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JAPAN SHOWS CRACKS IN INSURANCE SYSTEM

Despite the fact that three of history's six strongest temblors have struck since 2004, the insurers and their customers have largely ignored them.

BY BEN BERKOWITZ AND
MYLES NELIGAN
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MICHAEL KORN IS A popular person these days, which is perhaps not too surprising considering what he does for a living and where he lives. Korn is an insurance broker in earthquake-prone San Francisco.

"We're pretty busy," he said of the period since Japan's devastating earthquake on March 11. "I'd say everybody is really still trying to figure out what the heck is going on," said Korn, who is managing principal at Integro Insurance Brokers.

More than 28,000 people are dead or missing in Japan's magnitude 9.0 earthquake and subsequent tsunami, and researchers estimate some 143,000

buildings were in some way damaged.

Depending on who you ask, the insurance industry may be on the hook for anywhere from \$12 billion to \$42 billion in claims -- a fraction of the more than \$160 billion capital insurance brokers say is available in the reinsurance sector, but a huge number nonetheless.

If only it had been a hurricane instead. From Sacramento to Sendai, everyone



DOWN UNDER: Wrecked cars and the remains of some houses are seen at Manchester Street in central Christchurch February 24, 2011. **REUTERS/SIMON BAKER**

is better prepared for big storms than earthquakes. Insurance companies have more data and more experience, customers have more and better coverage and the disaster researchers who support the industry have more science on their side.

While insurers can literally see a hurricane coming a mile away (and then some), every earthquake is an educated guess.

The sophisticated modeling systems the insurance industry uses to predict where disasters will happen and how much they will cost never factored in an earthquake the size of the one that hit northeast Japan. At most, the various programs suggested a magnitude-8.4 earthquake might hit that part of Japan at some point in the next few centuries.

But the quake did happen, and at magnitude 9 it was some five times or so more powerful than even the finest scientific minds in Japan thought possible.

And they weren't the only ones caught off guard. Despite the fact that three of the six strongest earthquakes in history have struck since late 2004, relatively few people carry insurance for them and the industry has for the most part ignored them. The combination is, literally, a recipe for disaster.

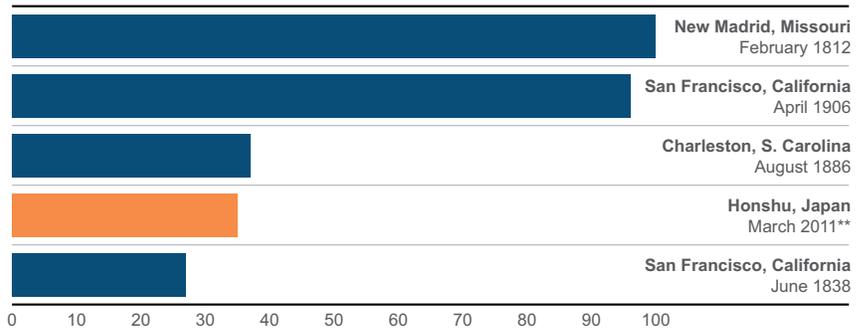
"What is interesting is the fact that we've now had three of these earthquakes close to magnitude 9 in the space of seven years. That is sort of interesting. It doesn't look

Costliest earthquakes

Japanese quake worst in a generation but pales historically.

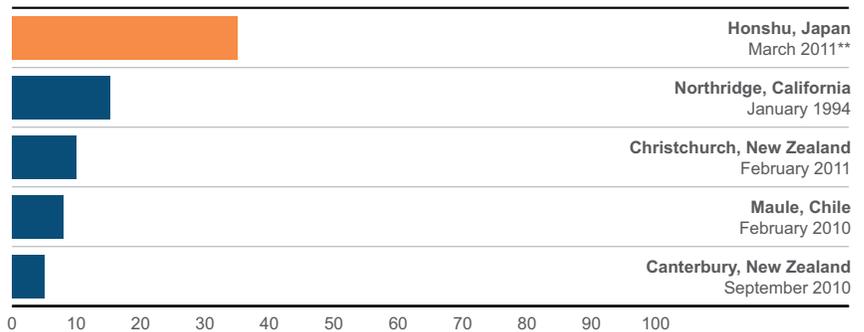
Of all time*

Maximum insured losses adjusted to current valuations - \$ billions



Since 1980

Maximum insured losses at time of incident - \$ billions



* Inflation-adjusted
 ** Top end of AIR Worldwide estimate
 Source: Thomson Reuters, Munich Re, Insurance Information Institute

Reuters graphic/Stephen Culp



PREPARED? The March 11 Japan earthquake was 63 times stronger than the simulated quake at the heart of this Nov. 2008 disaster drill in Mission Hills, California. Scientists have been surprised by the strength of temblors around the world in the last 15 months. **REUTERS/SYANTANI CHATTERJEE**

like random behavior," said Robert Muir-Wood, chief research officer of catastrophe modeling company RMS.

NO INSURANCE, NO PROBLEM

WHEN IT COMES TO earthquakes, the industry's saving grace has been that consumers just aren't paying attention -- until now, that is. Earthquake insurance is so rare in San Francisco and other places where tectonic plates often slip that even insurers are shocked.

"Frankly all of these facts have been on the table for a long long time," said Jacob Rosengarten, chief risk officer for reinsurer XL Group. "It's very human."

Scientists say California is all but certain to suffer a severe earthquake in the next 30 years. It could be in the middle of the desert, and it could be under downtown Los Angeles. No one knows.

What is known is this -- perhaps one in 10 California homeowners has earthquake insurance. The rest have nothing, even though California law requires anyone selling

homeowners policies to also offer earthquake coverage.

"In California, the insurance industry is better prepared for the next earthquake than Californians, because for the most part they don't cover it," said Glenn Pomeroy, chief executive of the California Earthquake Authority (CEA).

After the 1994 Northridge earthquake, faced with the legal mandate to offer quake coverage if they wanted to offer property coverage, most insurers simply pulled out of the state. The California legislature responded by creating the CEA, which is publicly managed but privately funded by insurers who pay for the right to sell CEA policies to customers.

Of the few people in California who now have an earthquake policy, 70 percent get it from the CEA, paying huge premiums for the privilege and facing a 15 percent deductible if their home is actually lost in a quake.

"If anybody ought to be able to make earthquake insurance affordable, it's us, and yet we still struggle because of the nature of

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the risk," Pomeroy said.

The problem is even more acute in, of all places, Missouri. It occurs to few people today, but the state sits on the same fault as the one that caused the New Madrid earthquake in 1812. Were that temblor to happen now, it would cause an estimated \$100 billion in insured losses.

In February the state identified eight at-risk regions, and found that in each case

coverage had declined sharply as premiums in some instances doubled.

The disparity is a hot-button issue for John Huff, who is director of the Missouri Department of Insurance and also holds the insurance commissioner's seat on the Financial Stability Oversight Council. That makes Huff one of the most important players in the ongoing debate about how insurance will be regulated in years to come.

He says all options are open -- including some sort of regional compact or CEA-like partnership, following on discussions he is holding with insurance commissioners in neighboring states.

"It's an issue we should not take off the table and we should not dismiss without discussing," he said. "The amount of deductible on these products would put folks out of reach of having adequate coverage if an event occurred."

The question is, if people can not or do not buy coverage, what happens when the worst happens? In Japan and New Zealand, government reinsurance pools protect most homeowners from quake risk. In the United States, insurers say there is an assumption -- the belief, right or not, that if a really bad disaster devastated a truly important region of the country, the U.S. government would somehow step in to help.

SHORT-HANDED SCIENCE

FINANCIAL ASSUMPTIONS ARE not the only problem, though -- scientific assumptions are just as much of an issue for the industry, as Japan proves. Earthquake science is still catching up to the far-easier-to-pursue wind science.

Insurers simply do not focus on earthquakes the way they do on hurricanes. This is partly because by an accident of geography, richer, more heavily-insured parts of the world are hit far less often by earthquakes than by windstorms.

"You have greater competence in the response for hurricanes because you have a much greater frequency," said Tom Larsen, the product architect for Eqecat, another of

the major risk modeling companies.

"The earthquakes, now the preparations may be as extensive, but we're not seeing as frequent tests. There's a lot more uncertainty on (the question of) is everything going to work as its supposed to."

In many ways the problem makes sense. It is easy to see a hurricane coming, days before it makes landfall, and that offers plenty of time to make the usual preparations. Not so with earthquakes, and in many cases with tsunamis as well.

"No event is the same, every single event whether it is large or small has its own unique characteristics," said Jay Guin, senior vice president of research and modeling for AIR Worldwide, the other major risk modeler.

"I think most people would agree that earthquakes have more uncertainty involved in it. With hurricanes you see them physically ... an earthquake happens with no forewarning so that adds to the psychological effect."

One consequence of earthquakes' relative rarity is that the models used to predict their impact on insurers are less developed, giving the industry less visibility over their final outcome. This greater uncertainty, unsurprisingly, makes insurers more wary of earthquake risk.

"We believe we are less exposed to earthquakes than wind, and that's partly

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DESPERATE TIMES: People struggle for goods thrown from a destroyed store in Port-au-Prince January 18, 2010. **REUTERS/CARLOS BARRIA**



HUMAN COST: Doctors provides medical care to Samael Jachond, who was rescued from the remains of his house, three days after a major earthquake hit the Haitian capital Port-au-Prince, January 15, 2010. REUTERS/CARLOS BARRIA

driven by the fact that there's more modeling uncertainty," said Paul Martin, head of enterprise risk management at Bermuda-based Catlin, one of the biggest insurers operating in the Lloyd's of London market.

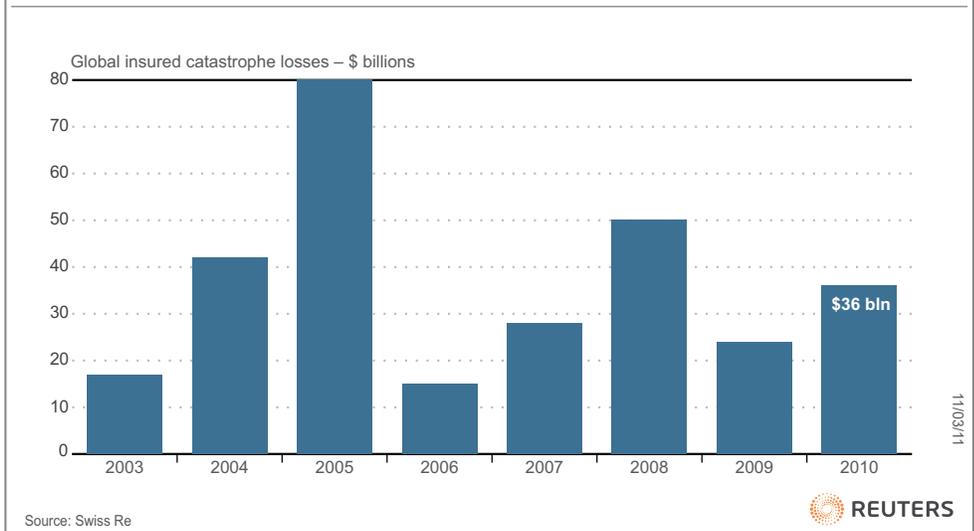
"Quake models have been less tested. This is a massive test for the Japanese quake model. The modeling companies will undoubtedly learn a lot from this."

There is also a mismatch with earthquakes that keeps them out of the same focus as hurricanes -- very often the worst ones happen in poorer countries, remote from the center of the insurance universe, where human tragedy does not equate to financial disaster.

Witness Haiti in 2010, one of the worst disasters in human history by any estimation, but little more than a blip for underwriters. Iran, Pakistan and China have also been hit hard by quakes in the past decade, without much impact on insurers.

Some question whether there is any way to predict if not when a quake will happen, then at least roughly where. There is a theory of "clustering" that suggests large earthquakes somehow trigger each other, so that all the

World insured catastrophe losses, 2003-2010



major temblors that happened in the last 15 months could be somehow related.

Ask any risk modeler about the theory and they will, after a considered pause, describe it as "interesting." Nothing more, though.

Recent research throws cold water on the theory: a late-March paper in the journal *Nature Geoscience* said there was no evidence of anything more than a regional triggering effect after a major quake.

PRICE PRESSURE

EARTHQUAKES MAY NOT BE linked to each other, but they are linked to the financial markets, as anyone who has invested in insurers over the long term knows.

A natural human response to a catastrophe is to buy insurance in case it recurs. And rising demand in the aftermath of an earthquake or hurricane allows the industry to push up prices.

Often, price rises are helped along by a sharp easing of competitive pressure as some insurers, hit by gigantic claims, withdraw from the market since they no longer have enough capital to write new business.

However, with insurance stocks still mostly hovering below their pre-March 11 levels, investors appear to be betting against a transformation in the industry's pricing power this time round, according to Andy Broadfield, an analyst at Barclays Capital in London.

"The market shoots first and asks questions later -- the share price reaction tends to be a spike down, and then, depending on whether the outlook has changed, a spike back up," he said.

"At the moment, the market's telling us there isn't a big enough impact to change prices. It's pricing in the losses, and perhaps a very, very small improvement in the outlook."

The European insurance share index, home to the world's top reinsurers, fell nearly 9 percent in the five days after the March 11 quake, and is still 2.4 percent below its March 10 closing level, underperforming the wider market, which is about 1 percent above its March 10 close.

In the United States, the Standard & Poor's insurance index has also struggled, climbing just 0.8 percent since before the quake, trailing a 2.9 percent gain for the wider S&P 500.

That is in contrast to the aftermath of Hurricane Katrina in 2005, when most insurance stocks rose strongly in the expectation that the industry would be able to deliver bumper shareholder returns on the back of a steady increase in prices.

But what investors did not foresee was that the prospect of strong returns would also encourage cut-throat competition. That, coupled with a relative dearth of major insured losses, has resulted in flat or falling prices across most categories of global insurance and reinsurance for the last four years.

Swiss Re, the world's second-biggest reinsurer, reckons the industry has already absorbed some \$43 billion in losses from earthquakes in Chile and New Zealand and floods in Australia last year, and some analysts and brokers say the additional impact of the Japanese quake could yet firm up prices.

Most in the industry agree that whatever happens to the broader market, the price of pure earthquake coverage will probably rise strongly as insurers reconsider their appetite for risk in the light of the Japanese disaster.

"What it might do is cause some insurers to reassess the pricing they have in place for earthquake cover," said Luke Savage, chief financial officer of Lloyd's of London.

"In places like Chile and New Zealand, earthquake cover was with hindsight fairly reasonably priced and I don't think insurers can continue to offer cover in those areas at such reasonable prices going forwards," he said.

CONSIDERING THE OPTIONS

IF PRICES RISE, consumers and companies would get pinched. Some legislators are looking for ways to soften the blow.

Senate Bill 637, introduced by California's two senators a week after the Japan quake, would create a system of federal guarantees for up to \$5 billion in bonds issued post-catastrophe by public/private partnerships that meet a strict set of financial criteria.

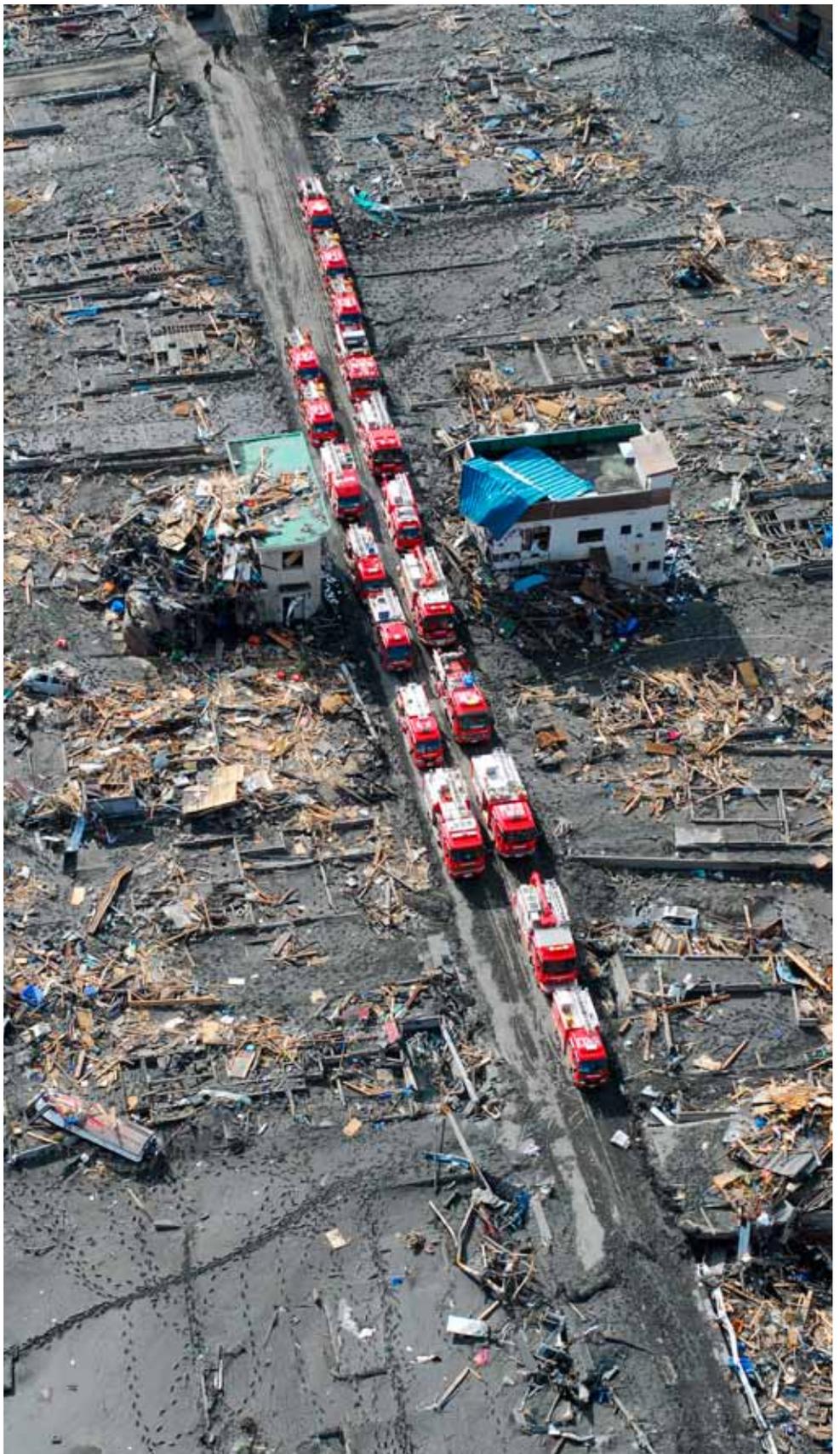
While the CEA is the only organization in the country that meets the definition, there may be others soon.

Pomeroy said he has spoken to five national insurers about whether they would take part in such a partnership in other states, and all have said yes.

In the meantime, he estimated quake-insured California homeowners would save \$100 million a year if the bill passed. "What that guarantee would do for us is give us the certainty that private debt markets would lend to us after an event, which would let us cut back on some of our reinsurance," he said. Pomeroy reckoned premiums for CEA policies would fall by at least a third if SB 637 became law.

And yet, big insurers are adamant that in the normal course of events, the industry is better equipped than any government to provide affordable earthquake coverage in high-risk areas, given its superior expertise in risk management.

"I don't think the government could provide quake insurance any cheaper than the insurance industry," said Andreas Schraft, head of catastrophe perils at Swiss Re. "An insurer with a global spread in its portfolio would have much better diversification and would have a lower cost of capital than a government that only covers earthquake risk in a small area."



WIPED OUT: Japanese fire trucks line a road in Sukuiso, Japan, March 18, 2011. REUTERS/DYLAN MCCORD/U.S. NAVY PHOTO/HANDOUT

However things shake out on the cost front, everyone in the industry agrees that the Japanese disaster has put earthquakes plainly on the radar for consumers and

insurers.

"We clearly went through a phase when every catastrophe headline was a hurricane and we've now gone through a phase

where every catastrophe headline was an earthquake," RMS's Muir-Wood said.

(Editing by Claudia Parsons and Jim Impoco)

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Smoke and scattered containers are seen at a devastated factory area after an earthquake and tsunami in Sendai, northern Japan, March 13, 2011. REUTERS/KIM KYUNG-HOO

COVER PHOTO: A damaged piano is seen at an area which was affected by the March 11 earthquake and tsunami, in Ofunato, Iwate prefecture, April 4, 2011. REUTERS/TORU HANAI

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