

Real Estate and Natural Disaster Preparedness Panel Summary and Survey Report

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Panel:

Real Estate And Disaster: Is The San Andreas Fault The Bay Area's Katrina? Fisher Center for Real Estate and Urban Economics, Fall Symposium, San Francisco, 2005

Panelists:

Kevin Kleen, Executive Vice President and Chief Credit Officer, ARCS Commercial Mortgage Company
Noel Clark, Chief Information Officer, Arden Realty
Arietta Chakos, Assistant City Manager, City of Berkeley
Victor Rubin, Director of Research, PolicyLink

One of the panels for the Fall 2005 Fisher Center for Real Estate and Urban Economics Annual Real Estate and Economics Symposium was on “Real Estate And Disaster: Is The San Andreas Fault The Bay Area's Katrina?” The panel was conceived following the devastating hurricanes along the Gulf Coast of the United States in August and September 2005. Although Hurricanes Katrina and Rita ultimately had only a minor effect on national macroeconomic conditions, the real estate consequences for the region were huge. For people in the industry sitting in earthquake-prone California, the experience of New Orleans, a few smaller cities in Mississippi and Alabama, and many surrounding communities that helped deal with the crisis illustrated what could well happen to communities in California should a disaster of similar proportions strike the San Francisco Bay Area, or one of the major metropolitan areas in Southern California.

The panel included 4 speakers and also a “disaster preparedness survey.” Panelists spoke to the issues of the broad financial implications of real estate damage incurred in a natural disaster, specific preparedness strategies of real estate businesses, the role of local government in providing a protective environment for communities at-risk to natural disasters, and strategies for populations who may be “left behind,” literally or financially, before, during and after a disaster. The purpose of the survey was to highlight, during the day, the role that individuals, community organizations, local government, and state and federal agencies can play in the outcome of a natural disaster.

Potential Real Estate Effects in Natural Disasters

Natural disasters in the developed world are becoming more and more costly, as shown in Table 1. Real estate is a large share of the cost. Housing alone was estimated to account for between one fourth and three fifths of the dollar losses in the five events described in Table 1.¹ The steadily rising costs can be attributed to the increasing

concentration of development in urban areas and the increasing sophistication of building methods and thus rising costs of buildings. These same costly structures are also responsible for protecting lives. The recent earthquake in the Kashmir region of Pakistan was estimated to have caused \$5 billion in damages--just over one tenth of the cost of the Northridge quake, but to have killed close to 90,000, compared to under 100 in each of California's two most recent large quakes--Northridge and Loma Prieta.

California's potential costs from natural disaster will continue to rise as the state becomes more populated and construction costs increase. In addition, recent natural disasters, and especially the experience in Katrina, have emphasized some other key points relevant not only to the real estate industry and broader land use community, but to all residents of at-risk areas. First, in the early days of a natural disaster, victims should expect to be on their own. The image of child sitting outside an evacuation center shouting at the cameras "Help! We need help!" could well happen in California. Response services may be overwhelmed, and much of rescue work and survival resources will be provided by untrained local residents in the community. Second, economic disruption is likely to be severe but localized. The rest of the US economy may continue with hardly a blink, while local businesses may suffer long-term disruption, displacement, or collapse. Even in nearby locations, windfalls may bring economic benefits that mitigate losses on a regional economic level. Displaced Gulf Coast residents made short-term and long-term purchases in surrounding communities as they resettled in new communities on a temporary or permanent basis. For example, the number of sales in Lafayette and surrounding areas rose by about 75% in the weeks immediately following Katrina (listings also jumped sharply, leading to little price effect).²

Table 1: The Rising Real Estate Cost of Disaster

	Earthquakes			Hurricanes	
	Loma Prieta	North-ridge	Kobe	Andrew	Katrina /Rita
Year	1989	1994	1995	1992	2005
Damage*	\$11B	\$49B	\$120B	\$43B	\$70-\$130B
% Housing	26%	49%	60%	50%	25%
% Apt	60%	50%	30-50%	30%	70% affordable
Units Destroyed	12,000	60,000	200,000	60,000	250,000-300,000
Fed Hsg \$	\$600M	\$5B	<20% of Units	\$1.2B	N/A
Lives lost	67	61	6400	14	1300

Source: Slide adapted from data supplied by Mary Comerio, Dept of Arch., UCB. Adjusted to 2005 dollars by the author. Data on Katrina drawn from Congressional Budget Office report.

* 2005 Dollars.

Third, the private sector plays a critical role in rebuilding. Past experience shows that it is likely that insurance will cover perhaps half of the losses. Federal, state and local government disaster programs do not fill in the gap. There may be public funds for

rebuilding public infrastructure (although often covered by normal bonding powers, taxes, and fees paid by the general public) and immediate spending for protection of life and health. Restoration of residential and business environments will come from private spending. Fourth, it is highly likely that rebuilding will take place, even if economic, geographic and geologic conditions dictate otherwise. The issues that come of doing otherwise are complex, especially if the disaster is widespread and there is a large constituency eager to return home and to restore their property values.

Although general predictions exist for the size and scope of a natural disaster in California, many events will be sudden--residents may not have the opportunity to secure their dwellings, pack up treasured possessions, and leave in the forefront of the event. On the other hand, there are a number of real estate related actions that individuals, communities and businesses can take to mitigate potential impacts of a natural disaster. This note draws on the panel discussion and an accompanying audience survey to examine several such approaches.

Lender Risk

Kevin Kleen, Executive Vice President and Chief Credit Officer of ARCS Commercial Mortgage Company, LP, argued that even a major highly destructive natural disaster is not necessarily a major economic event for a lender with exposure in the area. This is the case because of the infrequency of such events in any single location, the dispersal of impacts (damage may be widespread but uneven in its incidence), the diversification of lender portfolios, and the spread of costs among owners, insurers, the government and lenders. For example, Home Savings had over 600 loans in default following the Northridge earthquake in 1994, or about 5% of their portfolio. Their initial estimate of loss was on the order of \$60 million, but insurance and government assistance helped reduce the loss to \$15 million, only 0.1% of the bank's portfolio.

If the portfolio is spread nationally, the overall risk to a lender is less. Carrying a portfolio with few large and many small loans also lowers overall risk. Requiring insurance coverage on selected large loans and a portfolio catastrophic loss insurance policy are additional risk reduction strategies that ARCS uses. Finally, the firm practices selective lending and does not lend on certain at-risk properties. It has no brick buildings in its portfolio, and had no loans in New Orleans (a decision related to both the Louisiana legal structure and the area's high risk to flooding).

Individual Firm Risk

Noel Clark, Chief Information Officer of Arden Realty described a range of strategies for maintaining a real estate firm's resilience in the face of disaster. Arden is a REIT with properties spread throughout urban and suburban Southern California. While the entire portfolio faces seismic risks, their strategies address a broader range of business interruption events. Strategies include:

- design and code compliance for resistance to seismic and other natural events (fire, flood, wind)

- response planning, including coordination with community emergency response systems
- tenant preparation
- business continuity preparation (ranging from insurance to information technology systems backup)

Arden’s approach to community coordination includes volunteering sites for participation in local disaster response drills. Local response teams become familiar with Arden properties, and the company gains experience in response operations and planning. Tenant preparation includes physical, organizational, and operational requirements. The company helps new tenants to secure furniture and fixtures, develops site disaster response plans and organizes evacuation drills. Leases require tenants to carry business continuity insurance that covers a minimum of 12 months of interruption, and the company monitors tenants’ broader insurance coverage (including workers compensation) on a regular basis.

Arden’s own internal disaster preparations include defining responsibilities, taking actions to mitigate damage, employee training and document protection. Plans are tested and evaluated. Information technology is an important element of preparedness for the firm, built around redundant systems, out-of-area back-ups, and security precautions. The physical, organizational and operational strategies within the firm are designed to provide the necessary support for immediate protections during the event, mission critical tasks during the first 72 hours, and the longer-term recovery period.

City Preparations

Arianna Chakos, Berkeley Assistant City Manager, described the city’s proactive approach to natural hazards. The program has built on input from private residents and businesses as well as cooperative efforts of regional “life-line” operations and other government agencies. At the city level, risk reduction includes:

- retrofitting of public building--all Berkeley public schools and fire stations and many high occupancy public buildings have been brought up to current safety standards
- retrofitting of private buildings--a transfer tax rebate program provides incentives to encourage homeowners to retrofit for fire and earthquake safety
- “Disaster Resistant Berkeley” program, including emergency supply caches spread throughout the city provide resources for first responders
- comprehensive mitigation and safety plans

Many of the efforts have been funded through bond measures, including a \$158 million 1992 measure to retrofit schools, a companion \$55 million bond measure for fire stations the same year, and over \$170 million in additional measures over the next four years for further civic safety, school and fire safety projects and a back-up water system. In 2000, the city received additional seed money from FEMA to support community safety efforts.

The Community Left Behind

The Katrina experience clearly illustrated how individual resources influence personal outcomes from a natural disaster or other emergency. A lower income population is particularly vulnerable to short term difficulties and long term displacement. Victor Rubin, Research Director for Policy Link, pointed out that one-third of the housing stock in the New Orleans metropolitan area was rendered uninhabitable, and much of this had been occupied by lower income residents. Some of the areas most at risk to future flooding are lower income neighborhoods with a high share of homeownership.

The scale of displacement has particular challenges for recovery of the real estate sector. The extent of housing damage is a damper on the level of recovery activity, as much of the workforce has left the area and there is a shortage of housing for those employed in rebuilding. Some construction activities have been delayed. Where reconstruction is proceeding, often workers have been imported from elsewhere, and may find themselves in makeshift or overcrowded housing conditions. Even with these limitations, the amount of rebuilding required suggests that construction may become the driver of the regional economy during the recovery period.

The rebuilding challenges also offer opportunities. Demand for construction materials, technical services, skilled labor and effective financial mechanisms will draw talent from the rest of the country. The process may lead to new markets for innovative practices within the housing industry. Policy Link has encouraged the rebuilding effort to be based on “best practices” for all residents, with an agenda shaped around “inclusiveness, fairness and comprehensiveness.” This would include creating mixed income communities, with environmental, equity and economic benefits; considerations for environmental health and safety and equitably distributed urban amenities; responsible resettlement and relocation policies; inclusive political, oversight, and communications processes; and inclusion of job creation efforts as part of rebuilding.³

The Bay Area Real Estate Community--Well Prepared?

We took advantage of the conference audience to examine whether a population that could be heavily involved in response and rebuilding efforts following a natural disaster is informed and prepared for such an event. We received 250 completed questionnaires out of the approximately 350 who attended the conference (over a 70% response rate). Of the attendees who responded to the questionnaire, 85% were homeowners. The median firm size was in the 10 to 99 employee category, but over one fourth were employed in firms of 500 employees or more. Thirty-seven percent were business owners, almost all in firms of fewer than 100 employees. (See Figure 1).

Figure 1
Respondents by Business Size and Ownership



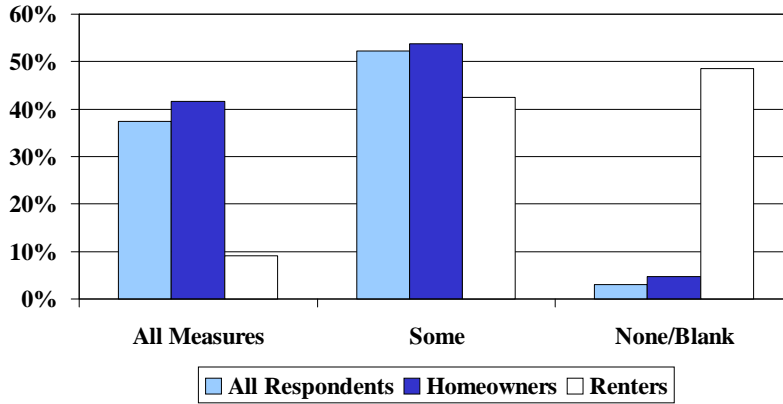
Source: Fisher Center for Real Estate and Urban Economics

Individual Preparedness at Home:

We asked respondents if they had all, some, or none of the basic physical protections in their homes, including the home bolted to the foundation, water heater strapped to the wall, tall furniture secured to the wall, and/or hazardous materials stored safely. Nine out of ten respondents had some or all protections in their homes. Levels of physical protection were higher among homeowners, with almost half of renters unaware of the degree to which these protections were in place. (See Figure 2)

Even with the recent reminders of the potential for natural disaster, just over half of homeowners and 36% of renters had at least a week's supply of food and water available for an emergency, leaving half the audience without this level of preparation. Personal levels of preparedness were quite a bit lower for other measures, as shown in Figure 3. Less than one-third of homeowners had earthquake insurance on their homes. (Earthquake insurance is a difficult economic decision, because the both the cost and deductible are quite high). About one fourth of respondents had a family response plan in place, although less than one third of those with a plan regularly reviewed and practiced it. Only 13% were aware of any neighborhood level of activity in anticipation of a disaster that would leave the community to its own resources.

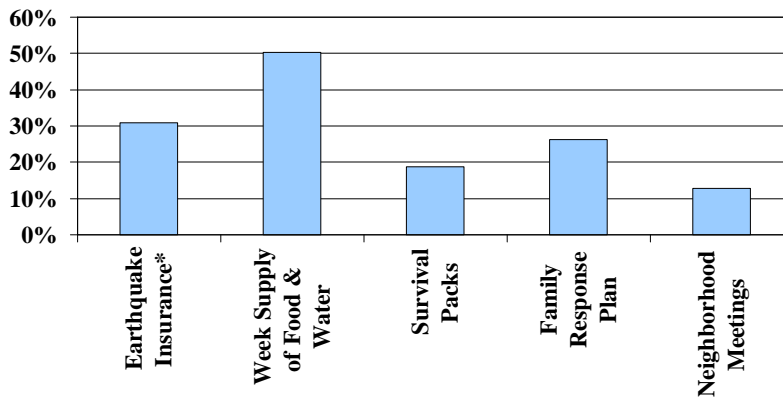
Figure 2
Basic Physical Protections in Home*



* Bolted foundation; strapped water heater; tall furniture secured to wall; hazardous materials safely stored.

Source: Fisher Center for Real Estate and Urban Economics

Figure 3
Other Household Preparations
(Percent Reporting “Yes”)



* Homeowners only

Source: Fisher Center for Real Estate and Urban Economics

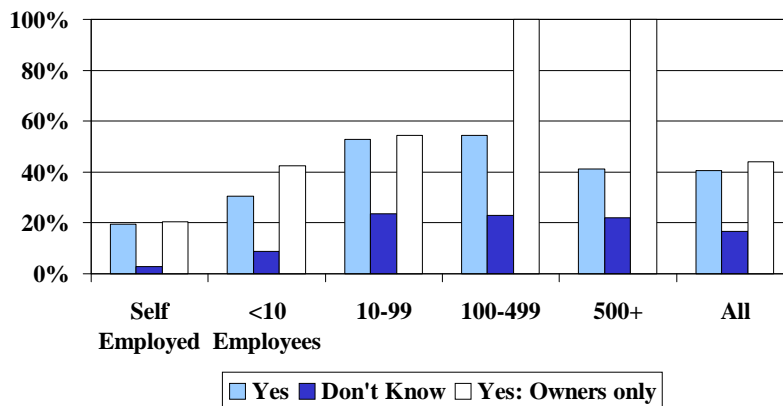
Business Preparations:

Respondents answered questions about earthquake insurance coverage, business interruption insurance, physical protections (similar to those in the home), safety plans

for the protection of staff and clients in the event of a disaster, and pre-disaster operational planning to minimize risk. The proportion of respondents knowledgeable varied by topic--respondents who were not business owners were uninformed about some measures. For example, one fourth of all respondents reported that their company had earthquake insurance, but a larger share (almost 40 percent) did not know if the company had this coverage. Business owners were much more likely to be aware of any coverage, and 28 percent reported having earthquake insurance. The share of firms covered did not vary significantly by employment size of firm.

For other types of preparations, larger firms were more likely to have taken action than smaller firms. Overall, 40 percent of respondents reported that their company had business interruption insurance, but 100 percent of business owners of firms with 100 or more employees had this type of insurance, compared to only 20 percent of self-employed and 42 percent of owners of firms with fewer than 10 employees. (See Figure 4).

Figure 4
Business Interruption Insurance Coverage—by Firm Size



Source: Fisher Center for Real Estate and Urban Economics

Most respondents knew something about their company's other preparations for major disasters. Of those who were informed about protective measures (approximately four fifths of respondents), almost 70 percent reported the business was physically prepared for a disaster, in terms of structural conditions, secured furniture, storage and shelving, and safe storage of hazardous materials. As shown in Figure 5, 57 percent reported that their firm had plans in place to deal with the immediate needs for staff safety and product protection in the event of a major disaster, while half reported that the business had planned operations to minimize economic disruption to staff and customers in the event of a major disaster. Size differences were particularly apparent in safety and operations planning, with few small firms and the great majority of large firms developing these measures.