial secondary time-related damage or deterioration to such an extent that renovation is no longer feasible by the time it becomes possible. Wage and material cost freezes, such as those that followed the Alaskan earthquake and Hurricane Camille, should not be relied on as a dependable preventive in the event of a major earthquake impacting Los Angeles or San Francisco or Boston, because the entire construction and material delivery processes have undergone such momentous changes since those earlier disasters that the control of sources and tracking of fabricated components for enforcement purposes would require a massive effort in its own right. Unless an insurance policy provided for replacement cost, the insurance proceeds might prove inadequate to effectively restore or repair the insured structure, thus endangering the security interest of the lender. Even if the proceeds did fully provide for restoration

or repair, the lender could assess the situation within the neighborhood and might well conclude in good faith that the security value was impaired simply because the neighborhood itself seemed unlikely to be restored to its former status. On that premise, the lender could assert a right to the indemnification payment proceeds for the purpose of applying the same to the outstanding indebtedness.

A cogent question is whether an individual lender would set the pattern of claiming the insurance proceeds, and if so, what process would induce others to follow or prevent them from following the initiative of the pioneer institution. The temptation would be strong to establish some consensus, at least among lenders who stood to incur substantial losses in a heavily damaged area.

Where a secured loan has been assigned to the secondary market, the decisions affecting insurance proceeds might be made far from the point of loan origination, and with impartial judgment brought to bear, because under "mortgage law" the collateral documentation securing the promise to pay always "follows" the note. The interactions involved in such crisis decision making have not yet been tested, and their resolution is thus left to speculation. It is worth noting that the Federal Home Loan Bank Board (FHLBB) has long required each Savings and Loan Association insured by the Federal Savings and Loan Association (FSLIC) to impose on its secured creditors the obligation to carry fire insurance protection on security property equal to the Savings

and Loan Association's insurable interest in the property. Moreover, as mentioned earlier, the FHLBB also requires that hazard insurance be maintained for "other perils as to which institutional lenders operating in the same area commonly carry hazard insurance." With few exceptions, earthquake insurance has not yet been demanded under this provision.

The Secondary Market Demand in Action: The Puerto Rico Exception

Even though the major players in the secondary finance market—i.e., FNMA/FHLMC—have concluded that it is not necessary to protect security interests by a general requirement that earthquake insurance be procured as a condition of a loan (see Kaplan, Smith and Associates, 1981), we did earlier note that earthquake insurance has been required by FNMA with respect to Puerto Rico for more than three decades. The premium charged, however, is considerably lower than that in California. As a result, the imposition of the earthquake insurance requirement has not been a significant barrier to residential financing. This example may be noteworthy for the mortgage finance industry, if the pending insurance industry proposal to transfer "catastrophic" earthquake damage losses to the federal government does come to fruition, and particularly if the rumored rate of approximately $0.15 per $1000 can in fact be achieved. Under such nominal costs, many homeowners would be tolerant of lenders who did make earthquake insurance a condition of loan for residential financing.

The Mortgage Finance Industry and Land-Use Seismic Considerations

The prospects for managing and controlling land use for purposes of mitigating and/or avoiding earthquake damage are more impressive in theory than they are in fact. The use of building codes to accomplish significant reductions of risk has been quite impressive, but the use of zoning codes and comprehensive plans has been less so. Zoning and planning controls can only be prospective in application. There have been some effective zoning-based limitations imposed to prevent land from being used for purposes that would have been socially and economically inappropriate, but in most instances too little has been known to effectively employ zoning to abate or avoid earthquake damage. In addition, zoning is a localized process constantly subject to local political control, and in general it has not proved to be effective in doing more than delaying the effort of entrepreneurs to make a profit from land development and redevelopment.

The most widely known statutory land-use provision related to seismic considerations is California's Alquist-Priolo Act. That act requires disclosure whenever a residential property is offered for sale, if the property lies within a specified distance of a known active fault line. The act applies the designation "Special Studies Zone" to areas within the designated distance. Never intended to provide direct protection against ground shaking, the act has been criticized for doing little to discourage citizens from electing to establish residency within the designated zone. Neither has it been proven that the act has

diminished property values within the zone through the requisite disclosure , although some Boulder workshop participants disagreed with that assertion. Realtors have not found it an impediment, appraisers have not considered it a value depressant, and lenders generally have not modified their loan evaluations where property under consideration was within a special studies zone (Palm, 1985b, pp. 144-149). Of more functional value have been codes limiting construction to specified maximum-surface slopes, and such special ordinances as the San Francisco parapets and cornices regulation and the Los Angeles Seismic Hazards Renovation ordinance (for a description of these laws, see Gutstadt, 1986). General down-zoning of land inappropriate for a variety of high intensity uses has been of some value as a delay mechanism, but sooner or later, as economic demands build up, encroachment takes place. Within the land-use process, both the insurance industry and the mortgage finance industry can exert telling influence, indirectly by education and information dissemination, and directly by their own decision processes. But as directly applied, geographical discrimination must be used only where it can be clearly demonstrated that to do otherwise would result in a breach of financial responsibility owed to those to whom the decision makers stand in some sort of fiduciary relationship. Until recently one might have been forced to conclude that until earthquake prediction becomes more certain, it will be difficult in most cases to make the case for 'redlining' an area on the basis of seismic considerations. In the last

decade, however, geologic hazard analysis has become much more sophisticated and may provide a basis for such decision making that will survive challenges of discriminatory purpose. As the potential for prediction becomes more dependable, it is reasonable to expect some discussion of the significance of developing data which might support a credible prediction. Again, there is some risk that if such a discussion among industry leaders is followed by a change of position by one member and is quickly parroted by others, such a pattern will raise the question of whether this was the essence of competition or follow-the-leader parallel action that can trigger antitrust examinations.

One final field for financial leverage that should be mentioned is the potential for joint venturing. Where equity participations are negotiated, for example, the lines between lender and owner become blurred. The same is true on a commercial scale, when a lender takes a "piece of the action," and particularly when the lender's fee is partly dependent upon profit figures.

Opportunities for "Mid-Course" Changes

Finance industry leverage will be largely prospective, in that its efforts will be generally brought to bear only with respect to loan originations. However, under due-on-sale contract clauses as currently honored, or where the alternative of a seven-year (or other contractually specified) renegotiation clause comes due within a longer-term loan agreement, there is a possibility for demanding an expanded insurance coverage as an

element of the renegotiation of the loan terms. Whether negotiation clauses include such an element by implication in the absence of express stipulation on the matter might be arguable, but in a due-on-sale situation, the concept is that the former loan has been "called" for default, and in such a situation, all terms are subject to negotiation. Under that interpretation, it would seem to be appropriate to impose a new condition that earthquake insurance be purchased for the subject property.

The insurance industry, on the other hand, can theoretically impose added requirements at any premium renewal date, under the alternative of terminating the contract. A voluntary imposition of that nature is not to be generally anticipated. However, if the premium differential is nominal, it is possible that growing public awareness of an impending major earthquake could generate more business than the insurers would care to solicit. Still, if the deductible is raised to 10%, as has already been done in many instances, if some sort of FAIR Plan program which includes a state or federal subsidy is provided to temper the PML on high risk properties, and if the federal government and the industry do work out some acceptable catastrophic reinsurance program, typical hazard policies written a few years hence may include earthquake endorsements.