COMPASS ASIA

APRIL 2011

# The Tohoku earthquake – could businesses have been better prepared?

IN THIS ISSUE...



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What could well turn out to be the largest economic loss in history yields important lessons for us, and prompts us to re-evaluate business continuity management and catastrophe modelling.

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The tsunami generated by the Tohoku earthquake is the most significant earthquake-induced waves in the Pacific Basin since the 1960 Chile earthquake. The powerful earthquake released 10,000 times more energy than the Christchurch earthquake and, as of writing this report, sadly more than 25,000 are believed to have perished.

Catastrophe modelling companies have made various estimates about the economic impact as well as the insured losses arising from the earthquake. EQECAT predicted the economic loss to exceed US$100 billion. RMS put the figure much higher – between US$200 billion and US$300 billion, representing 4% to 5% of Japan's GDP – potentially the largest economic loss in history.

AIR Worldwide's preliminary estimates were that there were insured losses of between ¥1.2 trillion and ¥2.8 trillion (US$15 billion

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and US$35 billion). This includes ground shake and fire following the earthquake for onshore residential, commercial, and agricultural lines of business, but does not include tsunami losses, indirect business interruption and losses to auto, land/infrastructure.

### Property damage

The Japanese prefectures of Miyagi and Fukushima, which were inundated by waves of up to 29 metres according to one report, suffered the most damages. US$24 billion of insured property resided within 3 kilometres of the coastline, of which US$5 billion of it was within 1 kilometre of the coast.

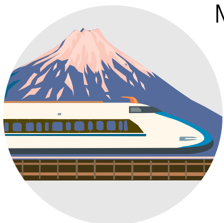
A wave height of up to 2 metres was recorded in Crescent City in California, where boats and harbour docks sustained significant damage. In Hawaii, at least 60 households experienced localised flood damage and there were reports of vessels sinking. The tsunami damage in California and Hawaii could reach US$100m, according to Insurance Day.

There were widespread evacuations along much of the coast of South America. About 300 houses in Pisco, Peru, and 200 houses in Chile were destroyed.

The Fire and Disaster Management Agency (FDMA) of Japan estimates that at least 100,000 buildings in the country were destroyed, either partially or totally. There were also fires and building structural damage in Tokyo, 376km away from the epicentre. Tokyo Electric Power Co. (TEPCO) rolled out power cuts in the affected prefectures, including Tokyo.

### Impact on transportation

There was a massive strain on the infrastructure as trains and metro lines were suspended soon after the earthquake. Severe damages to Sendai Airport and



Matsushima Air Base were also reported. Seaports across Japan were temporarily closed after the earthquake on 11 March. Some resumed operations over the weekend, but as many as six major ports, including Sendai Port, will be closed and out of action for months to come. The Port of Tokyo was partially closed.

In the immediate aftermath of the earthquake, the Narita, Haneda and Sendai airports were closed. Narita and Haneda opened later in the day, while Sendai reopened on 20 March.

### Nuclear impact

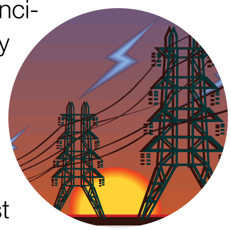
Japan heavily relies on nuclear energy and as much as one-third of its energy comes from 55 nuclear power plants. With 11 of those reactors shut down, this constitutes a major impact on power supplies. According to Japanese media, there was a 25% – 50% reduction in nuclear output for the whole of Japan.

There was a mass exodus and evacuation of people from the affected areas, as well as its hinterland, involving an estimated 200,000 people.

It is understood that TEPCO is liable for any radiation leaks at nuclear power plants and is required to buy US$1.5 billion in liability protection to cover the costs of the leakage. Nuclear facilities are reinsured by a government-sponsored pool and nuclear risks are typically excluded from commercial cover.

> Many manufacturers and factories that were not directly affected or damaged by the tsunami or earthquake had business interruptions due to the power outages and transportation problems.

### Impact on power supplies



The impact of the incident on energy supply was tremendous. On March 14, TEPCO, which serves North Eastern Japan, announced for the first time in its history that it was rationing power supply. According to Japan's health ministry, 1.6 million buildings were without running water and over 600,000 households were without electricity.

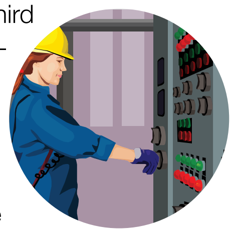
In addition, Electric Power Development (J-Power) suspended operations of its thermal power plant in Isogo, Yokohama. Kyokuto Petroleum also closed its 175,000-bpd Chiba refinery. Tokyo itself experienced blackouts in various areas.

The power interruptions wreaked further damage to an already struggling economy.

### Impact on Industries

Five key pillars of Japan's economy – the automotive, electronic, telecommunication, industrial material, and consumer goods industries – experienced major business interruptions. Sony, Nissan, and Toyota were among the companies that closed a number of their facilities. International firms such as BMW and SAP also evacuated staff from Japan.

Many manufacturers and factories that were not directly affected or damaged by the tsunami or earthquake had to contend with business interruptions due to the power outages and transportation problems.



An estimated one-third of the country's refining capacity was affected. This includes Japan's largest oil refiner, which suspended operations at three

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of its refineries – in Sendai, Kashima and Negashi.

### Impact on Claims

Claims settlements will be a complicated affair going forward, with room for debate around the loss event – earthquake, fire following, tsunami damage or nuclear contamination. Property damage to residential assets will generally be covered by the Japanese Earthquake Reinsurance Company (JER), which is predominantly reinsured by the Japanese government. There have been relatively few fires for an event of this nature and indemnification from flooding and tsunami is an optional coverage for most policies in Japan, with fairly low take-up rates. With the Japanese Nuclear Pool picking up the bill for contamination claims and the large scale evacuations now in progress unlikely to trigger business interruption coverage, based on the experience of previous earthquakes, losses to the insurance market will be focused around earthquake damage in the industrial sector.

Most of the losses to the international market will inevitably come from property damage and contingent business interruption. In addition to claims through Proportional Treaties and Excess of Loss programmes, major claims are expected on Facultative Reinsurances, Global Programmes (particularly Business Interruption) and International Marine market placements. There will also be a significant effect on the Life and Personal Accident markets.

### Impact on Insurers

In isolation, this catastrophe is being viewed at this early stage as an earnings event rather than a capital event, with the implication that it will not be market changing. The picture is however, complicated by the fact that as most Japanese treaties renew on 1 April, they are being negotiated as losses unfold. Brokers are attempting to invoke 60-day automatic extension clauses, although this action is being resisted in the market, resulting in confusion and delay over setting prices for renewals. Indications are that there will be at least an arresting of planned reductions and possibly an increase in rates, with a possible capacity flight to non-quake exposed risks (e.g. Thailand), creating greater competition for these exposures.

Apart from the wider market implications for catastrophe bonds, swaps and other reinsurance purchases that Japan is a key driver of, there are implications for 1 June renewals and the onset of the hurricane season. Though it may be seen as an earnings event, the Japanese loss does not exist in a vacuum. The attrition of Chile, US winter storms, Australia floods and the two Christchurch earthquakes leave many insurers/reinsurers exposed for the remainder of 2011. This has caused the inevitable "knee-jerk" in stock markets around the world – US$8 billion being wiped off the value of the big three Japanese companies and increased volatility in the prices for European and Bermudan reinsurers. Markets are anticipating capital erosion in the event of any further significant catastrophe losses.

> Catastrophe modelling is an essential part of risk management decisions.

The situation represents an opportunity for new capital to be brought to bear as insurers consider the wisdom of replenishing their reinstatement programmes or to shore up reserves prior to the onset of the hurricane season. This represents a new business opportunity, both for placements and capital raising, but could also serve to obscure the picture for the 1 June renewal season, resulting in volatility and confusion around what the market is really doing regarding catastrophe and non-catastrophe pricing. Underlying trends may not really be detectable until the end of the hurricane season and the 1 January renewals. Meanwhile, the outlook for the Japanese market is too hard to call and more than anything will probably depend upon levels of government intervention.

### What can businesses do to protect themselves against such events in future?

**Business Continuity Management**

The Tohoku earthquake is yet another event that brings to the forefront the value and importance of having an effective business continuity management (BCM) programme in place. Whilst the primary focus and attention has been on the situation at the Fukushima nuclear power plant and the safety of the Japanese people, the business disruption impact to organisations (both directly and indirectly) remains very real. Ensuring the safety of personnel, managing stakeholder concerns and executing business recovery strategies are some of the issues that are probably high on the agenda of most organisations.

An event such as this is undoubtedly a litmus test for any organisation's BCM programme. It will be natural for organisations to review their BCM programme following lessons learnt, either directly or vicariously, from responses to the To-

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hoku earthquake. This will likely result in the development of more detailed and extensive BCM programmes geared towards responses to similar scenarios in the future. Whilst that is definitely of value, organisations should also be cautious about being victims of tunnel vision and take the opportunity to re-examine their BCM programme from a more holistic point of view.

Organisations should be cautious about being victims of tunnel vision and re-examine their BCM programme from a more holistic point of view.

Organisations need to be comfortable that their plans are robust enough to cater to any future business disruption event, even if it is an 'outlier' or 'black swan' type event that might be brushed aside under normal circumstances as either 'impossible to happen' or 'it won't happen to us'.

This might be the perfect opportunity to gain organisation-wide commitment and to have senior management to relook at business impact analyses, recovery strategies, crisis management, regular exercising of plans and other relevant areas. The Tohoku event is a novel opportunity to strengthen the robustness of BCM programmes.

### Catastrophe Modeling

The Tohoku earthquake has also thrust to the forefront the value of catastrophe modelling (popularly referred to as cat modelling) in preparing for events such as this.

Cat modelling is an essential part of risk management decisions. Ranging from the original insured through to retrocessionnaires, modelling can help businesses understand the potential financial impact of natural catastrophes on their portfolios.

Basically, cat modelling, which can either be undertaken before or after an event, achieves the following:

- Helps to estimate losses from natural catastrophes
- Aids in quantifying natural hazards by combining science with engineering factors
- Helps insurers and reinsurers to assess their exposures

The first step in this process is the use of market leading software products such as those designed by RMS, EQECAT and AIR Worldwide.

The models all have a similar architecture – underlying all models is the exposure data (characteristics in terms of the insured property like location, type of building and its usage, etc.). This data is then overlain with a hazard module describing the natural peril (frequency and severity), followed by a vulnerability module describing how the properties respond to the hazard. Finally the financial module is applied, which contains information like deductibles and limits.

The models produce probabilistic losses and the results are often represented as return periods (i.e. '1-in-100-years').

Clients can benefit from standard modelling outputs to ascertain suitable programme limits, portfolio management and simple pricing based on technical premium. JLT's actuarial consultants will also present the exposure information and modelled results using a Geographical Information System to create powerful visualisations of the outputs.

The process does not stop there – given the increasingly sophisticated requirements from clients, regulators, reinsurers and stakeholders, the output from catastrophe models are subsequently fed through for further analysis such as:

- Whole account analysis
- Dynamic Financial Analysis (DFA)
- Exposure or Experience Rating

It is important to point out that models are only as effective as their input, and results always need to be interpreted in context, taking into account the underlying assumptions.

While BCM and cat modelling cannot possibly prepare businesses for everything, they can certainly ensure that through these tools, businesses are prepared for most eventualities. We cannot yet prevent another Tohoku but we can certainly be in a better position to mitigate its effects.

# Healthcare – managing escalating costs

## How can employers minimise the impact of spiralling healthcare costs on the bottom line while continuing to provide a meaningful benefits plan?

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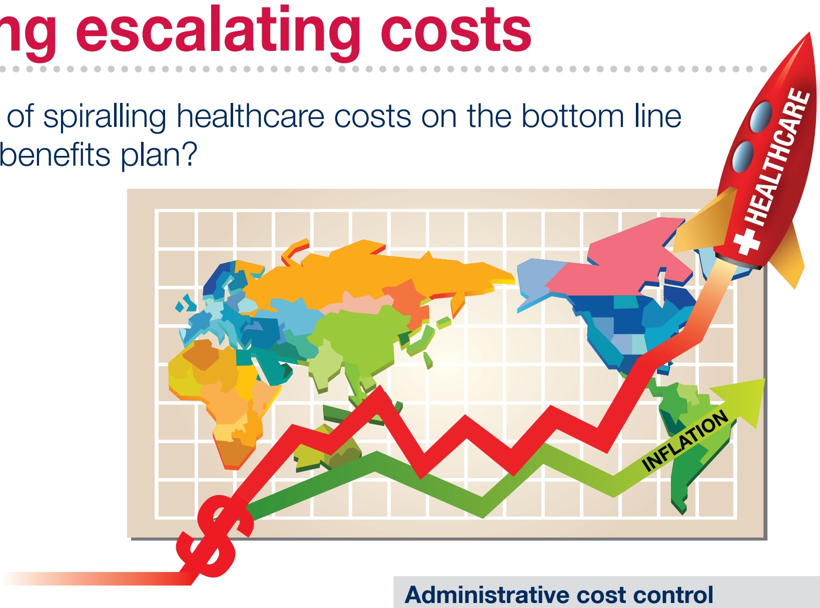


Employer-provided healthcare insurance costs in the Asia-Pacific are projected to increase by a staggering 10.2% in 2011, according to the latest survey by the Tower Watson Group on global medical trends. The survey findings also indicated that since 2006, in 95% of countries surveyed, the rise in medical costs had outstripped the rates of general inflation. Additionally, almost three out of four survey respondents (72%) expect costs to increase over the next five years.

In most Asian countries, it is the norm for employers to include healthcare within the benefits promise made to employees, often extending to cover family members. The way in which the benefits are provided varies from company to company, and from country to country, but however they are structured, all such schemes are subject to increasing cost pressures.

Factors such as the emergence of new infectious diseases, increases in chronic illnesses and stronger personal financial status (associated with increased obesity, heart disease etc.) have led to medical inflation running well ahead of GDP growth.

Most organisations have to deal with numerous medical claims, which can often be contentious, with difficulties in diagnosis and benefit interpretation. Advanced systems and processes reduce inefficiency and frustration.

How can employers minimise the impact of this increasingly significant cost on the bottom line, whilst continuing to provide vital medical benefits to their staff? There are certain principles to achieving this:

### Scheme design

A wide range of health benefits are provided by employers, and often the scheme rules are not clearly defined, in terms of who is entitled to what benefit. A carefully designed scheme, clearly communicated to managers, employees and service providers, is essential.

### Discipline

It is often surprising how loosely rules are applied, even when a scheme has been well designed. It is important for discipline to be maintained when implementing the rules, once they have been set.

### Wellness

Wellness is perhaps the most significant investment an employer can make in the health of his employees. The benefits of a formal wellness programme are not only felt in reduced cost of health claims, but in reduced absenteeism due to sickness, and in the increased overall well-being of staff.

### Administrative cost control

Most organisations have to deal with numerous medical claims, which can often be contentious, with difficulties in diagnosis and benefit interpretation. Advanced systems and processes reduce inefficiency and frustration by ensuring that employees and providers are clear upfront on the cover available, and that covered costs are reimbursed quickly.

### Monitor and manage

Once rules have been established and implemented, wellness initiatives developed, and administration simplified, management can have confidence that the expenditure on health benefits is as effective as possible. However the ever changing profile of health issues, and the inevitable demographic changes which occur over time in any workforce, make continuous monitoring and management essential. Advanced information systems are essential to provide the data for management to ensure efficiency is maintained.

We have only given you here a very brief flavour of the wide range of issues facing any employer in his efforts to provide the most effective set of health benefits to employees and their dependants, at the most efficient costs. This is a complex area, which has been growing in significance. It certainly merits the very closest attention from management.

JLT Benefit Solutions has developed a range of services to assist our clients with the issues highlighted here and other benefit related issues. Rather than act purely as a broker of insurance products, we take a holistic view of the needs of our clients through our PHaRMa approach – Proactive Health and Risk Management – which takes a holistic view in designing benefits schemes, including wellness initiatives, funding design services, claims management and advocacy services. Our services are coordinated via our advanced benefits and claims management systems, designed to allow our clients to access and manage their own data, enabling informed decision-making. Contact us for more information or for a demonstration of our system solutions.

# The Middle-East – a case-study in risk assessment

Recent developments in the Middle-East and North Africa region have prompted Political Risks Insurers (PRI) to reappraise their outlook.

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Prior to the recent turmoil in Egypt, the country was rated to be a safer place to invest in than some European countries such as Portugal. In fact, Egypt, along with the other territories in the Middle-East and North Africa, including Libya, Algeria, and Tunisia, were all seen as having a relatively good risk profile from an underwriter's perspective. Recent developments have prompted Political Risks Insurers (PRI) to reappraise their outlook and price – at the time of writing this article, rates had risen between 10% and 25%, depending on the nature of the risk and coverage.

## Risks to foreign investment

Particularly alarming is the spate of attacks on foreign investments – notably those on four South Korean-run construction sites in Libya that destroyed heavy equipment, vehicles, and other facilities. Nations around the world with employees in Libya scrambled to evacuate their citizens. These are events that both underwriters and multinational companies operating in these markets are seriously considering as they reassess their risk profiles and outlooks. Many who had not considered Political Risks Insurance as part of their overall Political Risk management process are facing considerable exposure to the rapidly evolving situation in the Middle-East and North Africa (MENA) region.

This is certainly not the end and political risk events will not be restricted to MENA. While further rate changes will depend on how things continue to develop, it is a foregone conclusion that, even if events settle down to some resemblance of normalcy, underwriters will still have concerns. This is especially so, because the underlying factors that triggered the events – inflationary pressures, high food prices, and high unemployment, will take some time to be resolved and will remain as key issues which governments need to grapple with, throughout 2011 and beyond.

## Risk reassessments

In addition to rates, underwriters are also reappraising their risk profiles for the region, with some markets even being closed for certain insured risks. Radical changes in governance or strong pressures towards this will worry markets in the context of foreign investment, particularly in the oil and gas sectors, where the insurance market risk is in the billions. The events in the Middle-East and North Africa are leading to a different way of assessing risks, both from a buyer's and insurer's perspective.

Geopolitical risk, the way in which political conflict can erupt unexpectedly and destabilise the investment environment, has been brought to the fore by recent developments. In the past two years, investors have rushed into emerging markets with insufficient attention paid to how markets price geopolitical risk.

Egypt was rated (according to Credit Default Swap prices) safer than Portugal because the western financial crisis had diverted attention from geopolitical risk. While investors focused on credit risk default, they overlooked the fact that even poorly performing European economies offer a lower level of geopolitical risk than developing markets. We have seen over recent years a growing level of understanding and interest from Asian investors in the political risk identification, management, and mitigation process, but there is still some way to go on this front.

> Many who had not considered Political Risks Insurance as part of their overall Political Risk management process are facing considerable exposure.

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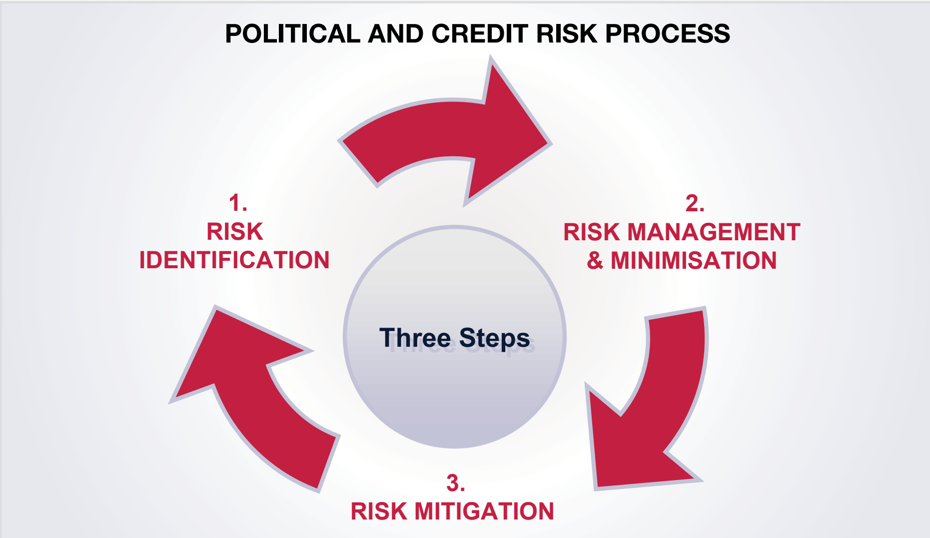
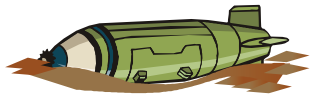
## The Middle-East – a case-study in risk assessment *(From page 6)*




It is important for overseas investors to fully understand and manage the many risks they will face when operating abroad. At JLT, we work closely with our clients, adopting a three-step process that includes risk identification, risk management and risk mitigation. Political Risk Insurance is only part of the overall process and not the total solution. However, if correctly used and applied, it can be an extremely valuable financial tool as the events in the MENA region are demonstrating.



# New law in China emphasises employers' obligations to expatriates

There are now considerable liabilities on the part of the employer, to fulfill his obligations to expatriate employees.

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"China's economy and society are becoming more and more open" and a new social insurance law that will come into effect in July 2011 "follows international practice and gives equal national treatment to foreigners working in the country," the Vice Minister for Human Resource and Social Security, Hu Xiaoyi, said during a press conference in late 2010. *(As reported in Beijing Review.*)

China's new social insurance law, which was passed by the Standing Committee of the National People's Congress (NPC) on 28 October 2010, is a milestone that specifies a common right for all citizens to access and enjoy five forms of insurance: basic endowment insurance, basic medical insurance, employment injury insurance, unemployment insurance, and maternity insurance.

Although prior to the passing of the new law some regions such as Shenzhen, Dongguan, Shanghai, and Tianjin had already included expatriate participation in the social insurance scheme, the new law actively promulgates it on a national level.

### Greater clarity

The new law removes many of the uncertainties with regards to social insurance for expatriate employees. Previously, in Shanghai, if an enterprise and an employee reach an agreement of non-payment, or both parties fail to agree on contribution to social insurance in their employment contract, the enterprise may choose not to pay contributions for such employee and need not

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## New law in China emphasises employers' obligations to expatriates *(From page 7)*

A broker will be able to clarify ambiguities and help the employer avoid duplication of benefits and expenditures.

assume any liabilities. However, the new law is unequivocal - "employers shall apply to the social insurance authorities for social insurance registration within thirty (30) days of the date of employment commencement. If an employer fails to make social insurance contributions in full in a timely manner, the social insurance collection authority shall request the employer to pay or pay in compensation within a time limit."

Pensions are another area that the law touches on. If anyone receiving or scheduled to receive a basic pension on a monthly basis leaves China, the authorities administering the social insurance will be required to pay pensions to his or her agent in China on a monthly basis, which will then be accumulated and sent to the pensioner.

Many companies already provide comprehensive security. However, as the law only mandates a basic level of security, the following are some potential ramifications:

- Costs of hiring expatriate employees may increase further; enterprises may need to reassess their remuneration and welfare policies targeted at expatriates.
- Increase in human resources costs may urge enterprises to reduce the number of expatriates.
- There will be greater impetus for the execution of relevant bilateral agreements between the Chinese government and foreign governments, in order to prevent dual payment of social insurance contributions by expatriate employees. To date, only Germany and Korea have signed bilateral agreements.

### Value of broker

While, in concept, the objective of the law is straightforward – equal treatment of all employees, the law does not go into specifics such as its application to expatriates from different regions.

An insurance broker will be able to add value in the following respects:

- Clarify ambiguities and identify loopholes that the client should not fall victim to
- Manage human resource costs that are already spiralling and in particular avoid duplicating benefits and expenditures
- Ensure that welfare policies are fully compliant with the law

There are considerable liabilities now on the part of the employer, to fulfill his obligations to expatriate employees. Failure to do so in a timely fashion can be punished through a late payment fee of 0.05% of the social insurance contribution per day. Failures to make overdue contributions within a specified period can result in a fine up to three times the overdue amount.

The social insurance law also grants every right to the employer or individual to pursue legal recourse in the event that social insurance agencies fail in their responsibilities such as social insurance registration, premium determination, benefits payments or if they infringe on the rights of the employer or individual in any way. Again, the insurance broker would be able to advise you on instances where such failures to act or infringements take place.

# Employee Fraud: Recognising the signs of a potential thief

Record-setting fuel prices, inflation, recession, political and civil strife, as well as commodity shortages that have financial impact on our day-to-day living are common headlines in newspapers today. During such times, statistics reveal a sharp increase in employee fraud which, not only relates to direct theft of money, but also identity fraud, theft of data, increased expense claims and others.

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A 2010 report published by the Association of Certified Fraud Examiners, based on data provided by respondents from the Asia-Pacific region, revealed the following:

- The typical organisation lost an estimated five percent of its annual revenue to fraud.
- The median loss was US$300,000 — significantly higher than the global median loss of US$160,000.
- Financial statement fraud was the most expensive, causing a median loss of US$4.3 million.
- The amount of fraud losses tended to rise with the authority of the perpetrator.

Occupational frauds committed by owners/executives caused a median loss of US$1 million. Losses caused by managers and employees were US$242,000 and US$200,000, respectively.

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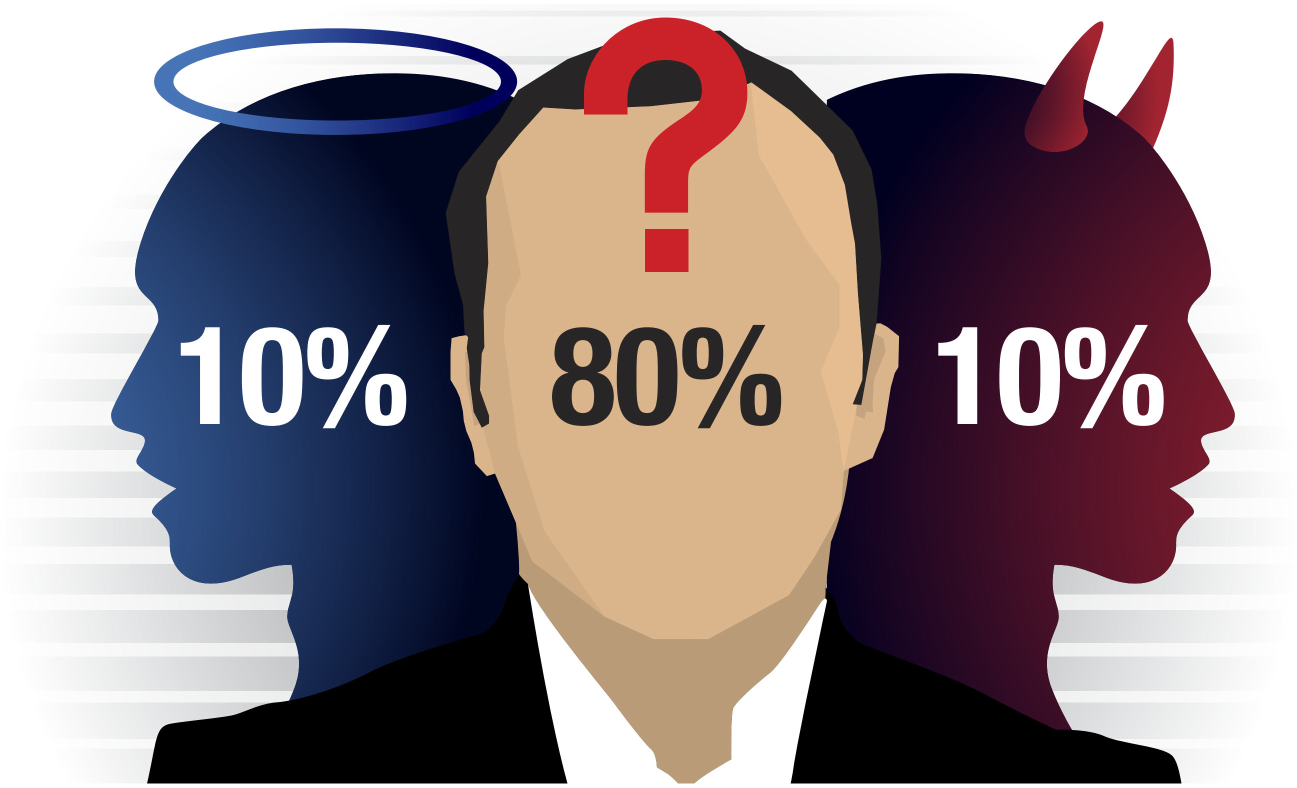
## Employee Fraud: Recognising the signs of a potential thief *(From page 8)*




Whlist not a replacement for robust risk controls, businesses should also consider transferring the risk to Insurers by purchasing a Commercial Crime Policy or at least, a Fidelity Guarantee insurance policy.

Seventy-six percent of occupational frauds were committed by individuals working in one of five areas: sales, accounting, operations, executive/upper management, and purchasing.

While the majority of employees would not commit fraud, among fraud prevention circles the 10-10-80 rule is widely believed. The 10-10-80 rule surmises that 10% of staff will never contemplate theft, 10% will steal anytime, while the remaining 80% could go either way depending on how they assess the possibility of being caught.

### Fraud indicators

According to some studies, it takes approximately 18 months for an employee fraud to be detected. Ignoring red flag indicators could cost firms financially. The following are some indicators of employees who commit fraud:

- Works late
- Does not take annual or medical leave
- Under stress/marked personality change
- New staff resign quickly
- Suppliers/contractors/clients who insist on dealing with just one individual
- Change in lifestyle
- Does not comply with financial deadlines
- Does not reconcile bank statements

Firms should immediately take steps to investigate when they discover:

- Receipts are not in sequential order
- Missing cheque leafs/books
- Complaints are not immediately brought to the attention of management

### How to prevent employee fraud

The following proposals are not exhaustive and are general in nature.

| | |
|---|---|
| 1. | Carry out due diligence when employing staff. Check references and evaluate staff before putting them in positions of trust. |
| 2. | Be clear with employees that there is zero tolerance for, not only theft, but also taking liberties with company rules – i.e. coming to work late or leaving early, malingering, keeping a messy table, going out of office and returning late. If employees believe that they will be caught it is less likely that they will steal. |

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## Employee Fraud: Recognising the signs of a potential thief *(From page 9)*

| | |
|---|---|
| 3. | Separation of duties is critical, particularly in the finance department. i.e.:<br>• Different persons receiving payments and issuing receipts<br>• Deposits prepared by staff are signed off by a manager against the cash register<br>• Cheques have to be signed by at least two people<br>• The case file must accompany any cheques to be signed<br>• Payments to any third party must be accompanied by an invoice and a payment voucher |
| 4. | Carry out surprise audits at irregular intervals. Any irregularity, however small, irrespective of whether it involves finances, should be taken seriously. |
| 5. | External auditors should be engaged at least once a year. |
| 6. | Insist that staff that handle finances take extended leave of at least 10 days; use the opportunity to conduct an audit. |
| 7. | Ensure that receipt and cheque books are in sequential order. Put in place a procedure to record cancellation of receipts and/or cheques. |
| 8. | Cheque/receipt books which are not in use should be placed in a secure place. |
| 9. | Personally look into complaints and investigate immediately. |
| 10. | Be aware of the list of your suppliers so that fictitious accounts are not created. |
| 11. | Conduct monthly reconciliation of accounts, paying particular attention to small withdrawals. |
| 12. | Periodically question staff on the firm's financial transactions. Even if managers are not proficient with accounting matters, the mere act of questioning staff will be a deterrent. |
| 13. | Reconcile petty cash regularly. |
| 14. | Implement a "zero tolerance" and "whistle-blowing" policy. |

Processes and checks should be customised according to the nature of business. Implementation needs to be geared to the size of each operation. Businesses should identify potential risk exposures, document and implement checks and controls and consistently ensure compliance with the procedures that are in place.

Unfortunately, there is no magic solution to achieving a fraud-free business. The most you can do is to put in place a structure that discourages and minimises the opportunity for an employee to commit fraud.

Whlist not a replacement for robust risk controls, businesses should also consider transferring the risk to Insurers by purchasing a Commercial Crime Policy (or at least a Fidelity Guarantee Policy) to provide cover against any financial loss suffered arising from fraud or dishonesty by an employee.

### Is the employee the victim?

The obvious answer is "no". However, referring to the 10-10-80 rule raised earlier, there may be a moral duty on the part of the employer to ensure that 80% of the staff that may commit fraud do not contemplate it.

> The 10-10-80 rule surmises that 10% of staff will never contemplate theft, 10% will steal anytime, while the remaining 80% will go either way depending on how they assess the possibility of being identified.

You may be doing a great service to your employees, their families and society if the opportunity to commit fraud is minimised by implementing simple checks and controls that are consistently enforced.

This article addresses some of the financial risks facing companies today. Businesses should also review other risks such as theft of clients' personal bio data, safe keeping of confidential information, documents and land titles, to mention just some examples.

# Using Risk Based Capital to measure your insurer's financial strength

The concept of Risk Based Capital (RBC) really gained traction after the 2008 financial crisis, when the failure of formerly household names, such as Lehman Brothers bank, thrust enterprise risk management and the assessment of financial solvency to the fore.

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RBC is a method used to measure the minimum amount of capital that an insurance company (or bank) needs to support its overall business operations. Initially developed in the USA for the National Association of Insurance Commissioners (NAIC), it is being implemented in various territories, by various parties, including regulators, rating agencies and companies, to give an indication of financial strength. For example, the Solvency II regime which is to be implemented within European insurance, has RBC calculations at its core.

The objective of an RBC model or formula is typically to achieve the following goals:

- To assist regulators in knowing when to intervene in a company's affairs
- To reduce costs of company insolvencies by catching them early

To be effective, the RBC model should be simple enough to be applied to all companies in the specific segment and be comprehensive enough to adequately distinguish all possible financial risks.

Major business failure within insurance is comparatively rare as insurers tend to be relatively well capitalised entities with liquid asset bases and generally strong regulatory environments. Having said that, RBC is one tool that regulators use to estimate the health of a business. It generally forms part of an overall strategy of Enterprise Risk Management that also takes into account non-financial exposures. Risk exposures faced by a company not captured by the RBC formula include operational risk and fraud etc.

RBC is today being implemented in various parts of Asia by various parties, including regulators, rating agencies and companies to obtain an indication of financial strength.

## How RBC is calculated

Whilst there are numerous different methods of calculating RBC, within the insurance sphere there are generally four major categories of risk that are measured to arrive at an overall RBC amount. These categories are:

| | |
|---|---|
| **ASSET RISK** | A measure of an asset's default of principal or interest or fluctuation in market value as a result of changes in the market. |
| **CREDIT RISK** | A measure of the default risk on amounts that are due from policyholders, reinsurers or creditors. |
| **UNDERWRITING RISK** | A measure of the risk that arises from underestimating the liabilities from current or prospective businesses already written or inadequately priced. |
| **OFF-BALANCE SHEET RISK** | A measure of risk due to excessive rates of growth, contingent liabilities or other items not reflected on the balance sheet. |

*Continues on page 12*

## Using Risk Based Capital to measure your insurer's financial strength *(From page 11)*

RBC is generally expressed as a ratio. This is the total capital of the company (as determined by the RBC formula) divided by the company's RBC (as determined by the formula). For example, a company with a 200% RBC ratio has actual capital equal to twice its RBC. In general, certain assets on a company's balance sheet may be disallowed from the calculation of capital e.g. assets that are non-admitted under local regulation.

The level of required RBC would normally be calculated and reported at regular intervals, typically annually. Depending upon the level of the reported RBC, a number of remedial actions, if necessary, can be taken by the regulator. The remedial actions may include requiring the company to submit a report outlining the problems and solutions for the company's financial condition, a regulatory examination of the company's business and operations, and if required could also necessitate the regulator issuing appropriate corrective orders to address the company's financial problems.

However, the assessment of RBC is intended to identify any potential financial problems before it becomes necessary for the regulator to seriously intervene in a company's affairs.

### RBC models in Asia

RBC is today being implemented in various parts of Asia by various parties, including regulators, rating agencies and companies to obtain an indication of financial strength.

Asia represents varied demographic, economic and political features based upon geographies. As such, the development of RBC here has mirrored the intrinsic differences across regions to an extent. For example, the greater integration of insurance entities within conglomerates and industrial groupings in Japan and Korea has made the calculation of basic solvency challenging.

Whilst Singapore was not the first in the region to implement RBC (Indonesia introduced RBC solvency standards way back in 1999), its RBC framework is considered to be pioneering in Asia. Since the implementation in Singapore, other countries like Malaysia, Taiwan, and Korea have followed suit with their own implementations. Recently, the China Insurance Regulatory Commission (CRIC) outlined a road map for the Chinese insurance market development, which involves developing a framework that lies between European Solvency I and a RBC approach, within the next three to five years.

### RBC models in the rest of the world

The RBC system was developed in the 1970s in the US by the Society of Actuaries. The system was implemented by NAIC and the US state insurance departments in the early 1990s to provide a capital adequacy standard that is related to risk, raises a safety net for insurers, is uniform among the states, and provides regulatory authority for timely action.

> The global financial crisis has validated the critical role risk management plays in value creation for the insurance industry, pointing to the need for the implementation of risk-based capital solvency regulation across various territories.

Other regulators, such as the Australian Prudential Regulation Authority (APRA), which is the primary capital regulator of insurers in Australia, allow insurers to choose between a standardised approach, the Prescribed Method, and an advanced modelling approach known as the Internal Model Based (IMB) Method, for determining their minimum (regulatory) capital requirement (MCR).

Europe is in the process of adopting Solvency II regulations, which is similar to the Basel II bank model. The aim of Solvency II is to more accurately reflect the true economic risks facing insurance companies, by taking into account both asset and liability side risks, and the interactions within and between those risks. The Solvency II directive is due to be implemented in late 2012.

Besides regulators, credit rating agencies around the world have for some time implemented their own RBC formulas internally, which they use to evaluate each insurer's capitalisation as part of the quality rating process. Each model compares the calculated risk-based required capital to the actual capital at a certain point in time.

The global financial crisis has validated the critical role risk management plays in value creation for the insurance industry, pointing to the need for the implementation of risk-based capital solvency regulation across various territories.

However, the RBC framework is not consistent. Multinational insurance companies going forward may have to deal with stringent but separate RBC requirements for each of the geographies in which they operate and this could lead to them facing significant accounting and integration costs. Ultimately, though, the greater oversight and control that RBC-based regulation will bring is widely thought to be a strong positive.


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