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The engineering insurance market could topple like a Ponzi scheme

The engineering insurance market is facing an unparalleled mix of challenges as rates plunge and claims soar. The chairman of the International Association of Engineering Insurers discusses how the sector can ensure its foundations are firm



Rasaad Jamie
Global markets editor

Engineering insurers are facing one of the most challenging trading environments in the 150-year history of the engineering insurance market. This, according to Oscar Treceño, chairman of the International Association of Engineering Insurers (IMIA), which held its 49th annual conference in Qatar last month, is despite the remarkable and highly publicised feats accomplished by the engineering sector in recent years.

This year two of the world's largest infrastructure projects – the Gotthard Tunnel between Switzerland and Italy (the longest train tunnel in the world) and the Yavuz Sultan Selim Bridge (the world's tallest suspension bridge, which connects the European and Asian continents across the Bosphorus Strait) – came into service; the Gotthard Tunnel at a cost of \$20bn, and the Sultan Selim Bridge at a cost of \$6bn.

Yet the global engineering insurance market, where premium rates are 50% lower than they were five years ago and where exposures have grown exponentially, has very little to celebrate, Treceño says.

Treceño, who is also the global head of engineering at Swiss insurance group Helvetia and a former group head of engineering product management at Swiss Re, describe these “super-projects” as merely the tip of the iceberg. “Those projects get a lot of attention because of their size and because they are very spectacular but they really represent quite a low percentage in terms of the overall investment in infrastructure around the world and in terms of the premium income they generate,” he says.

“The vast bulk of the premiums in the market are generated from small to medium-sized infrastructure projects.”

Irrespective of whether an infrastructure project is small, medium-sized or very large, a big issue for engineering insurers is both the private and public sectors are cutting back on expenditure. In particular, the role of the state in the funding of infrastructure projects has been significantly reduced.

The present situation, Treceño says, is very different from how it was in the past, when governments actively invested in infrastructure programmes, particularly to kick-start an economy that was slowing down.

“We are now in a totally new situation where both private and state investment is constrained. There are still a number of super-projects on the go, but significantly fewer than in the past and there are also fewer small to medium-sized projects because of the reduction in both public sector and private investment.”

Indeed, at some points in the past the demand for insurance capacity by super-projects could, to some extent, “soak up” the excess capital in the market to bring about a more normalised underwriting environment.

While in theory the magnitude and accumulation of the exposures presented by mega-projects should draw in whatever capacity there is in the market, the reduced level of investment means it is very rare for two mega-projects to be in close proximity to each other, either in time or in space, Treceño says.

“Because they are not close to each other, there is no accumulation of exposure. And because there is no accumulation, the market's entire capacity can be concentrated on one single mega-project. There are just not enough of these mega-projects



Oscar Treceño CV

Oscar Treceño was appointed head of the engineering division at Helvetia insurance group in 2015, following its takeover of Nationale Suisse.

Before that he was head of Nationale Suisse Group's engineering department, holding profit-and-loss responsibility for nine production units, with a worldwide scope of activity and more than 70 specialised employees – a role he took up in 2008.

From 2012 to January 2015 he was also chief executive of Nationale Suisse Liechtenstein and, from 2010 to 2013, chairman of the underwriting committee at Nationale Suisse (all lines of business).

In 2004, he was Swiss Re group underwriter officer – engineering, becoming head of product centre engineering.

around to reduce the excess underwriting capacity in the market,” he says.

Ponzi scheme

A major concern for the IMIA regarding these super-projects is the extent to which they compromise the long-term profitability of the engineering insurance market. With insurance premium rates for construction projects in some cases at 50% of what they were between three and five years ago, these projects, according to Treceño, represent a kind of Ponzi pyramid scheme in which all engineering/infrastructure underwriters are under pressure to participate.

“We are, quite frankly, paying today's losses with the premiums

which are meant to pay for the losses of tomorrow. That is true for the market as a whole, but it is particularly the case with these super-projects, where the construction period can last for up to five, seven or 10 years. And because policies are issued for the duration of the construction period, it means these projects were insured at rates which are no longer viable,” he says.

“The predicament for the industry is that while we are facing a soft cycle in terms of underwriting premium, we are facing an increasingly hard cycle in terms of claims, and this is not good for our entire industry. These rates can barely support the cost of the normal frictional losses and service provision around these con-

tracts, let alone large losses in the future. That is why I compare the situation to a kind of Ponzi pyramid investment scheme.”

While the typical turnaround period for a small property portfolio is two years, for a large engineering project it is nine years. Indeed, Treceño cites a report recently issued by Marsh about large loss trends in the engineering market, particularly in the power generation sector, on the time it can take to begin and complete a super-project.

While claims activity inevitably varies, there has been a very definite upward trend in the scale of individual power losses over the past 10 years. For example, in 2001 the largest three claims were \$13m, \$11m and \$7m; by

2014 the scale of claims had risen dramatically to \$233m, \$70m and \$55m. The increased costs, Treceño says, also reflects the impact of business interruption claims on such losses.

At the same time as the level of investment is reducing and the financial pressure on engineering insurers is increasing because of the soft pricing cycle, infrastructure needs are growing as the global population expands and the shift of people from the rural to urban areas continues.

Indeed, the latest IMIA estimates suggest simply to support projected growth over the next 15 years an investment of \$65trn to \$70trn over that period is required. These figures, the IMIA says, do not take into account the cost of addressing large maintenance and renewal backlogs in the developed economies and existing infrastructure deficiencies in emerging economies.

Repair and replacement

The available investment in infrastructure projects is continuing to shift from the developed world where the focus is more on the repair and replacement of ageing infrastructure to the emerging economies which, according to one IMIA working paper, are faced with the more daunting task of creating new transportation, communication, water and energy networks to foster economic growth, improve public health systems and reduce poverty.

This is not a new trend, Treceño says. "It started about 20 years or so ago in the emerging countries and there is now definitely a transfer of resources from the developed world into these emerging economies. It is very much part of a global trend," he says.

In this regard, urban transport systems is a major focus. For example, according to a presentation at the recent IMIA conference, of the 30 or so projects initiated over the past three years to construct underground train systems or metros around the world, only two are in cities (Los Angeles and Moscow) in developed economies.

Another challenge for engineering insurers is the transformation of the global power generation landscape with the shift from traditional to renewable energy sources, which, Treceño says, is beginning to make a difference in terms of the nature of the investment and in the reconfiguration of the risk landscape for insurers.

In terms of the nature of the

investment, the increasing importance of the role of the developing economies is emphasised. Last year, for the very first time, investment in renewable energy sources in developing countries reached \$156bn, topping those of the developed economies (\$130bn), according to the recent Global Trends in Renewable Energy Investments 2016 report jointly published by the UN Environment Programme and Bloomberg New Energy Finance.

Developing countries have increased their investment in renewable energy sources almost in a straight line since 2004, with a slight dip in 2013. Last year China, India, and Brazil increased their combined investment in renewable energy 16% to \$120.2bn. China, however, accounted for the vast bulk (\$103bn) of that investment.

When a nuclear power plant is used to produce energy, it represents an investment of billions of dollars, which needs a significant level of capacity and underwriting expertise, according to Treceño.

"Now the same level of energy can be produced by 100,000 small to medium sized properties with photovoltaic panels fixed on to their roofs. In terms of exposure, that represents a totally different risk profile from a nuclear plant. There is a change in the geographic distribution of the risk," he says.

"Instead of collecting premium from one source, you now have to collect it from 100,000 different ones. Instead of one large investment in one location, you now have a large number of smaller investments sited across several locations. This, of course, requires a different kind of insurance policy to reflect the changed nature of the risk."

Expertise

The way out of the tough trading situation in which engineering insurers find themselves is through education and more transparent underwriting practices, Treceño argues.

"The further down into the soft cycle we go, the more we rely on expertise to be able to distinguish what represents a good risk from what represents not such a good risk. When market conditions are good, you can get away with some 'mistakes'. But when conditions are bad, it is more difficult to absorb the cost of those losses," he says.

"At the moment, we need un-

derwriting discipline, expertise and a willingness to accept a reduction in our gross premium income. Engineering is a very small part compared to the commercial property insurance market, but engineering projects are technically much more complex than commercial property.

"There are many more things that can go wrong. The pressure to fall back on underwriting expertise and discipline is that much greater and this is where the IMIA has an important role to play. These are very rough seas for engineering underwriters to navigate, but the IMIA can serve as a kind of anchor for the companies. To help them to pause, take stock and get back to the basics."

For example, a number of engineering insurers and reinsurers are in the process of cutting back on their in-house research work and on the number of technical publications they put out. This means, Treceño says, they are relying more on bodies such as the IMIA to take on that role and provide a forum and repository where companies can develop and pool their knowledge at the same time as they try to manage their costs.

Last year the IMIA, whose membership (which include insurers, reinsurers, brokers and loss adjusters) consists of 135 companies from 40 countries, produced its 100th working group paper on a specialist engineering underwriting topic. "This is an important forum for us in terms of promoting underwriting best practice and it could not be better represented by the fact we have now more than 100 papers on an open source platform delivering knowledge not only to IMIA members but also to any other interested party."

More recently, the IMIA has been in the process of developing a global engineering rate level index to provide its members and other companies in the market with information on the relative movement of premium rates in the engineering market. The idea, Treceño says, is to promote transparency.

"It is very important for the market to know how rates develop over a given period. It is important to know where rates were five years ago and where they are today. We all know we are currently in a soft cycle but how soft is that cycle and what does it all mean? In this regard, the index will provide relative numbers.

It may not be a unique solution but it will be the first worldwide index of its kind and will help the market," he says.

The index will consist of a set of key indicators, published annually to allow underwriters to compare those trends with trends in the past. "It is about the importance of retaining some of the knowledge and experience which we are currently in danger of losing. If that is lost, at least we will have the index to serve as a stable reference point," Treceño says.

In compiling the index, which will be launched around this time next year, IMIA members were asked to provide rate variations in percentage terms to avoid breaching anti-trust regulations. "An important part of the process before we set out to develop the index was to check that it was not in breach of these rules. And it is not," Treceño says.

New phenomenon

The loss of knowledge and experience is a reference to the large number of highly qualified engineering underwriters who have lost their jobs over the past two to three years. Treceño, who has been in the industry for the better part of three decades, says he has never seen anything like it before. "You now have people with 10 to 15 years of experience, with very good track records, out of work not only in the London market but also in other centres such as Zurich and Singapore," he says.

"Now that is a new phenomenon for the engineering insurance sector. We have always been the part of the market looking to recruit and to bring in new people. Now the situation is reversed. Making these people redundant is seen as a way for companies to better manage their profit margins and to cope with the high level of capacity in the market."

For Treceño, this underlines the continuing relevance of the IMIA, which was founded in the late 1960s to address the challenges faced by industrial insurers as a result of the rapid development of new technologies that accompanied the global boom in the construction of large industrial plants, particularly nuclear and other power plants.

These days, the engineering sector and its insurers are subject to a similar process of technological and industrial change, which is taking place at an unprecedented pace. This process of change ranges across the internet of things,

sensor technologies, 3D printing and the connection of physical systems, including industrial plants, to the internet and other networks and thereby increasing the impact of a cyber attack on the physical functions of factories, power plants and other critical installations.

But while the pace of technological development today is unprecedented, technological change is nothing new to the engineering sector and its insurers, Treceño says. He points out engineering insurance companies have always been at the forefront of technological development. "If you go back to more than 100 years ago when steam machines were first used in factories, boiler and machinery breakdown insurance was on offer. Technological development is very important to us," he says.

Indeed, cyber exposures within the engineering context was a major topic of discussion at the recent IMIA conference in Doha. The cyber threat, Treceño says, has shifted from the loss of sensitive data to material or property damage. "It is now possible for hackers to cause physical damage through manipulating an IT system. This is a radical departure from the past, when the main concern was about the virtual loss of data. Now that is an exposure that we understand. What we are now trying to understand is the potential material and associated liability damages as the result of a cyber attack," he says.

It is a debate that will be continued later this month at an IMIA event in London, which will be solely dedicated to cyber threats. Cyber risk is an emerging exposure and it is important insurers price for it properly, Treceño says.

For engineering insurers, there are basically three options with regard to cyber risks. "First, you don't like the business and you just walk away from it. Second, you like the business, so you go and write it and collect premium for it in line with the rest of the market. And finally, you like the business, but you are uncertain about the impact of such a new exposure, so you need to limit the coverage.

"So the question is: how do you think about the potential accumulation of exposure represented by a cyber risk and then how do you limit and then price for this new exposure and its accumulation? So that is what we will be discussing in London later this month," he says. ■