

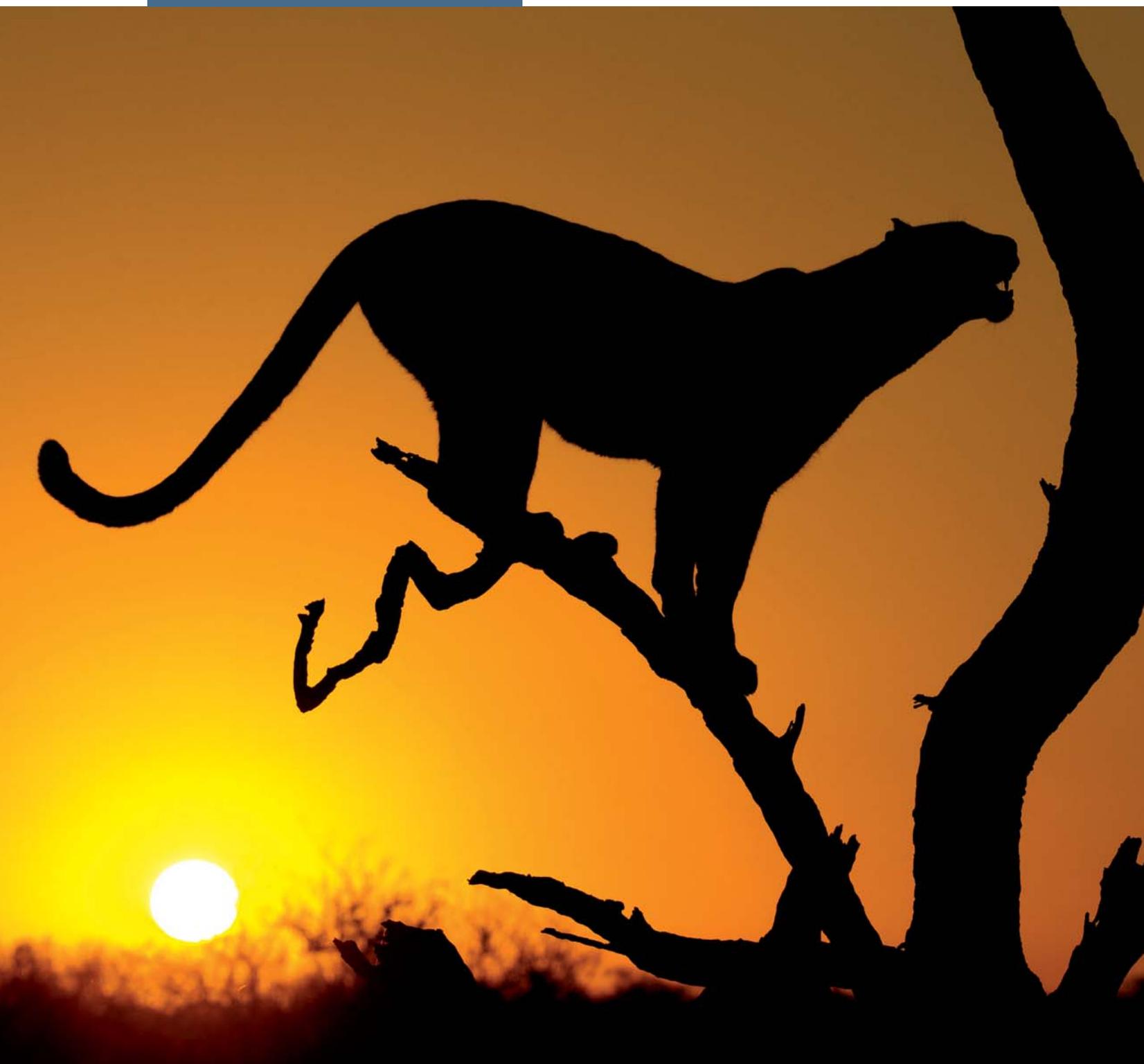
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Lifestyle and Health (Ana Luisa Villanueva).

Russia and the insurance market (Vladimir Kalinin).

Tiziana Rossetto: "Tracking earthquakes footprint".

Javier Reverte: "Travel as storytelling".





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editorial

A few years ago, longevity with quality of life was presented as one of society's moral obligations to its elderly, associated with a variety of wealth-generating business activities. Although some economic and political powers offer a much more negative forecast with regard to the sustainability of these schemes, Dr. Ana Villanueva, Medical Director of Life, Health and Personal Accident business at MAPFRE RE, provides a more useful message in her article at this Trébol issue. Lifestyle and health – everybody's responsibility towards a better world.

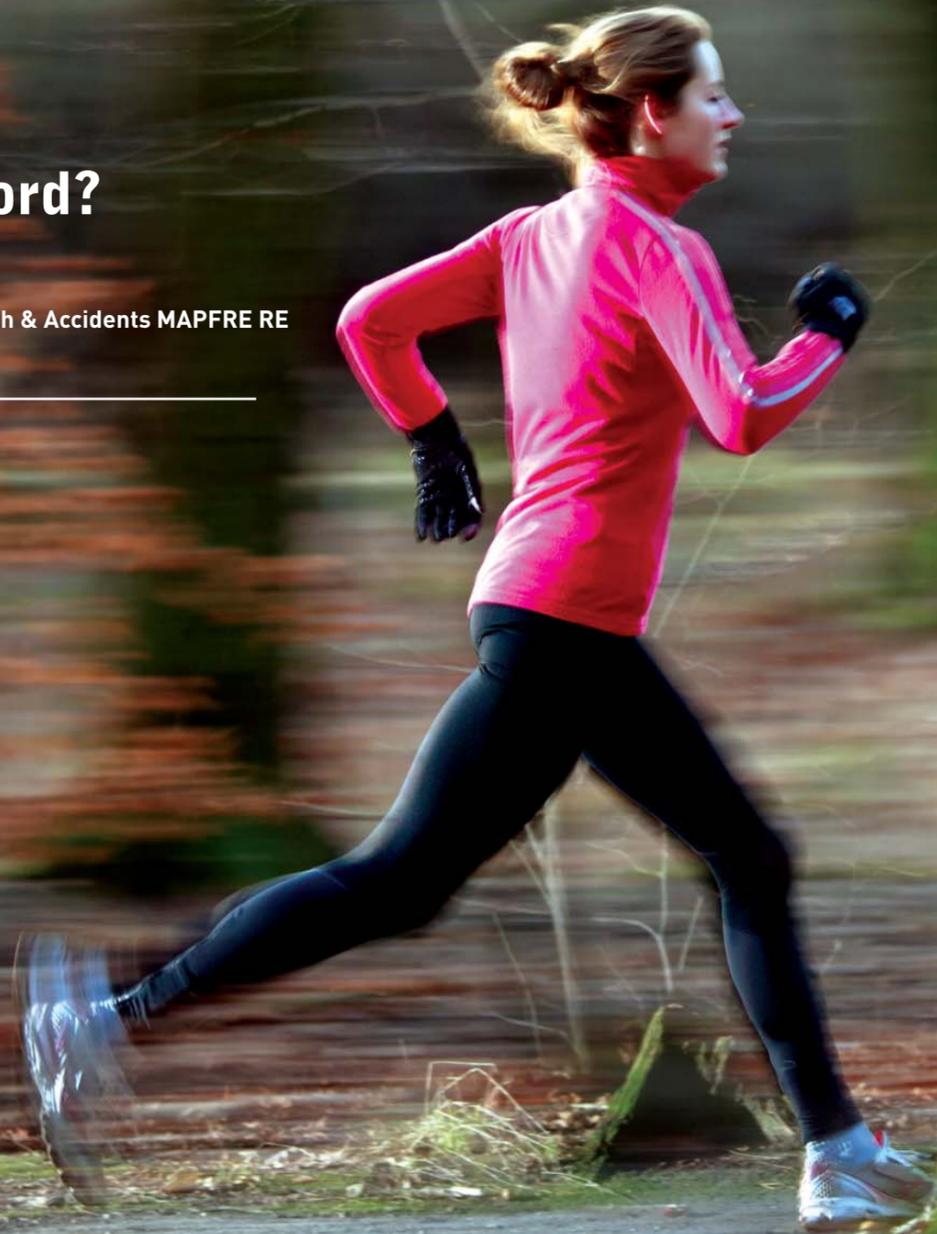
The insurance market in Russia, like those in the main "emerging" countries such as China, Brazil and India, is developing in its own individual way. A common trend is being seen which involves starting to partially follow the Western model, keeping majority control of shareholdings in companies in the sector and retaining the classes of business which are theoretically the most profitable. Vladimir Kalinin, MAPFRE RE's Commercial Adviser for Russia in Moscow, uses local criteria and an international perspective to interpret the official statistics and figures that characterise a dizzying market.

The Earth is a living planet with constant seismic activity, although only peak events stir people's consciences and raise questions. Trébol has gathered the opinions of Dr. Tiziana Rossetto, Chairperson of the Earthquake Engineering Field Investigation Team (EEFIT) in London, on the mission of the body that she heads. Its aim is to visit post-earthquake scenarios to analyse the behaviour of structures and buildings, so that the conclusions can be translated into earthquake-resistant building codes and prevent collapses and therefore, victims in future earthquakes.

Interest in travel is synonymous with taste for culture. Getting to know social, economic and cultural settings different from one's own allows people to play down or at least better understand extremes. Javier Reverte felt the call of the world as a child and ever since, has taken advantage of the opportunities that his work as a journalist offered him to get to know new places and people. Today, he chooses where and how he wants to go: Africa, America and Greece are his favourite destinations. Readers are the ones who benefit from his travel books and novels, which broaden minds and provide ideas for the next adventure. Trébol congratulates him on his new work.

Lifestyle, what is there behind the word?

Ana Luisa Villanueva
Chief Medical Officer Life, Health & Accidents MAPFRE RE
Madrid - Spain



Primordial prevention refers to a healthy lifestyle that does not permit risk factors to appear, mainly those for cardiovascular disease

Finding out the meaning for Lifestyle is not an easy task since it mirrors one's attitudes and values towards life. The prestigious Spanish cardiologist, Dr. Valentin Fuster, in his book "Promoting cardiovascular health" expressed a splendid idea on what counts for the individual when deciding on a lifestyle.

First level Factors

► **Determinants:** ranging from globalization of our society to education and cultural and

social rules through the social model and healthcare system.

► **Political approach:** ranging from an international to a national or local perspective involving financial, legal, regulatory and trading issues.

► **Healthcare system:** including system infrastructure, access to care, quality of care, drugs, technology and health workforce.



cholesterol and fasting glucose, being the main risk factors:

- ▶ Alteration in lipid profile or dyslipidemia.
- ▶ High blood pressure.
- ▶ Diabetes.

At age 50 the absence of traditional risk factors is associated with extremely low lifetime risk and significantly greater longevity

Here are some overwhelming facts published by the Cardiometabolic Research Institute, at Houston (Texas), which mention that:

- ▶ Nearly 70% of adult Americans are overweight or obese; the prevalence of visceral obesity stands at 53% and continues to rise. At any one time, 55% of the population is on a weight-loss diet, and almost all fail.
- ▶ Fewer than 15% of adults or children exercise sufficiently, and over 60% engage in no vigorous activity. Among adults, 11%–13% have diabetes, 34% have hypertension, 36% have pre-hypertension, 36% have pre-diabetes, 12% have both pre-diabetes and pre-hypertension, and 15% of the population with either, diabetes, hypertension, or dyslipidemia is undiagnosed. About one-third of the adult population, and 80% of the obese, have fatty livers.

- ▶ With 34% of children overweight or obese, prevalence having doubled in just a few years, type 2 diabetes, hypertension, dyslipidemia, and fatty livers in children are at their highest levels ever.

- ▶ Half of adults have at least one cardiovascular risk factor. Up to 65% of patients do not have their conventional risk biomarkers under control. Perhaps it is even more shocking to see the poor patient adherence to treatment, typically below 50%.

- ▶ The same source reveals a similar situation worldwide, with the prevalence of metabolic syndrome (presence of a number of altered factors: glucose, blood pressure, HDL, waist and triglycerides) approaching 50%.

The result from its reading is primordial prevention, referred to as healthful lifestyle habits that do not permit the appearance of risk factors, mainly those of cardiovascular risk.

Lifestyle is shown at first glance, the way you dress, the attitude towards life, the way you work, your relationships with others, the way you take healthcare, your beliefs, the way you think, your likes, your leisure preferences and eating habits.

The American example

When bringing Lifestyle into health, we find that for the **American Heart Association – AHA, a healthy Lifestyle consists of sufficient exercise, a superior diet score, absence of smoking and a BMI (Body Mass Index) ≤ 25 kg/m².**

They also define **ideal health factors** as **untreated normal values of blood pressure,**

- ▶ **Communication:** health communication through Media, Community interventions or settings based.

Second level Factors

- ▶ **Determinants:** divided into biological and behavioural risk.
- ▶ **Political approach:** creating the environment to enable individuals to make and maintain healthy choices.
- ▶ **Healthcare system:** delivering preventive care and rehabilitation services as well as diagnostic and therapeutic.
- ▶ **Communication:** enhancing knowledge, motivation and individual's skills.

Third level factors

These factors are framed on the more intimate individual's environment, the society he or she lives in and is identified with, his/her community, neighbourhood, family and friends.

This approach may seem overly bureaucratic and impractical when it comes to health; however, it will not only depend on genetic background but on one's lifestyle.

The consequences of such decision are not only obvious to the individual who will enjoy a better or worse health but will provide some feedback to the environment, changing those factors influencing primary choice.

Diagnostic tools used in cardiovascular risk

- ▶ Clinical evaluation: history and physical examination.
- ▶ Family history.
- ▶ Global Risk scoring.
- ▶ Lifetime Risk Calculator.
- ▶ ECG - Electrocardiogram.
- ▶ Echocardiography.
- ▶ Stress testing or ergometry.
- ▶ MPI - Myocardial perfusion imaging.
- ▶ LDL-C - apolipoprotein B, non-HDL-C.
- ▶ HDL-C.
- ▶ Lipoprotein "little a" [Lp(a)].
- ▶ Lipoprotein fractionation [VAP, NMR].
- ▶ CRP hsC-reactive protein.
- ▶ Lipoprotein-associated phospholipase A2 [Lp-PLA2].
- ▶ Coronary angiography.
- ▶ CIMT Carotid intima-media thickness using ultrasound.
- ▶ CAC Computed tomography for coronary calcium.
- ▶ CT coronary angiography.
- ▶ MRI coronary angiography.



The Mediterranean diet includes most of the "Life's Simple 7" but some of these parameters refer to the individual's attitude towards healthy life style

Unfortunately, most coronary heart disease (CHD) events arise in a large subpopulation of low- to moderate risk individuals, therefore the challenge remains at prevention and identification of the disease at this level.

There is also some good news, at age 50 the absence of traditional risk factors is associated with extremely low lifetime risk and significantly greater longevity.

A combination of approaches such as primordial prevention and refinement of risk prediction, guideline compliance, novel treatments, improvement in adherence, and preventive policies, will be necessary to lower the present high risk burden.

Most risk factors that drive cardiovascular disease have genetic, physiologic, behavioral, and environmental components. Among them there are non modifiable risk factors including age, genetics, and gender but other modifiable risk factors comprising smoking, eating habits (fats raising cholesterol, sugar and salt intake) and weight gain.

Non-traditional Risk Factors

The above factors have been considered as **traditional risk factors** up to date. However, there are emerging or novel risk factors called **non-traditional factors** including:

- ▶ Blood test:
 - ▶ CRP - C-reactive protein.
 - ▶ Lp-PLA₂ - lipoprotein-associated phospholipase A2.
 - ▶ LDL-P - LDL particle number.
 - ▶ Fibrinogen.
 - ▶ Lpa - Lipoprotein a.
 - ▶ TG - triglycerides and triglyceride-enriched particles.
 - ▶ PAI-1 plasminogen activator inhibitor.
 - ▶ IL-6 - Interleukin 6.

▶ Imaging techniques capable of refining risk prediction or improving management:

- ▶ CIMT-Carotid ultrasound to measure carotid intima-media thickness.
- ▶ CAC- Coronary artery calcification.
- ▶ MRI - Magnetic Resonance Imaging.
- ▶ CT - Coronary angiography

Prevention: goals and methods

Prevention, although relatively unfashionable when compared to cutting-edge high-tech procedures, addresses three goals of medicine:

- ▶ Preventing disease.
- ▶ Relief of suffering.
- ▶ Prolonging life.

The prevention may generally refer to screening and immunizations to detect, forestall, or limit serious disease.

If cardiovascular disease is taken as an example, **Primary prevention** denotes delaying or limiting a first event in individuals who have not yet been formally diagnosed with disease. The identifying risk factors are commonly regarded as if they were in fact a reason for an initial therapy. **Secondary prevention** seeks to prevent, postpone, or limit recurrence of a clinical event in patients who have been previously diagnosed with disease.

Unfortunately, the functional distinction between types of prevention appears to be blurring thus generating cost-ineffectiveness when allocating budgets for Preventive Medicine. The National Institute for Health and Clinical Excellence (NICE) in the UK estimated that a 1% population wide lowering of cardiac risk factors would net substantial savings yet even with prevention services remaining as they currently are.

“Life’s Simple 7” defined by the American Heart Association

- ▶ Not smoking or quitting over 1 year ago.
- ▶ Body Mass Index BMI \leq 25 kg/m².
- ▶ Exercising at a moderate intensity for \geq 150 minutes or 75 minutes at vigorous intensity each week.
- ▶ Eating a “healthy diet”: adhering to 4 to 5 important dietary components.
 - ▶ Sodium intake < 1,5 g/day.
 - ▶ Sugar-sweetened beverage intake ,36 oz or < 1 liter weekly.
 - ▶ 4 to 5 pieces of fruit or 4.5 cups and vegetables per day.
 - ▶ Three 1 oz servings or \geq 6 spoons of fiber-rich whole grains per day.
 - ▶ Two 3.5 oz servings of oily fish or 250 mg per week.
- ▶ Maintaining total cholesterol (TC) < 200 mg/dL.
- ▶ Keeping blood pressure \leq 120/80 mmHg.
- ▶ Keeping fasting blood glucose < 100 mg/dL.



“Life’s Simple 7”

The **American Heart Association - AHA** has defined ideal cardiovascular health with a list of 7 parameters including four related to behaviour and 3 factors for control.

Obviously, the list should follow the eating habits of each part of the world. Fortunately, the Mediterranean diet already includes most of the points mentioned above, not to forget that the rest of these parameters refer to the individual’s attitude towards healthy living.

Health Status: therapy and behaviour

Now let’s fit lifestyle into the three health status:

- ▶ Disease has been diagnosed.
- ▶ Subclinical disease.
- ▶ Disease does not exist.

The three of them share some risk factors:

- ▶ Level of exercise or physical activity.
- ▶ Obesity.
- ▶ Aging: cut-off point at age 55 for males and 60 for females.

- ▶ Tobacco / smoking.

The three of them should check the same parameters:

- ▶ Glucose.
- ▶ Blood pressure.
- ▶ Cholesterol.

All three are very much influenced by the individual’s environment and attitude towards health. The patient level of adherence to prescribed medication is of high importance to keep in line the parameters above. It is as well essential for Health Care Delivery

to have means to monitor the follow-up and provide enough resources, costly-effective, to reduce both mortality and the use of health services.

The pharmaceutical industry is now involved in the development of a new concept of pill. Coronary heart disease represents the biggest challenge to society. Patients are forced to take several pills to control their disease. Substituting all of them for just one, the so called **polypill**, will not only change cost of treatment but improve patient approach to disease, increasing adherence and follow-up.

When the disease is subclinical, such as in treated hypertension with normal blood pressure readings and no other events, the patient attitude is critical. Control of risk factors together with appropriate monitoring greatly decreases mortality risk.

The use of inexpensive, non invasive techniques such as CIMT, carotid intima-media thickness imaging for cardiovascular diseases or biomarkers in brain degeneration helps predict risk of disease events that have not yet occurred.

Promoting Health in our society

Influenced by:

Behaviour. We live in a consumer society where there is no frustration tolerance. We are used to have and get everything we want. Stress is generated when not achieving all we crave, thus creating an unnecessary disease. Our attitude towards life, our lifestyle is crucial to address the natural aging process. Smoking, excessive alcohol consumption, no body and mind exercise, being influenced by consumer advertising pushing for constant competition do not help for an adequate care of our health.

Lack of adequate policies. There is no sense of the lack of health promotion, which means a disease in the long term, of who invests in the project, who controls it and who gets the benefits. Doing a superficial analysis,

one could say society is the one getting all benefits by improving health. However, that is not entirely true because the better the health state, the lower the costs of Health Care. The concept shifts from therapeutic cost to preventive and diagnostic cost. Even so, the investor does not offset the investment since benefits are not immediate or in the short run but in the long run.

Lack of intersectorial cooperation.

Participation of the different players and work groups is required to change lifestyle. Working with the same goal at different levels makes the outcome turn into a common benefit. Just as we are becoming aware of the consequences of climate change and working on marketing campaigns to encourage a reasonable consumption of resources, we should realize that deterioration of our health involves further care needs that could end up collapsing the current HealthCare system. Increased longevity with multiple impairments is not the same as longevity with a health state under control and identified needs.

Mixture of Health communication and Healthcare Delivery.

We should be able to communicate what healthy living is and provide means to promote health. The development of marketing campaigns to improve our lifestyle must come with a commitment, at the highest level, to make the means available to meet the standards. Vaccination campaigns at school sites instead of other health centres, easy access to regular check-up for age-adjusted risk factors, non invasive diagnostic methods or high-tech procedures that when applied in large population bring cost down and allows a widespread use. Obviously, all this implies providing the means for such Health Care.

Lifestyle and Insurance

Now we transfer these concepts into Insurance. So far lifestyle was limited to simple question on sports, alcohol and drug consumption, smoking, and occasionally motorcycling.

It is true that these questions provide important information on individual’s behaviour but, by no

Patient adherence to prescribed medication is vital as well as cost-adjusted follow-up health care plans

CIMT ultrasound

The CIMT ultrasound is a non-invasive test easy to use. The images below show how the atheromatous plaque is identified inside the carotid artery.

Cardiovascular accidents or strokes are one of the most common symptoms of atherosclerosis and the third leading cause of death after ischaemic heart disease and cancer. Approximately 80% of all strokes are ischaemic and 30 – 50% of these are caused by carotid atherosclerotic plaques. However, not all plaques become symptomatic and will lead to stroke. Conventionally, advanced atherosclerotic lesions are estimated to be more dangerous and internal carotid artery stenosis is considered to represent a higher risk of cerebral ischaemia when it exceeds 70 % narrowing of the lumen section.

The overwhelming majority of patients with severe carotid stenosis remain asymptomatic for years and even indefinitely. Therefore, it is self - evident that the degree of stenosis is not the only factor that represents a risk of cerebral ischaemia. Besides the degree of stenosis, the structure of the atherosclerotic plaque or pathophysiological features within the plaque increases its instability. These details play a key role in predicting stroke risk.

All these show that the vulnerable or unstable plaque has a predisposition to breaking and fissuring, and hence for embolisation to the brain or sudden occlusion of the arterial lumen, with the consequent congruent neurological symptoms.

Therefore, the use of tests such as the carotid ultrasound helps to control subclinical disease, do follow-up and make therapeutic decisions.

When disease is not present we cannot forget that we are all vulnerable and live in a society where vulnerability is poorly tolerated.



means, show the overall concept of lifestyle. We cannot monopolize the health questionnaire with questions trying to find the applicant's vision on the point.

Perhaps a different approach to the analysis of data provided by the candidate should be considered in risk assessment.

Of course, we should ask about alcohol consumption or smoking but maybe, some other information on daily living, such as use of public transport, distance from home to workplace, eating habits (home made food, daily menu, sandwiches), sweetened drinks, sodas, leisure activities including time spent in front of the television, could be added.

Regarding health state, questions have a more specific reply:

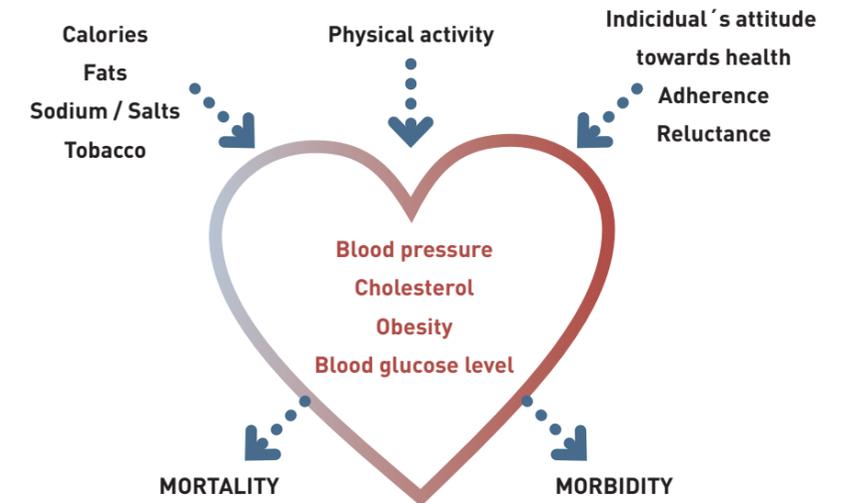
- ▶ If disease has been diagnosed, monitoring treatment and follow-up on events are key factors. Adherence to therapy is critical for mortality and morbidity control as already mentioned.

- ▶ In case of subclinical disease, with no symptoms, follow-up, regular blood tests, changes in medication and additional testing are excellent ways to decrease mortality and morbidity.
- ▶ If there is no disease, prevention plays a key role. Regular check-ups/ routine screening adjusted to age and family history shows the way to maintain good health.

So, there are two ways for finding out the lifestyle of the individual:

- ▶ The health questionnaire.
- ▶ Medical tests.

Understanding this approach to life will only be available through a clear and concise wording of questions. At present, questionnaires are more and more limited with both dense and short questions. Expert systems, by using triggering questions, may be the key to get complete information on any particular condition the applicant may have.



The current required medical tests will undergo deep changes in the near future. The introduction of non invasive imaging techniques and biomarkers is changing the traditional concept of diagnosis and treatment. As these new tests are becoming more reasonable and affordable, there will be a progressive shift from some of them into these new more efficient ones.

The polypill not only changes the cost of treatment but improves patient approach to disease increasing adherence and follow-up

To think about

We must encourage research to move from the idea of disease into the concept of health.

Motivation is implanted in our mind since childhood. The concept of lifestyle must be conveyed from the beginning of life, helping children to understand the risk factors in our system and transmitted to adults to help them change their habits.

Our attitude towards life is critical. No matter what happens, we must find a solution to keep going. We need to be consistent with our thoughts and show it in our behaviour. If things

We should realize that deterioration of our health involves further care needs that could end up collapsing the current HealthCare system

do not work as expected, an alternative plan should be considered to always look ahead.

Governments play an important role in lifestyle. Setting rules and regulations and allocating resources for Healthcare are part of this change. Regulations on food ingredients, advertising and education as well as those resources available to the public are key components for developing the lifestyle of each individual.

This change in lifestyle needs all of us to participate and involves all levels, education, communication, research, team work and attitude towards problems.

Insurance factors should think very carefully about how to include lifestyle and all it implies in the applicant's risk assessment.

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The insurance market in Russia

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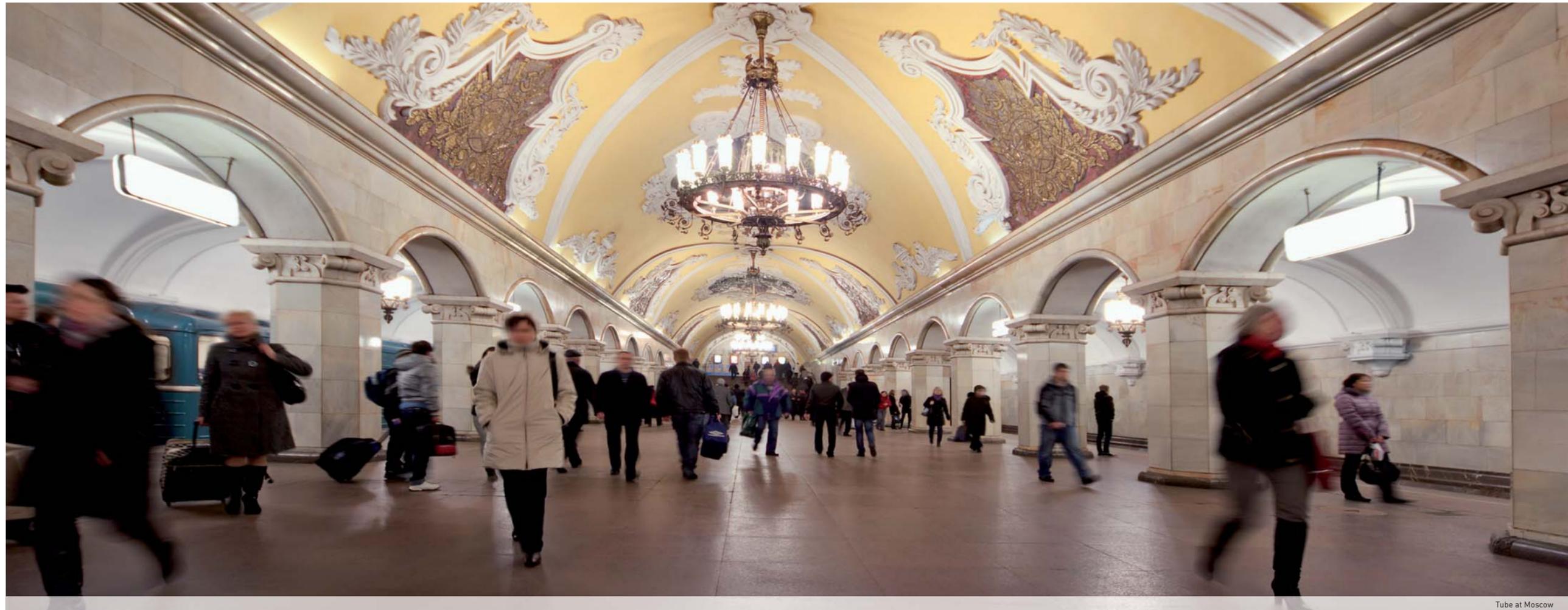
General view on the Moscow financial city

Among the markets of the emerging countries, the Russian Federation's insurance market is turning out to be the most important and to have the greatest potential in Central and Eastern Europe. In 2010, Russia, with a population of some 140 million and abundant natural resources, ranked ninth in the world in terms of gross domestic product (GDP), with USD 1,803 billion, placing it between Italy and Canada.^[1]

Russian insurance in the world market¹

- ▶ Russia's share of the world insurance market is 0.96% of total premiums, put at USD 4.3 billion in 2010.
- ▶ In 2010, Russia ranked 19th in the world in terms of total premium income (USD 41,644 million), behind Ireland and ahead of Belgium.
- ▶ As regards Non-Life premium income, Russia ranks 12th in the world (USD 40,742 million), after Spain and ahead of Australia and Brazil. Its share of the world market is 2.24%.
- ▶ On the other hand, with per capita premium of USD 296.8, Russia comes behind Brazil, occupying 48th place in the world ranking.
- ▶ As regards insurance penetration, Russia drops to 55th place, with an insurance market accounting for 2.3% of its GDP in 2010.
- ▶ In 2010, total Russian premium accounted for 47.4% of the total premium in Central and Eastern Europe (USD 87,806 million),

¹ Data from Swiss Re, Sigma No. 2/2011. "World Insurance in 2010".



Tube at Moscow

The decisive return to the real, classic insurance market, geared to Western insurance legislation, occurred in Russia from 2006 under pressure from State regulatory bodies

After the demise of the USSR in 1992, Russia abandoned the state-controlled obligatory insurance system in favour of a voluntary insurance market based on private property

having overtaken the figures for Poland (USD 17,763 million) and the Czech Republic (USD 7,914 million).

Background

After the demise of the USSR in 1992, Russia abandoned the state-controlled obligatory insurance system in favour of a voluntary insurance market based on private property, although some types of compulsory social insurance were maintained to cover the needs of the State.

The old state monopoly for domestic insurance, *Gosstrakh*, became the privatised *Rosgosstrakh*, Russia's current market leader. The same thing happened with the old state monopoly for

"external insurance" (international), *Ingosstrakh*, which was also privatised and, with Western investors now also having a stake in it, remains one of the most important Russian insurers.

During the transitional phase up to 2006, the main features of the Russian insurance market were:

- ▶ Strong presence of captive insurance companies created by influential private economic and financial groups (Alfa, Interros, Lukoil).
- ▶ Use of schemes to optimise tax payments to the State, these being channelled through insurance (chiefly Life and reinsurance).
- ▶ High number of not very viable insurers created to implement the schemes in ques-

tion. In 1995, there were 2,217 insurance companies in the Russian State Register.

- ▶ Non-Life insurance predominates over Life insurance for various reasons, including the situation of the Russian economy during the political transition, the low level of insurance culture among the population and the lack of confidence in private insurance.
- ▶ Compulsory social insurance accounts for a large part of the market's total portfolio (around 50%).

The decisive return to the real, classic insurance market, geared to Western insurance legislation, occurred in Russia from 2006 under pressure from State regulatory bodies. The market was then restructured, with processes of concentration among insurance

companies being triggered at the same time. The presence of international capital in the Russian insurance market also increased. As a result, a substantial number of insurers lost their licences.

Insurance in the Russian economy

Russia currently has 604 registered insurance undertakings, comprising 597 insurance companies and 7 mutuals [2]. Under recent amendments to the "Federal Law on the Organisation of Insurance Activity in the Russian Federation" which came into force on 1 January 2012, Non-Life insurers will have to have equity capital of at least EUR 3 million in order to be able to operate in the market. For Life insurers, the figure will be a minimum of EUR 6 million.

As for reinsurers or insurance undertakings licensed to transact reinsurance, the equity capital has to be at least EUR 12 million.

According to official estimates, more than 100 insurance undertakings were expected to lose their licences with effect from January 2012 through being unable to meet these requirements.

According to the Russian Federal Service for Insurance Supervision (FSIS), in 2010 the aggregate equity capital of all Russian insurance companies was equivalent to USD 6,008 million. Their combined assets came to USD 38,380 million and their combined technical reserves totalled USD 21,040 million [3].

Table 1: Development of premium and losses in Russia 2004-2010.

Source: FSIS – Russian Federal Service for Insurance Supervision. Reports 2005-2011.

Year	Total premium in USD million	Losses in USD million	% loss ratio
2004	16,368	10,123	61.8%
2005	17,521	9,921	56.6%
2006	22,337	12,905	57.7%
2007	29,845	18,197	60.9%
2008	39,015	25,676	65.8%
2009	39,591	29,742	75.12%
2010	41,766	30,846	73.85%



Table 2 : Distribution of premium/losses by class of business in 2010.

Source: FSIS (data at 17.03.2011) [2].

	Premium USD million	% of premium	Losses USD million	% loss ratio
Total 2010	41,766	100%	30,846	73.85%
1. Total voluntary insurance:	18,379	44%	9,312	50.7%
Life insurance	906.4	2.2%	319.6	35.3%
Personal lines (excluding Life)	4,901.2	11.7%	2,870	58.6%
Property/casualty insurance (excl. liability)	11,182.4	26.8%	5,911	52.9%
Third party liability insurance	1,070	2.6%	116	10.8%
Corporate and financial risks insurance	319	0.7%	96.4	30%
2. Total compulsory insurance:	23,387	56%	21,533	92%
Motor third party liability insurance ("OSAGO")	3,666	8.8%	2,221	61%
Compulsory health insurance ("OMC")	19,445	46.5%	19,050	98%
Compulsory insurance (excl. OSAGO and OMC)	276	0.7%	262	95%

USD = RUB 25

Table 3 : Top 20 Russian insurance undertakings by premium income in 2010.

Source: FSIS 23.04.2011 [2].

No.	Insurance undertaking	Total premium USD million	Losses USD million	% loss ratio
1	Rosgosstrakh	2,972	1,528	51.4%
2	Sogaz	1,877	889	47.3%
3	Ingosstrakh	1,647	1,137	69%
4	Reso-Garantia	1,433	775	54%
5	VSK "Strakhovoy Dom"	1,006	518	51.4%
6	Rosno (Allianz)	823	695	84%
7	Alfa-Strakhovanie	818	415	50.7%
8	Soglasie	632	280	44.3%
9	Renaissance Strakhovanie	480	261	54.4%
10	Uralsib	416	355	85%
11	MSK (Moscow Insurance Company)	401	293	73%
12	Zhaso	394	284	72%
13	Makc	378	227	60%
14	Kapital Strakhovanie	347	138	39.7%
15	Spasskie Vorota	344	263	76.4%
16	Yougoria	301	181	60%
17	Zurich	262	225	85.8%
18	Generali PPF Life	252	9.96	3.95%
19	Rostra	235	91	38.7%
20	BTB Strakhovanie	222	43	19.4%

(excl. OMC)

USD = RUB 25

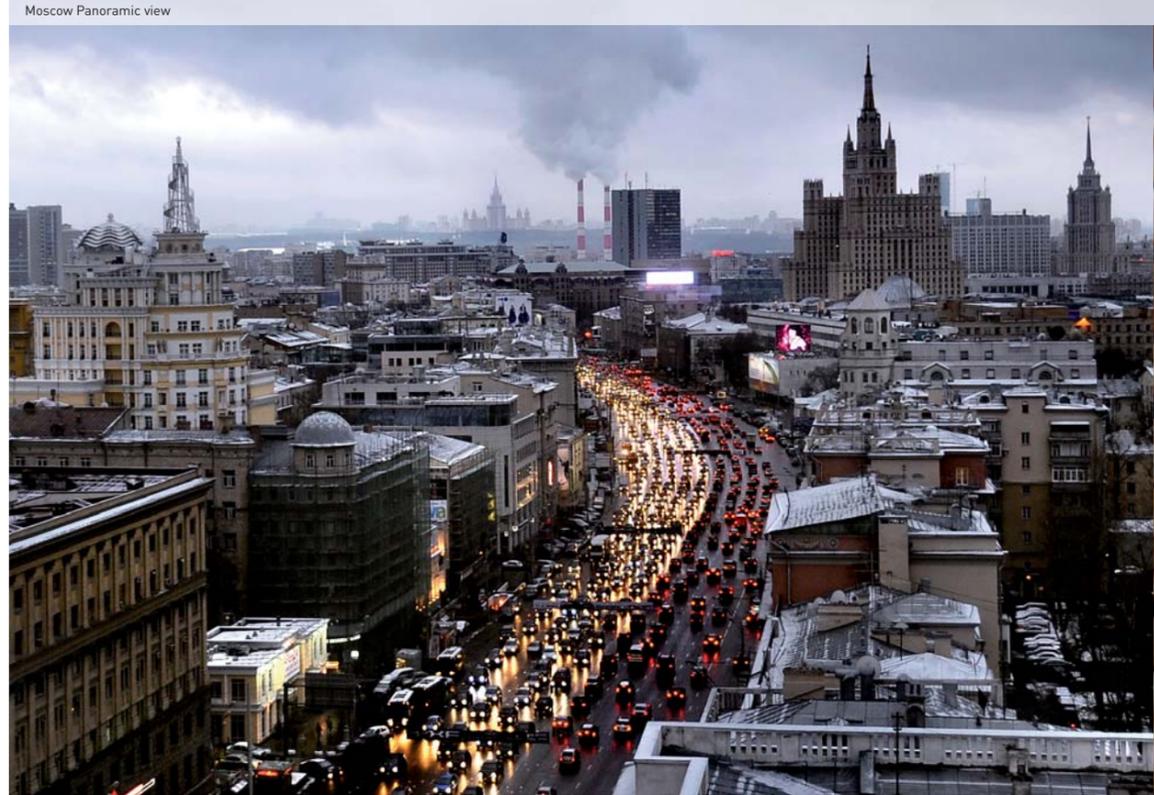
Table 4 : Distribution of premium/losses in property/casualty insurance in 2010.

Source: FSIS (data at 17.03.2011) [2].

Voluntary property / casual insurance (excl. liability)	Premium USD million	% of premium	Losses USD million	% loss ratio
Total 2010	11.182	100%	5,911	52.9%
Land transit insurance excluding rail transport	5,568	49.8%	4,228	75.9%
Rail transit insurance	37	0.3%	5	13.5%
Air transport insurance	202	1.8%	63	31%
Marine transit insurance	156	1.4%	110	70.5%
Cargo insurance	738	2.6%	90	12%
Agricultural insurance	391	3.5%	309	79%
Legal entities' and natural persons' property insurance	4,090	36.6%	1,106	27%

USD = RUB 25

Moscow Panoramic view



On 1 January 2012 the first Federal Law on the State Support of Agricultural Insurance in Russia, based on the principles of a public and private partnership model, entered into force

The dominant role of property/casualty insurance (around 30% of the premium for voluntary insurance) is due to industrial growth, the housing construction sector and the motor industry in the period preceding the crisis

The dominant role of property/casualty insurance (around 30% of the premium for voluntary insurance) is due to industrial growth, the housing construction sector and the motor industry in the period preceding the crisis.

The low volume of Life insurance in Russia stands out, in contrast to the structure of the insurance market in the countries of Western Europe.

As for the regional structure of the Russian market, the area of concentration is the Central Federal District, which is the European part of the country, as it accounted for 56% of premium in 2010 (excluding OMC compulsory health insurance), amounting to USD 12,497 million.

Property/casualty insurance

After the negative dynamic of 2008-2009, the voluntary property/casualty insurance market in Russia grew again, reaching total premium

of USD 11,182 million in 2010, compared with USD 10,788 in 2009.

Of the premium for natural persons' property insurance, 71% corresponds to motor physical damage insurance and 11% to home insurance. The concentration is strong in this class of business, as the 20 biggest insurance companies account for around 70% of the premium.

Agricultural insurance

Russia possesses considerable potential in agriculture, having 8.9% of the world's arable land, 2.6% of its pasture, 20% of its freshwater reserves and 8.3% of its fertiliser production.

Agriculture and the food industry form a priority activity sector of the Russian economy. In 2010 they accounted for around 8.5% of GDP (agriculture: 4.5% of GDP) and employed 7.1 million people (10.6% of the total workforce).

The Russian government has set itself the strategic target of increasing Russia's contribution to world agricultural and food production – it currently accounts for around 5% of world milk production, 3% of world cereal and grain production and 2% of world meat production. In this way it intends to guarantee the country's food supply while at the same time supporting export growth.

Today, agricultural insurance has a modest place in the Russian insurance market (3.5% of property/casualty insurance premium in 2010), but its importance and weight will grow in the future. In 2010, premium from Russian agricultural insurance stood at USD 391 million and losses amounted to USD 308 million, giving a loss ratio of 79%. In 2010, Russia insured only 13% of its cultivated land (8 million hectares out of a total of 63 million). The Russian government is currently proposing to increase this figure to 40% in 2012 [4].

The severe drought that hit various parts of Russia in 2010 prompted the government to take strong measures to speed up reforms

in agricultural insurance. On 1 January 2012 the first Federal Law on the State Support of Agricultural Insurance in Russia, based on the principles of a public and private partnership model, entered into force. The amount of state subsidy announced for 2012 will be USD 200 million.

It is interesting to note that the first law on agricultural insurance in Russia is the outcome of Hispano-Russian cooperation which has been developing through the Agricultural Insurance Cooperation Agreement signed in 2007 between the Russian and Spanish Ministries of Agriculture jointly with ENESA (State Agricultural Insurance Institute), *Agroseguro* and other Spanish private and public undertakings for the fruitful exchange of

Table 5 : Development of total reinsurance premium and losses from 2007-2010, in USD million.

Source: FSIS 2008-2011.

	2007	2008	2009	2010
Total reinsurance premium	2,479	2,213	1,740	1,472
Total reinsurance losses	625	697	607	432

experiences between Spain and Russia in the area of agricultural insurance.

Experts say that, as the reform in agricultural insurance prospers, the capacity of the Russian agricultural insurance market may reach between USD 1.6 billion and USD 1.9 billion in the medium term. Hence the interest that it is arousing among traditional international reinsurers of this class of business.

Foreign capital in the Russian insurance market

In 2011, the share of foreign capital in the aggregate equity capital of Russian insurers exceeded the maximum limit of 25% set by law (USD 1.5 billion for 2010). For example, German capital (from Allianz and Ergo) is represented in Rosno, the Dutch Fortis group has invested in Oranta, the British capital represented comes from Ace and Aviva and the Swiss capital from the Zurich Group, while France's Axa has invested in Reso-Garantía, the Czechs and Italians have put money into Generali PDF and United States capital is represented in Chartis.

The global financial crisis did not have any radical effect on the Russian insurance market, as it had not received any economic support from the State

With the foreign shareholding limit exhausted, the regulator has currently stopped new shareholdings and acquisitions from outside Russia.

Nevertheless, pending Russia's accession to the World Trade Organization (WTO) in the course of 2012, the Russian government is showing its willingness to increase the aforementioned limit to 50% in 2012, thus seeking the possibility of increasing the capitalisation of the domestic insurance market.

According to data from the FSIS, in 2008 there were 82 insurance companies in Russia with foreign shareholdings, the total insurance premium of which amounted to USD 7,869 million and the reinsurance premium to USD 512 million.

It is striking how much interest foreign investors are showing in Life insurance, a segment which is considered to have good prospects in the medium term as the Russian middle class acquire economic importance as modernisation progresses.



Oil well. Siberia

The first law on agricultural insurance in Russia is the fruit of Hispano-Russian cooperation through an Agricultural Insurance Cooperation Agreement signed in 2007 between the Russian and Spanish Ministries of Agriculture

Reinsurance in Russia

According to official data (FSIS), in 2010 the Russian reinsurance market's capacity was put at USD 1.5 billion [5]. Total estimated reinsurance premium income in the markets of the republics of the former USSR is calculated at USD 2-3 billion, of which Russia accounts for around 80%, Ukraine about 12% and Kazakhstan about 4.6%.

In 2010 there were some 156 companies in Russia transacting reinsurance, 22 of them being professional reinsurers. Russian

reinsurers generally offer the service for the Russian insurance market and those of the CIS countries. Various segments of this regional market generate profits and are attractive to insurers. The segments in question are: property/casualty insurance, agricultural insurance, industrial and construction risks insurance, marine insurance and motor insurance.

On average, Russian companies cede between 9% and 13% of their premium from direct insurance abroad, the figures being higher in the case of property/casualty and liability

reinsurance, which stand at 16% and 21%, respectively. The tendency in recent years has been to obtain increased support from international reinsurers.

For types of reinsurance involving large numbers of contracts, over 50% of contracts arranged by Russian companies are proportional and the rest are non-proportional. The main classes of business are CAR and EAR, property/casualty risks and cargo.

Russian insurers place their motor business (motor own damage, compulsory third party) in



Zhivopisny bridge, Moscow

the domestic market, with relatively low limits of cover. Property/casualty, marine, aviation and other more complicated risks tend to be reinsured abroad.

As to the channels for placing risks, the majority of Russian cedants prefer to contact the head offices of reinsurance companies direct or cede risks through a broker. More than 70% of cedants choose continental Europe as their preferred market [6].

The reduction in total reinsurance premium in recent years reflects the consequences of the measures imposed by the regulator to eliminate unacceptable practices from the market. For example, companies with reinsurance premium income of USD 656 million in 2008 -or 30% of the market- had their licences withdrawn in 2009.

Outlook for the Russian insurance market

The global financial crisis that began in 2008 did not have any radical effect on the Russian insurance market. The voluntary classes of insurance like the corporate property/casualty insurance sector and the motor insurance sector were the ones that really suffered from the recession. The fact that, even in a crisis situation, the Russian insurance industry did not receive any economic support from the State is significant.

Experts at Standard and Poor's consider the Russian direct insurance market to have considerable growth potential, to be well diversified geographically and not to have much exposure to catastrophe risks.

According to AXCO analysts, the potential volume of a developed insurance market in Russia has generated great interest in the international insurance industry and has increased investment in recent years. Pre-crisis estimates suggested annual growth percentages of 30%, with premium income in excess of USD 60 billion from 2012 [7].

Other Western experts like Ernst & Young also continue to rate positively the possibilities for growth and the investment potential of the Russian insurance market [8].

Russia's imminent accession to the WTO is expected to have the following effects on its insurance market:

- Recovery of strategic value as the main market of Central and Eastern Europe;

- Attainment of a greater degree of liberalisation with the establishment on Russian territory of branches of international insurers, supported by the expected increase to 50% in the limit of foreign investment in the total equity capital;
- Spread in the use of new technologies and products through the arrival of Western insurance culture, giving rise to a portfolio of clients with purchasing power around the emerging Russian middle class.

The damage caused to the Russian economy during the summer of 2010 by the wave of forest and house fires, as well as by the severe drought, obliged the Russian authorities to urgently devise and implement measures aimed at encouraging the population and the Russian business community to use insurance as the most appropriate risk management tool in a modern, developed economy.

The result of this strategy will have to be the adaptation of current insurance legislation, techniques and practice in Russia to international regulations and standards.

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interview with **Dr. Tiziana Rossetto**

EEFIT
Chairperson
Earthquake Engineering Field
Investigation Team
London – United Kingdom



Tiziana Rossetto joined University College London (UCL) in 2004. She founded and directs the Earthquake and People Interaction Centre (EPICentre, www.epicentreonline.com), which is a multidisciplinary research group looking at topics of earthquake and tsunami risk. She also directs the MSc Earthquake Engineering with Disaster Management which she founded in 2006. The main focus of her personal research, has been the development of empirical and analytical methodologies for the derivation of vulnerability curves, which can be used to predict the probable damage in structures during an earthquake. Tiziana has undertaken a number of field missions to assess damage to buildings and infrastructure in earthquake zones including the L'Aquila earthquake 2009, Wenchuan, China earthquake of 2008, the Kashmir Earthquake of 2005, the Sumatra Earthquake and Tsunami 2004, and the Bhuj Earthquake, India 2001.

“We do not know where all the world’s earthquake fault lines are”

Following the recent spate of earthquakes and tsunamis around the world, Trébol caught up with the chairperson of the UK’s Earthquake Engineering Field Investigation Team (EEFIT) that is working hard to gather much needed information about these catastrophes and the performance of structures in the face of real events.

EEFIT (Earthquake Engineering Field Investigation Team) is a group of British earthquake engineers, architects and academics who seek to collaborate with colleagues in earthquake prone countries to learn about and improve the seismic resistance of both traditional and engineered structures. EEFIT is a charity and is a joint venture between universities and industry. It was established in 1982 after a small collection of engineers met to discuss and agree the formation of a UK-based earthquake field investigation team.

Its founding objectives essentially remain unaltered today. EEFIT wants to expose UK earthquake engineers to real earthquake and tsunami damage to enable them to report on the performance of civil engineering and building structures under seismic loading. And so it sends its members on missions to disaster areas following major catastrophes



Building damaged by the February 2010 earthquake at Valparaiso, Chile

EEFIT wants to expose earthquake engineers to real earthquake and tsunami damage to report on the performance of civil engineering and building structures under seismic loading

to observe the damage caused and its effects on the natural and built environment. EEFIT say this is crucial to ensure lessons are learnt and secure vital knowledge to help improve future resilience. Dr. Tiziana Rossetto told us how the organisation is attempting to learn lessons from these events in order to improve future resilience and seismic building design.

Gathering data in the field

“The only way to check the real performance of engineered and non-engineered buildings is by going out to see the effects of an earthquake after it has happened. Even though these are tragic scenarios, they are a test bed for the built environment from which we can learn. Seeing the effects in the field is always different from abstract theory and allows us to bring back lessons learnt into the UK for both engineering practice and academia” explained Dr. Rossetto, who also lectures at the University College London’s Civil, Environmental & Geomatic Engineering department.

The data collected by EEFIT contributes to an improved understanding of structural behaviour and an evaluation of the adequacy of current design practices and regulations. “Such investigations are vital” affirms Dr. Rossetto because earthquake engineering is a young discipline and further knowledge is crucial to help deal with the uncertainties that surround these events.

There is only 50 years of quality events data and the events often occur only every century, so there is a lot we still do not know about their consequences for structures and building materials

“There is only 50 years of quality data regarding earthquakes and tsunamis. With many large earthquakes having return periods that span centuries, there is a lot we still do not know about their forces and the consequences for structures and building materials under the shaking and dynamic loading that they produce,” she stated.

Making EEFIT economically sustainable

The organisation partners with the Institution of Structural Engineers (IStructE), that has



Presidential Palace collapsed by the August 2010 earthquake at Port Prince, Haiti

offered support since the end of the 1980’s, particularly in areas of administration. The charity has also benefitted from corporate sponsors with the likes of Willis Re., AIR Worldwide Ltd, Aon Benfield and Risk Management Solutions (RMS), offering support from the risk and insurance industry over the last 30 years.

The Engineering and Physical Sciences Research Council (EPSRC) has moved to ensure the future of EEFIT remains bright with a recent award of a research grant to conduct a further five earthquake reconnaissance missions over the next

five years. Costs have also been met by membership subscriptions.

Corporate membership costs GBP 250 and companies that choose to support EEFIT can then nominate an individual from within their company to take part on a mission. Members come from a wide range of backgrounds including academia, civil engineering, technical engineering, social science and the risk and reinsurance industry. The organisation currently stands at around 130 strong.

Whilst the organisation is primarily aimed at ensuring UK engineers and experts are

afforded the opportunity to experience and study earthquakes and tsunamis, it does have members from across the world, and partners with worldwide academic institutions, partner institutions of the IStructE and foreign branches of member companies for its missions.

The Missions

“We observe the damage and the effects to both the natural environment and the built environment. We try to identify the main

Over the years, Field Reports have helped to develop seismic design codes, identify the effects of liquefaction and consider the value of tsunami warning as opposed to tsunami-resistant design

lessons that can be learnt. We ask why buildings have collapsed and why they have not withstood the loads -were they too big or were the design specifics wrong- and we note other particular features of interest that might spark new research,” noted Dr. Rossetto.

EEFIT’s missions to stricken areas are relatively short in time and last for approximately one week. They typically take place about two weeks after an event so that the participants do not interfere with the relief operation but are on the ground before the clean-up begins in earnest.

The size of each mission group depends on where the earthquake has taken place and the size of the event. Within each mission, members carry out a detailed technical evaluation of the performance of structures, foundations, civil engineering works and industrial plants within the affected region. They collect geological and seismographic data, including strong motion records. They assess the effectiveness of earthquake protection methods, including repair and retrofit, to make comparisons between the actual performances of structures with the expectations of designers.

The organisation tries to ensure that each group contains a spread of skills. They will typically include a seismologist, a civil engineer, specific experts such as a bridge or nuclear engineer, more recently a social scientist and often people from the reinsurance industry that are more interested in general effects and losses. They also often contain junior EEFIT members -PHD students or young engineers- to train up the future generation of experts. Participants must be members of EEFIT but the chairperson explained that non-members have volunteered and then become members subsequently with relative ease.

Access to disaster zones may not appear easy for a foreign NGO like EEFIT, but the counterparts of the Institute of Structural Engineers around the world offer help and support to facilitate expeditions. EEFIT mission members are often chosen because

Inspection of a building hit by the L'Aquila earthquake. Italy. ©EEFIT 2009



they have good contacts in the countries being visited. But often help comes in the form of good will from locals. And then of course, there are times when a Chinook helicopter ride from the US Air force, comes in handy.

In the Kashmir, Pakistan earthquake in 2005, the EEFIT mission was dropped into the heart of the disaster zone by the army helicopters carrying food and relief parcels to the stricken population. They also flew with the armed forces of Chile to monitor areas flooded by the tsunami after the Maule earthquake.

On every mission EEFIT carries out three levels of assessments. On the structural side they carry out 'drive through' assessments that involve a quick glance at the general level of damage within a certain area. These

will be followed by a 'street long' survey, whereby EEFIT investigates an area building by building to quickly assign the damage to each structure. The third type involves a detailed survey of particular buildings that are of real interest.

Since its inception, EEFIT has carried out field missions in 29 earthquake zones, with subsequent reports freely available on line. The latest having observed damage from the Chile earthquake in 2010 and the Christchurch, New Zealand and North Japan quakes in 2011.

Over a hundred UK-based engineers, split almost equally between industry and academia, have participated in past missions. It lists its training of these engineers along with its collaboration with

International Cooperation

With many earthquakes occurring in regions that are not at a sufficient stage of development to fund meaningful research programmes, EEFIT has played an important role in the support lent by developed countries.

“There have been a number of significant benefits, including training through observations of the practical effects of ground shaking, fostering strong links between practicing and academic participants, establishing international links and gathering data for research into a wide range of earthquake engineering topics,” explained a paper from the Institution of Civil Engineers¹.

other international field teams, including groups from France, Italy, the US, Chile, Peru and New Zealand to record earthquakes and develop responses amongst its key achievements.

¹ Booth, E., Wilkinson, S., Spence, R. J. S., Free, M., ROSSETTO, T. (2011). EEFIT: the UK Earthquake Engineering Field Investigation Team. Proceedings of the ICE: Forensic Engineering 164(FE3), 117-123

The Field Reports

But perhaps its reports are their defining contribution, based on findings from its missions, that disseminate research and findings to the rest of the earthquake engineering profession around the world.

Over the years these have helped to develop seismic design codes, identify the effects of liquefaction processes and considered the value of tsunami warning as opposed to tsunami-resistant design. The organisation’s geotechnical investigations consider whether there are any fault line breaks and whether the faults have actually come to the surface. They also measure displacements, look at landslides and the amount of liquefaction present in the affected area. Liquefaction is where the soil has essentially become like water and loses its strength causing structures to sink and topple over. There was a vast amount of liquefaction in both the Kocaeli earthquake in Turkey and Christchurch, New Zealand.

The reports recommend changes to building practices that can improve the future resilience in a studied mission area. For example, explained Dr. Rossetto, following study of the Northridge, California earthquake in 1994, engineers discovered that steel buildings, which at the time were thought to be highly resistant to earthquakes, could be unsafe under seismic loading if built using particular connection arrangements.

“Some problems were revealed in their construction. That has now been taken into account in seismic codes of practice. It is not just us, there are other teams also who go into the field and we, along with them, help to document what has happened and raise the issue in the general international community,” she added.

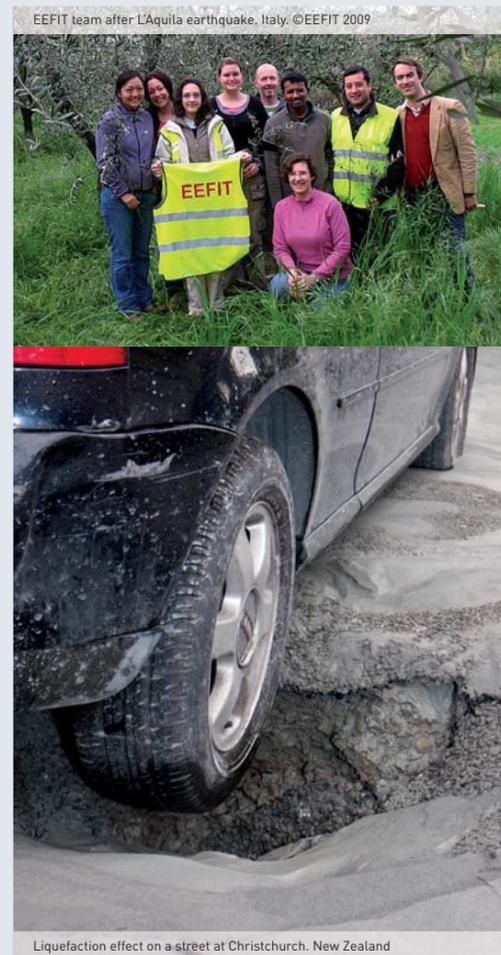
EEFIT produce “preliminary reports” within two weeks of each mission that state its basic observations. Historically, these were then followed up with a full-length report. But in recent times the in-depth analysis has been published as shorter, but “very high quality” summaries in journal papers.

Benefitting from New Technologies

EEFIT is also one of the founding members of the Virtual Disaster Viewer (VDV), a web platform that allows comparison of pre and post-earthquake satellite imagery and holds georeferenced pictures of damage and field observations.

Since its involvement in the development of the VDV, the organisation has also begun to use this technology to study disaster zones remotely. This began with the Wenchuan, China earthquake in 2008 and has been used in every earthquake visited since with ever more sophistication.

It allows members to participate in more missions by comparing before and after satellite imagery. The tool, which was developed by the company Image Cat Ltd, can drill down to street level and beyond.



Liquefaction is where the soil has essentially become like water and loses its strength causing structures to sink and topple over. There was a vast amount of liquefaction in both the Kocaeli earthquake in Turkey and Christchurch, New Zealand

EEFIT’s reports are placed online and are free to access for anyone who has an interest in the subject matter. However, in general, the recipients are earthquake engineers and academics around the world that then filter the information into the wider knowledge base. Eventually this knowledge will then be used to better prepare for future events and update seismic building codes.

Seismic Building Codes

Seismic buildings codes, on which EEFIT comments and recommends updates, are a set of usually mandatory guidelines that state how to best design a structure to withstand the loads and forces that result from an earthquake. They try to avert catastrophic building failure.

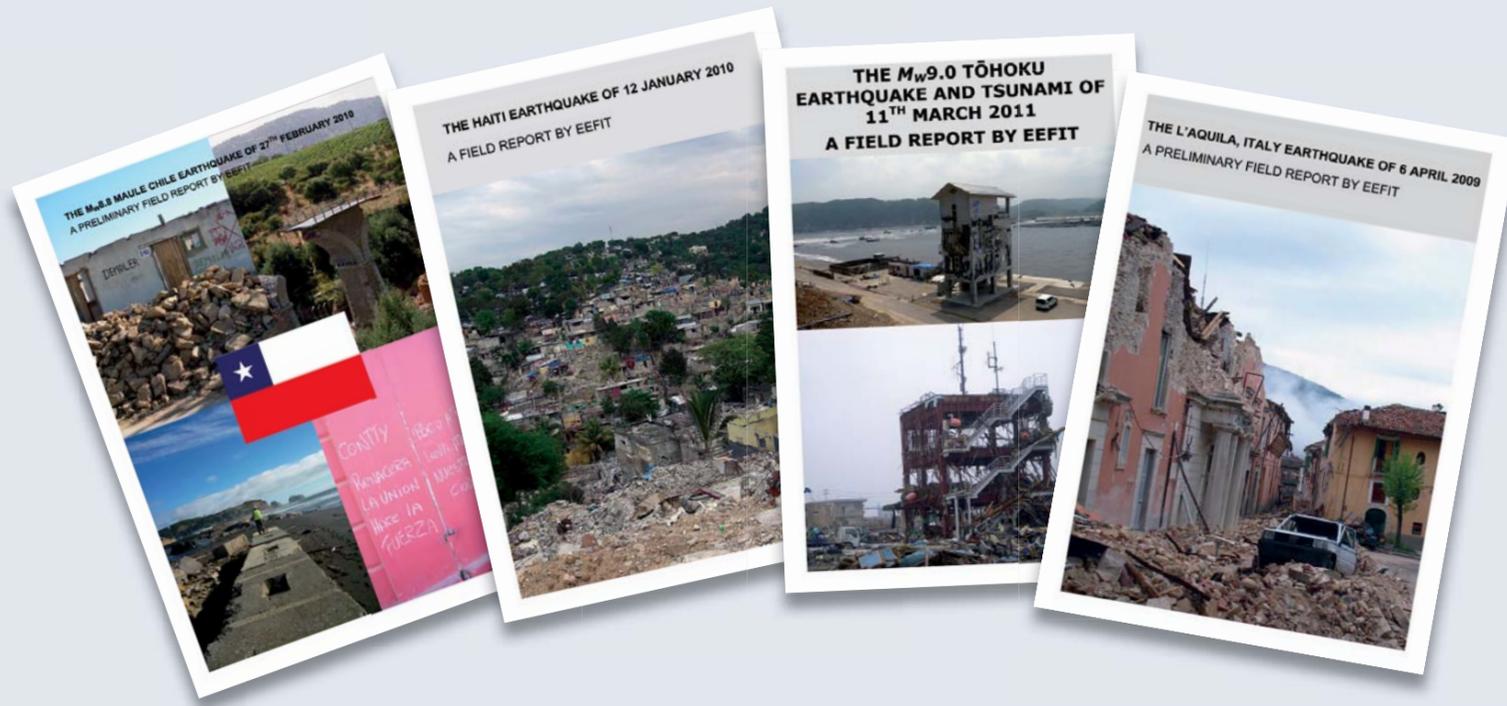
Modern seismic codes came into play in the 1970’s, predominantly in the US and Europe but also in various other parts of the world. But because of a lack of data they often underestimated the effects of ground shaking. The majority of worldwide codes and hazard maps were thus updated in the mid 1980’s and have continued to be updated as knowledge increased. However, many buildings have been built according to past seismic codes or no code at all. These are therefore deficient based on today’s information.

The Eurocodes, amongst others, are the most modern set of guidelines and were part of a batch that came into force at the beginning of this century. Any codes dating back to before this period are a “bit out of date” and will likely only stop damage from smaller earthquakes, noted Ms Rossetto.

“A lot of these revisions have directly come after large events as actual deficiencies in construction and design are highlighted,” explained Dr. Rossetto.

For example, the 1994 Northridge, California earthquake brought big changes to the seismic codes in the US. And the Chile earthquake in 2010 confirmed that confined masonry structures, which many in the engineering community had put forward as cheap alternative to reinforced concrete construction in developing countries, performed “very well”, she concluded.

“The codes have evolved along with our knowledge of earthquakes and observations,” said Dr. Rossetto. “And the seismic hazard has only ever gone up. The forces are always larger than we thought.”



As opposed to normal building codes, seismic design partly attempts to facilitate damage in certain areas of a building to avoid death to occupants and complete building failure. Damage does not necessarily mean a building has performed badly.

“The important thing is to save lives. So we design the building to be damaged but in locations that are not going to be life threatening. For example, we would not want damage to happen at the top or bottom of vertical columns because the storey will collapse. That is why we try and design for the damage to happen within the beams, the horizontal elements, so the building can sway but still maintain its vertical resistance and the roofs and floors will not fall in,” explained Dr. Rossetto.

“Developing countries often do not have the resources to build their own seismic codes and so they borrow from other countries. The obvious downside of this is that these may not reflect the building practices in

every country”, said Dr. Rossetto. “Building materials and local workmanship are often not up to the standards prescribed by developed countries’ codes”, she added.

“Bad workmanship is bad news and can undermine the resistance of buildings even when they are designed to seismic codes” said EEFIT’s chairperson.

“The two main site effects that play a key role in earthquake damage are site amplification of seismic excitations (on soft soils typically) and liquefaction at ground level”, she explained. The likelihood of both these effects has to be assessed and taken into account in the placement of structures and their design.

The Tsunami Effects

“There is however very little guidance in terms of tsunami design within the

codes”, said Dr. Rossetto. As they are rare, observations are thin on the ground and with such large forces involved, building to resist the largest tsunami is often not economically viable.

Only buildings deemed of critical importance should be built to withstand the biggest tsunamis. These include structures that play a critical role in the aftermath of an event such as coastal defence structures and nuclear power stations. Nuclear power stations also have to be built to more stringent earthquake design codes.

On the recent disaster in Japan, Dr. Rossetto explained that studies by EEFIT and other interested parties confirmed that the damage caused by the tsunami was more severe than the effects of the earthquake.

Japan has the best tsunami defences in the world and whilst they offered some resistance they were insufficient to stop

flooding from the tsunami, she said. A key issue was the fact that they were designed for a maximum wave height of six to eight meters, based on previous tsunami sizes. They were not prepared for a tsunami of the scale of that which occurred.

“We learnt that the defences can work but they have to be designed properly and updated to match our new knowledge. For example, a mayor in the town of Fundai insisted on building a 15 meter high tsunami gate and Fundai was one of the only towns in the affected region to survive unscathed,” pointed out the EEFIT person. But cost is a major issue.

Prior to the event there had been a lot of speculation and debate about the effectiveness of soft tsunami defences, such as forests. They were seen to provide some benefit in some areas but not in others, explained Ms Rossetto, “so it remains an unresolved question that we need to look into”.

Pricing Seismic Risk

"We think insurance can play a big part in actually promoting seismic mitigation measures. If as insurers you were to issue policies on a conditional grading scale, so that safe buildings get a discount if they are retrofitted or built to code standards, that would encourage everyone to update and comply because it will pay for itself in the long run with reduced insurance costs," urged Dr. Rossetto.

Insurance companies do this to certain degree by rewarding buyers for mitigation efforts and placing certain restrictions on policies in high earthquake hazard areas. But this is not necessarily easy to do in a soft market and often the best efforts are undermined because some insurers will offer coverage anyhow because of the competitive nature of the market. It seems regulation would be the only way forward to ensure standard risk profile pricing is enforced across the board.

And Dr. Rossetto stressed that knowledge of events and their consequences remains to this day limited in the scientific and earthquake engineering community. For instance, we do not know where all of the world's earthquake fault lines are. Often it is not until an event occurs that the community learns about catastrophic risk and its consequences.

Blind Faults

"There are lots of blind faults that have not ruptured in the last 100 years but no one has a historical memory of earthquakes in certain regions that they are occurring," she said. "The unpredicted liquefaction that occurred in Christchurch, causing untold damage, and the rupture of a previously unknown fault line just confirmed how little we know about the planet," added Dr. Rossetto.

If a large population has settled in a previously unknown earthquake prone



zone, there is often a calamitous result. But new technology is helping to find out areas at risk. For example, it has recently been discovered by experts at the Oxford and Cambridge Universities in the UK using Global Positioning Systems (GPS) that Tehran in Iran sits above a fault line.

Just to be realistic

"The seismological community is far away from being able to predict what is going to happen or what has happened, as we do not know enough about the structure of the Earth yet. What we can do is make recommendations on what we do know about the occurrence of past earthquakes and the vulnerability of the built environment. These can give us good indications on whether the risk in a location is high or low," she concluded.

For more information, please check:

EEFIT – Earthquakes Engineering Field Investigation Team

<http://www.istructe.org/knowledge/EEFIT/Pages/default.aspx>

ESPRC - Engineering and Physical Sciences Research Council

<http://www.epsrc.ac.uk/Pages/default.aspx>

ISE – Institution of Structural Engineers

<http://www.istructe.org/Pages/default.aspx>

VDV – Virtual Disaster Viewer

www.virtualdisasterviewer.com/



interview with **Javier Reverte**

Journalist and writer of Travel literature



“Tourism helps deprived population to grow”

Javier Reverte was born in Madrid and studied Philosophy and Journalism. He worked as a journalist for almost 30 years, working as a press correspondent in London, Paris and Lisbon and as correspondent in numerous countries around the world. He has also written articles, has been a political reporter, interviewer, editorialist, editor in chief, and reporter for the programme *En Portada* on Spanish national TV and assistant manager of the newspaper *Pueblo* that no longer exists.

Javier Reverte is a lucky man because he has turned his passion into a way of life. Africa gave him the passport to success and nowadays, his travel literature has an excellent reception. His books accompany those who want to replicate his particular way of searching for adventure and revive history, even though it is done from the coach. He continues looking for new experiences but it was a long time ago since he decided to take a travel insurance policy inside his backpack.

His real name is Javier Martínez Reverte and he is the author of various travel books which have been very well received by the Spanish readers : *“Trilogía de África”* (*“El sueño de África”*, *“Vagabundo en África”* y *“Los caminos perdidos de África”*), *“Corazón de Ulises”*, *“Billete de Ida”* (anthology of travel reports), *“El río de la desolación”* (a trip through the Amazon basin) , *“La aventura de viajar”* (memoirs of various trips throughout his life), *“El río de la luz”* (a trip through Alaska and Canada) and the recently published *“En mares salvajes”* (a trip through the Arctic).

You enjoyed autumn in the city of skyscrapers. What do you expect to find in New York that you have not found on your previous trips?

working as a journalist, I had the opportunity on three occasions to come here but each time I was unable to. So this is something I have always wanted to do. I do not want to die without having lived in what is, for now, the capital of the western or first world. I might

He has also published successful novels, amongst others: *“Trilogía de Centroamérica”* (*“Los dioses debajo de la lluvia”*, *“El aroma del copal”* y *“El hombre de la guerra”*), *“Todos los sueños del mundo”*, *“La noche detenida”*, *“El médico de Ifni”*, *“Venga a nosotros tu reino”* y *“Barrio Cero”*. Three years ago two novels published formerly saw the light again: *“Lord Paco”* and *“Campos de fresas para siempre”*.

He is the author of a biography: *“Dios, el Diablo y la Aventura”* about a priest from Madrid, Pedro Paez, and the first European to see the source of the Blue Nile in Ethiopia.

He has also cultivated poetry. His book *“Trazas de polizón”*, published in 2005 brings together three collections of poems. In 2011, he published the book *“Poemas Africanos”*.

His last work is *“Colinas que arden, lagos de fuego”*, where travel experiences from his beloved Africa at Kenya territories, Tanzania and Zambia are compiled.





Marine birds on an ice floe at the Nunavut archipelago, Canada

The figure of the white hunter no longer exists and today's hunters are almost butchers

I am not worried about the Earth global warming; I am just terrified

even write something about my experience. It is a truly exciting city, full of energy.

What sensations do you feel when every day, in the cradle of democracy, Greece, there are scenes of protests from the population and when old Europe is encountering serious difficulties to maintain political and economic cohesion?

In this case, crisis is very painful because I really love Greece for its past and present and I am seriously worried about the current situation, because of the way it will negatively influence the future of many people. How can we pass on to our children a society like this? However, I believe the crisis may clear many false values we have upheld and which made us live very comfortably. We must recover the deeper ethical values and condemn the usury system we live in once and for all.

In what way did your Greek colleagues Herodotus, with his account of the Greco-Persian wars, and Thucydides, with his description of the Peloponnesian War, influence your work as a journalist when you were in the midst of the Balkan war or in Ulster ?

When you are sending urgent articles from a war zone, you do not remember Herodotus or Thucydides. They were historians, they were not chroniclers of a specific event. They have influenced my intellectual formation as have many others, but not as a chronicler.

You have said that when you were writing about your first trip to Africa, 'you imagined a female reader'. Do you feel like the 21st century explorer who returns home to recount his adventures?

When my children were small and I returned

home from my travels, they would sit down next to me and ask me to tell them about my adventures. Now they are grown men and I no longer live with them. So, therefore, I no longer have anyone to tell directly, which is why I write my books.

Is there any positive legacy from the 'legend of the white hunter' in Africa?

The figure of the white hunter no longer exists, amongst other things because hunting has either been banned or is strictly regulated, or has been organised on large farms as a business. So, there is very little adventure. Today's hunters are almost butchers.

After studying the biographies of the great European explorers and reliving their expeditions, what qualities can today's genera-

tions admire in these men, whether they are British, German, Spanish or Portuguese, and which of their attitudes and prejudices should they avoid?

What was most admirable in the explorers was first, their curiosity and, second, their bravery. These are eternal values which any youth at any time should admire. With regards to prejudices, many of them were racist, they thought that to 'discover' meant the arrival of the white man, when there were other men who were already there when they arrived. But those prejudices have been overcome by history itself.

Whales have recovered the Northwest Passage in the Arctic Ocean, the one that you travelled through and described in 'Mares Sauvages'. Are you worried about Global Warming?

I am not worried about Global Warming; I am



Of course I am in favour of travel insurance

just terrified. Consider that we are playing with the survival of the species. If we make the world a place where it is impossible to breathe, we are condemning ourselves to suffocate and disappear. However, all things considered, the dinosaurs disappeared and yet the Earth continues to exist. We are not essential after all.

By using adjectives, you are able to transmit the feelings you have on each voyage, as well as painting the landscapes you travel through. Could a travel book be written taking into account Saramago's 'culture without adjectives'? 'Culture without adjectives'? It depends on the adjectives. I am in favour of adjectives that give substance to the subject, not of those that simply adorn it. This is why I prefer a culture of rich adjectives, substantial ones, rather than one without adjectives, dry as a barren field.

Let's talk of your reviled 'tourism plague'. How to be a good tourist when visiting protec-

ted sanctuaries of powerful nature and where the precarious situation of the population of a country awakens contradictory feelings in the visitor.

I think tourism helps deprived population to grow. What happens is that if those populations are governed by dictators, they keep the benefits for themselves. Nevertheless, tourism does help conservation because it provides cash. I do not hate tourism, not at all. Why should people not have a right to see faraway places?

Do you think travel insurance is necessary after your experience of suffering malaria in Brazil and the trip that made you write 'The River of Desolation'?

Of course I am in favour of travel insurance. In fact, I always take out insurance before I leave. At the beginning it did not worry me. In fact, I almost lost my life as a result of not having a hospital that would take me in when I was in Brazil. That taught me a lesson.

Pearls of Africa in "The African Dream"

Travels in Africa

In Tanzania almost nothing works at all, although almost everything always ends up getting sorted. Things get mended in unusual and unsuspected ways. If one is tidy and demanding, the result of a brief stay in Tanzania can only be desperation. If, on the other hand, you know how to enjoy the pleasant side of untidiness and you are not too demanding on others, a trip to Tanzania can be charming.

AIDS

- Is there a lot of demand for coffins in your country, James? - I asked.
- We have Aids, sir.
- A lot of Aids?
- Every family in Uganda has experienced death through Aids.
- It is ignorance - the Canadian declared. James smiled, allowing his large front teeth to pop out from his thick lips and I kept silent.

It is estimated that a third of West Africa's population will die of Aids before the end of the millennium. Seen from that angle, the African dream turns into a painful nightmare.

Religion

It is strange... in England, France, in your country... there are a lot people who do not have a God. Here we all believe in God. How strange. It was your people who brought religion to this land. There were wars and martyrs. And now it is you who do not believe in your gods. Tell me, why did you bring them?

Ignorance

Africa's problem is ignorance. We have a lot to learn but the effort to learn has to come from the Africans themselves. It has to be that way because as you know, man was born in Africa, and if he was born here, intelligence was born here also, don't you think?

Hunger

In Mombasa:
I paid the waiter the bill. A beggar came up to me and, through sign language, asked if I had finished eating and, if so, whether he could have the leftovers. Then, the beggar threw the bones onto the floor and a spritely white cat jumped from nowhere and took away the scraps. The cockroaches ran swiftly under the tables looking for the crumbs left by the cats.

The slave trade

In Kenya:
Still today, the main roads and railway lines that run inland from the coast follow the same route drawn by the slave drivers, who knows how long ago. Most of the tourists who go along them are unaware that they are travelling along paths sown by millions of invisible corpses.

The hunting of animals

In Tanzania:
The Masai came to this region two centuries ago. When the white pioneers discovered them at the end of the last century (XIX), they very quickly realised that this was the best hunting ground in the world. Huge organized butcheries began; the safaris where European and American millionaires paid real fortunes to acquire the best trophies. And the romantic figure of the "white hunter" started to become something of a legend. In the protected nature sanctuaries, the animals are not afraid of man, simply because they do not know our true nature. Africa is literary. And if there is one place in African history where everything merges making it possible for reality and dreams to live side by side, no doubt that place is the hunt. From there a legend has emerged that still survives today: that of the white hunter.

What was most admirable in the explorers was first, their curiosity and second, their bravery; many of them were racist, they thought that to 'discover' meant the arrival of the white man

Stones of Greece in 'Ulysses' Heart'

Democracy



Demos originally means 'lower half', below the *aristoi*, the best.

Greek democracy, since the days from Draco to Pericles, gave birth to an essential idea: no one is above the law [...] We owe this rule, which occasionally makes it possible for a human creature to be a nobleman, to Athens.

The triumph of Athenian democracy meant the defeat of ancient aristocratic ideals sung by Homer, where the 'best', the noblemen and warriors, were the only ones to speak in council.

Speech by Pericles during the first Peloponnesian war, year 431 B.C. in honour of the Athenians killed in combat:

Our constitution does not copy the laws of neighbouring states; we are a pattern to others rather than imitators ourselves. Its administration favours the many instead of the few; this is why it is called a democracy. If we look to the laws, they afford equal justice to all in their private differences [...]

Travelling according to Javier Reverte

Travel is not a sport designed for those who are sure of what they are, what they want, and where they are going [...] It is designed for those that sense that finding is not the important part of travelling and that fulfilling a dream can be, above all, to stumble upon adventure. It is true that we always come back, but one must not travel with the intention of doing so.



agenda

COURSES ORGANISED BY MAPFRE RE

Course	Method	Date	Venue
Risk and Insurance on Engineering, Construction and Assembly	Attend in person	July 16 th 2012 July 18 th 2012	Manila, Philippines Hanoi, Vietnam
Risk and Insurance on Renewable Energy	Attend in person	14 th -15 th November 2012	Istanbul, Turkey
Risks and insurance on Machinery Breakdown	Attend in person	20 th September 2012	Barcelona, Spain
Risks and insurance on Machinery Breakdown	Attend in person	27 th September 2012	Madrid, Spain

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