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Risk Management in the Insurance Business Sector

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Prologue

When at **everis** we thought of conducting a study on risk management in the insurance sector, we wanted to prepare a useful instrument to reflect on the current situation and the main strategies being implemented in the insurance sector with respect to the control of its various risks. On the one hand, we wanted to know how European insurance companies were facing their mandatory adaptation to the new regulatory frame, Solvency II, which, in spite of being in its definition stage, has already established general principles very clearly. Likewise, the study also aimed at covering the approach to risk control in the Latin American market and the influence of this new regulatory frame on risk management in the companies operating on the other side of the Atlantic Ocean.

However, the revolution in the world economy that occurred in the last year and a half has caused some financial companies to go bankrupt and others, including insurance companies, to be aided with public money to prevent their bankruptcy, may give a different nuance to the reading and interpretation of the results obtained. Readers may reflect on how the sector and their own companies approached the different types of risks at the beginning of 2008 and how they would approach them now when it has been verified that the insurance sector, in spite of being traditionally conservative and used to fluctuating economic cycles, has not been immune to the crisis.

In addition to the risk control which has traditionally been implemented by insurance companies so far, with higher or lower thoroughness in each case, of the more intuitive business risks (insurance risk and market risk), the introduction of other types of risk (specially the operational risk) in their global management will lead to a safer situation in terms of companies' viability, and also to the discovery of new improvement opportunities in production processes along the way.

Personally, I consider that the path taken is highly beneficial for the sector. However, its implementation has been rather slow, probably because of the significant consumption of resources involved.

Finally, I would like to thank the companies participating in the study for their collaboration. We are confident that the conclusions reached may provide useful information about the current situation and trends on such a topical issue.

Claudio Fernández
Insurance Service Unit Partner
everis

Table of Contents

1 introduction

The insurance sector has been immersed in a permanent updating process, fostering the changes needed to adapt both to the new economic environments and to the growing levels of safety, transparency and effectiveness which are increasingly being demanded by financial markets and citizens.

Their growingly frequent uncertainty necessarily leads supervisors and companies to look for higher levels of safety through new approaches to solvency, supervision and risk management procedures.

This complex scenario has encouraged us to conduct a study which may show the current situation and the evolution being implemented by insurance companies as regards risk management. To this end, a questionnaire was prepared and sent to all the participating companies. The goal of this questionnaire was to obtain three types of information to be used later for the analysis. First, classification of the participating company, by size, region of operation, business line and other criteria; this will let us group the answers and see if there are any common trends according to the type of company; second, the entity's view on how the sector is advancing in terms of risk management (subjective view); third, how the company is handling this risk management improvement process.

In Europe, the supervising companies of the participating countries (such as the Insurance and Pension Funds Office, in Spain's case), jointly with the European Commission and pursuant to the guidelines agreed upon at the Conference of Control Agencies, participated actively in the various workgroups held to define what has been agreed upon as Solvency II. Beyond any doubt, this will involve in-depth rethinking of the current regulatory frame regarding supervision mechanisms, business management and risk control, information transparency and, as a consequence of all this, of the level of own resources needed for the suitable operation of the insurance business.

In Latin America there is no global guideline for risk management, but the supervisors of several countries have announced that they will take Solvency II as a framework for their regulatory demands. For clarification purposes, an annex with the breakdown of the different types of risks and their classification according to the ASSAL (Latin American Insurance Superintendents' Association) and Solvency II was included.

Thus, for the purpose of this study, we have adopted the classification of risks indicated by Solvency II as a reference for the analysis[1].

Also, we would like to point out that the information presented in the study has been prepared thanks to the participation of financial institutions from nine countries: Spain, Portugal, Chile, Argentina, Brazil, Colombia, Panama, Dominican Republic and Mexico. Sometimes, the regional groups of such countries (in the case of Spain and Portugal they are not expected to be a representative sample of all Europe, but they may show a certain behaviour with respect to how the coming of the new standard Solvency II is being dealt with) are included in the analyzes. Besides, some specific conclusions for Spain, Portugal and Brazil have been drawn due to the high number of responses and the understanding that they are representative of the whole country.

Finally, the whole group of participating companies represents a significant percentage of each market and, therefore, of the regions considered. Thus, we understand that the information supplied may represent, through extrapolation, the sector's situation and behaviour in the regions in terms of operational risk and that the data included here may be of great interest for any other company. Therefore, this document comprises a significant number of graphs and tables which, even though they support and endorse the general conclusions reached, also aim at serving as a statistical support for further analysis by the reader.

[1] When this questionnaire was defined, the development of Solvency II considered five types of risk, and these were the risks included in the questionnaire. During the preparation of this report, the liquidity risk was included as part of the market risk.

SOLVENCY II

The European Commission approved in 1999 an Action Plan on Financial Services (PASF) for users and companies to be able to seize the opportunities of a single financial market, having at the same time a high degree of consumer protection. One of the most important guarantees in protecting the consumer is the obligation for insurance companies to create a sufficient solvency margin.

The European Commission focused on improving the current system by launching the project called Solvency I, which became effective in 2004. During the preparation of the project, it was observed that the mandatory solvency margin was not the only important parameter to determine the global financial situation of an insurance company, since the verification of other financial aspects was also needed. For this reason, Solvency II was initiated; this is a longer-term project which not only aims at defining a new frame of solvency for EU insurance companies, but it also seeks to improve companies' internal control, management, openness to clients, etc.

Solvency II derives from the Basel II model, geared to enhance the safety of the world's banking system, by focusing on companies' internal controls as well as on risk management models and processes, mainly by using statistical models prepared on the basis of companies' historical data, so that every one may cover their losses on the basis of the historic quality of their portfolio.

Basel II is to banks what the Solvency II project is to insurance companies.

Solvency II is the macro project started in the heart of the European Union; its implementation is scheduled for 2013 in this continent and it is based on three main pillars, namely: Creating financial reserves according to the real level of risk undertaken by insurers, communicating information to the market and to the supervisor and the ability of both supervisors and insurers to foresee and evaluate crisis situations. These three pillars can be summarised as follows:

- Pillar I: Measurement of own resources: assets, liabilities and capital.
- Pillar II: Supervision process.
- Pillar III: Transparency requirements through the disclosure of information to the market.

Almost all the institutions and organizations acting, either directly or indirectly, in the insurance business, are involved in the development of Solvency II, as it is the case of Spain with the Insurance and Pension Funds Office (DGSFP), the Accountancy and Auditing Institute (Icac), the Association of Insurance and Reinsurance Institutions (Unespa), the Confederation of Social Welfare Companies, the Actuaries' Association and the Department of Insurance Companies Cooperative Research (Icea).

Objectives of Solvency II

The project pursues two main objectives:

1. The development and implementation of a new system to determine the minimum own resources required from each insurer according to the risks undertaken and their relevant management. Calculation methods should be adaptable to the evolution of the companies' risk profiles. Finally, the goal is to establish the mechanisms or procedures for the calculation of the companies' minimum own resources based on the final exposure to risks.

2. The second objective of the project is to determine supervisors' new competencies and action mechanisms. The supervision body should be able to anticipate and prevent the occurrence of situations involving an increase in the risk profile of companies without causing an increase in the solvency levels required.

3. Finally, it also aims at establishing the information that the companies should disclose, mainly with respect to their risk management policy: undertaken risks, mechanisms available for their management, follow-up and control, etc., with a view to promoting market discipline. In this way, all market players (competitors, insured parties, potential buyers, supervisors, etc.) would have, for decision-making purposes, sufficient information on the existence and maintenance of the companies' solvency level.

Differences in Latin America

Currently, and unlike Latin America, the European Union allows the use of the free cross-border service provision system, including insurance; for this reason, all of the companies located within the EU should comply with the same regulations. As there is no Latin American Union or any other common area in Latin America and far less any freedom for the provision of services –that is, cross-border insurance services– the legislation of every country should opt for the regulations deemed applicable with respect to Solvency II matters.

From the strictly technical and legal viewpoint, Solvency II regulations constitute a dynamic concept and expect companies to acquire enough volume to honour their commitments. In turn they pose a danger for insurance companies residing in every country as market concentration may occur through mergers, among others.

From 1990 to date, in many countries and legislations in Latin America, the concept of minimum capital as static concept has been substituted by solvency-related rules, which can be verified in the increase of minimum capital amounts, higher demands for the creation of reserves, a different valuation of liabilities, preventing all assets from being allocated to solvency margin purposes and the incidence of reinsurance. In summary, they are a set of regulations intended to increase the margin of an insurer's available funds.

Although in the world there is an organizations governing the companies which supervise insurers called the International Association of Insurance Supervisors (IAIS) and, in the case of Latin America, the Association of Insurance Supervisors of Latin America (ASSAL), which discuss and set the standards to be followed for the later incorporation of the internal right of each country via Law, Decree or control agency's Resolution, Solvency II regulations are not foreseen to become jointly effective in America, but to be adapted by the respective legislations of the countries in the region.

As an example, the regulatory agency of the Brazilian market has anticipated its interest in adopting Solvency II.

Consequences of Solvency II

Some reports point out that Solvency II will substantially raise the legal demands of capital for most of the European insurance companies. However, the requirement of extra capital for the market in general is not likely to occur. This was stated by the rating agency in a special report where the results of the third study of quantitative impact of the future guideline (QIS 3) are analized.

It is also anticipated that Solvency II may imply higher pressure towards the sector's consolidation, improved competitiveness and allocation of capital, and a stronger risk management culture.

It also describes some of the possible implications for the European insurance sector derived from Solvency II future guidelines:

- It will result in a more efficient allocation of capital, increasing product design and pricing to best suit the risks involved.
- It will increase pressure towards consolidation, especially among small and medium-sized insurance companies.

- It probably will benefit larger insurance companies with sophisticated internal models, because the demands of capital with these internal systems are between 15% and 25%, lower than those obtained with the QIS 3 standard formula.
- It will increase the demand of reinsurance, securitization of liabilities and protection, in particular for insurance companies with a high exposure to intensive capital and long-term products, and for small insurance companies using the standard formula to calculate their demands of capital.
- It will create a risk management oriented culture, leading the European insurance sector to be better capitalised and more efficient and transparent.
- It will improve the competitiveness of insurance companies, both in and out of the European Union markets; however, the harmonization of the regulation and the cooperation between supervisors for European insurance companies and third country companies will continue being a challenge.
- It will foster business line diversification to decrease risks and, therefore, capital requirements.

Expert's Opinion

RAFAEL CAVESTANY
Risk Unit Director – everis business

ARE INTERNATIONAL INSURANCE COMPANIES OVERCAPITALISED OR UNDERCAPITALISED?

Within the insurance sector, there is controversy as regards the capitalization of insurance companies. Yet there is consensus in the necessity of a scientific and comprehensive process to determine the capital needs of insurance companies according to the risks they undertake.

There is a serie of circumstances causing insurance companies to accumulate high levels of capital: high returns on assets during positive economic cycle; lack of a standard to determine the levels of capitalization, causing them to establish their capital levels on the basis of a worst-case scenario; great international activity of mergers and acquisitions which has enabled companies to diversify their liabilities; lack of insurance companies' awareness about the need to manage their capital actively due to, on the one hand, absence of communication between risk managers and financial directors and, on the other hand, the complexity and high cost of systems and analytical developments for the specific and scientific calculation of capital needs according to the risks undertaken, in addition to the delay involved in the definition of an analytical frame, if compared against the moves made by banks. Two other reasons that have also favoured the accumulation of capital by insurance companies include the trend of rating agencies in measuring the suitability of relative capital on the basis of the sector average, and the inexistence of a legislation encouraging companies to invest in the development of analytical systems that may measure risk and capital needed in a rigorous way.

In theory, overcapitalization should not be a problem, since the higher gets the capital, the higher is the solvency of the insurance company and its ability to afford liabilities derived from its activity. But an excess of capital and the absence of a rigorous measurement of the global risk undertaken and the capital needed may lead to a lower creation of value for analysts, reduced margins, incorrect pricing of the products and the chance of incurring big losses and eroding the capital of some participants.

In order to face the problems that overcapitalization may cause, we propose the introduction of an integral risk management system consisting of a model which scientifically measures the risk undertaken and the capital needed and incorporates these measurements into management decisions. This model is indispensable in banking institutions, since the cost of risk and the capital needs are the highest costs incurred by said companies and, therefore, they must be known for any profitability analysis and for strategic planning. The goal is to use the banking model for the insurance sector, which requires the application of certain standards to all business units and types of risk. Company's market, insurance, operational, credit and business risks must be measured. All possible sources of risk and the capital requirements of every one of these sources should be measured with a homogeneous time horizon and the daily management of the company should be carried out considering the new risk and capital measurements.

By incorporating the risk cost into the analyzes, insurance companies will know what units contribute the highest value to the shareholder, according to the cost of capital and the risk undertaken by each of them. Capital management and solvency level will improve, and thus their financing and stock exchange trading value will rise. The pricing should also be suitably adjusted to the cost of the undertaken risk and the costs and benefits of risk transfer, such as reinsurance, can be assessed.

Once we know what we must do, the challenge is to implement it successfully. We consider that for the development of integral risk management, five essential aspects should be included. We must use a good **methodology**, a scientific method containing all the relevant characteristics of the undertaken risks, allowing the calculation of the total risk to be undertaken by the company and the capital it needs to afford it and which, in turn, may allow separation into business units and individual operations. Likewise, we need **systems** which may authorize the automatic and timely capture of data and characteristics assumed by the whole entity, capable of making all the necessary calculations, avoiding any errors and delays that would render the new model useless. Besides, the new calculation of risks and capital needed must make the **management** and the **strategy** change to adapt to them, prices will be adjusted, reinsurance processes and capital management will be optimised, etc. Otherwise, the impact would be reduced to nothing. Finally, integral risk management must be part of the **company culture**, being incorporated into education, group policy manuals, among others, and its implementation must be internally encouraged.

Integral risk management offers important improvement opportunities for the insurance companies' processes. By modelling processes, we will be able to obtain, in a simple way, a complete picture of the company and, in particular, of those areas of the company having risks on which we should focus in order to minimise global exposure.

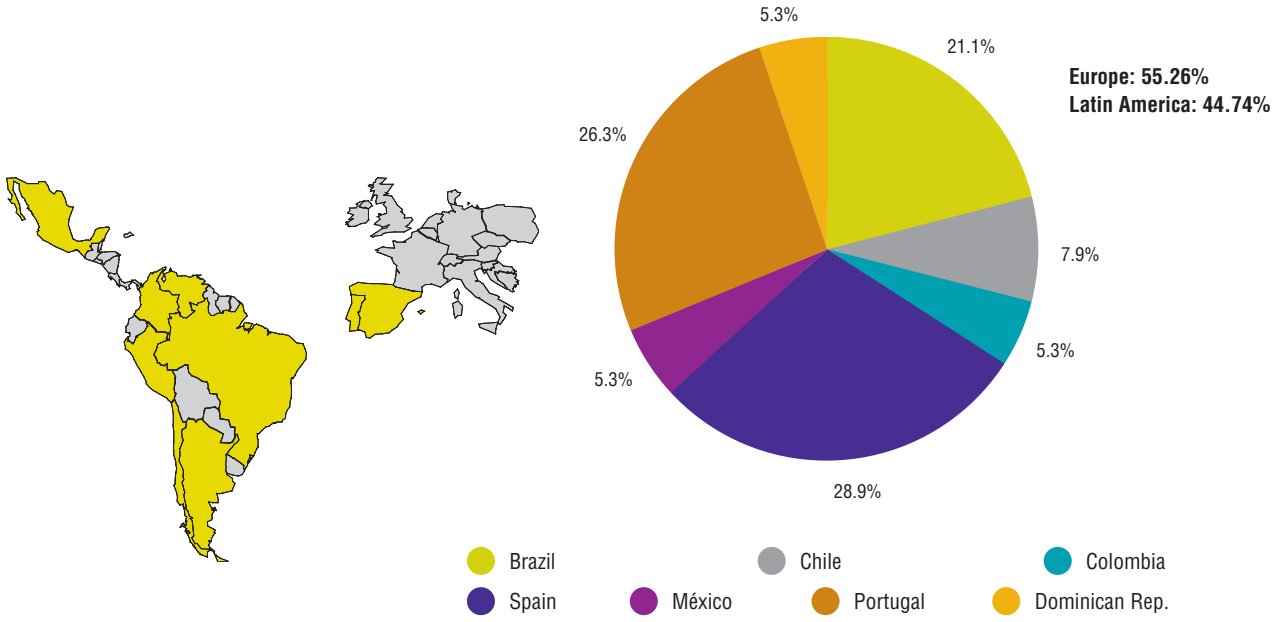
2 scope of the study

2.1. Representativity of the companies participating in the study

The questionnaire used for the study was sent to several companies of the sector in the Iberian Peninsula and Latin America. The number of participating companies is quite similar between both continents; Iberian companies account for 55.26% of the total, while Latin American companies make up the remaining 44.74%.

Spain, Portugal and Brazil are the countries with the highest number of companies participating in the study. By contrast, Mexico, Dominican Republic and Colombia are the countries with the lowest number of participants. There follows a graph showing the geographical distribution of the organizations involved in this study:

Graph 1: Distribution of interviewed companies by country

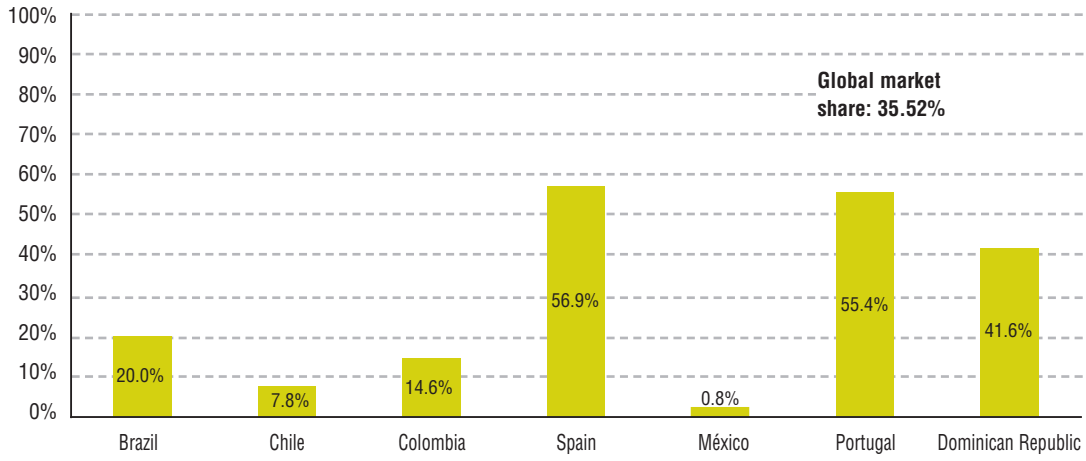


Source: **everis**

2.1.1. Representation of participating companies in the market

The companies participating in the study account for 35.52% of the overall market relative to the sum of the markets (volume of premiums) of the participating countries. Breaking down the distribution by country, it can be observed that the companies collaborating in the study account for more than 50% of the total market in Spain and Portugal. In the Dominican Republic, participating companies account for 41.65% of its market, while in Brazil they represent 20% of the market.

Graph 2: Market share of the companies participating in the study (premiums)



Sources:- ICEA. "Information on 2007 fiscal year"
- CEA. "European Insurance in Figures. Key Data 2007"
- Swiss Re. "World insurance in 2007: emerging markets leading the way"

2.2. Characteristics of the participating companies

2.2.1. Business volume

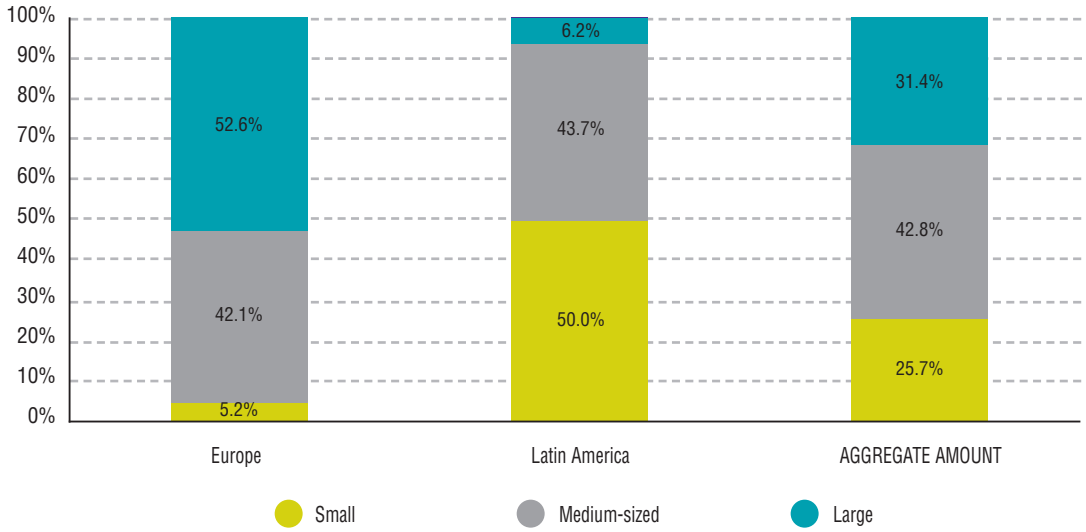
In order to classify the sample according to the company's business volume, three segments were defined:

Business Volume (Premiums)	Company Classification
Less than 100 thousand €	Small
From 100 thousand € to 1,000 million €	Medium-sized
More than 1,000 million €	Large

Although these criteria differ from one country to another, they have been unified to attain a global view of the study.

According to the segments mentioned above, the breakdown of companies participating in the study is shown in the graph below.

Graph 3: Breakdown of companies by business volume and geographical area

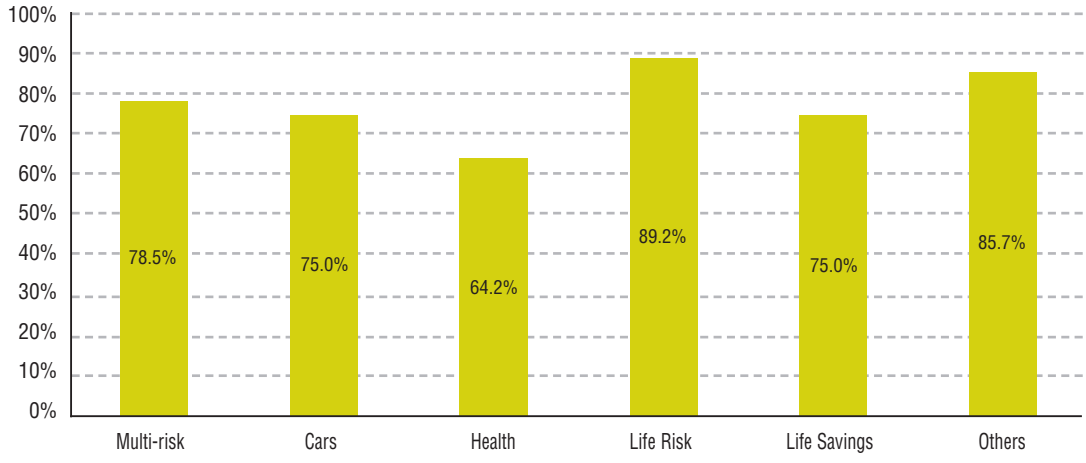


Source: **everis**

2.2.2. Business lines

Most of the participating companies are multi-business companies. The business line where most collaborating companies operate is *Life Risk*, which delivers 89.29%. Then follows the group consisting of minor business lines (others) operated by 85.71% of the companies. The third place is taken by the *Multi-risk* line, with 78.57%, followed by *Cars and Life Savings* with 75%. Finally, 64.29% of the companies work on the *Health* business line.

Graph 4: Business lines of the companies interviewed



Source: **everis**

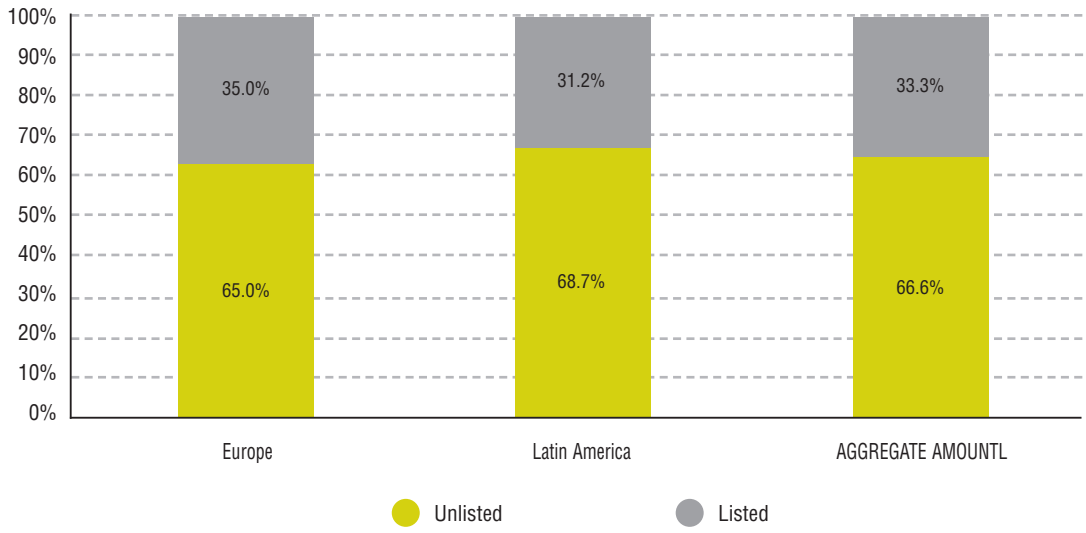
2.2.3. Typology

As regards the type of company participating in this study, most of the companies interviewed (almost 58%) are *Insurance Companies*, followed by 37% which are *Bank-Insurance Companies.* Only 5% state to be *Mutual Insurance Companies*.

2.2.4. Listed companies

With respect to the sample characterization as regards whether the company interviewed (or the parent company, if a subsidiary) is listed on the Stock Exchange, we can observe that 66.67% of the companies are not listed while 33.33% of them are listed on the Stock Exchange.

Graph 5: Breakdown of collaborating companies according to whether they are listed or not



Source: **everis**

Taking into account two of the concepts mentioned above: type and geographical area of the company, virtually 86% of bank-insurance companies are local, this figure decreasing to 64% in the case of insurance companies. With respect to mutual insurance companies, 100% of the collaborating companies operate in the local market.

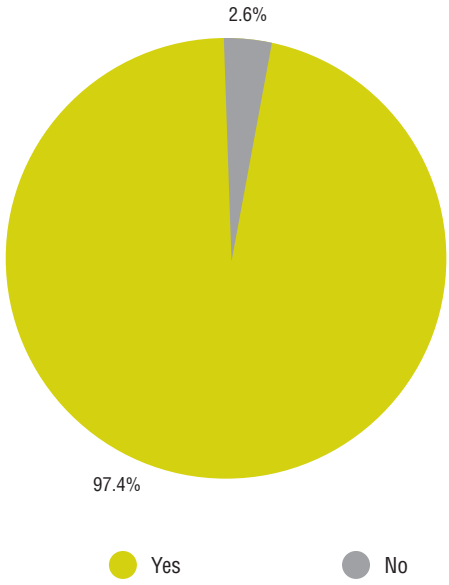
3 main results

3.1. Global results of the study

Strategies and initiatives

The companies that have participated in the study agree almost unanimously that the insurance sector includes risk control among its strategic objectives. However, they also point out that the sector's behaviour is not aligned with said objectives, since only 50% of the companies consider that the companies in the sector allocate part of their budget to risk management. In line with these facts, and considering the existence of a risk management reserve in the interviewed companies, it is observed that only 68% of the companies declare the existence of this item in their 2008 budget. In comparison with the boost experienced by Basel II in the banking sector, a lower degree of awareness with respect to the development of risk functions is observed, since in the banking sector, almost all institutions started adapting to the new risk management requirements. In spite of the foregoing concepts, these data must be materialized considering that the new regulatory frame, Solvency II, only applies to the European area, unlike Basel II, which is a worldwide regulatory frame; however, its principles and rules are expected to be eventually used in other areas, such as Latin America.

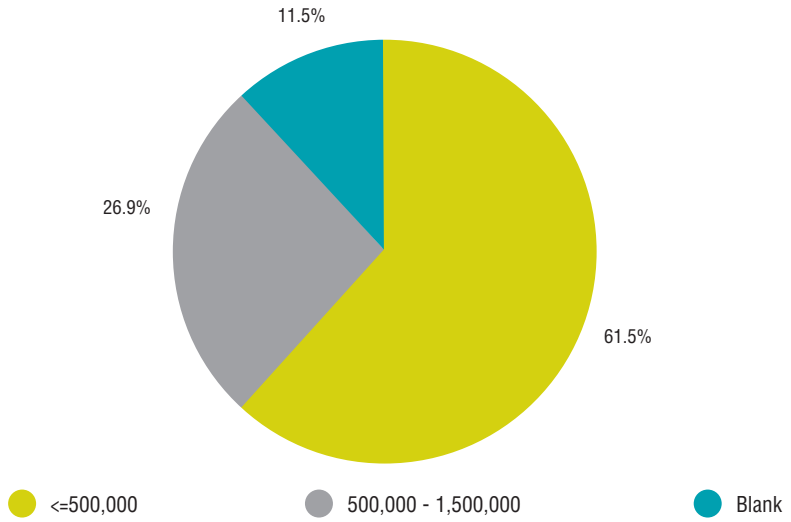
Graph 6: The sector considers that risk control is a strategic objective



Source: **everis**

The amount of the reserves related to adaptation to risk management are not so high with respect to the investments made by the banking sector when adapting to Basel II, this being justified because the credit risk in the Insurance sector does not require the credit quality assessment of every individual client of the companies, which represented the highest implementation cost in Basel's case. Other areas, such as insurance risk and market risk, are already more developed in the insurance sector because they are risks associated to their own activity.

Graph 7: Amount allocated to risk management



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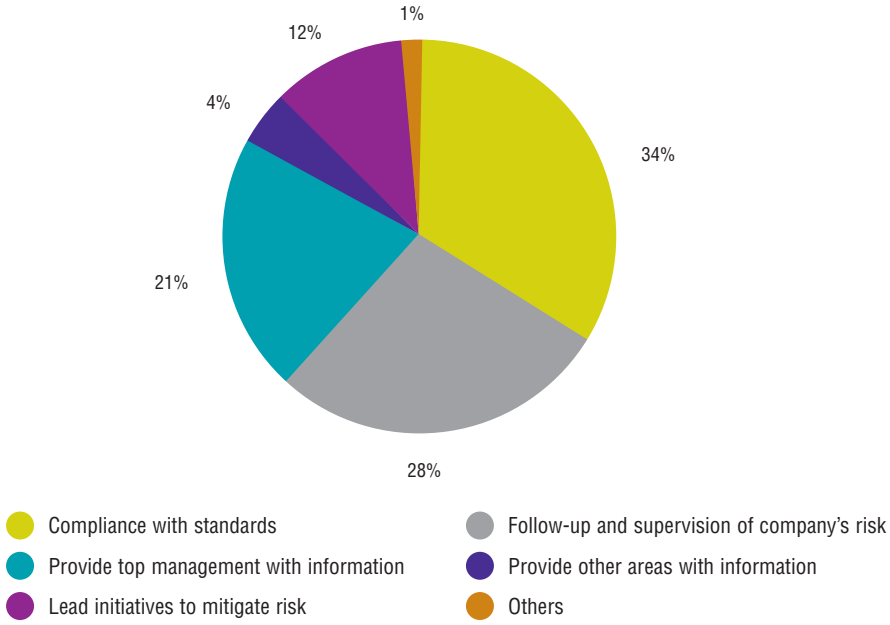
If we continue the comparison between the Banking and Insurance sectors concerning adaptation to their own frames of reference, we can observe some very relevant information with respect to risk management and it is that more than half of European (Spain and Portugal) insurance companies which have started investing in risk models opt for internal models, while 84%, at least, opt for mixed, standard-internal models. On the one hand, this differs from the position taken by the Banking sector, since only 8 companies in Spain opted for internal models in the first stage. On the other hand, and as we will see later, the company's size explains the sophistication and expenditure made in risks, showing the existence of economies of scale in the adoption of risk models. Since risk analysis implies a leading edge, these data suggest that the adoption of Solvency II by large companies will help the consolidation per sector amongst smaller companies.

Organizational model

With respect to companies' motivation in the Insurance Sector, compliance with regulations is the main driving force for integral risk management, together with the risk identification, measurement, follow-up and control, this being consistent with the facts observed at the beginning of the adoption of the Basel II models by the banking sector, where one of the main motivations was the identification and control of risks and compliance with regulations. From the data gathered, very consistent trends are observed between the motivations of Latin American and European insurance companies, since both groups share the main reasons to adopt advanced risk management models.

These results are aligned with the perception of the insurance sector that the companies participating in the study have, because most of them consider that the main objective driving the sector is regulatory compliance, followed by follow-up and supervision of company risk.

Graph 8: Main objectives of the sector for risk control



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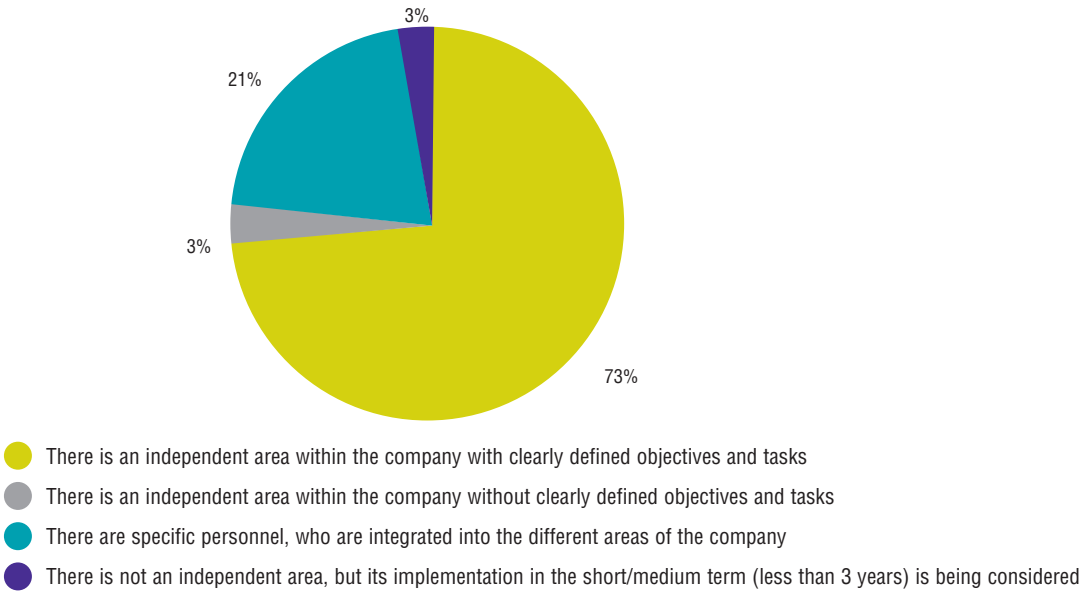
Also, companies are divided according to their perception of the organizational strategy mostly used in the sector for risk control. In fact, 50% of them think that the most widely used strategy is to have an independent area within the company, while 47% believe that companies have specific personnel within their various areas. By contrast with these data, 76% of the interviewed companies have an independent area for risk control, this being, therefore, the strategy that is mostly adopted in companies, indicating that, in fact, there is more focus on risk management than the one perceived.

Graph 9: Organizational strategy for risk control



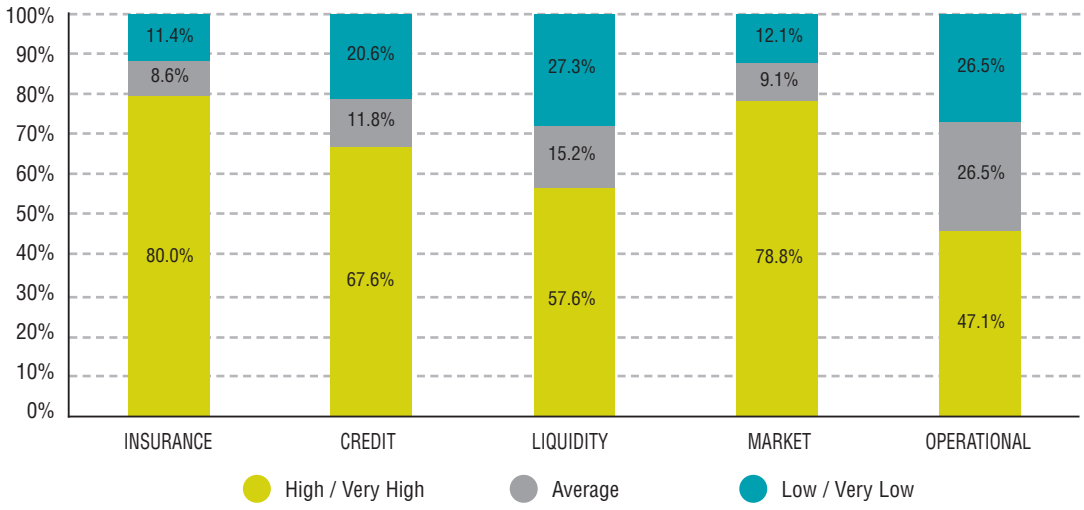
Source: **everis**

Operational model

It should be noticed that only 58% of insurance companies have started a comprehensive process of identification and assessment of risk including risk maps, although it is also clear, based upon the data obtained, that the awareness of their need is important, since 24% of the respondent companies have already started to analyze said initiative. Only 8% of the companies have not taken any action in this regard.

With respect to the knowledge on the various types of risks declared by the companies, it comes as no surprise that risk knowledge is higher when referred to those risks on which traditional management focuses most, such as insurance and market risks, while the least known risks are those where specific risk management is less common, such as liquidity and operational risk. When observing the responses of the companies interviewed about the sector's knowledge, the little knowledge they consider to have as regards less traditional risks such as credit, liquidity and operational risk is very noticeable, in contrast with the companies' real knowledge.

Graph 10: Summary of the degree of knowledge on the various types of risk in the companies interviewed



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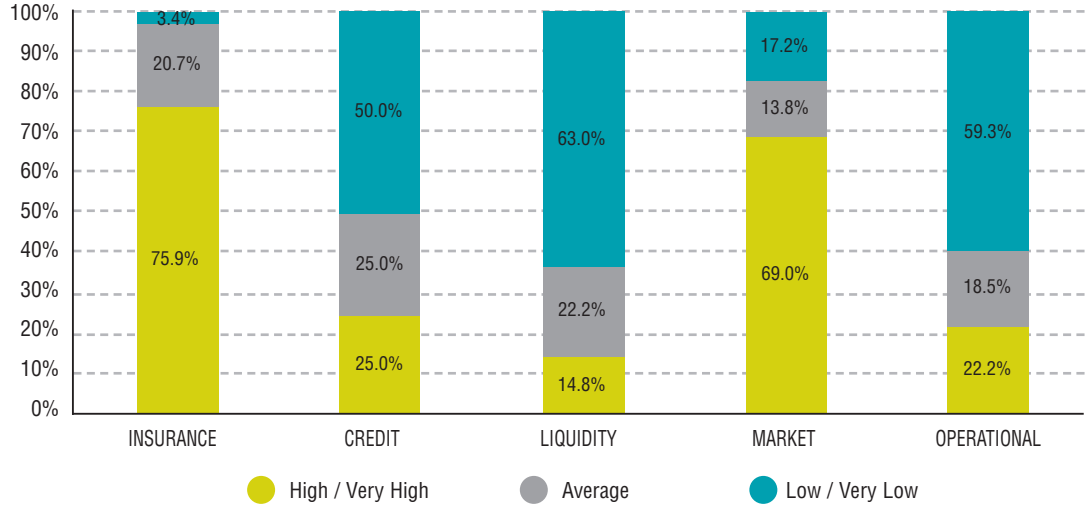
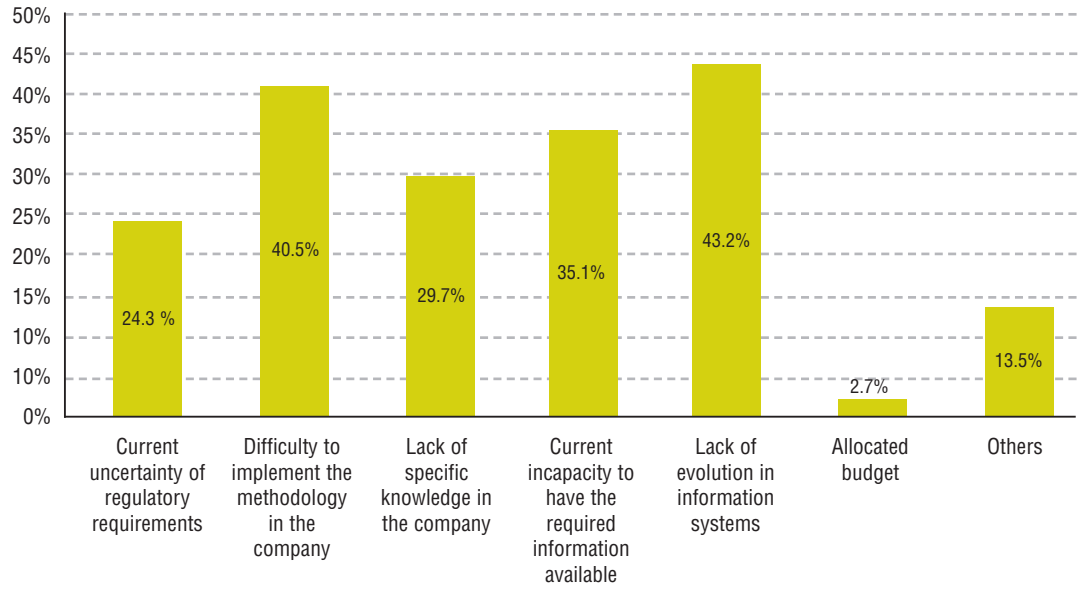
Graph 11: Knowledge of the sector on the different types of risks



Source: **everis**

In addition, it becomes evident that the main hindrance to efficient risk control by the companies interviewed are inadequate systems, given the demands of collection, data management, linking of analytical processes and reporting, required for any risk analysis. This circumstance is more evident in Latin America than in Europe, where it is the main cause of lack of progress. Besides, it is noteworthy that the companies believe the rest of the sector has suitable information systems in place for risk management (only 16% consider it one of the sector's main obstacles). However, reality shows 43% of the companies consider that one of the main reasons for this is lack of evolution in information systems. Therefore, the reality of the sector with respect to information systems is worse than the companies' general perception.

Graph 12: Main circumstances preventing or hindering efficient control in the companies interviewed

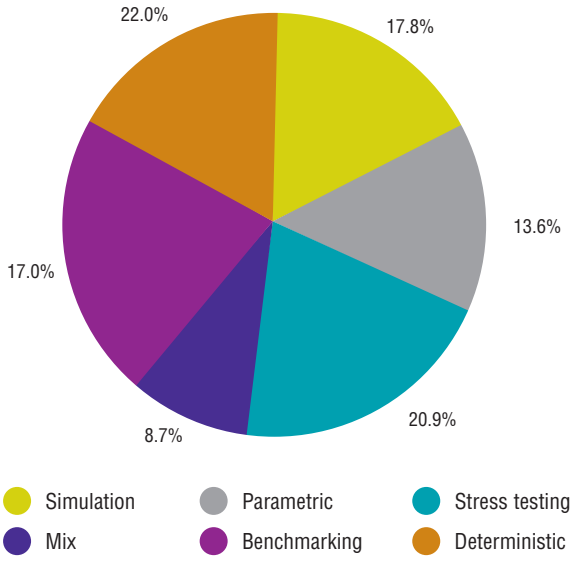


Source: **everis**

Tools and calculation methods for risk control

With respect to the measurement methods chosen by the sector, simple methods continue to prevail, such as the deterministic or the benchmarking methods, whilst more sophisticated stochastic models, such as simulation or parametric models, are less common. A low percentage of insurance companies have opted for a mix of different approaches, probably in order to measure products, business lines, etc. with a different degree of implementation of methodologies.

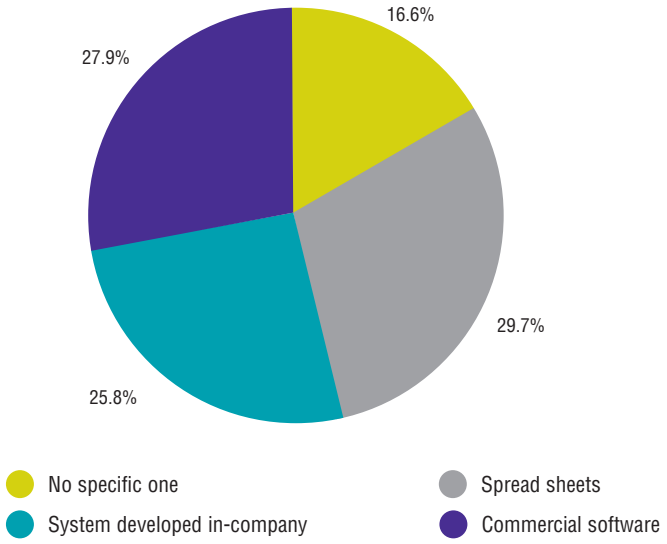
Graph 13: Methods to measure risk in the companies interviewed



Source: **everis**

Considering the tools needed to support risk management, the insurance sector is currently opting for internally developed systems, either spreadsheet-based or specifically developed systems. On the other hand, 27.9% of the companies opt for commercial software while, surprisingly, 16.6% of them does not use any specific option.

Graph 14: Tools used for solvency calculation in the companies interviewed



Source: **everis**

In the risks included in traditional risk management in the insurance sector, we can observe a higher development of sophisticated tools, such as commercial software and internally developed systems. Besides, it is in these traditional risks where we find the lowest percentage of companies having no specific tool. Again, the data gathered show that it is in the least traditional risks, such as operational risk, where the use of commercial software is lower, undoubtedly because of the lower development of the measurement of these risks in the sector.

With respect to the use of the information generated by risk management tools, outside the risk area, those who use this information the most are the Top Management and Internal Audit, this showing that risk measurements are used for the control of risk levels by the top management and that they are not used in the daily management of insurance companies. As evidence of this, the sales area is the one that employs this information the least. This shows that business decisions may not be taking into consideration the levels of risk undertaken.

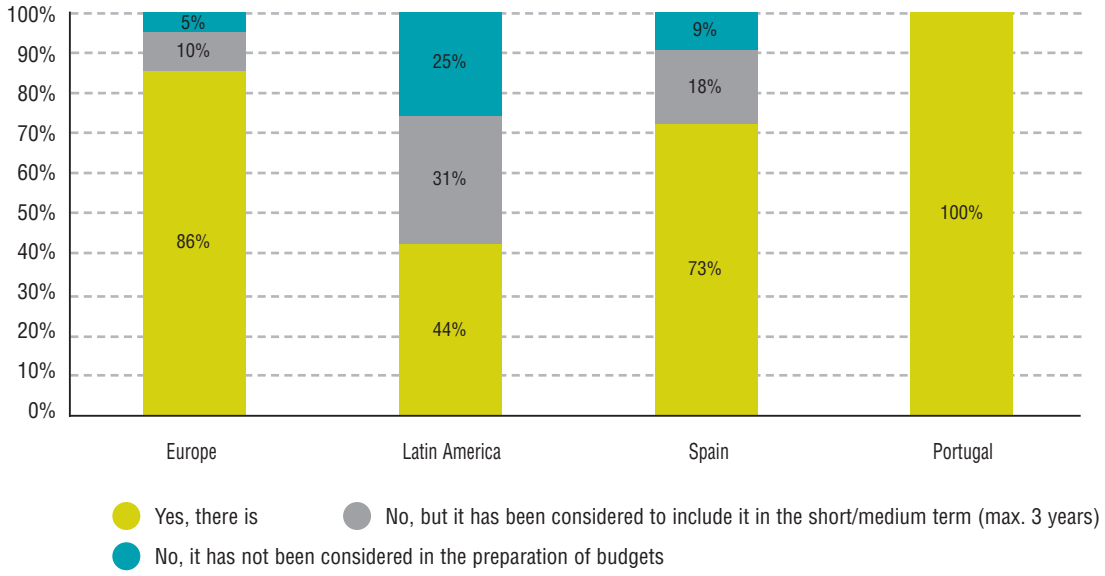
3.2. Results according to study axes

The study considered the possibility of the companies in the different segments to show a different behaviour regarding risk management. In order to confirm this, insurance companies were classified according to different axes (mentioned in chapter 4), with the following results:

Geographical area of the company: Europe (Spain and Portugal) or Latin America

As it happened in the banking sector as regards Basel II, it can be observed how Latin American insurers, on average, lag behind in the implementation of the risk management function vis-à-vis European ones. However, it is true that these companies are not motivated in the same way to advance in this issue by Solvency II. According to the responses obtained, 86% of European companies have made the decision to start the adaptation, against about half that number in Latin America. On the other hand, although the Portuguese banking has been left behind by the Spanish banking in the adaptation to Basel II, and the same is expected to occur with insurers, the study shows that the Portuguese insurance sector leads the adaptation to Solvency II.

Graph 15: Existence of a budgetary reserve, by geographical area of the company interviewed



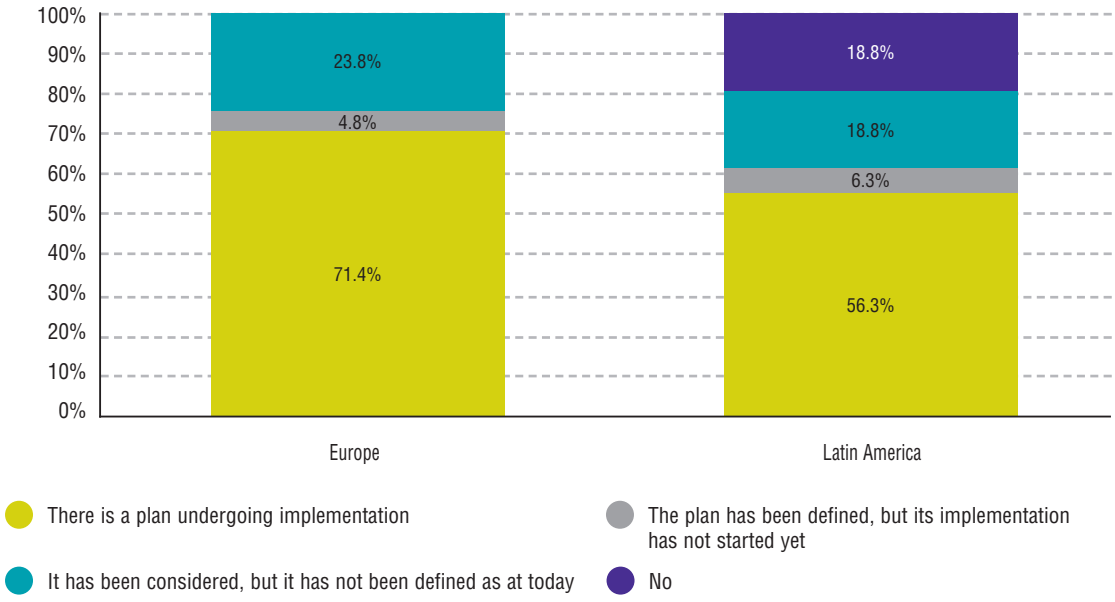
Source: **everis**

As regards the size of the budgetary reserves, it can be observed that, in general, allocated budgets are lower in Latin America due to two reasons: the lower cost of project development in the area; and the lower level of awareness of risks to date in this region.

The different pace in Europe and Latin America as regards the assumption by insurance companies of risk management as good management practice and competitive edge for companies is evidenced by the existence of a master plan in the companies, articulating all initiatives for the implementation of risk management and the existence of a risk map of the company.

In the first case, according to the data displayed, 75% of European companies declare that they have a master plan in place, while this percentage falls to 62% in the case of Latin American companies. In the second case, almost 19% of Latin American companies declare that there is no risk map of the company or the initiative to create one, as opposed to 100% of European companies declaring that they have such a map or, at least, the initiative to create one.

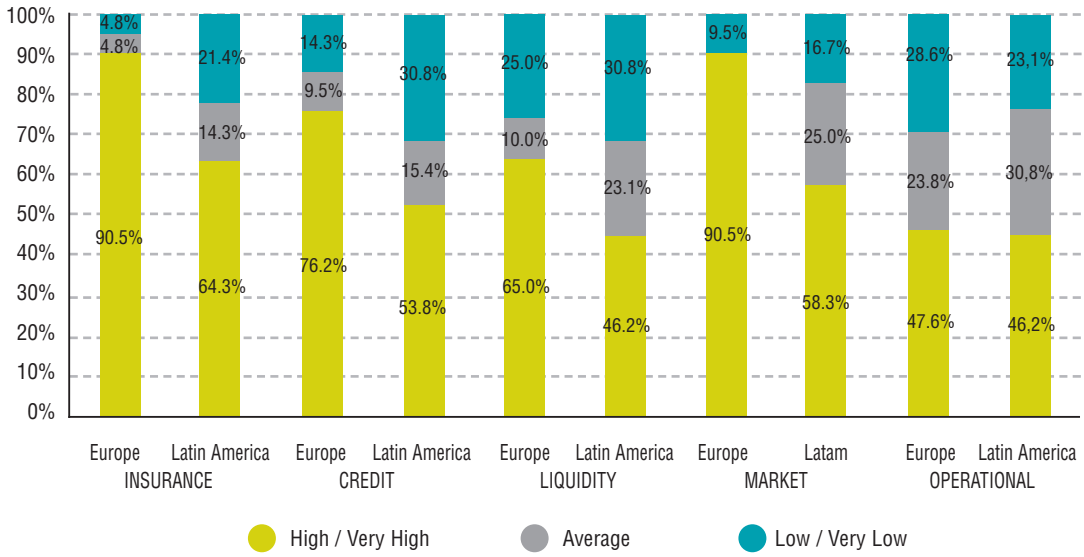
Graph 16: Existence of a master plan for the implementation of risk management, by geographical area of the company interviewed



Source: **everis**

With regard to the knowledge declared by the companies on the different kinds of risks, most discrepancies between Europe and Latin America are found in traditional management risks, insurance risk and market risk. In both cases, a high percentage of Latin American companies acknowledge that they do not have a thorough knowledge of these risks, vis-à-vis 90% of European companies stating that they do. Nevertheless, in less traditional risks, such as operational risk, the differences are minimal, indicating that it is a risk that has been ignored by the insurance industry.

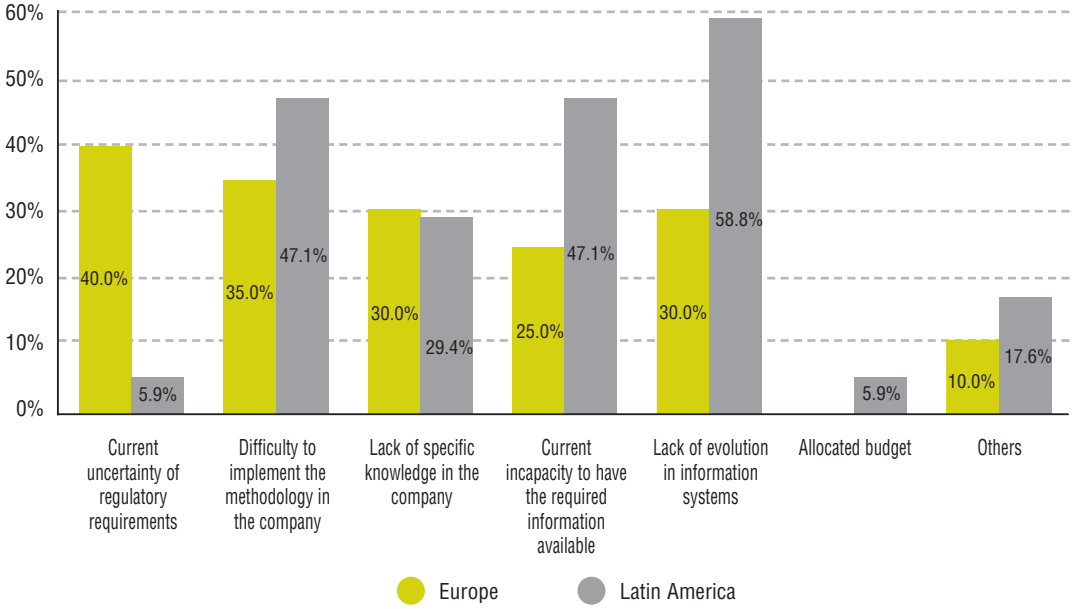
Graph 17: Level of knowledge of the different types of risk, by geographical area of the company interviewed



Source: **everis**

As regards the circumstances preventing or hindering efficient risk control, there are discrepancies in both geographical areas, which are clearly explained by today's regulatory situation, since the main difficulty for European companies is the current uncertainty of requirements, probably because they are also more advanced in the development of information systems, compared to Latin American companies, whose main obstacle is the lack of evolution of information systems.

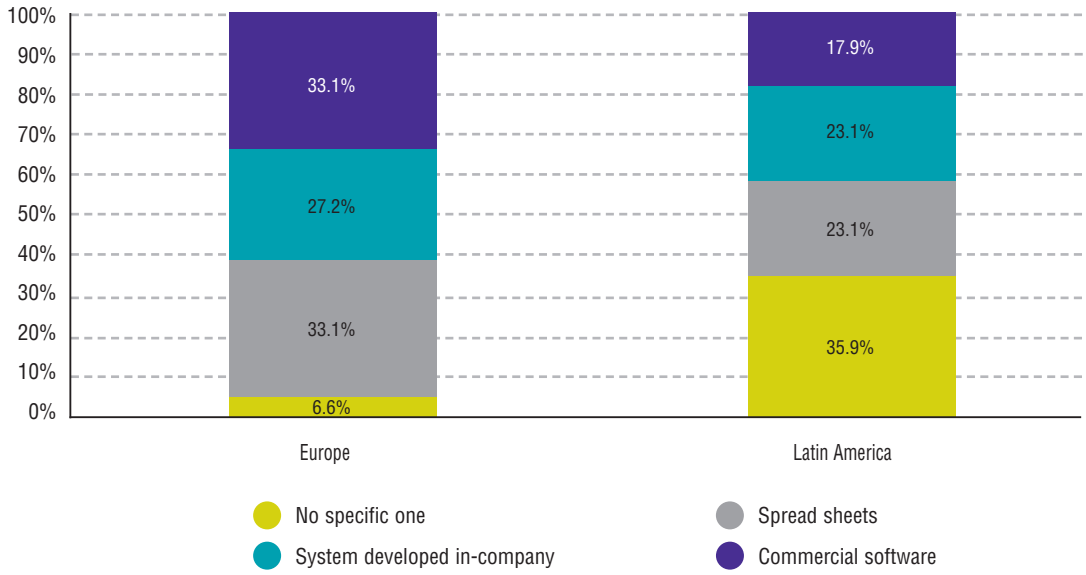
Graph 18: Main circumstances hindering or preventing efficient control, by geographical area of the company interviewed



Source: **everis**

While in Europe almost 60% of the companies use the most sophisticated methods for calculation, such as simulation, parametric and stress testing, in Latin America this percentage falls to 44% of companies. Less sophisticated methods (deterministic and benchmarking) are much more used in Latin America than in Europe. The reasons for this are mainly the different paces of risk management implementation and the lack of evolution of information systems in Latin American companies, traditionally less advanced than European ones. These same reasons explain the differences observed as regards the types of tools used. It should be noted that European insurance companies have some kind of tool for risk measurement, especially in traditional risks such as insurance risk (life, non-life and health) and market risk, unlike Latin American companies. The latter have claimed that they do not have tools for risk measurement and control, being especially remarkable that 33% in life, 40% in non-life and 31% in market do not use tools, while the vast majority of European companies do.

Graph 19: Tools used for calculation, by geographical area of the company interviewed

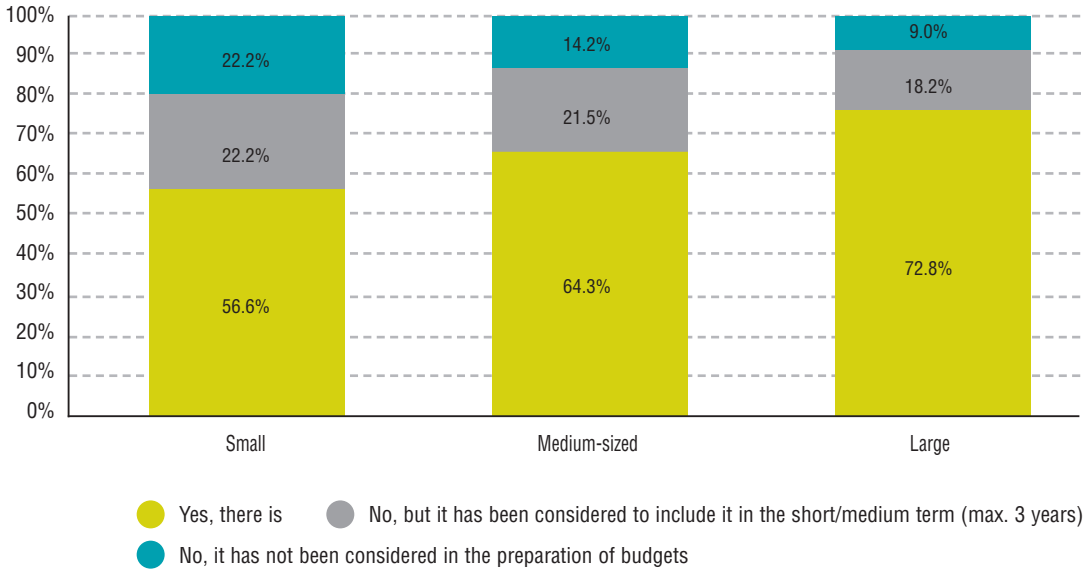


Source: **everis**

Business volume of the company

From the responses obtained throughout the whole questionnaire, we can observe a direct relationship between business volume and the development of the risk management functions; i.e. the higher the business volume, the higher the budget for risks, as a consequence of economies of scale implementing this type of analytical processes. Since risk analysis implies a leading edge, these data suggest that the adoption of Solvency II by large companies will help the consolidation per sector amongst smaller companies.

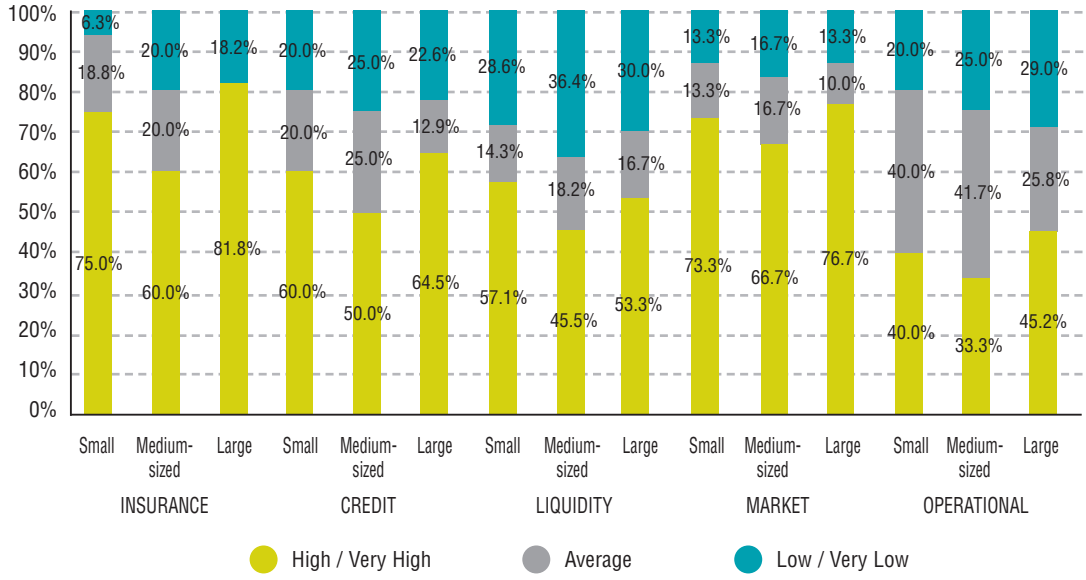
Graph 20: Existence of a specific budgetary reserve for risk management, according to business volume of the company interviewed



Source: **everis**

As regards the level of knowledge of the different types of risks, it is interesting to highlight the high percentage of insurers, especially large ones that already have internal capital models for credit and market risk: 36% of large companies interviewed have an internal capital model. Likewise, for insurance risk, 27% of large companies interviewed have internal capital models, which represents a clearly advantageous situation as regards the start of Basel II in banking.

Graph 21: Level of knowledge of the different types of risk, by business volume of the company interviewed



Source: **everis**

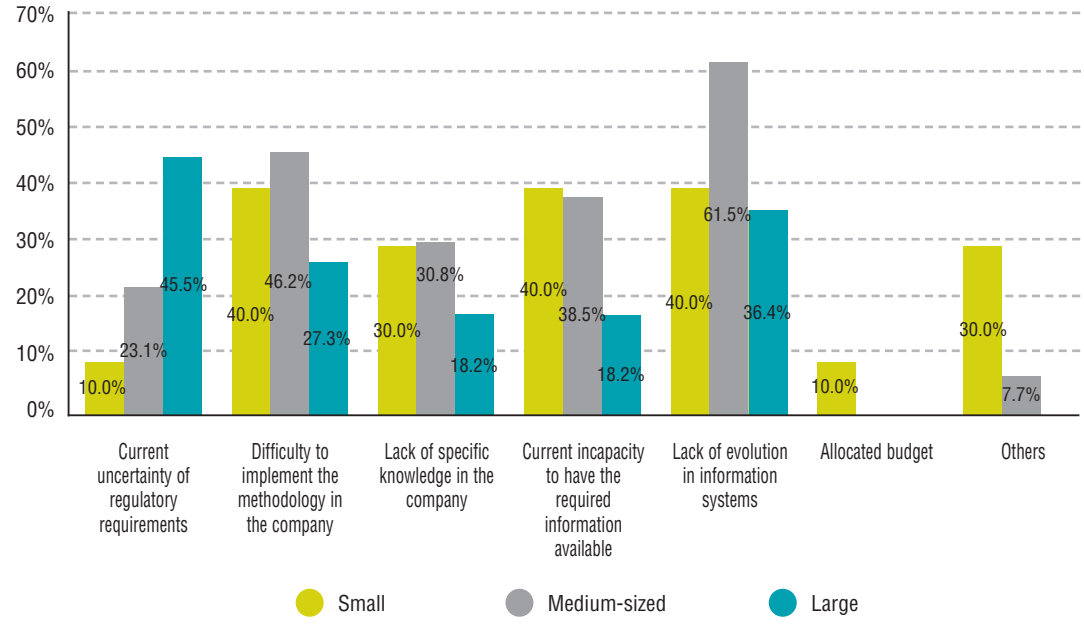
It is also important to highlight how small insurance companies claim to have a higher knowledge of risks than medium-sized companies. In such cases, the insurance risk and the operational risk are very similar to those of large companies. This circumstance may be explained by the implicit level of specialization in small insurance companies.

As regards organizational development and considering the aspects of dedication of specialized staff to risk control tasks, the same trends can be observed with respect to the size of the company; i.e. the larger the company, the more advanced its organizational structure.

Considering the circumstances hindering or preventing efficient risk control, the analysis broken down by the companies' business volume shows that large companies and smaller companies are the least concerned with the development of systems at the time of implementing an integral risk management plan. The most likely reason is that large companies have faced no difficulties in making the necessary investments to evolve due to the economies of scale, as mentioned above, while the specialization needed in smaller companies has allowed them to make necessary investments in information systems.

In turn, medium-sized companies are the ones facing the most difficulties in the development of information systems, probably due to the higher diversification of their business, vis-à-vis small companies, and the lack of volume to make investments in systems, vis-à-vis large companies.

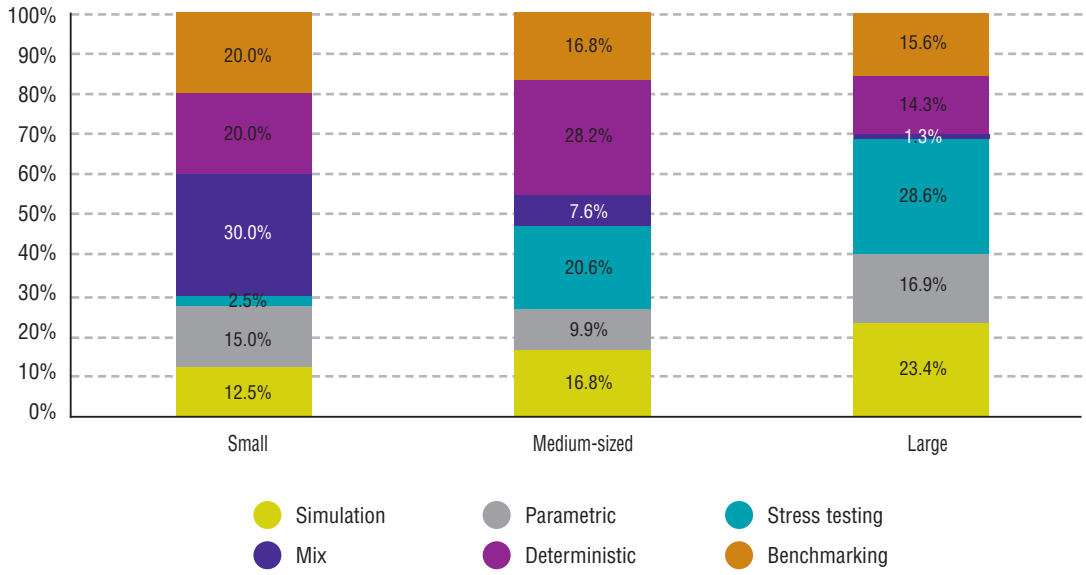
Graph 22: Main circumstances hindering or preventing efficient control, by business volume of the company interviewed



Source: **everis**

Finally, regarding the analysis of the approaches for calculation and the types of tools, broken down by business volume of the insurance companies, it is interesting to observe, on the one hand, the tendency to use the most sophisticated approach –simulation– in correlation with the company's size. Likewise, confirming the theory of lack of specialization in medium-sized companies, it can be observed how the less sophisticated approach –the deterministic one– is the one most widely used by these companies. On the other hand, it can be observed how large companies tend to develop their own software, which usually implies higher development risks as well as more possibilities of differentiation, while medium-sized companies tend to use more commercial software and spread sheets.

Graph 23: Approaches for calculation, by business volume of the company interviewed

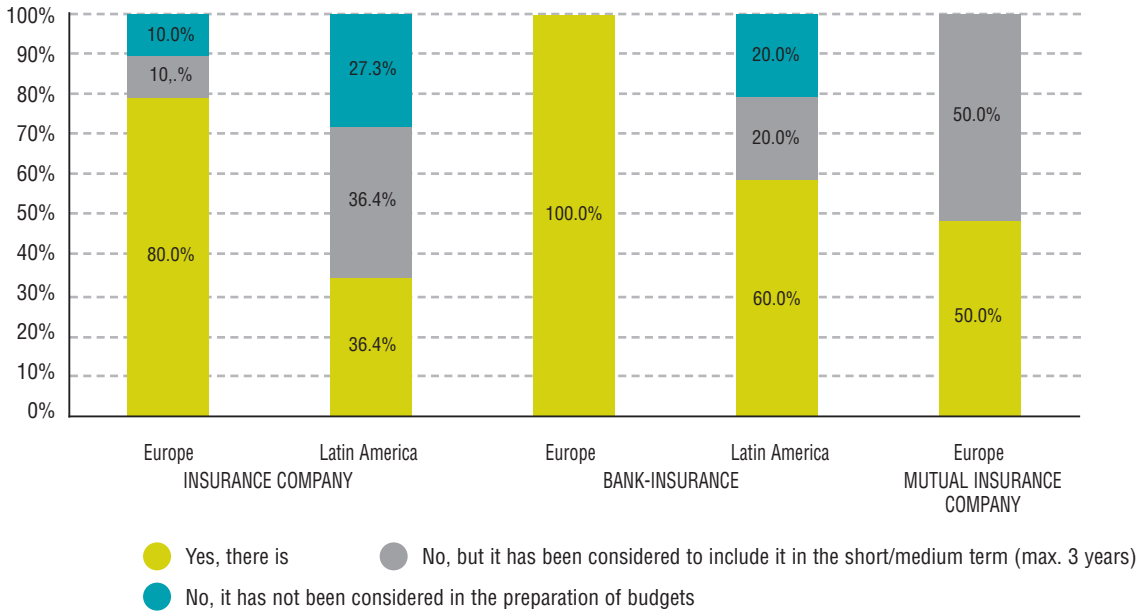


Source: **everis**

Type of legal entity: insurance company, bank-insurance, mutual insurance company

When analyzing the existence of a specific budgetary reserve according to the type of legal entity, the influence of banking in the bank-insurance sector can be observed; which has led the applicable insurance companies to start their adaptation to Solvency II to a significantly higher degree than the rest of the legal entities. On the other hand, the influence of Europe has additionally led all bank-insurance companies to start the adaptation. Finally, it can also be observed that mutual insurance companies advance more slowly due to three possible reasons. First, since the shareholders are the insured parties themselves, they have less pressure to manage their capital and income account. Secondly, their smaller medium size makes the investment of the amounts needed for adaptation less feasible. Thirdly, since the shareholders are the insured parties themselves, the instalments paid have a better correlation with the risks assumed, the risk profile is more similar between them, and the pressure to make a profit and to face competition is lower. Notwithstanding the foregoing, it must be taken into consideration that only two mutual insurance companies, both European, have participated in the study.

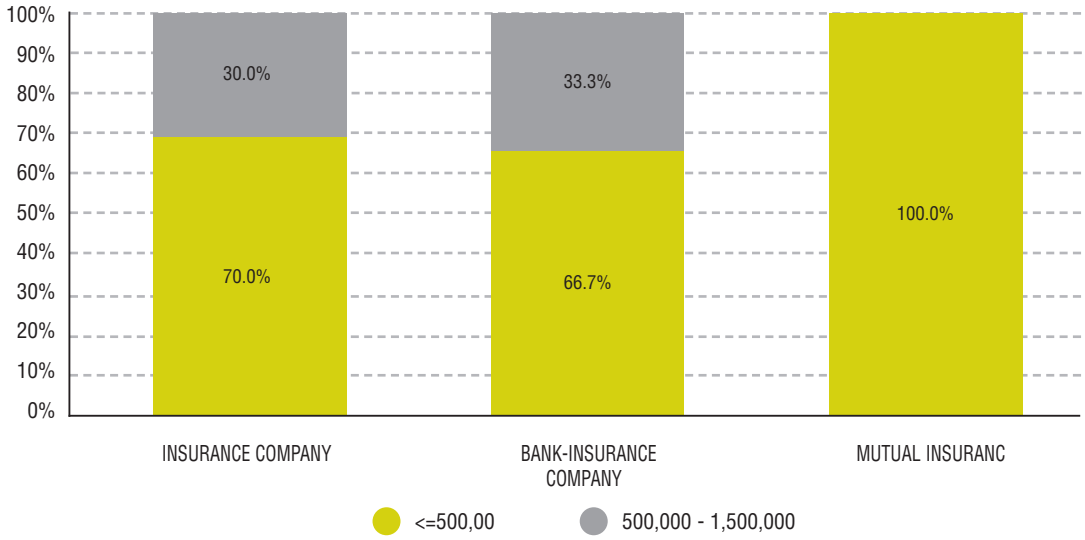
Graph 24: : Existence of a budgetary reserve, by type of legal entity and geographical area



Source: **everis**

Considering the amount of the reserve allocated to risk control, it may be observed that 100% of mutual insurance companies have rather limited budgets, on account of the reasons mentioned above.

Graph 25: Amount of the reserve allocated to risk control, by type of legal entity

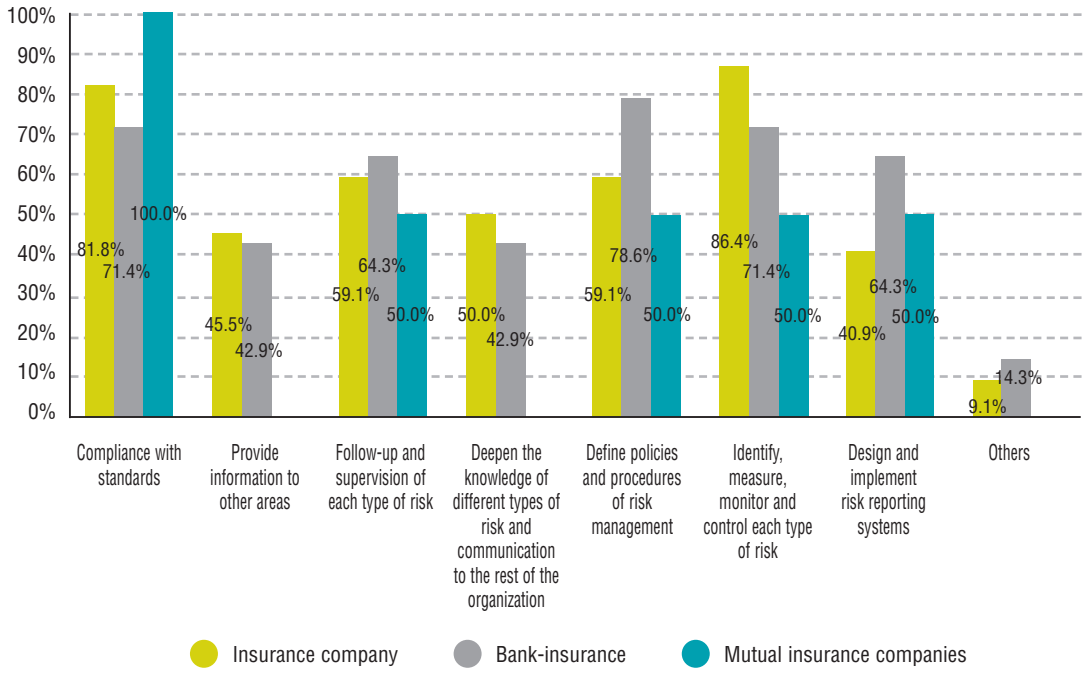


Source: **everis**

In terms of organizational structure, the same trends are observed concerning the type of legal structure of the company, with a more developed organization for bank-insurance than in insurance companies and the latter more developed than mutual insurance companies.

As regards the functions of the personnel assigned to risk control, it can be observed once again that the type of company legal structure influences the motivation to manage risk, due to different degrees of awareness of the importance of risk management typical of each legal structure: 100% of mutual insurance companies deem the compliance with standards as paramount to the enforcement of risk management, followed by insurance companies Bank-insurance companies, in turn, are the ones with the lowest recognition of standard compliance as being paramount. For bank-insurance companies, in turn, the main motivation is the definition of policies and procedures for risk management, while for insurance companies, it is to identify, measure, monitor and control each type of risk.

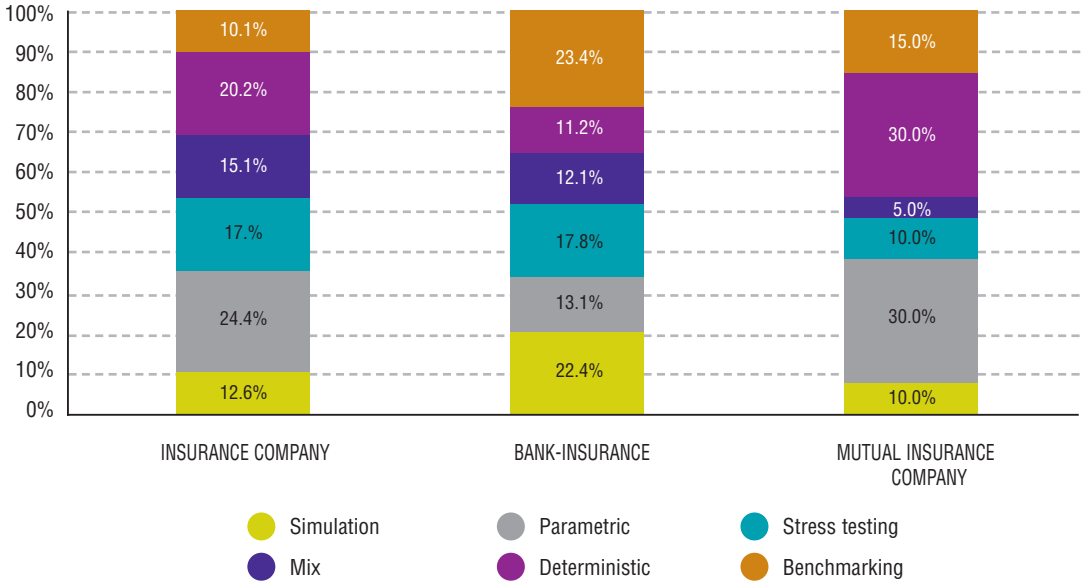
Graph 26: Functions of the personnel assigned to risk control of the company, by legal entity



Source: **everis**

As regards the approach to calculation, it is interesting to observe how 22% of bank-insurance companies use the most sophisticated approach –simulation–, no doubt, because the adaptation to Basel II has enabled them to make the necessary investments in the tools needed to support such method, as shown by the data obtained regarding the types of tools used.

Graph 27: Approaches to risk calculation, by legal entity



Source: **everis**

Listed or unlisted companies

Whether the company is listed or not has a clear influence on the implementation of the risk management function, as shown by the fact that 20% of unlisted companies have not even considered a specific reserve for risk management, probably due to the lower pressure to manage their income account and capital and the smaller average size of unlisted companies. Before this fact, 100% of listed companies have already started implementing the risk management function or will do so in the short/medium term.

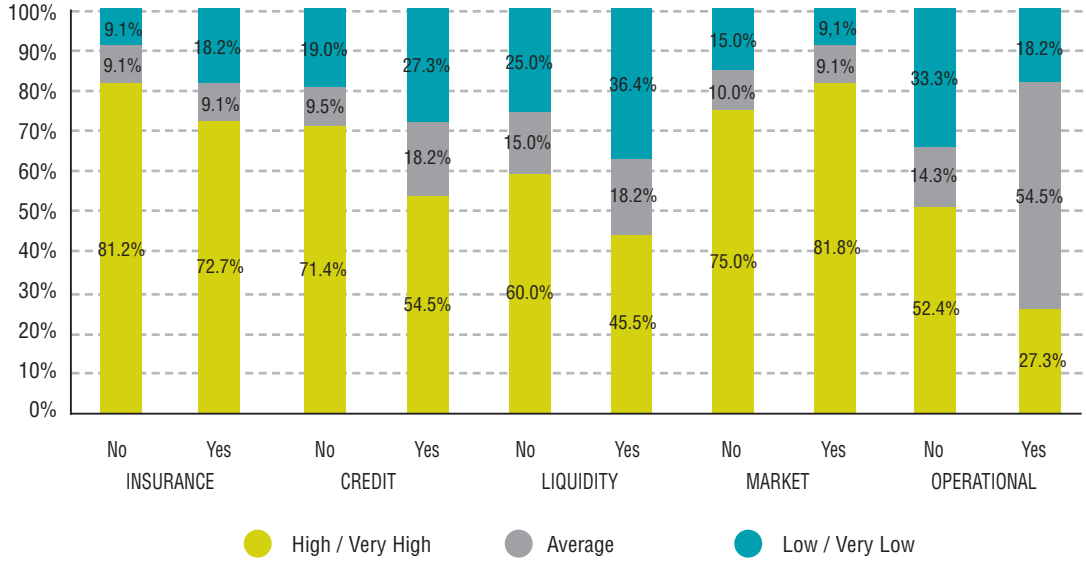
It is interesting to observe how 100% of listed companies have an independent area within the company and, likewise, all these companies have a risk map, or have one underway. Both data –organizational structure and risk map– are additional indicators of the need by listed companies to adopt an efficient risk management model, since inadequate risk management policies are subjected to the demands and materialization in the stock exchange value of the companies.

Graph 28: Existence of the company's risk map, according to whether the company is listed or not

Source: **everis**

With regard to the segmentation of the level of knowledge among listed or unlisted companies, it is noteworthy that in all types of risks, save for Market Risk and Operational Risk, unlisted companies have a deeper knowledge than listed ones. This behaviour may well be due to the fact that unlisted companies are usually smaller than listed ones, which allows them to be specialized in few products and, therefore, reach a deeper knowledge in a shorter time.

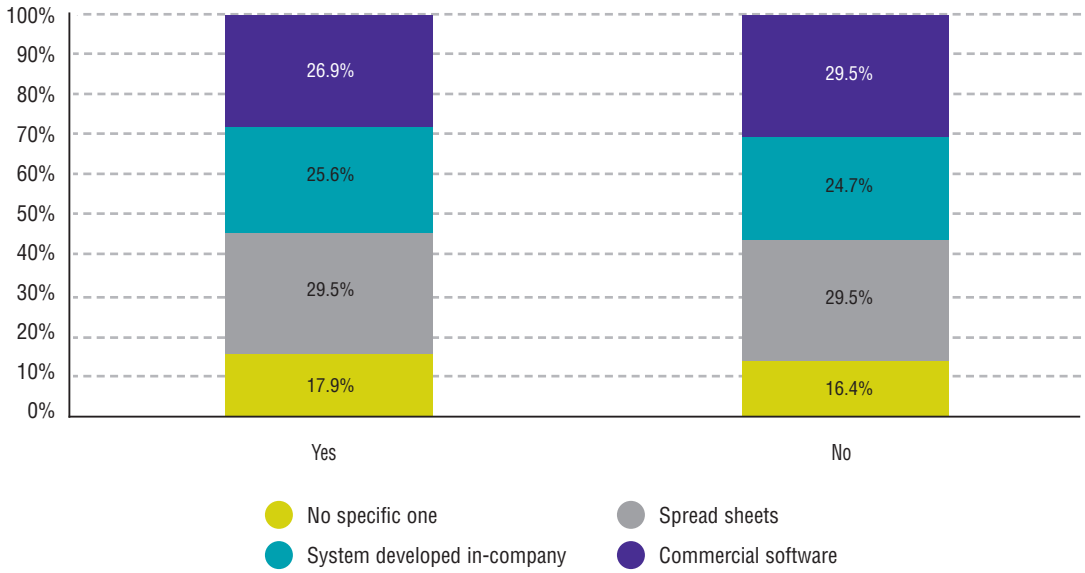
Graph 29: Level of knowledge of the different types of risk, according to whether the company is listed or not



Source: **everis**

Finally, it can be observed how being listed or unlisted is a very important factor in adopting sophisticated methodologies for the calculation of risk in companies, maintaining the patterns observed: listed companies assume more sophistication in all types of risks, save for the insurance risk, no doubt due to the market pressure on the performance of efficient risk management.

Graph 30: Types of tools used, according to whether the company is listed or not



Source: **everis**

4

in-depth analysis of answers

4.1. Perception of the sector and the company

As it has already been mentioned above, this section analyzes the perception of the insurance sector and each company's positioning with respect thereto, as far as risk management is concerned.

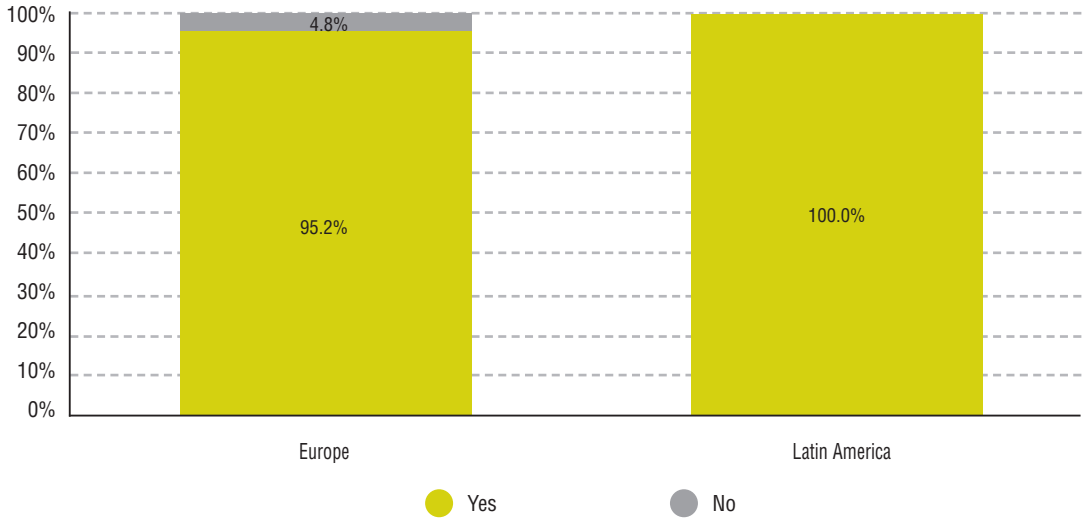
Strategies and initiatives

4.1.1. The insurance sector considers risk management control among its strategic objectives

Based on the responses resulting from the study, it is clearly concluded that a vast majority of the companies interviewed understand that the sector considers risk control as an essential component to the business, with 97% of the companies interviewed considering that risk control is part of the strategic goals of the insurance sector.

The study of the responses based on the geographical area shows that in Europe there is a small percentage of companies that do not consider risk control as a strategic goal of the sector. Further analysis indicates that all negative responses were obtained from Portuguese companies.

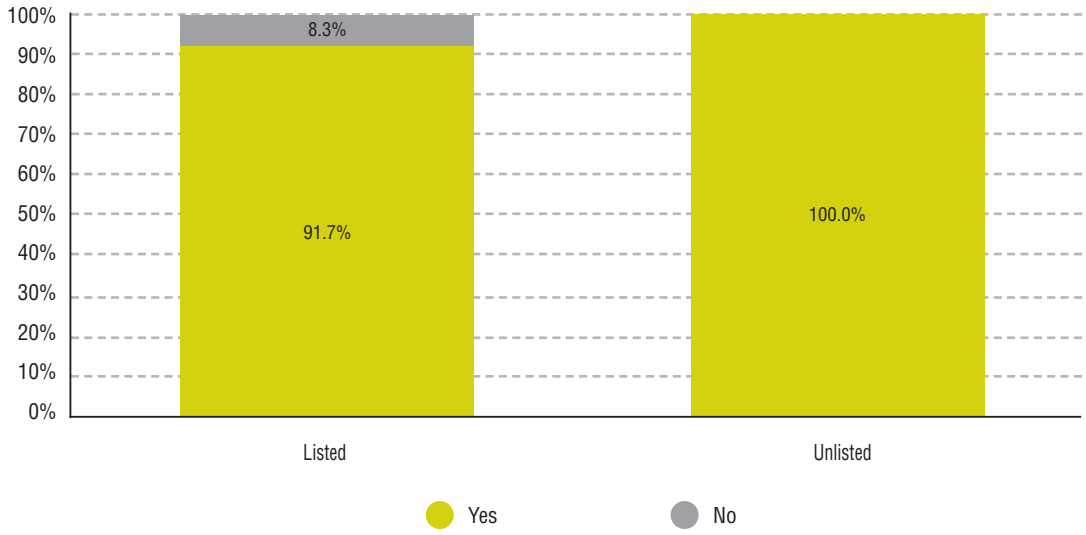
Graph 31: The sector considers risk control as a strategic objective, by geographical area of the company interviewed



Source: **everis**

When analyzing the responses according to whether the company is listed or unlisted, it can be observed that all negative responses correspond to listed companies in the European area. It may be concluded from the above that listed companies, which are generally stricter regarding risk management since they are also applied more stringent controls, consider that the market has not assumed the need to establish anticipatory strategies for the organization as a whole, despite the fact that the market is undergoing a process of changes and there are movements towards risk control in companies.

Graph 32: The sector considers risk control as a strategic objective, according to whether the company interviewed is listed or not

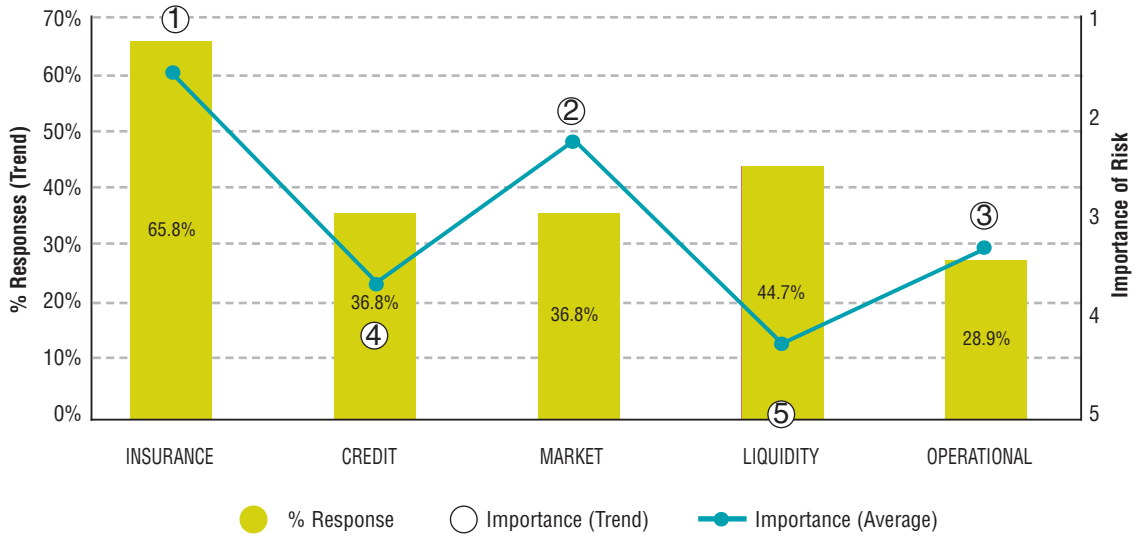


Source: **everis**

4.1.2. Importance attributed by the sector to each type of risk

After being asked about the importance assigned to the different types of risks, it can be observed that most companies agree that the market considers the insurance risk type as the most important one, since 65.8% of companies believe it is the most important risk for the sector. The other types of risks obtain other ratings with less significant majorities.

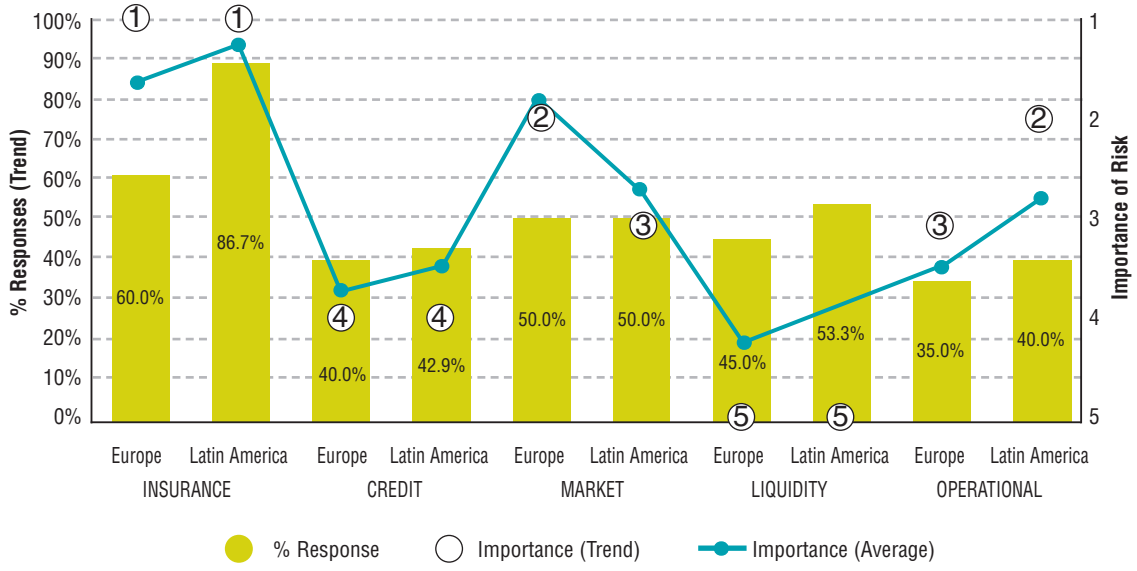
Graph 33: Importance assigned by the sector to each type of risk



Source: **everis**

When analyzing the responses by geographical area of the company interviewed, discrepancies arise between Europe and Latin America as regards the rating of Market Risk (importance 2 and 3 respectively) and Operational Risk (3 for Europe, 2 for Latin America). Besides these discrepancies, the percentage of companies considering the Insurance Risk as the most important one is significantly higher in Latin America than in Europe, with 86.7% and 60% of the companies respectively.

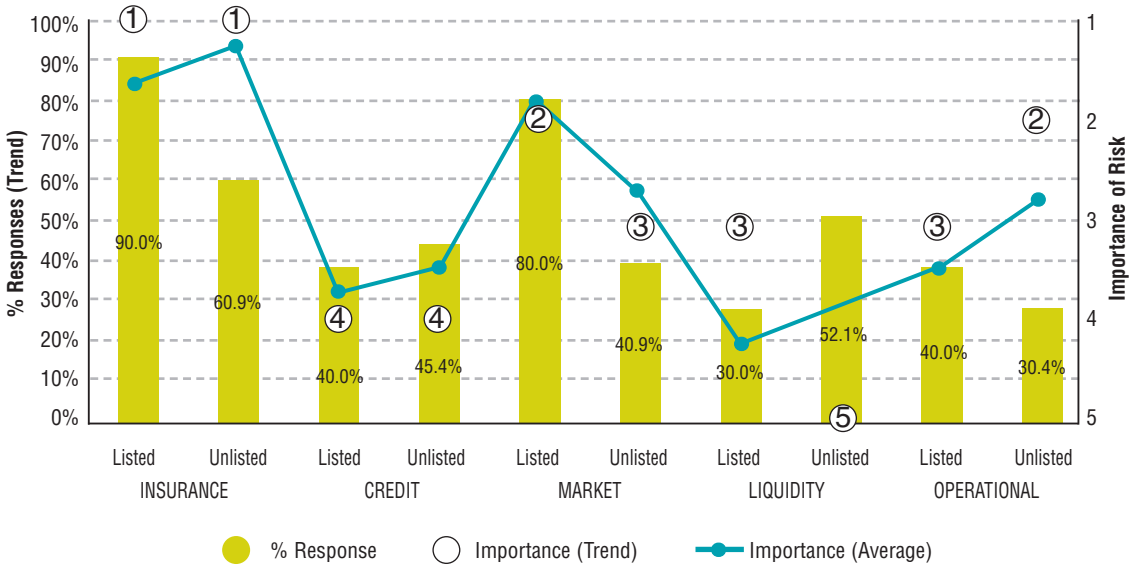
Graph 34: Importance assigned by the sector to each type of risk, by geographical area of the company interviewed



Source: **everis**

When analyzing the responses according to whether the company is listed or not, the same discrepancies can be observed as with the analysis by geographical area, regarding the ranking of importance of Market Risk and Operational Risk. Besides these, and in view of the results displayed in Graph 35, the percentage of companies considering Insurance Risk as importance 1 and Market Risk as importance 2 is significantly higher in the case of listed companies than in unlisted ones. Finally, the Liquidity Risk has the same percentage (30%) in its ranking as importance 3, 4 or 5 in the case of listed companies. That is, unlisted companies rate such risk as having very low importance (52.1%) as opposed to listed companies, which rate it with average to very low importance (3 to 5).

Graph 35: Importance assigned by the sector to each type of risk, according to whether the company is listed or not



Source: **everis**

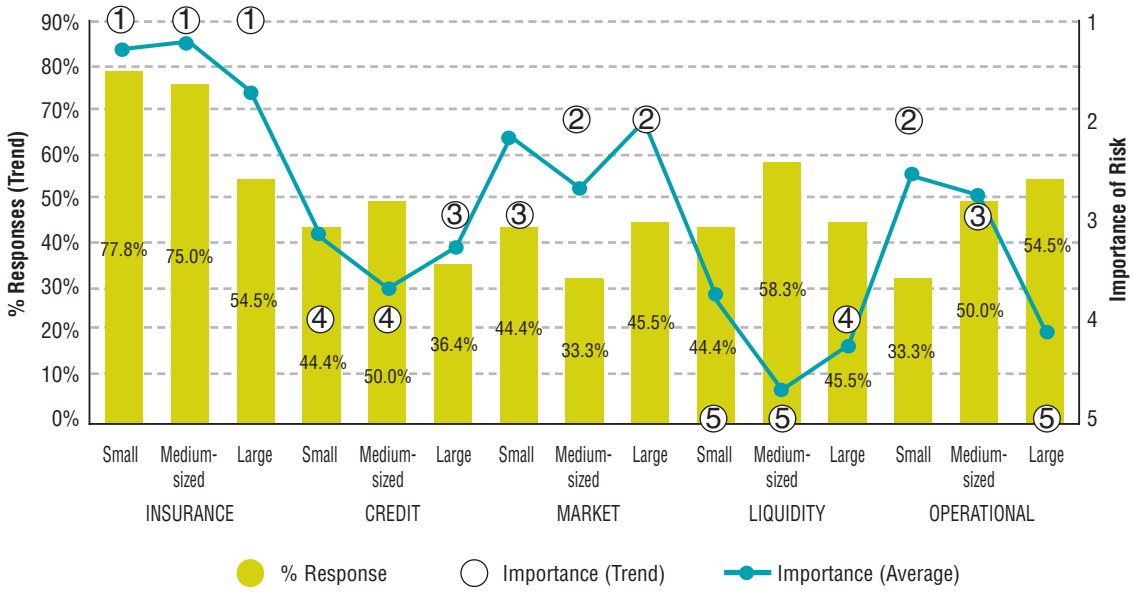
When examing the responses by the volume of the company, which can be observed in the data displayed in Graph 36 (page 49), there are discrepancies between the importance that each type of company believes is allocated by the sector. The most significant discrepancies correspond to Operational Risk, since small and medium-sized companies consider that the sector assigns it high (2) and medium (3) importance respectively, as opposed to large companies, which consider in a vast majority (54.5%) that the sector assigns it very low importance (5).

In turn, medium-sized and large companies consider that the Market Risk has a high importance (2) for the sector, even if the percentage of companies that responded in this way is much higher in the case of large companies (33.3% and 45.5% respectively).

As regards the Liquidity Risk, small and medium-sized companies consider that the sector assigns it very low importance (5), as opposed to large companies, which consider that the sector assigns it low importance (4). The figures obtained showed a similar percentage in all three sizes of companies.

Finally, as shown by Graph 36, in the case of small companies, Operational Risk obtains the same percentage (33.3%) in its rating as high or medium importance (2-3). Likewise, in the case of medium-sized companies, the same happens as regards the rating of Market Risk as having importance 2-3.

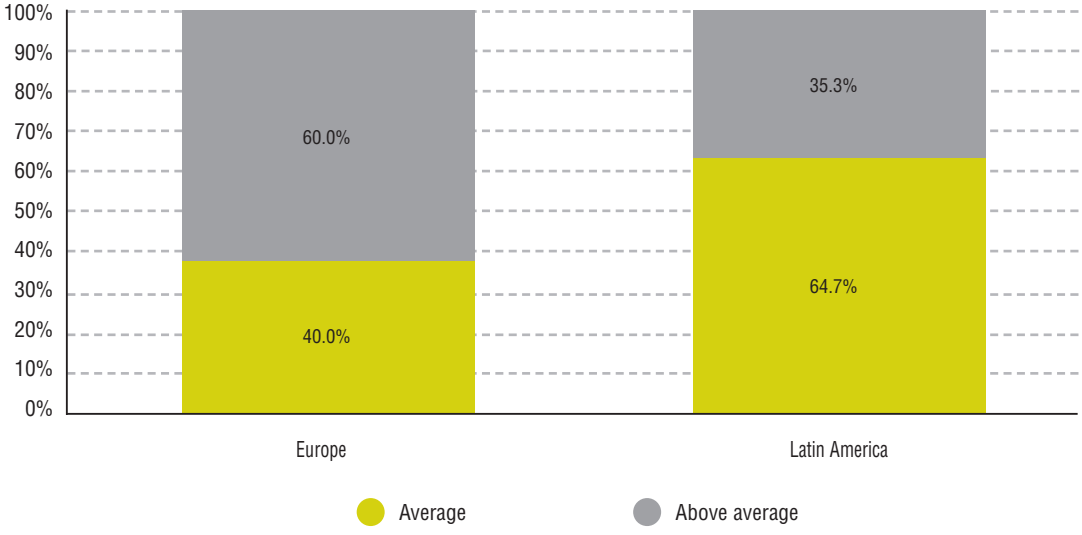
Graph 36: Importance assigned by the sector to each type of risk, by business volume of the company interviewed



Source: **everis**

Finally, when asked how each company considers itself as regards the sector in this area, all companies reply that they are on the average or above the sector's average. In the case of Europe, 60% of companies consider that they are better positioned, as opposed to 35% of Latin American companies with the same opinion.

Graph 37: Situation of the company before the sector, by geographical area of the company interviewed

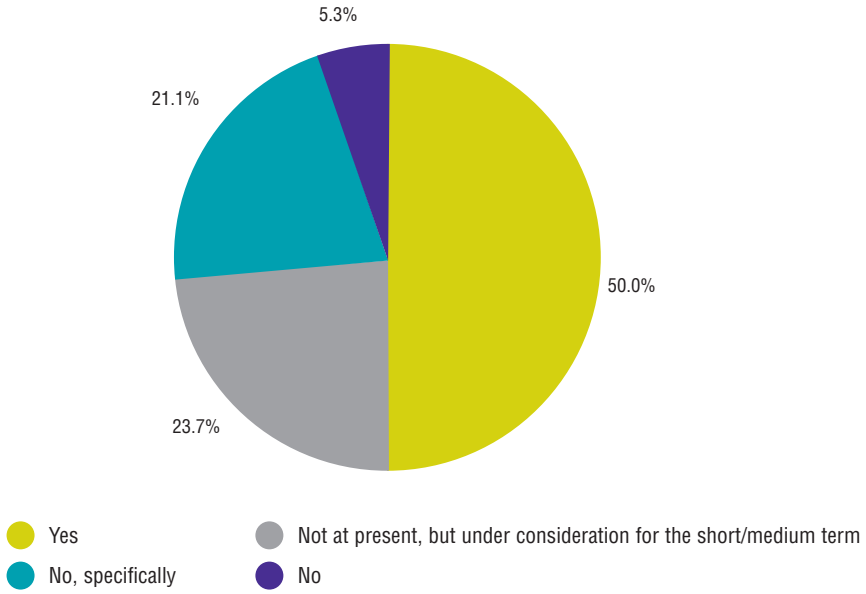


Source: **everis**

4.1.3. Existence of a specific reserve for risk control in the sector's companies

The vision over whether it is considered that the companies of the sector allocate part of their budget to risk control is equitably divided by 50% of companies considering that part of their budget is allotted to risk control, vis-à-vis 50% of the companies considering that no part of the budget is allocated to that end, even if the latter are spread in the different No categories (see Graph 38).

Graph 38: From their perception, companies allocate part of their budget to risk control

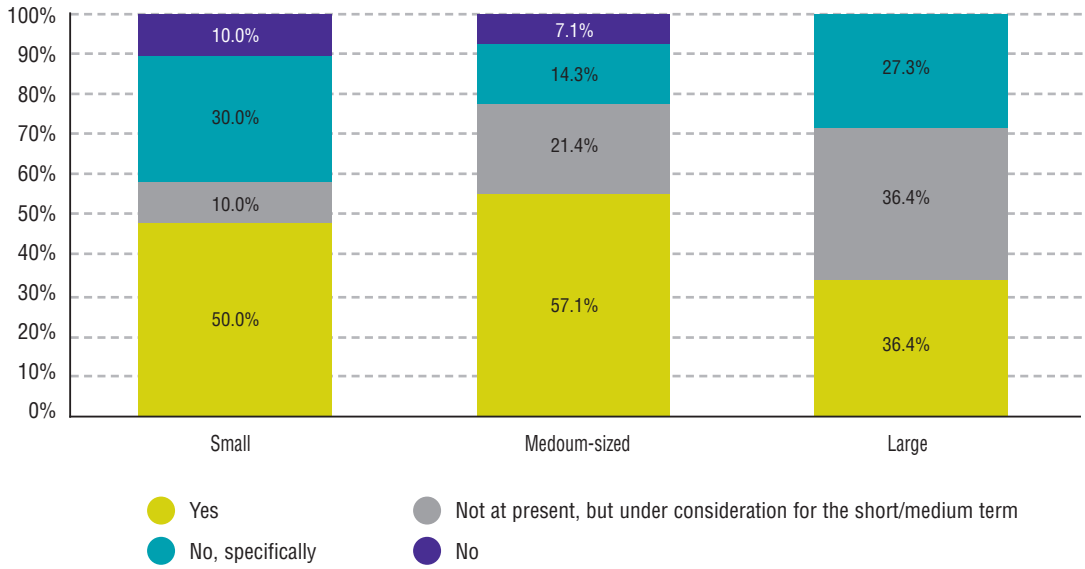


Source: **everis**

When analyzing the responses, according to the company interviewed is listed or not, it can be observed that listed companies mostly (58.8%) consider that at present the sector does not allocate part of their budget to risk control, even if 33.3% believes that the sector is considering it for the short/medium term. In view of this, almost the same percentage of unlisted companies believes that the sector is allocating it.

As per the business volume of the company, it can be observed that there is a majority opinion among large companies (63%) considering that the sector does not allocate at present any reserve to risk control in their budgets, as opposed to small and medium-sized companies, which consider in majority that a specific reserve is being allocated.

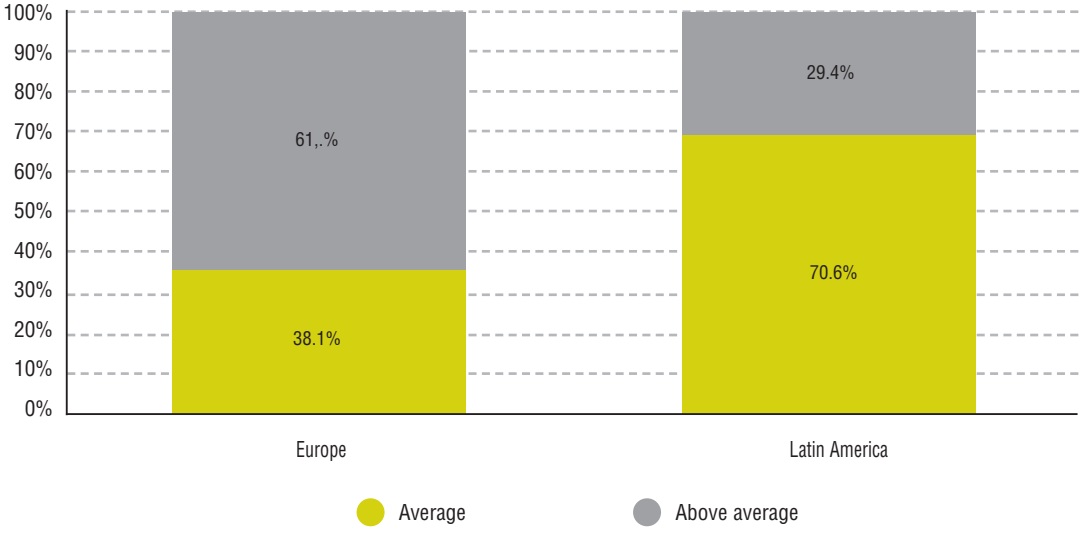
Graph 39: From their perception, companies allocate part of their budget to risk control, by the business volume of the company interviewed



Source: **everis**

When asked how their individual companies compare to the sector in the allocation of budgetary reserve, 100% of the companies consider that they are on the average or better positioned. As regards Europe, almost 62% of the companies consider that they are better positioned than the sector while in the case of Latin America, this percentage decreases to 29.4%.

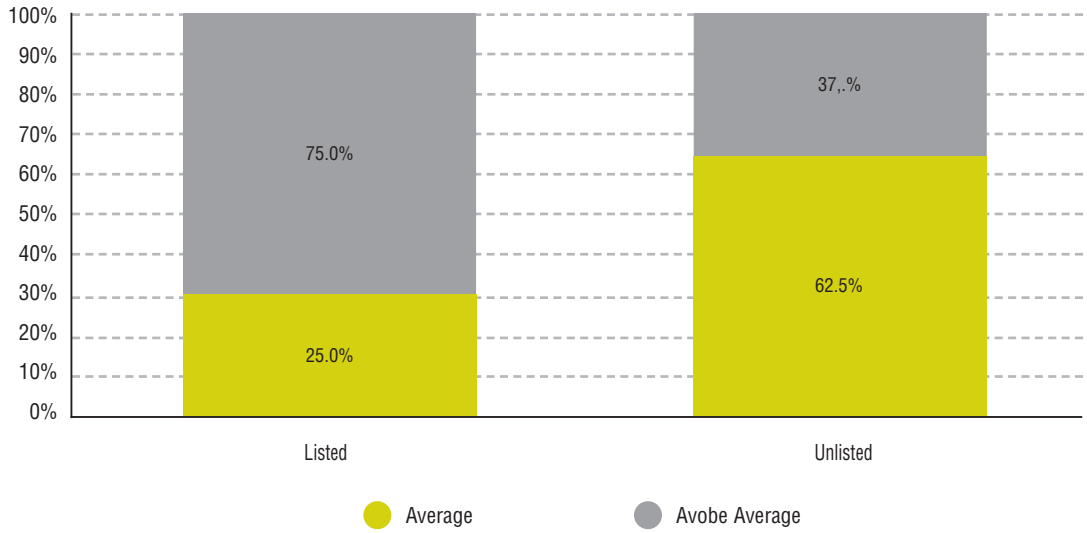
Graph 40: Situation of the company before the sector, by geographical area of the company interviewed



Source: **everis**

From the analysis of the responses according to whether the company interviewed is listed or not, it can be observed that 75% of listed companies consider that they are better positioned than the sector, as opposed to 37.5% of unlisted companies.

Graph 41: Situation of the company before the sector, according to whether the company is listed or not



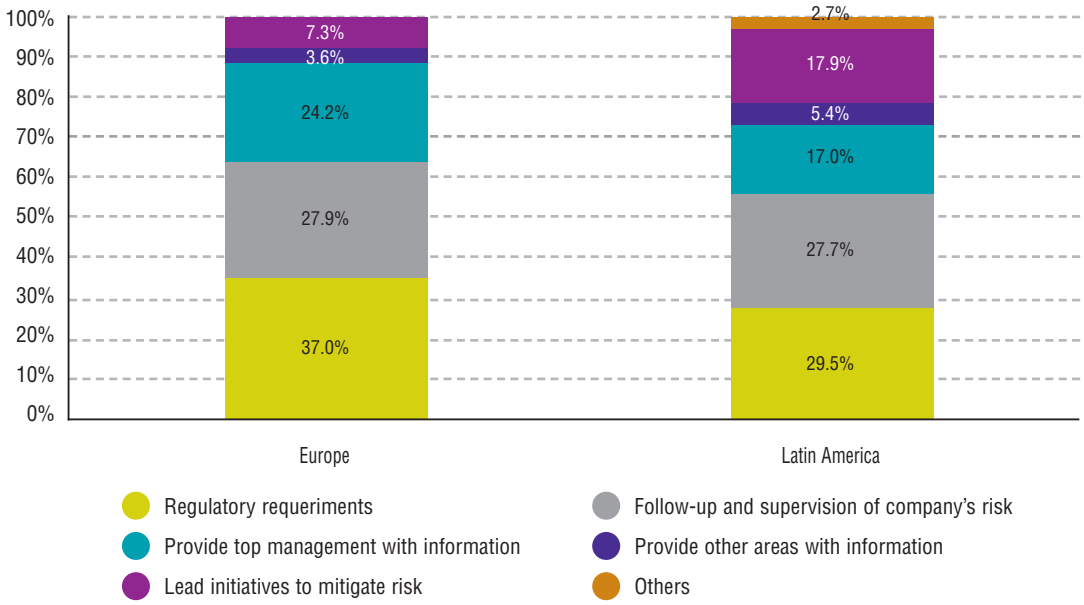
Source: **everis**

4.1.4. Main goals pursued by the sector for risk control

When asked about the main goals pursued by the companies of the sector for risk control, 34% of companies consider that the main goal of the sector is the compliance with standards.

When conducting the study by geographical area, it can be observed that 37% of European companies consider that the main goal of the sector is the compliance with standards, as opposed to 29% of Latin American companies. These data are surprising when compared with those obtained from question 4.2.9 (page 76), which asks about the functions of the staff assigned to risk control in each company. According to the results derived therefrom, in 82% of Latin American companies such staff is assigned to compliance with standards tasks, while in Europe, the most frequent task is to identify, measure, monitor and control each type of risk in 85% of the companies.

Graph 42: Main goals of the sector for risk control, by geographical area of the company interviewed



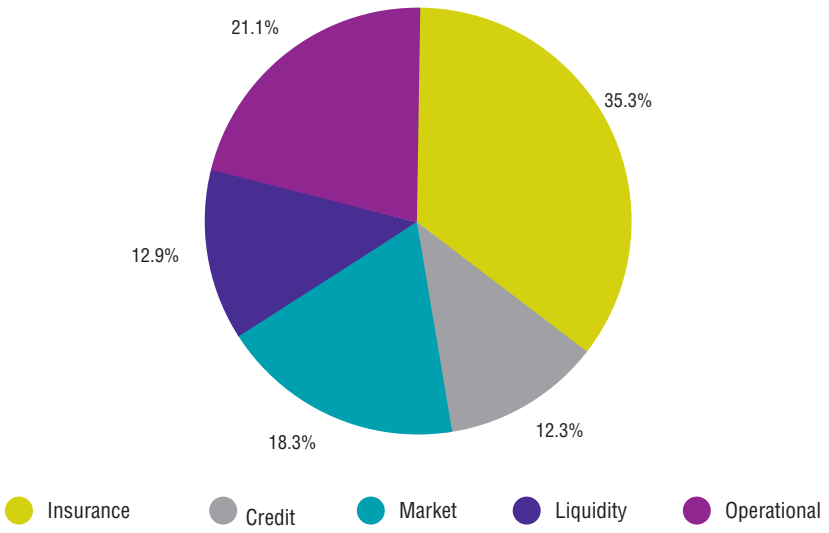
Source: **everis**

4.1.5. Assessment of the effort made by the sector in the follow-up and supervision of each type of risk

When asked about their opinion on the *effort* made by the sector as regards follow-up and supervision of the different types of risk, the results obtained seem to show certain incoherence regarding the *importance* assigned by the sector to each type of risk, which was the subject of question 4.1.2 (page 46). According to the interviewed companies, the sector makes its biggest effort in Insurance Risk (35.3%), followed by far by Operational Risk (21.1%), while in the question mentioned above, the risk considered as the most important one for the sector is the Insurance Risk, followed by the Market Risk.

When analyzing the responses by geographical area of the company interviewed, and according to the data obtained, both for Europe and Latin America, it is considered that the main effort of the sector is geared to Insurance Risk, followed by Market Risk and Operational Risk respectively. These data are in line with the question mentioned above.

Graph 43: Assessment of the effort made by the sector in the follow-up and supervision of each type of risk

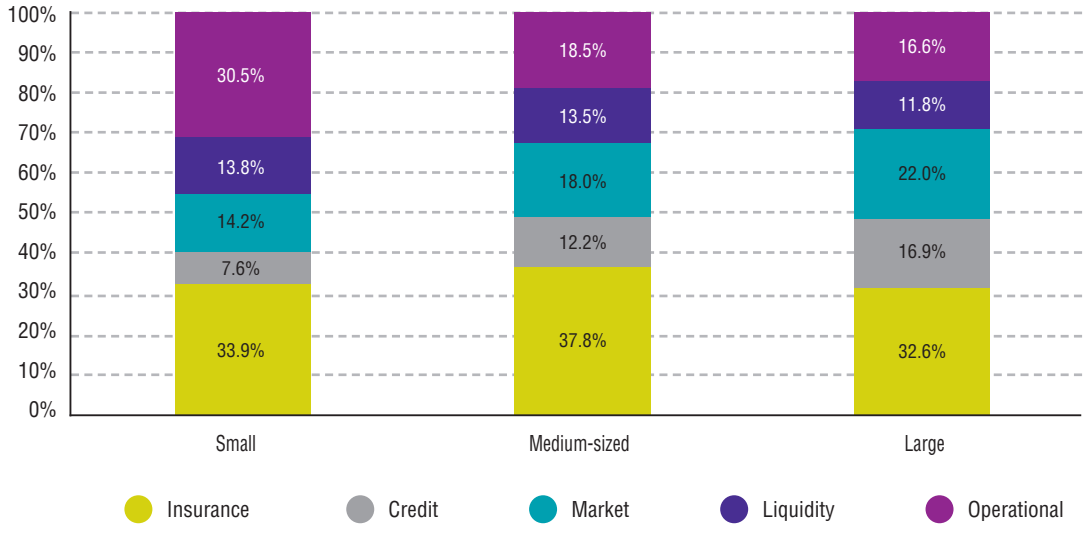


Source: **everis**

When studying the responses according to whether the company interviewed is listed or not, the data obtained reveal that listed companies consider that the risk on which the sector makes the biggest effort in its follow-up and supervision is the Insurance Risk, while the risk on which it makes the lowest effort is the Credit Risk. However, in the question mentioned above (4.1.2, page 46), they consider that the least valued risk by the sector is the Liquidity Risk.

In turn, unlisted companies believe that the sector makes the effort in the follow-up and supervision of the different types of risk in the same order as they consider the sector values the importance of the different types of risks.

Graph 44: Assessment of the effort made by the sector in the follow-up and supervision of each type of risk, by business volume



Source: **everis**

In the study by business volume of the company interviewed, it is remarkable to observe in the case of small companies how close it is in its appreciation the effort made by the sector in Insurance Risk and Operational Risk (34% and 31% respectively). In the case of medium-sized companies, they consider that the sector makes a bigger effort in Liquidity Risk (13%) than in Credit Risk (12%), whereas they consider that the latter is more important than the former for the sector.

Finally, large companies consider that the sector makes the same effort in Operational Risk as in Credit Risk when, on the other hand, they consider that the level of importance assigned by the sector in this respect is very low (5) and average (3) respectively.

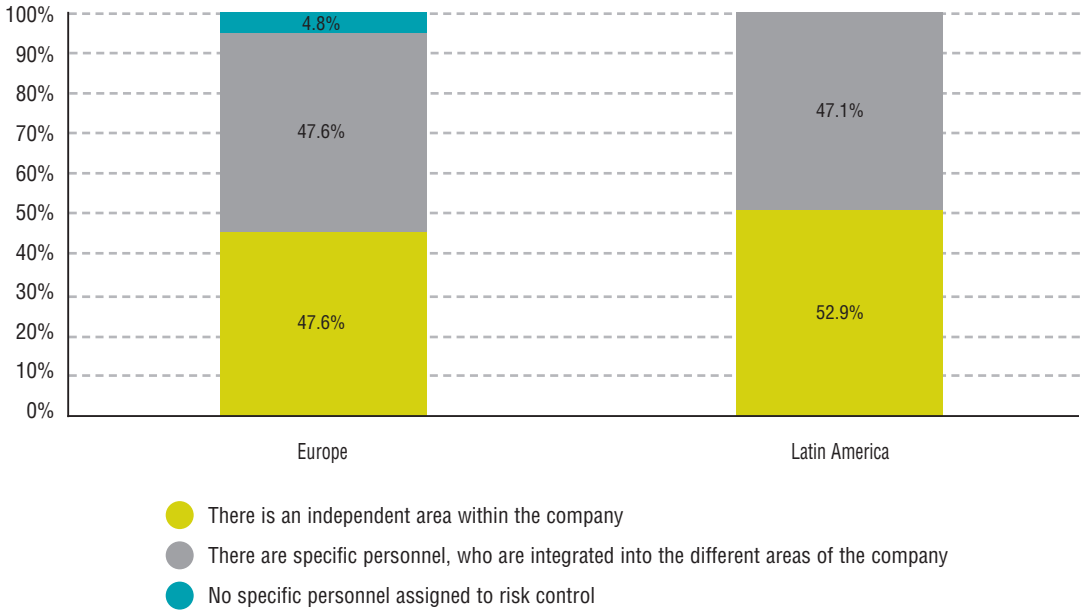
Organizational model

4.1.6. Most common strategy used by companies of the sector for risk control

A total of 50% of the companies that have answered the study considers that the sector mostly deals with risk control, from the organizational viewpoint, through the existence of an independent area within the companies. On the other hand, 47% of companies consider that the strategy used by the majority in the sector is to have specific personnel integrated into the different areas of the companies, while 3% of companies consider that the sector usually does not have specific personnel assigned to risk control.

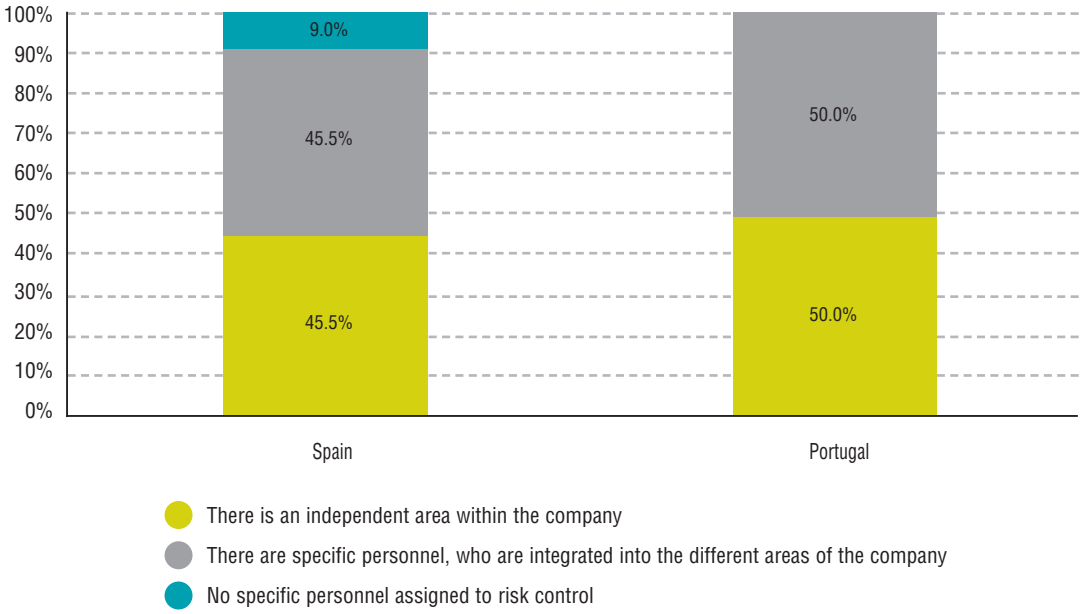
Analyzing the responses by geographical area of the company interviewed, it is noteworthy that 4.8% of European companies consider that there is no specific personnel assigned to risk control. Analyzing in further retail the responses per European country, it can be observed that it is the Spanish companies (9%) which have such impression.

Graph 45: Most common strategy used by companies of the sector for risk control, by geographical area of the company interviewed



Source: **everis**

Graph 46: Most common strategy used by companies of the sector for risk control, by country of the company surveyed



Source: **everis**

Operational model

4.1.7. Existence of asymmetric knowledge among the different types of risk in the sector

No doubt, most companies consider that there is asymmetric knowledge among the different types of risk in the sector. When analyzing the responses by geographical area of the company, it can be observed that 23% of Latin American companies consider that there is NO asymmetric knowledge in the sector, vis-à-vis 9% of European companies. In view of these results, it may be concluded that the Solvency II initiative, exclusively involving the European market, makes these companies more aware of a possible lack of knowledge on certain types of risks in the sector.

Upon the analysis of the responses according to whether the company is listed or not, it can be observed that, as it may well be expected, over 90% of listed companies consider that there is asymmetric knowledge in the sector, vis-à-vis 79% of unlisted companies.

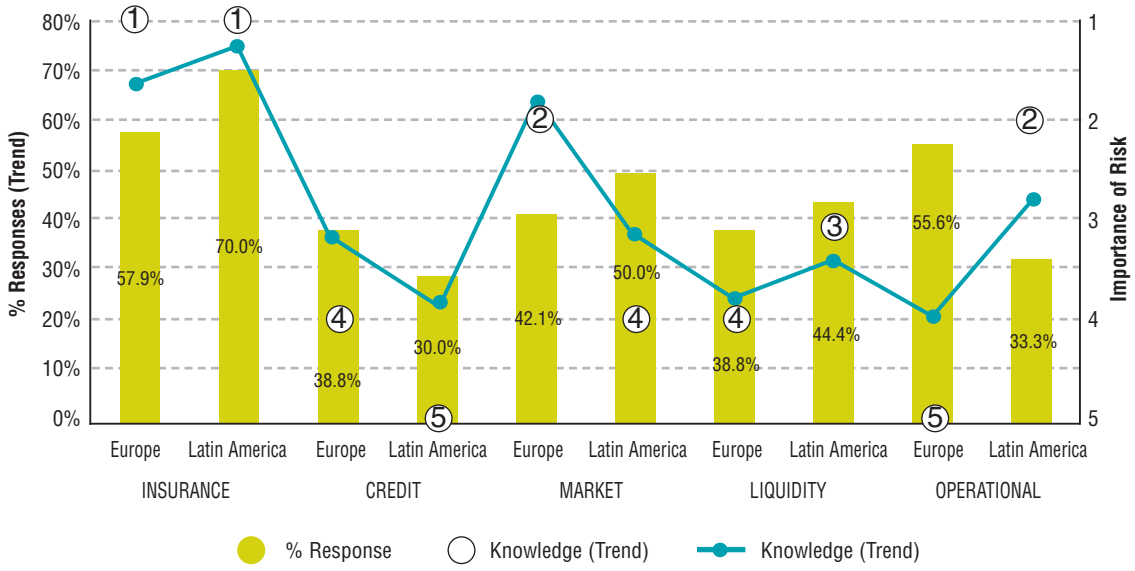
As regards the analysis of the responses by business volume of the company, it can be observed that medium-sized companies are the ones that consider most (93%) that there is asymmetric knowledge in the sector, followed by large companies (82%) and small companies (70%).

Once the asymmetric knowledge of the different types of risk in the insurance sector has been verified according to the opinion of the companies that participated in the study, the level of knowledge on each type of risk that each company interviewed considers there is in the sector is then studied.

The interviewed companies consider that the highest knowledge corresponds to Insurance Risk, followed by Market Risk, while the lowest knowledge corresponds to Operational Risk and Liquidity Risk. Upon the analysis of the responses by geographical area of the company interviewed (Graph 47), it can be observed that in the case of Operational Risk, European companies consider that there is very low knowledge (5) in the sector, while Latin American companies

consider that knowledge on this type of risk is high (2). This may be explained by the fact that in the Latin American area, Operational Risk must not be characterised and quantified in order to calculate the solvency margin needed by the company. Therefore, there is no special motivation to highlight this type of risk. By contrast, in the European area and due to Solvency II, the different types of risk must be adequately broken down in order to calculate the solvency margin of the company.

Graph 47: Knowledge of the sector on the different types of risk, by the geographical area of the company interviewed

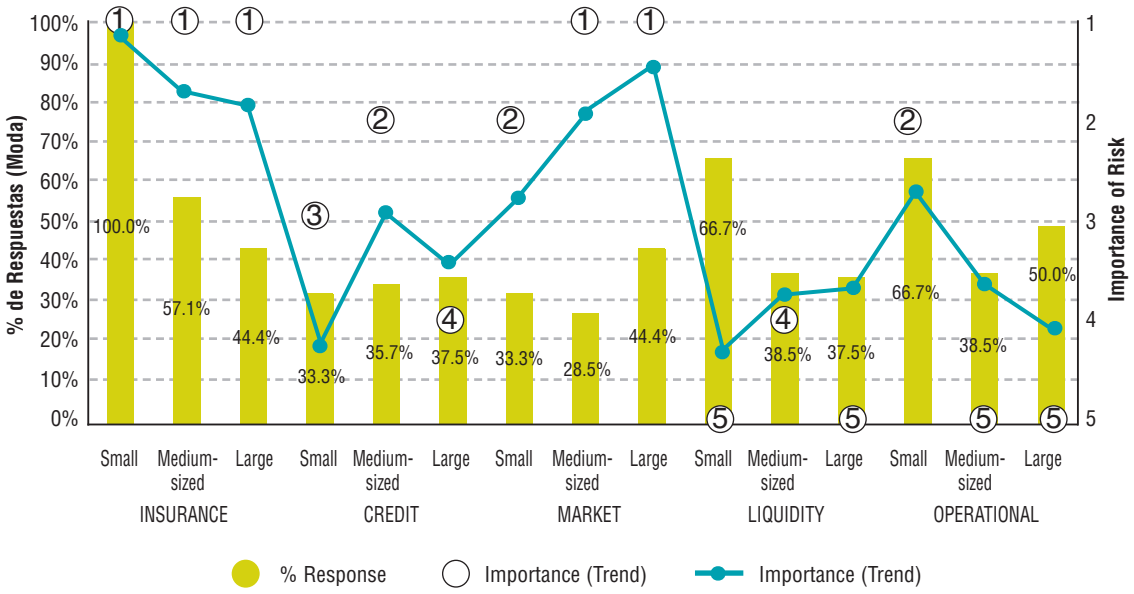


Source: **everis**

When we examine the responses according to whether the company interviewed is listed or not, it can be observed that listed companies consider that there is low knowledge (4) of Credit Risk in the sector, while unlisted companies consider that knowledge is high (2). Likewise, it is noteworthy that listed companies consider that there is an average knowledge (3) of the Liquidity Risk, as opposed to unlisted companies, which consider that there is very low knowledge in the sector (5).

From the analysis of the responses by business volume of the company interviewed, it is noteworthy to see the different assessments of the knowledge of the sector of Credit Risk assigned by the various types of companies. According to small companies, the sector has an average knowledge (3); according to medium-sized companies, the sector has a high knowledge (2); and according to large companies, the sector has a low knowledge (4). On the other hand, as regards Operational Risk, small companies consider that the sector has a high knowledge (2), while medium-sized and large companies consider that the knowledge is very low (5). This may be explained by the fact that most companies labelled as small companies that have participated in our study are concentrated in Latin America.

Graph 48: Knowledge of the sector on the different types of risk, by business volume of the company interviewed



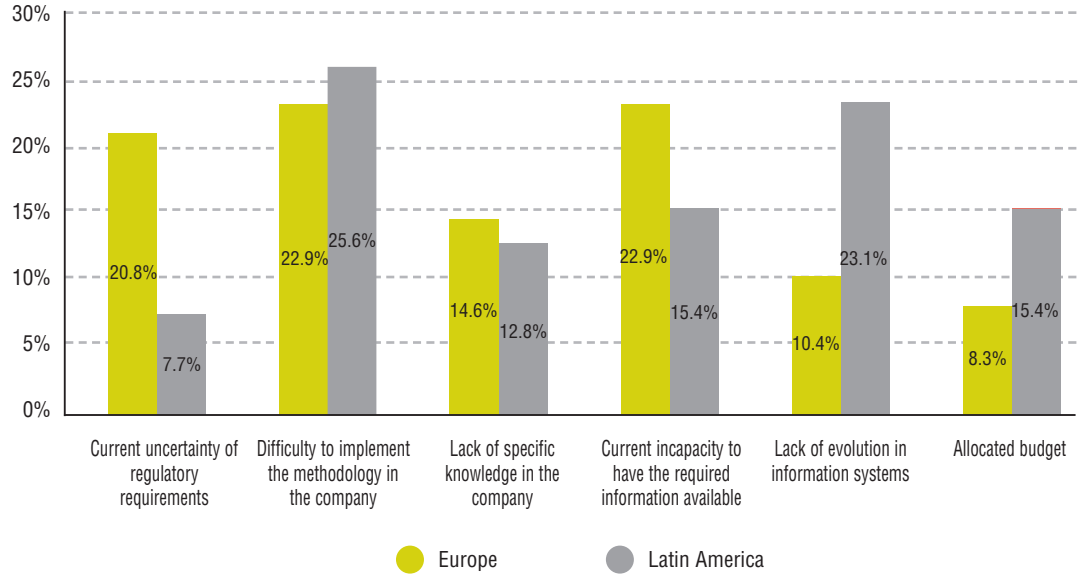
Source: **everis**

4.1.8. Main circumstances preventing or hindering efficient control

When analyzing the main circumstances hindering or preventing efficient control by the companies, it is observed, as declared by the companies participating in the study, that the main cause is the difficulty to implement methodology in the company, even if the information is very well spread. When we examine the responses by geographical area of the company interviewed, it can be observed that European companies consider as main reasons the difficulty to implement the methodology in the company and the current incapacity to have the information available in the company, both with 22.9% of responses. As regards Latin American companies, they consider that the main reasons are related to the difficulty to implement the methodology in the company (the same as Europe), followed by the lack of evolution in information systems.

The difference of the percentage obtained for the causes “allocated budget” and “lack of evolution in information systems” and “current uncertainty of regulatory requirements” is noteworthy when comparing Europe and Latin America, as shown in Graph 49.

Graph 49: Main circumstances hindering or preventing efficient control, by geographical area of the company interviewed

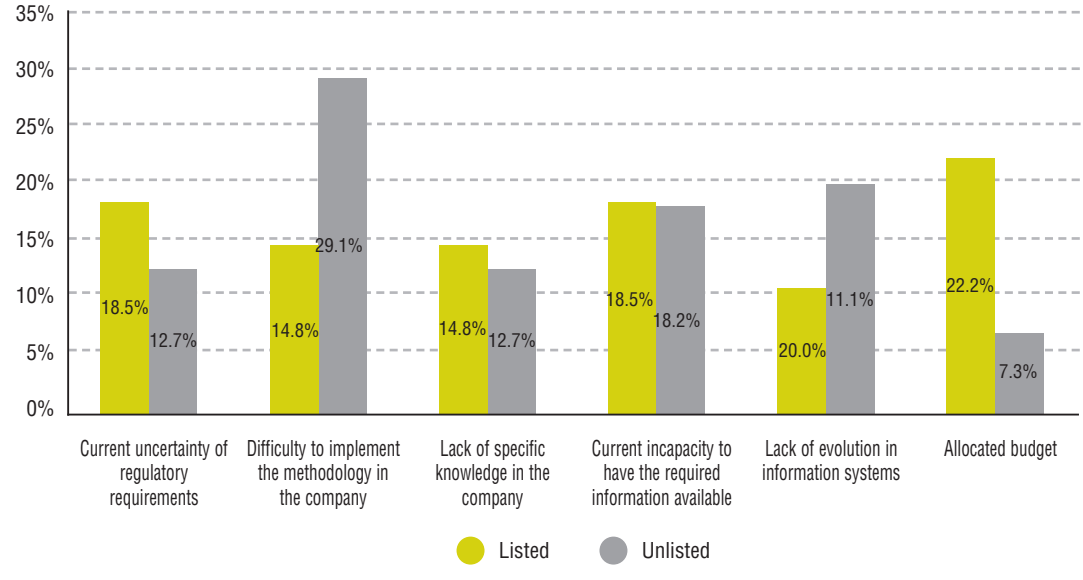


Source: **everis**

When analyzing the responses according to whether the company is listed or not, it can be observed as a remarkable fact that listed companies consider the allocated budget as the main reason hindering or preventing efficient risk control (22% of listed companies as opposed to 7% of unlisted ones). As regards unlisted companies, 29% of the responses indicate that the main cause is the difficulty to implement the methodology in the company.

Upon the analysis by business volume of the company, it is observed that the responses of the companies are very even in almost all cases.

Graph 50: Main circumstances hindering or preventing efficient control, according to whether the company is listed or not

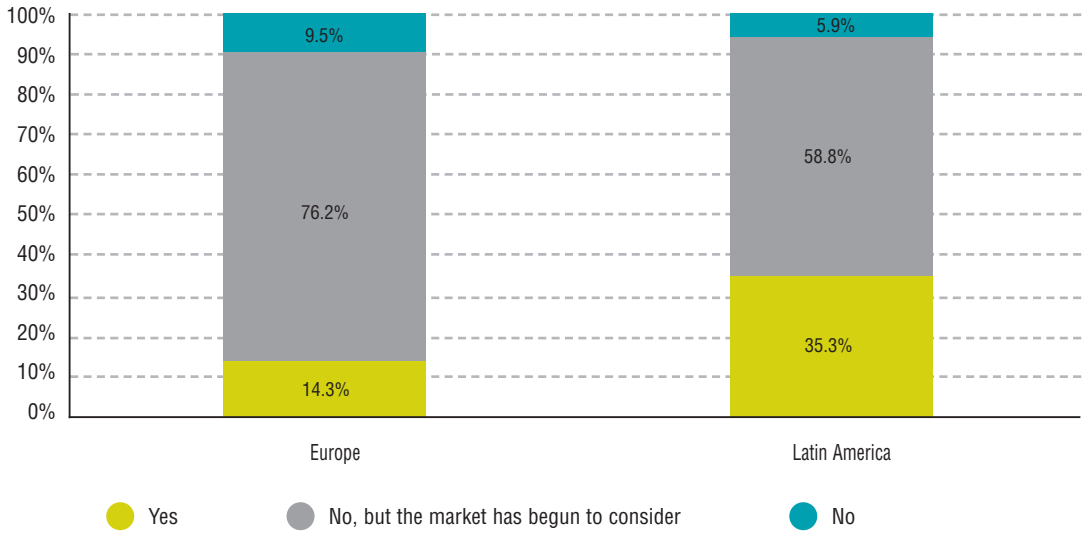


Source: **everis**

4.1.9. Risk control information among current reporting tools of the sector's companies

When asked whether they consider that the companies have risk control information within their current reporting tools, 68% consider that the sector does not have such information available but that the market has begun to consider its need. Upon the analysis of the responses by geographical area, it can be observed that this percentage rises to 76% in the case of European companies. In Latin America, 35,3% of the companies consider that the sector has such information available, which in turn is opposed to the 14.3% obtained in the case of European companies.

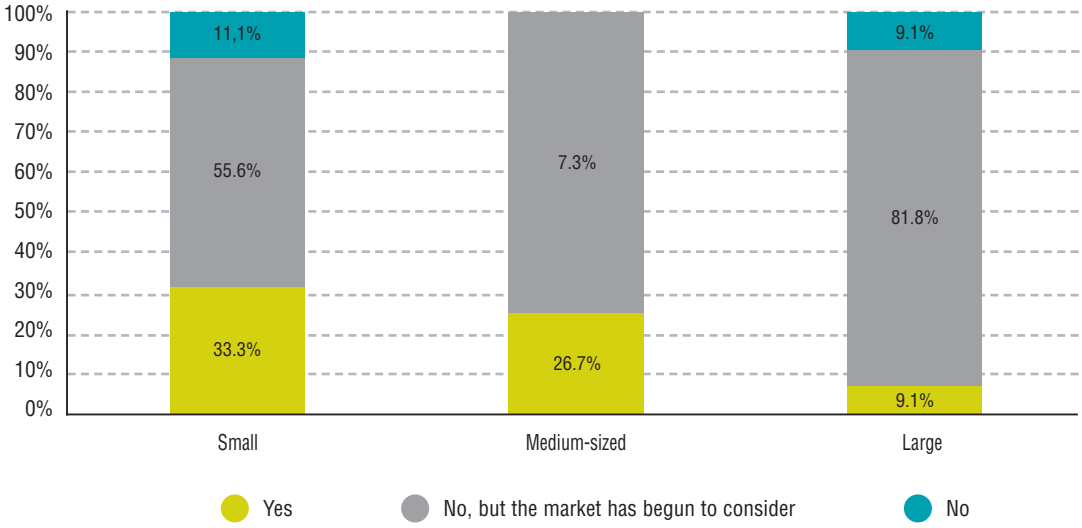
Graph 51: The companies of the sector have risk control information among their current tools, by geographical area of the company interviewed



Source: **everis**

Analyzing the responses by business volume of the company interviewed, it can be observed that the larger the business volume of the company, the lower the percentage that considers that the sector currently has risk control information available among its reporting tools.

Graph 52: The companies of the sector have risk control information available among their current tools, by business volume of the company interviewed

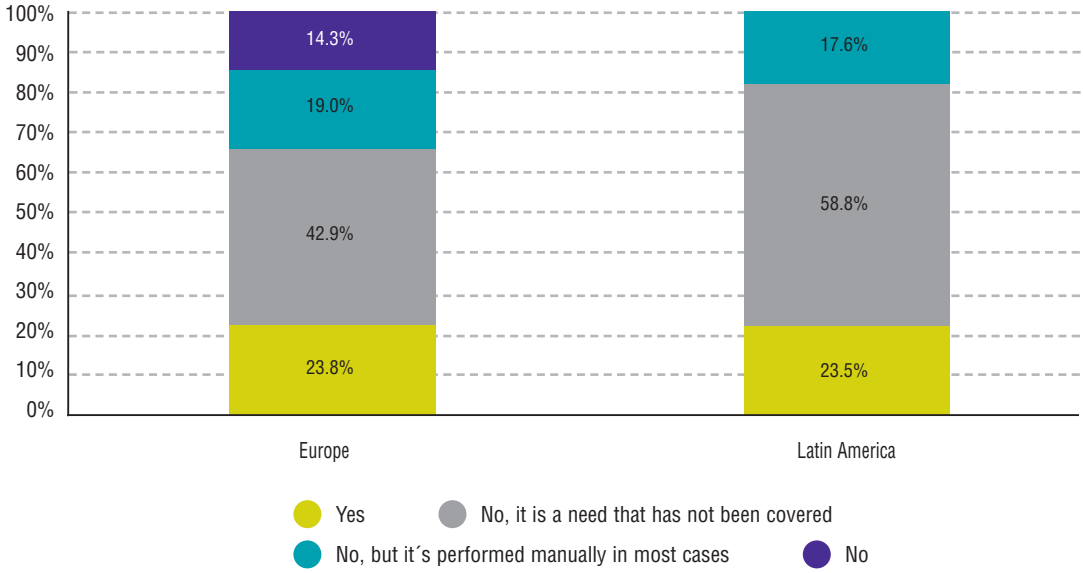


Source: **everis**

4.1.10. The sector's companies currently have simulation/forecasting tools

About the simulation and forecasting tools allowing companies to perform the applicable calculations to obtain solvency margins, impact and/or likelihood of occurrence in the different types of risks, 50% of companies consider that they do not have such tools available but inform that such tasks are performed manually in most cases. When analyzing the responses by geographical area of the company, almost 60% of Latin American companies interviewed and 43% of European companies consider that they are performed manually in most cases. All the firms that answered that the companies of the sector do not have simulation tools available correspond to companies of the European geographical area.

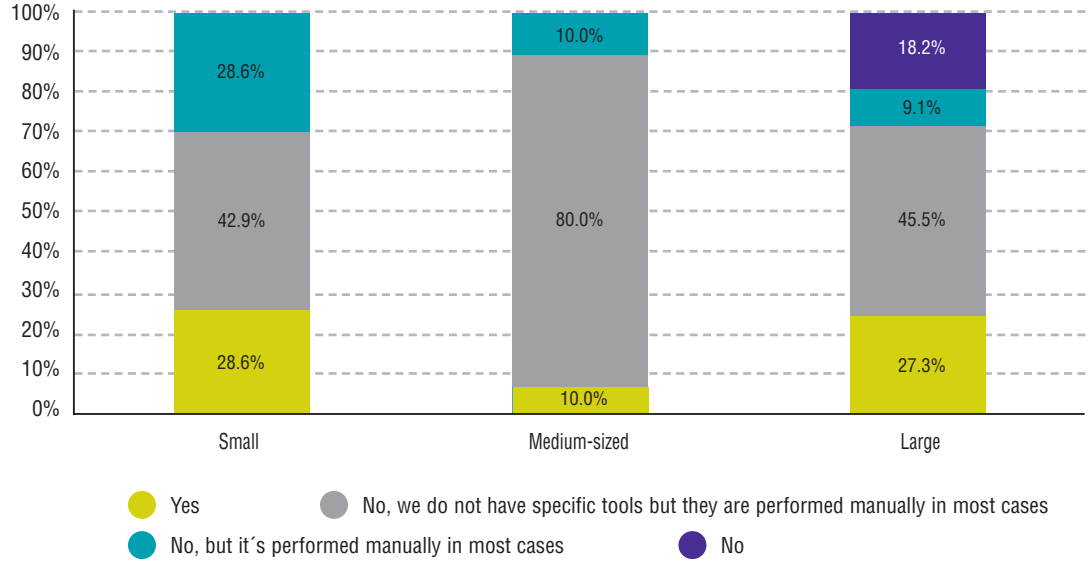
Graph 53: The companies of the sector have simulation/forecasting tools available, by geographical area of the company interviewed



Source: **everis**

Upon the analysis of the responses by business volume of the company, it is noteworthy that all companies that consider the sector does not have simulation/forecasting tools correspond to companies classified as large. This is probably due to the fact that they are more demanding with the means within their reach.

Graph 54: The companies of the sector have simulation/forecasting tools available, by the business volume of the company interviewed



Source: **everis**

4.2. Company risk management

This section elaborates on the risk management strategy implemented by the company, as well as the tools to perform such strategy.

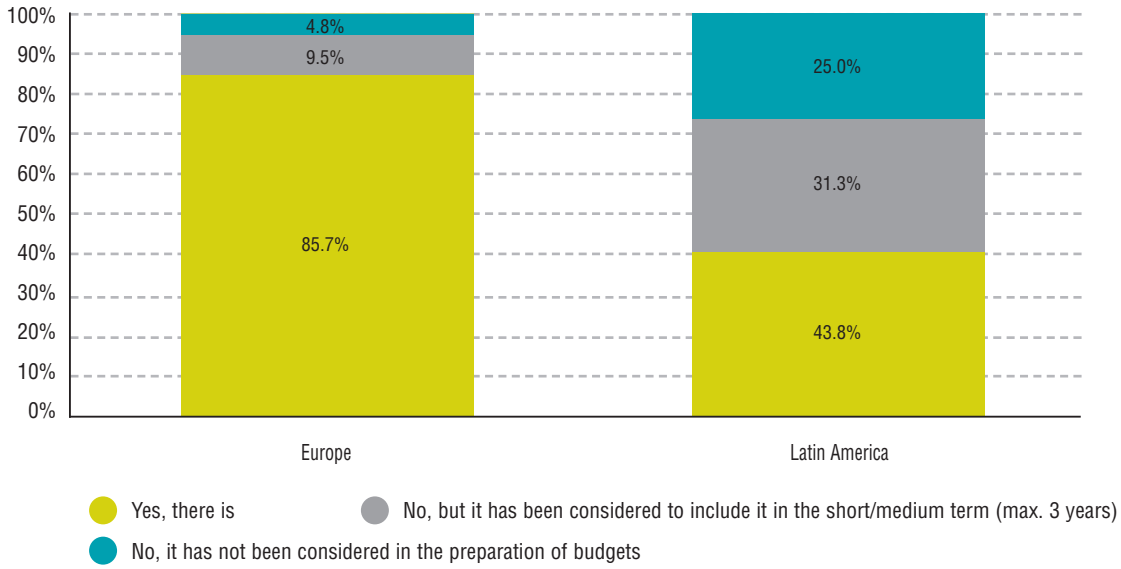
Strategies and initiatives

4.2.1. Existence of a budgetary reserve for risk management

When identifying the companies' concern with the development of the risk management function, the first issue to consider is whether or not a budgetary reserve is allocated to that end in annual budgets. From the global analysis of the responses obtained, 68% of companies that answered this question declare that their 2008 budgets include this reserve, as opposed to 13% of companies that have overlooked it.

Upon the analyzing of the responses by the geographical area of the company interviewed, it can be observed that 85.7% of the companies in the European area already have a budgetary reserve specific to risk management and control, as opposed to 43.8% of the interviewed companies in Latin America. By way of conclusion, it may be stated that the European companies are already adjusting to the new regulatory frame, Solvency II, even if it is not in force yet, providing economic resources that allow them to conduct a more effective risk management.

Graph 55: Existence of a budgetary reserve, by geographical area of the company interviewed

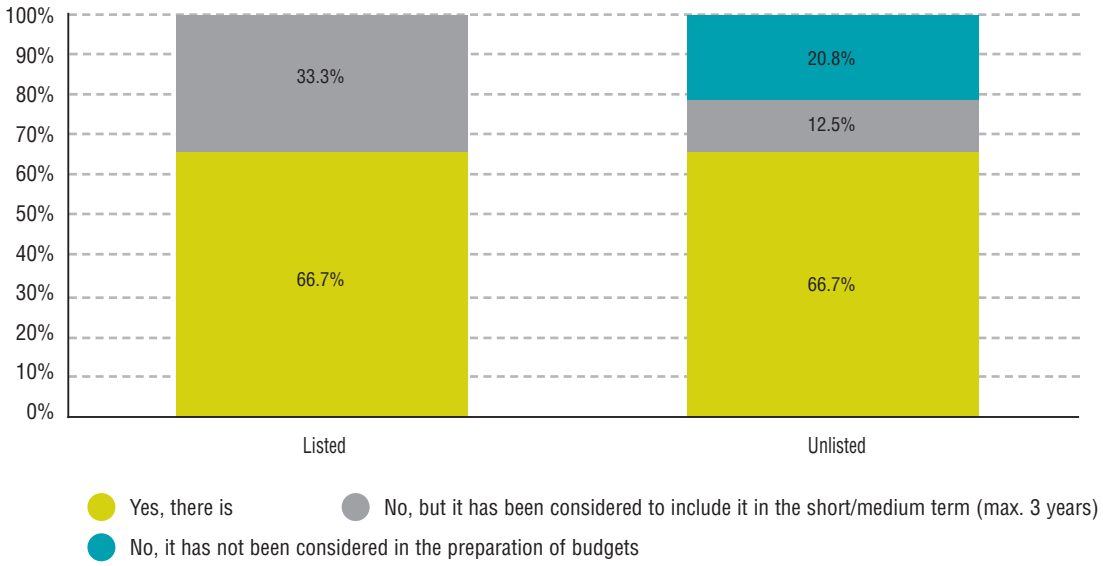


Source: **everis**

When analyzing the data by business volume of the company interviewed, and according to whether it is listed or not, the following results are obtained: on the one hand, 72.7% of "large" companies have a budgetary reserve, as opposed to 55.6% of small companies. Data show that there is a trend indicating that the larger the company, the more sensitive it is to risk control; in this case, through the allocation of a budgetary reserve.

The data obtained in the analysis according to whether the companies are listed or not indicate that, although listed companies have stricter controls, this does not influence their behaviour in this aspect, since the percentage of responses is the same for listed and unlisted companies, with the exception that the former plan to include it in their budgets in the short/medium term (33.3% listed, as opposed to 12.5%).

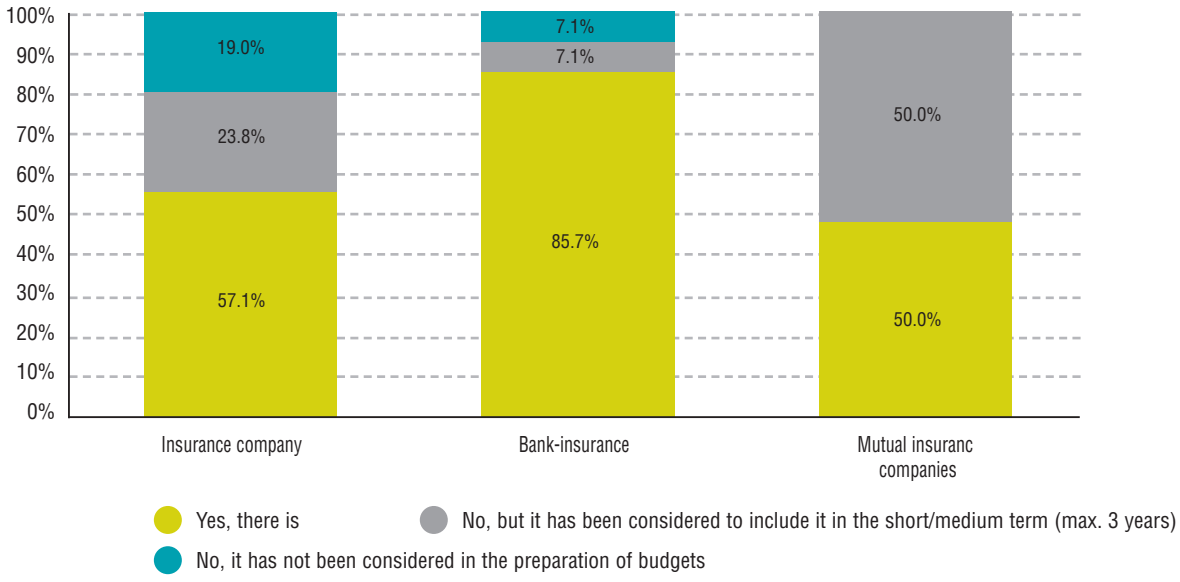
Graph 56: Existence of a budgetary reserve, according to whether the company interviewed is listed or not



Source: **everis**

When analyzing the behaviour of companies by their type, it can be observed in the table below that 85.7% of bank-insurance companies have a specific budgetary reserve for risk management/control.

Graph 57: Existence of a budgetary reserve by company type

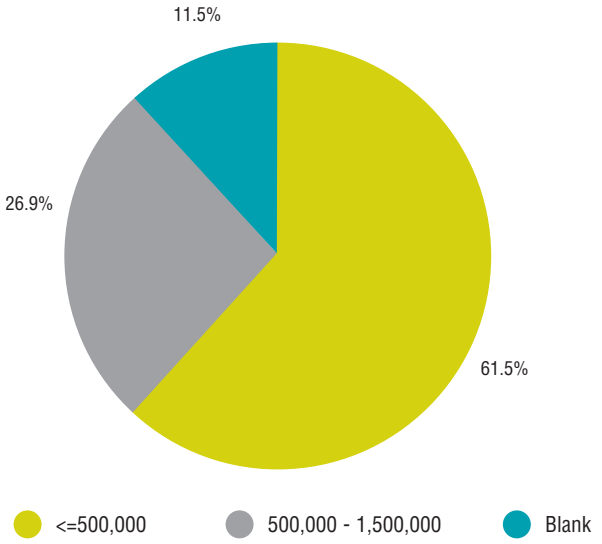


Source: **everis**

4.2.2. Amount of the reserve allocated to risk management

From the companies that have responded affirmatively to the allotment of a reserve in their 2008 budgets to Risk Control, it may be concluded that the vast majority of companies allocate a budget lower than 500,000 Euros to risk control. It should be highlighted that virtually 12% of companies that allocate a budgetary reserve have not disclosed the amount thereof.

Graph 58: Amount of the reserve allocated to risk management

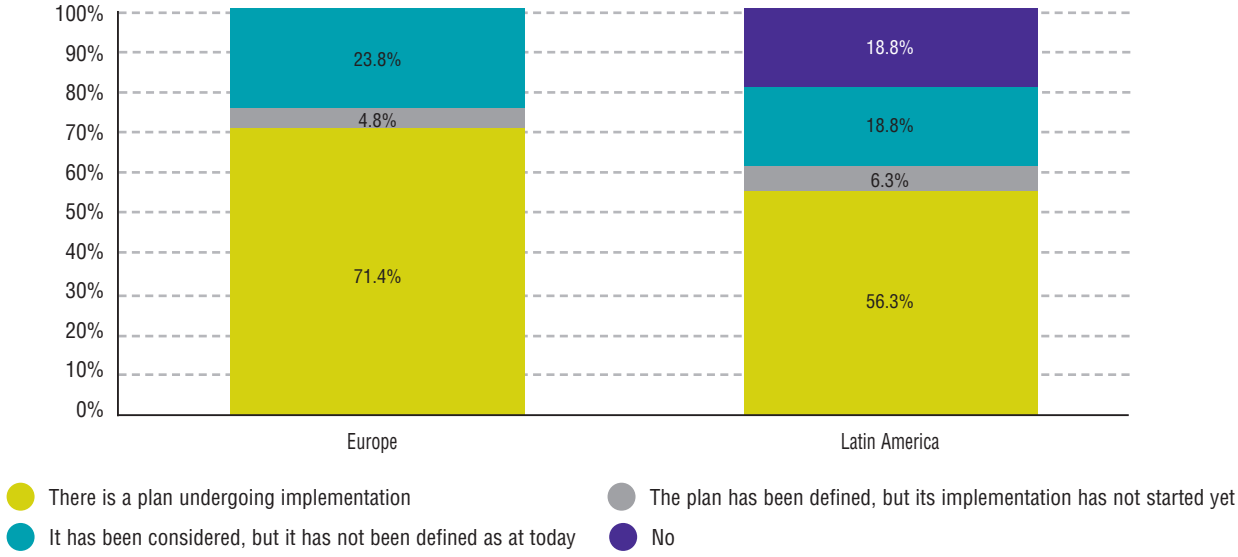


Source: **everis**

4.2.3. Existence of a master plan for the implementation of risk management

When considering in the analysis the existence of a master plan for the implementation of initiatives related to risk management, it can be observed that in Europe 71.4% of the companies declare having a master plan under implementation, as opposed to 56.3% of Latin American companies. Besides, 18.8% of Latin American companies have declared the non-existence of a master plan or even having considered it. This significant difference proves that European companies are already adjusting themselves to the future regulatory frame of Solvency II, which is foreseen to be enforced by 2010.

Graph 59: Existence of a master plan for the implementation of risk management, by geographical area of the company interviewed

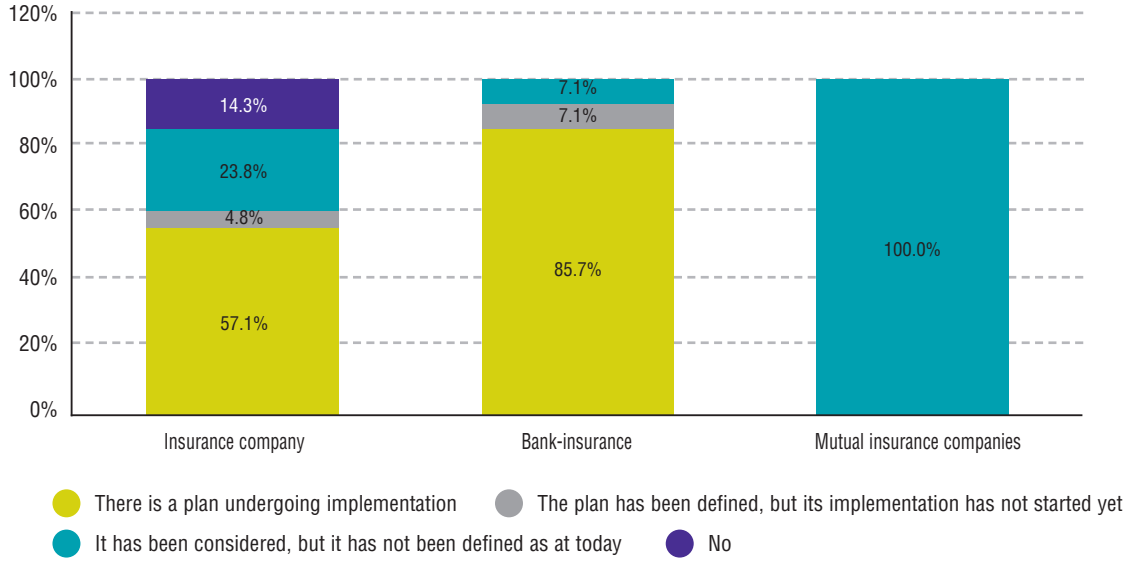


Source: **everis**

If the responses are analysed taking into consideration whether the company interviewed is listed or not, the data show that all listed companies have a master plan for risk management, either in process or just defined, or at least have considered it. However, 12.5% of unlisted companies answer that there is NO master plan in the company.

When analyzing the responses by company type, it may be concluded from the data obtained that Basel II has paved the way with regard to risk management in bank-insurance, where almost 86% of the interviewed companies declare that they have a plan undergoing implementation, as opposed to 57% of insurance companies. In the case of mutual insurance companies, it is not significant since only two of them have participated in our study.

Graph 60: Existence of a master plan for the implementation of risk management, by type of company interviewed

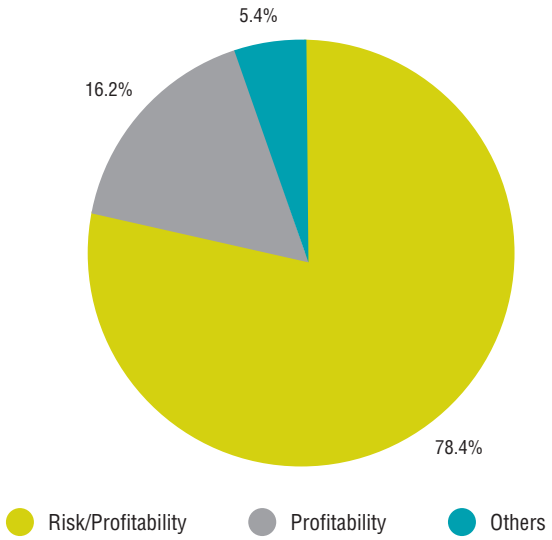


Source: **everis**

4.2.4. Initiative assessment strategy

Taking into consideration the initiative assessment strategies followed by the different companies, as indicated by their responses, it can be observed that there is a clear majority where the assessment is performed according to *Risk/Profitability*, namely in 78.4% cases, as opposed to 16.2%, which only prioritize Profitability in their corporate strategy. When analyzed the responses by geographical area, it may be concluded that both in Latin America and in Europe the approach for initiative assessment is the risk/profitability mix, even if in Latin America the percentage of companies using such assessment is higher.

Graph 61: Initiative assessment strategy

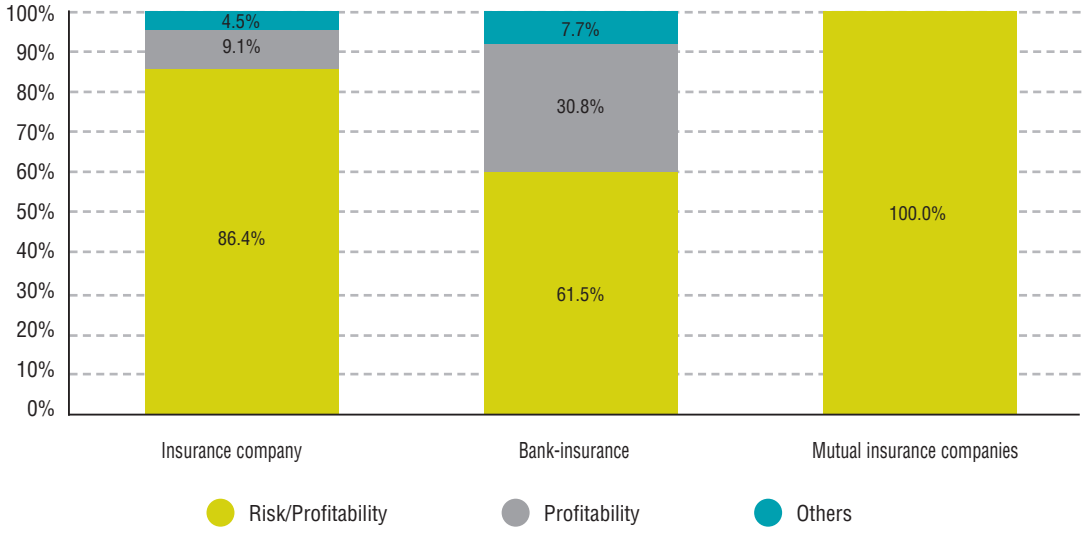


Source: **everis**

If the responses are analysed per type of company, it is noteworthy that only 61.5% of bank-insurance companies use Risk/Profitability as a strategy for initiative assessment. The "convergence" of these companies with banking could lead us to consider a deeper penetration of this strategy.

From the study of the responses according to whether the company interviewed is listed or not, it can be observed that the percentage of listed companies choosing profitability-based initiative assessment is much lower than in unlisted companies (8.4% and 17.4% respectively). Besides, the percentage of listed companies using other non-defined assessment strategies is higher vis-à-vis unlisted companies (8.3% and 4.3% respectively).

Graph 62: Initiative assessment strategy, by type of company interviewed



Source: **everis**

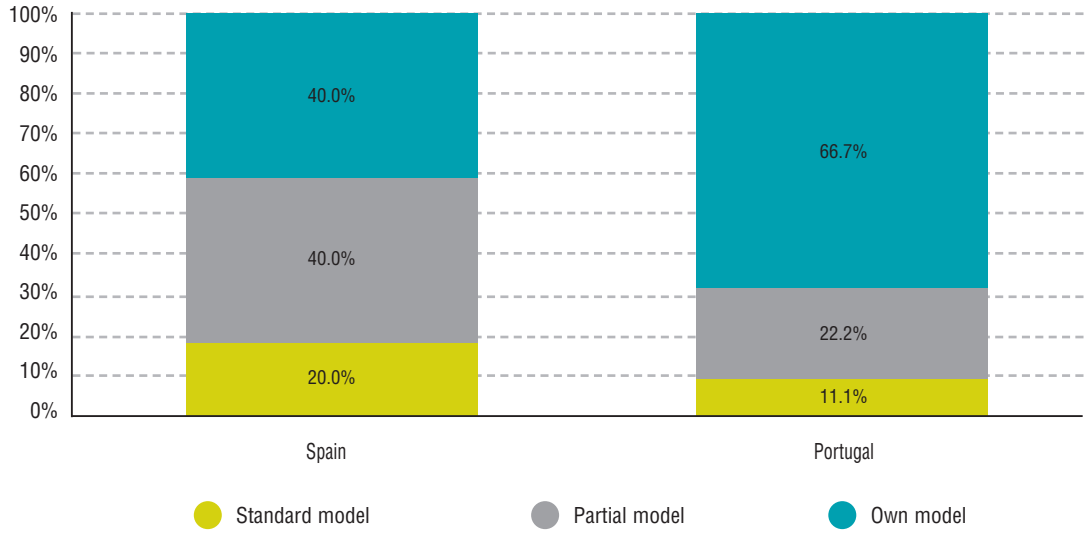
4.2.5. Approach for the calculation of the Solvency margin

As regards the approach of the next European standard, Solvency II, 52.6% of the European companies[2] interviewed declare that they choose their own model for the calculation of the solvency margin, as opposed to 31.6%, which use a partial model and 15.8%, which use the standard model.

If analysed by country, the data show that in Portugal the interviewed companies answering this question mostly (66.7%) choose their own model to carry out solvency calculations, while in Spain only 40% of companies do so.

[2] Only European companies will be forced to comply with Solvency II.

Graph 63: Approach for the calculation of the Solvency margin, by country of the company interviewed

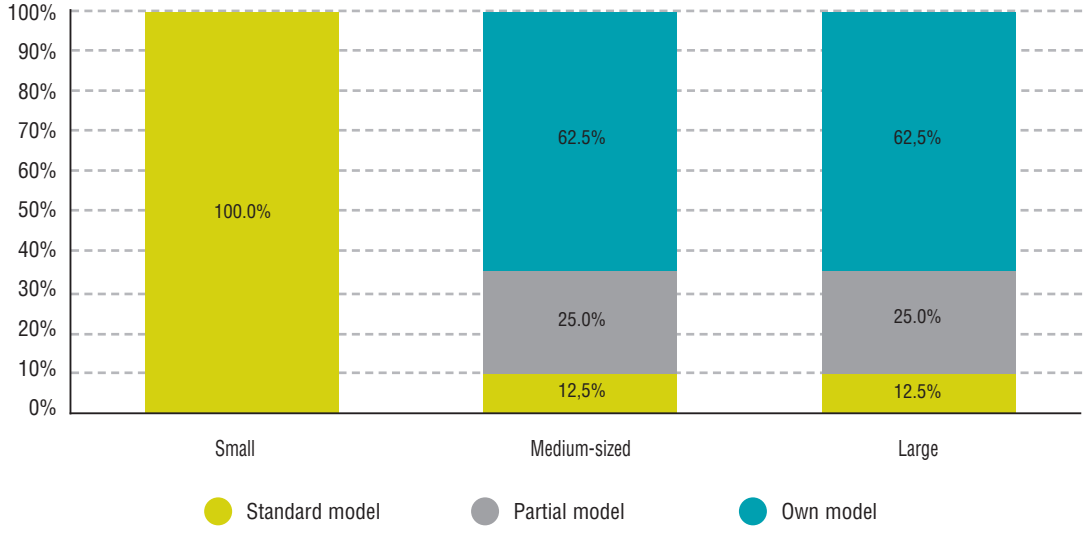


Source: **everis**

When analyzing the responses by business volume of the companies, it can be observed that medium-sized and large companies behave similarly regarding their approach for the calculation of the solvency margin. Nevertheless, it must be considered that 20% of the companies with large business volume (1,000 million Euros and more) have not answered this question.

In any case, from these data it can be concluded that the companies with a business volume below 100 thousand Euros use the standard model for the calculation of the solvency margin as the only approach, which is logical given the fact that preparing their own model demands a high investment in terms of personnel, time and resources.

Graph 64: Approach for the calculation of the Solvency margin, by business volume of the company interviewed

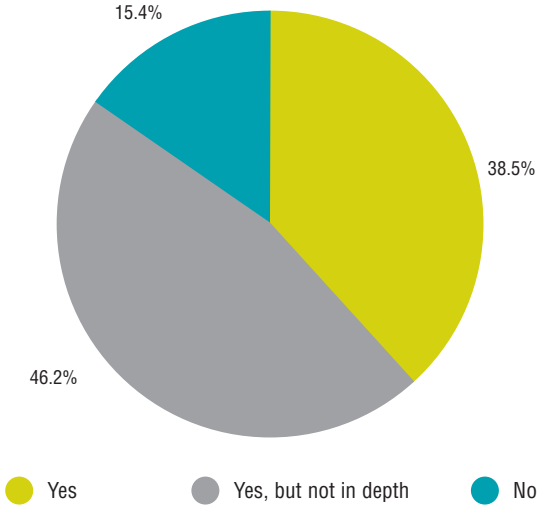


Source: **everis**

4.2.6. If non-European company, knowledge on Solvency II

When analyzing the knowledge of this future European plan –Solvency II– among Latin American companies involved in this study, it can be observed from their responses that, in general, most companies admit having some kind of knowledge of Solvency II. Altogether, they make up 84.7% of the total, even if 46.2% acknowledges that such knowledge is not deep, as opposed to 38.5% of the total, which declare knowing it. Data show, therefore, that in Latin American there is some **interest** in the new regulatory frame of Solvency II.

Graph 65: Knowledge of Solvency II and set guidelines



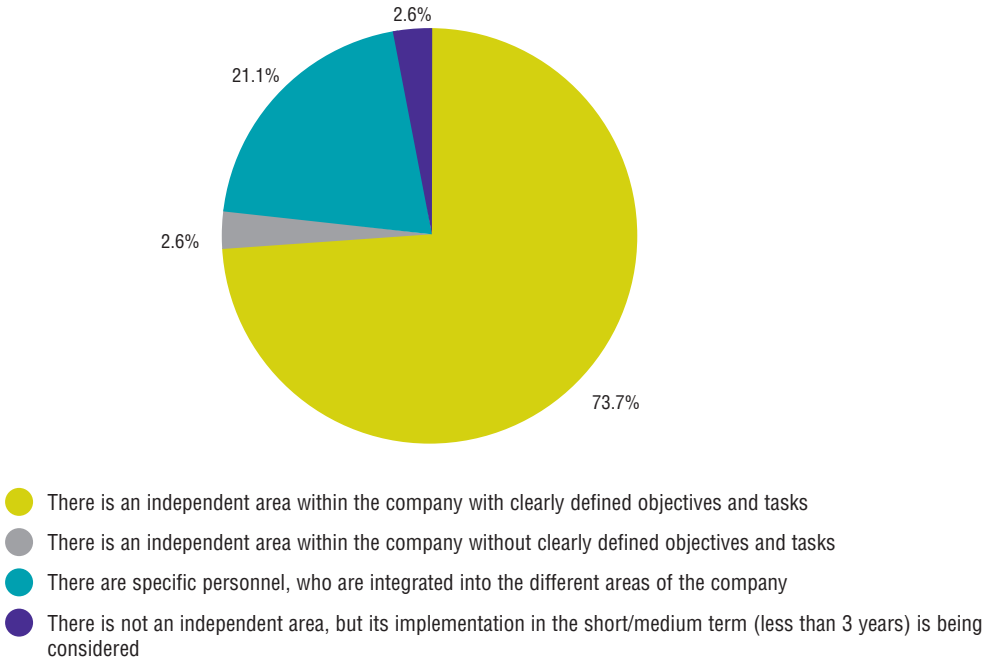
Source: **everis**

Organization model

4.2.7. Strategy of your company as an organization for risk control

When considering the issue of specialised personnel assigned to risk control tasks, it can be observed that most companies interviewed –73.7%– have an independent area with clearly defined objectives to that end. There is also an additional 2.6% that intends to implement a specific area within less than three years.

Graph 66: Organization strategy for risk control



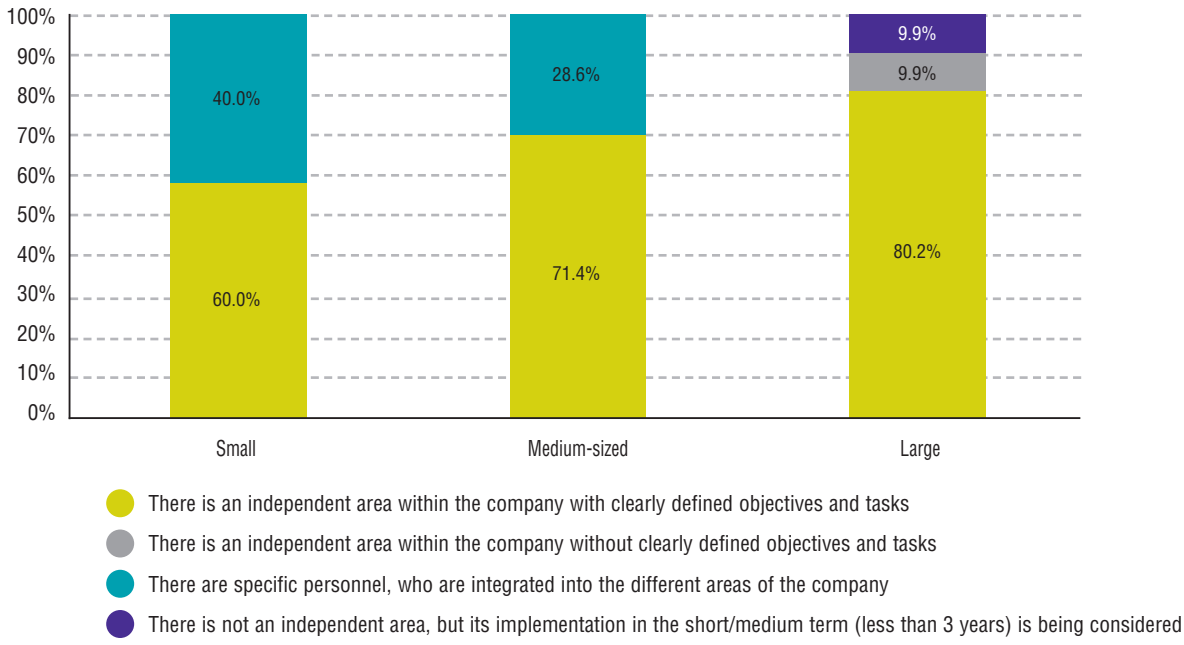
Source: **everis**

When analyzing the responses by geographical area of the companies interviewed, it is clearly seen that in Europe there is a strong trend towards an independent area of the company (85.5%), even if 4.76% of such companies interviewed do not have clearly defined objectives and tasks yet. In turn, in Latin America, there is a majority of companies that have an independent area, even if percentages are much lower (64.7%). In addition, over a third of the Latin American companies interviewed have specific personnel integrated within the different areas of the company.

When examing the responses by type of company, it can be observed that both bank-insurance companies and insurance companies share the same organization strategy for risk control, since the responses obtained for both types disclose similar values. As regards mutual insurance companies, the low number of companies that participated in the study prevents us from reaching a conclusion.

In turn, when analyzing the responses by business volume declared by each company, it can be observed that 90% of large companies currently have an independent area, even if 9.9% of them do not have clearly defined objectives and tasks, and 10% is considering its implementation.

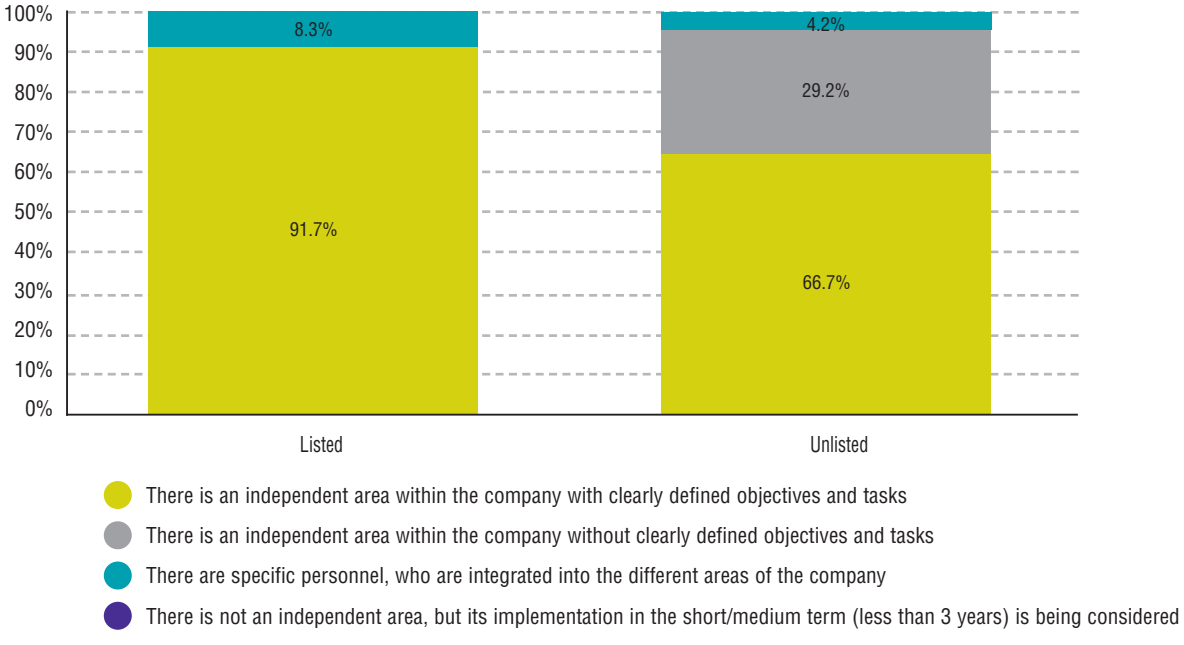
Graph 67: Organization strategy for risk control, by business volume of the company interviewed



Source: **everis**

When analyzing the responses according to whether the company is listed or not (see Graph 68), it can be observed that 100% of listed companies already have an independent area within the company, even if 8.3% of such companies consider that they do not have clearly defined objectives and tasks. In turn, 29.2% of unlisted companies have specific personnel integrated within the different areas of the company.

Graph 68: Organization strategy for risk control, according to whether the company is listed or not

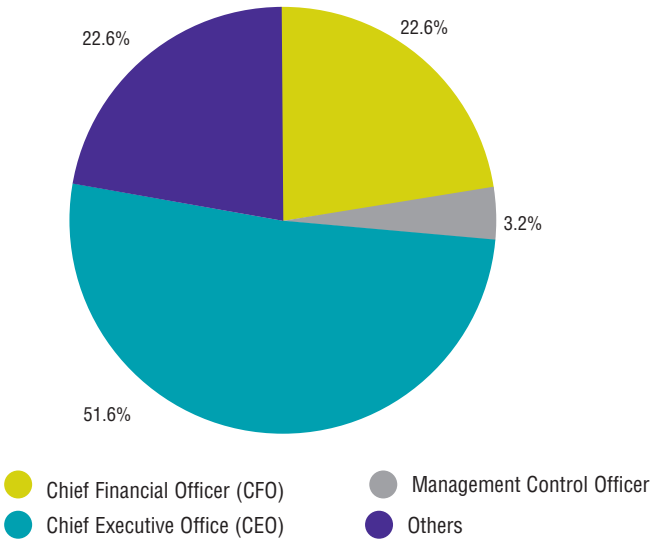


Source: **everis**

4.2.8. Risk Control area reporting, if there is any, in the company

Going into further detail about the companies with a defined area, they have been asked about the reporting system in such area. None of the companies interviewed have a specific risk control manager but, according to the data obtained, 51.6% of the companies interviewed declare that the risk control area report directly to the Chief Executive Officer (CEO), while in 22.6% of the companies such area reports to the CFO.

Graph 69: Organization management of the risk control area

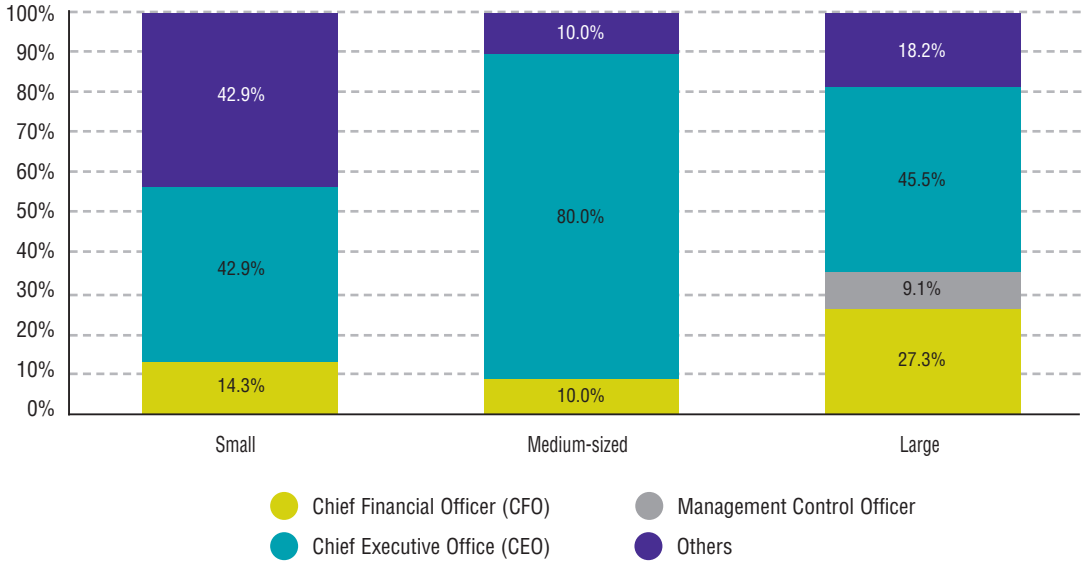


Source: **everis**

When examing the responses by geographical area of the companies, it can be observed that in Latin America they prefer that the risk control area report to the CEO, with 54.4% of Latin American companies choosing that model, against 50% of European ones.

By business volume, it is observed that in the three sections of business volume into which the sample has been divided, the majority model is the risk control area reporting to the CEO, reaching 80% in the case of medium-sized companies. On the other hand, according to the data obtained, in 9.1% of the companies considered as large, the risk control area reports to the Management Control Officer.

Graph 70: Organization reporting structure of the risk control area, by business volume of the company interviewed

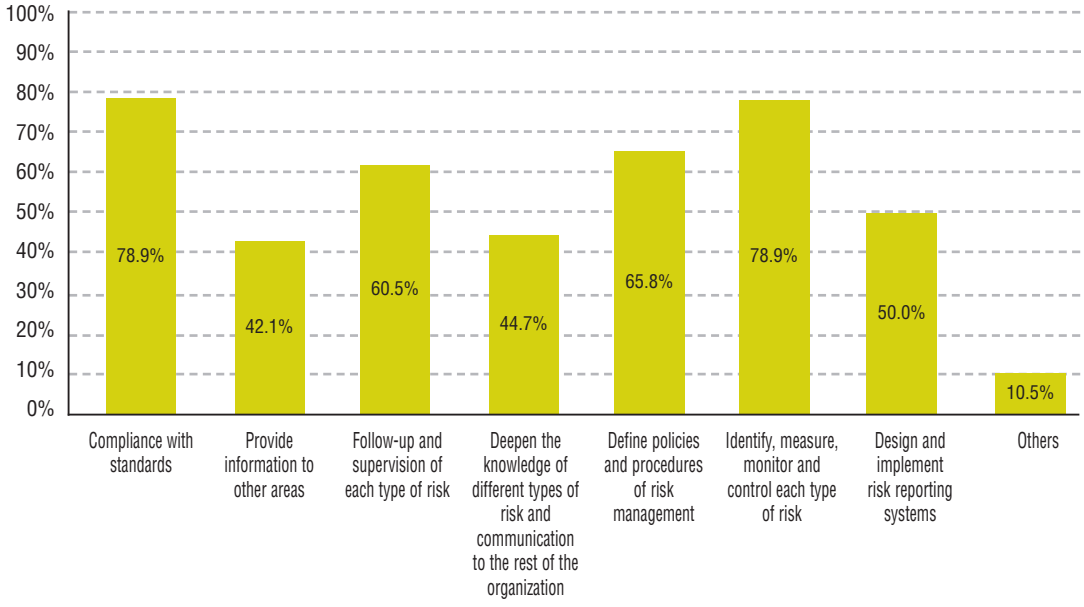


Source: **everis**

4.2.9. Main functions of the personnel assigned to risk control

Companies were asked about the main tasks of the personnel assigned to risk control. According to the responses obtained, these tasks are related to the compliance with standards, identification, monitoring and control of each type of risk, both with 78.9% of responses.

Graph 71: Tasks of the personnel assigned to risk control of the company interviewed



Source: **everis**

When analyzing the responses by geographical area of the company, it is concluded that in Europe, probably due to the near implementation of Solvency II, there is higher awareness of risk control, since the main task of the personnel involved is the identification, monitoring and control of each type of risk.

Graph 72: Main tasks of the personnel assigned to risk control, by geographical area of the company interviewed

EUROPE		
1	IIdentify, measure, monitor and control each type of risk	85.7%
2	Compliance with standards	76.2%
3	Design and implementation of risk reporting systems	61.9%
4	Define policies and procedures of risk management	57.1%
5	Follow-up and supervision of each type of risk	52.4%
6	Deepen the knowledge of different types of risk and communication to the rest of the organization	42.9%
7	Provide information to other areas	23.8%
8	Others	4.8%

LATIN AMERICA		
1	Compliance with standards	82.4%
2	Define policies and procedures of risk management	76.5%
3	Follow-up and supervision of each type of risk	70.6%
4	Identify, measure, monitor and control each type of risk	70.6%
5	Provide information to other areas	64.7%
6	Deepen the knowledge of different types of risk and communication to the rest of the organization	47.1%
7	Design and implementation of risk reporting systems	35.3%
8	Others	17.6%

When examing the responses by business volume of the company interviewed, one of the main tasks of large companies is the design and implementation of risk reporting systems, which support the risk control activity.

Graph 73: Main tasks of the personnel assigned to risk control, by business volume of the company interviewed

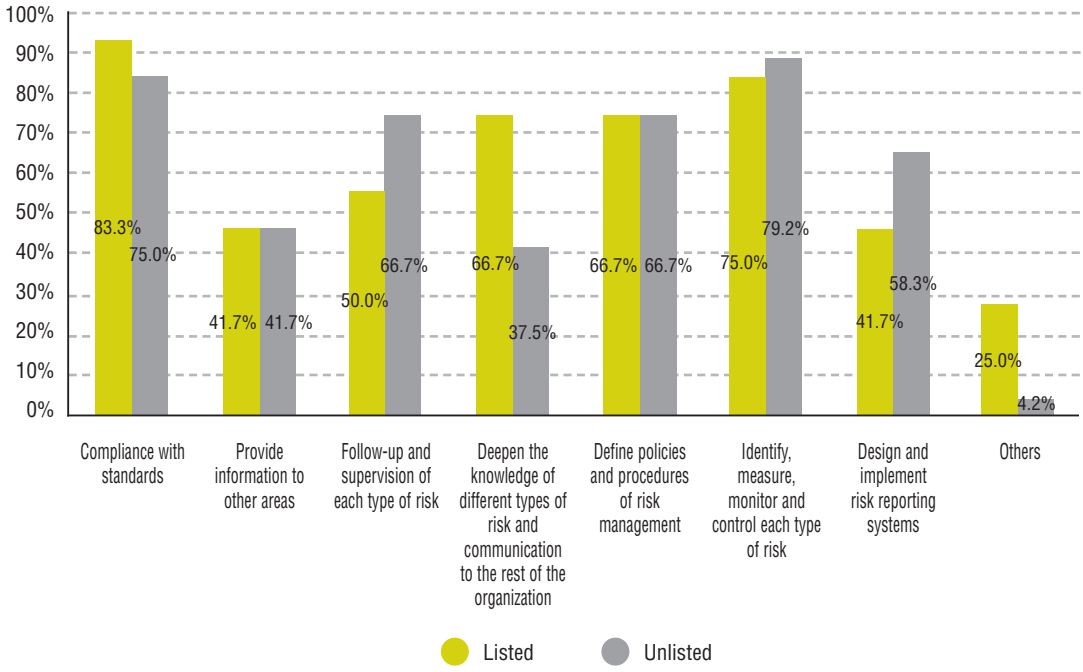
SMALL	
Compliance with standards	80%
Follow-up and supervision of each type of risk	80%
Define policies and procedures of risk management	80%
Identify, measure, monitor and control each type of risk	80%

MEDIUM-SIZED	
Compliance with standards	71.4%
Identify, measure, monitor and control each type of risk	71.4%

LARGE	
Compliance with standards	81.8%
Identify, measure, monitor and control each type of risk	81.8%
Design and implementation of risk reporting systems	81.8%

From the data obtained in the study, according to whether the company is listed or not, the main task of the personnel assigned to risk control in listed companies is the compliance with standards, which seems in line with the tighter control applied to this type of companies. On the other hand, in unlisted companies, the main task is the "identification, control and follow-up of each type of risk".

Graph 74: Tasks of the personnel assigned to risk control, according to whether the company interviewed is listed or not



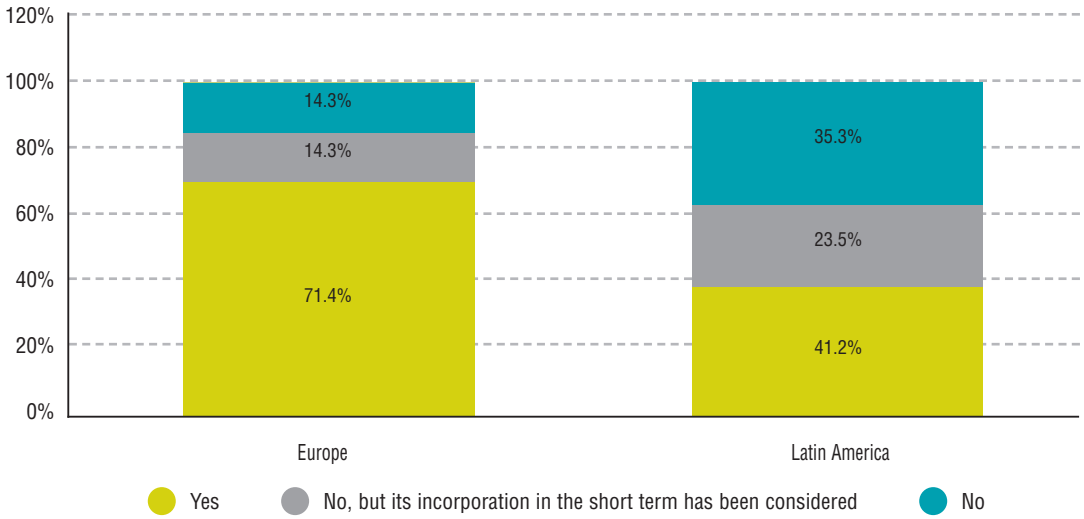
Source: **everis**

Operational model

4.2.10. Risk management process as independent process

When examing the integration of the risk control process into the process corporate map, the study shows that in most companies risk control is an independent process.

Graph 75: Risk control process defined as an independent process, by geographical area of the company interviewed

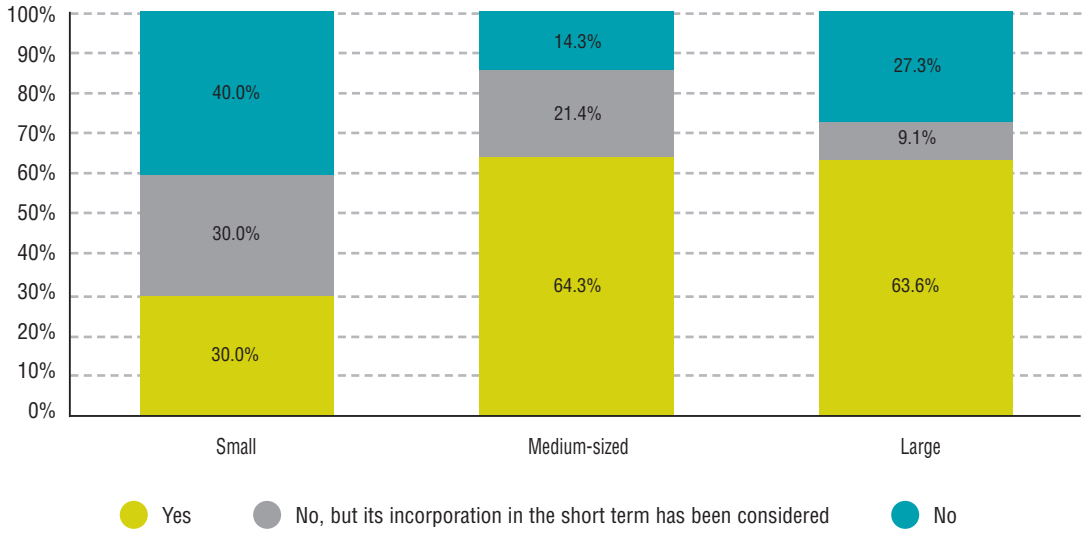


Source: **everis**

When analyzing the responses by geographical area of the company, it can be observed that in Europe 71.4% of companies have defined risk management as an independent process, as opposed to 41.2% of Latin American companies. From this, one can conclude that the next Solvency II standard influences in a very clear way the company's risk control and management in European companies.

When examing the responses according to whether the company is listed or not, it can be observed that, according to the data received, listed companies are more sensitive to risk control and management, since 66.7% of them have defined risk control as an independent process, by contrast with 54.2% of unlisted companies.

Graph 76: Risk control process defined as an independent process, by business volume of the company interviewed



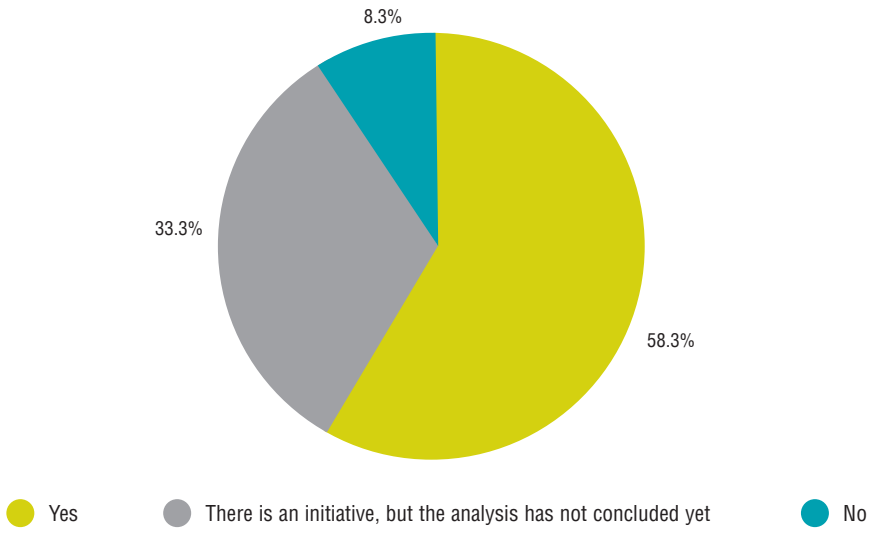
Source: **everis**

From the study of the responses by business volume of the company, it may be concluded that the vast majority of medium-sized and large companies have defined risk control as an independent process. This makes sense since the existence of an independent process must be associated with the necessary resources to conduct such process, which may be allocated more easily in a medium-sized or large company than in a small one.

4.2.11. Existence of the risk map where the impact of each type of risk is identified

When assessing the existence of a risk map of the different organizations, the study shows that 58.3% of the companies have a risk map, where they identify the impact of each type of risk. If the responses are analyzed according to the geographical area of the companies, the data obtained show that in Europe, 100% of the companies already have one in place or are in the process of having it, as opposed to 82.2% of Latin American companies. The interpretation of these data is that, once again, the vast majority of companies are sensitive to risk control, even if Solvency II forces them to speed up the pace in Europe.

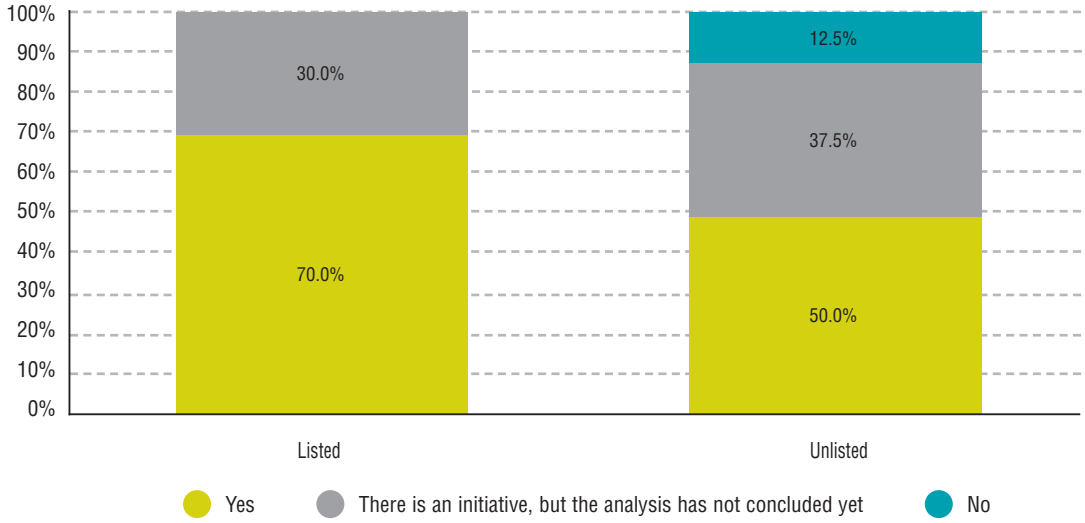
Graph 77: Existence of the company's risk map



Source: **everis**

The data obtained from the comparison of responses according to whether the company is listed or not may imply, once again, that the tighter control applied to listed companies is also transferred to risk control, since 70% of listed companies have a risk map of the company, as opposed to 50% of unlisted companies.

Graph 78: Existence of the company's risk map, according to whether the company is listed or not

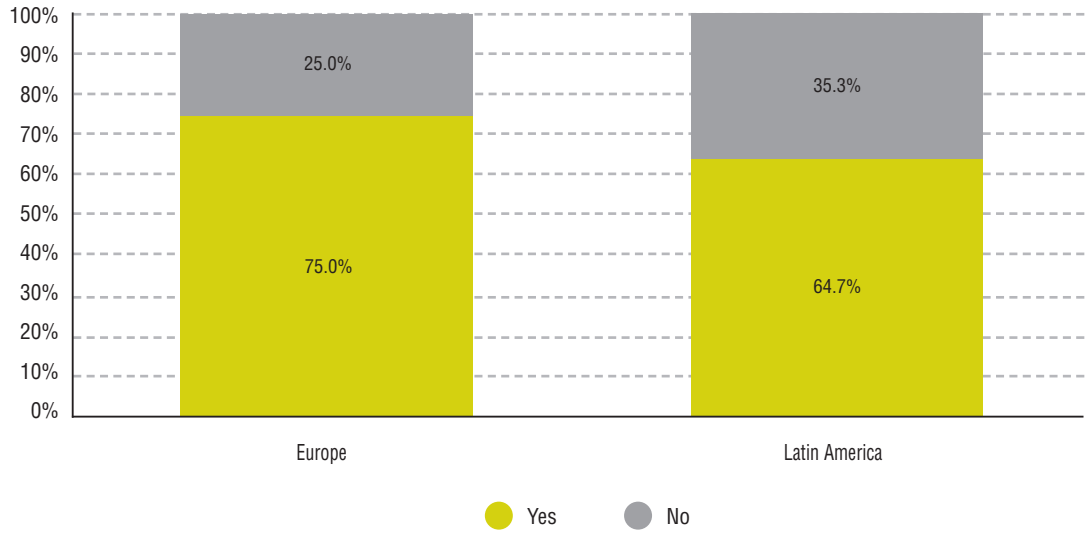


Source: **everis**

4.2.12. Is there asymmetric knowledge of each type of risk in your company?

From the global analysis of the responses, it can be observed that most companies interviewed (70.3% of the total) consider that there is asymmetric knowledge of the different types of risk, as opposed to 29.7%, which think otherwise. When analyzing the responses by geographical area, it is observed that in Europe, 75% of companies believe that there is asymmetric knowledge, as opposed to 64.7% of Latin American companies. If these results are compared to the knowledge that such companies claim to have on Solvency II (see Section 4.2.6, page 70), it may be concluded that the detailed development of Solvency II makes European companies more aware of the need to deepen their knowledge of certain types of risks.

Graph 79: Is there asymmetric knowledge of each type of risk in your company, by geographical area of the company interviewed?



Source: **everis**

Once the companies verified the perception that there is asymmetric knowledge of each type of risk in the sector, their degree of knowledge of each type of risk had to be further analyzed. In consequence, they were requested to rank their degree of knowledge of the various types of risk. The scale shown below has been prepared for such purpose. According to it, values 1-2 correspond to the high and very high category, while values 4-5 correspond to low and very low.

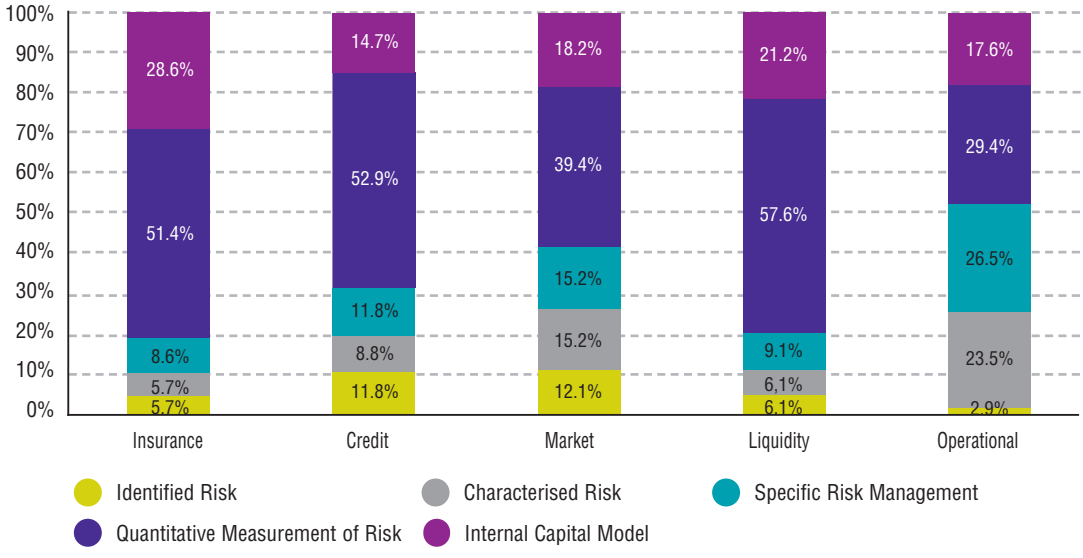
When examing the responses it can be observed that, as it was expected, the highest level of knowledge of the companies interviewed concerns Insurance Risk, very closely followed by Market Risk.

In the case of Insurance Risk, 8.6% of the companies declare that they have sufficiently wide knowledge so as to conduct Specific Risk Management (average knowledge); 51.4% make a quantitative measurement of risk and 28.9% have enough knowledge on such risk so as to have an Internal Capital Model. That is, 80.3% of the companies have high or very high knowledge of the insurance risk.

In the case of Market Risk, 9.1% of the companies declare that they have sufficiently wide knowledge so as to conduct Specific Risk Management; 57.6% make a quantitative measurement of risk and 21.2% have enough knowledge on such risk so as to have an Internal Capital Model. That is, 78.8% of the companies have high or very high knowledge of the market risk.

On the opposite end, again as expected, is Operational Risk. In this case, 26.5% of companies declare that they have enough knowledge so as to conduct Specific Risk Management (average knowledge); 29.4% makes a quantitative measurement of risk and 17.6% manages to have an Internal Capital Model. Therefore, 47% of the companies have high or very high knowledge regarding Operational Risk. Besides, 26% of companies have low or very low knowledge.

Graph 80: Degree of knowledge on the different types of risk

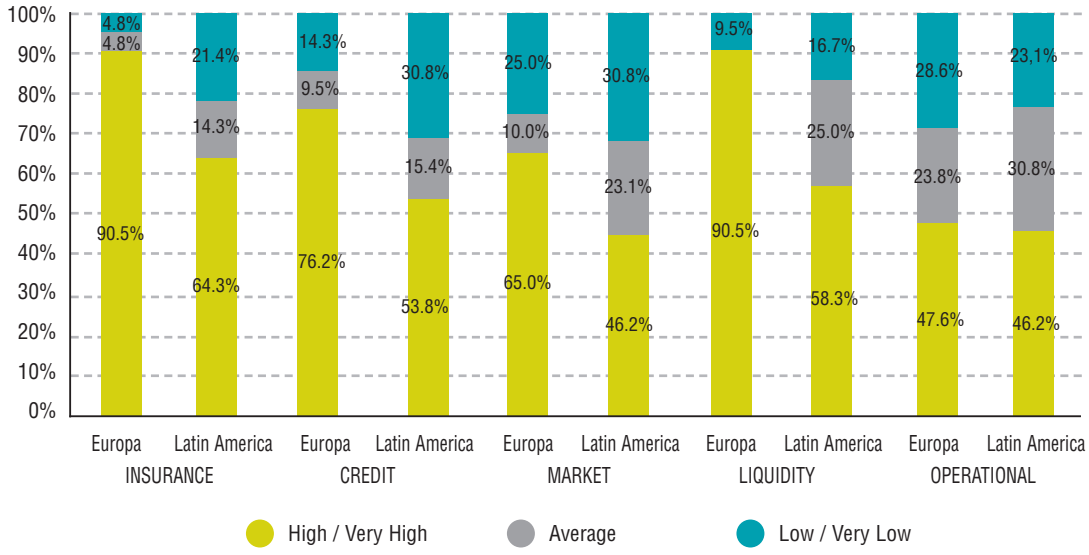


Source: **everis**

When analyzing the responses by geographical area of the company, it can be observed that in Europe there is higher knowledge than in Latin America on all types of risks, with the exception of Operational Risk. In this case, 28.6% of European companies have a low or very low knowledge thereof, as opposed to 23.1% of Latin American companies. These data back up the theory that European companies are already preparing for Solvency II and support the perception that, in the insurance sector, there is not such deep knowledge on Operational Risk as in banking, where they have had to manage it due to the Basel II standard, applied globally.

According to the responses of Latin American companies answering this question, the types of risk with a highest percentage of low or very low knowledge correspond to Credit Risk and Liquidity Risk, both with 30.8%, followed by Operational Risk, with 23.1%. By contrast, the types of risk on which they have a high or very high knowledge correspond to the Insurance Risk (64.3%) and the Market Risk (58.3%), followed by Credit Risk with 54%.

Graph 81: Summary of the level of knowledge of the different types of risk, by geographical area of the company interviewed

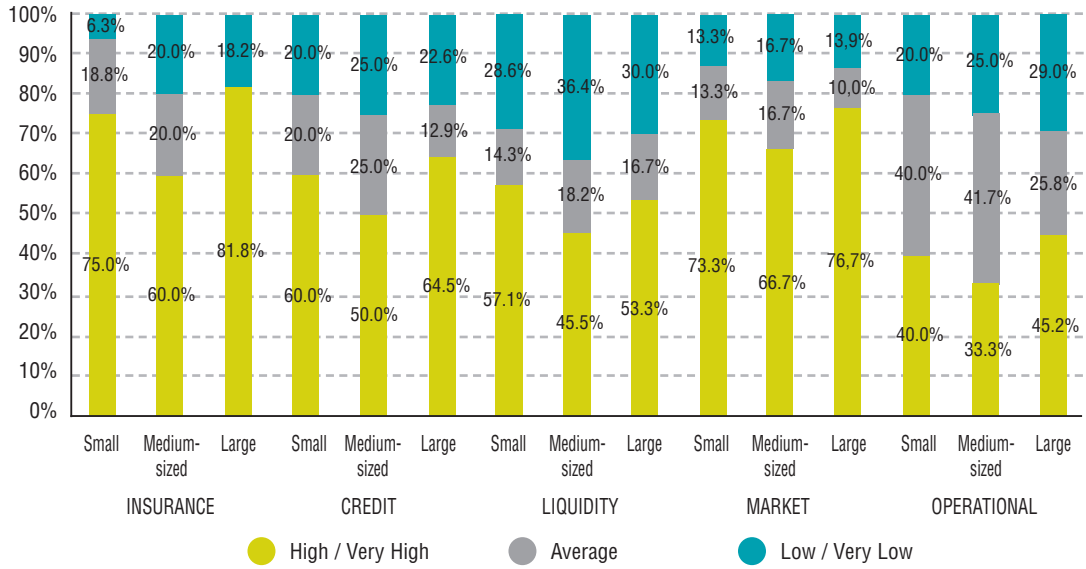


Source: **everis**

From the analysis of the responses by business volume of the company, it can be observed that large companies have less knowledge on Operational Risk, with 29% of these companies showing low or very low knowledge thereof. On the other hand, these companies have more knowledge of Insurance Risk, since 81.8% of the companies have a high or very high knowledge, followed by 76.7% for Market Risk.

Medium-sized companies have less knowledge of the Liquidity Risk, since 36.4% claims to have low or very low knowledge, while their highest knowledge is on Market Risk, with 66.7% of companies with high or very high knowledge. In turn, the Insurance Risk is the best known risk by small companies, while the Liquidity Risk is the one they know the least about.

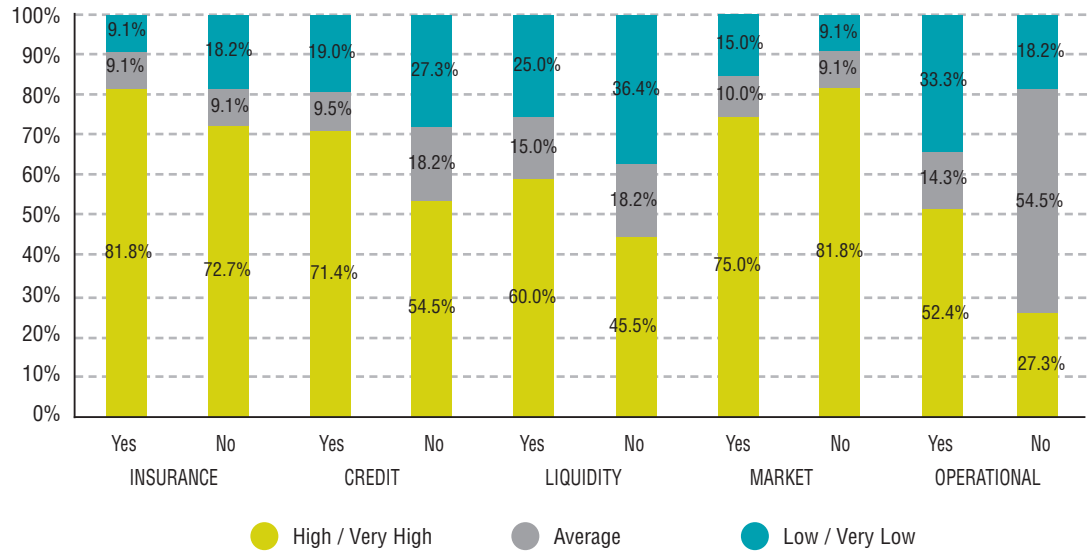
Graph 82: Level of knowledge of the different types of risk, by business volume of the company interviewed



Source: **everis**

With regard to listed companies, it is noteworthy that in all types of risk, save for the Market Risk and the Operational Risk, unlisted companies have higher knowledge than listed companies, even if 52.4% of unlisted companies have high or very high knowledge on Operational Risk, while in listed companies this percentage drops to 27.3%.

Graph 83: Level of knowledge of the different types of risk, according to whether the company is listed or not



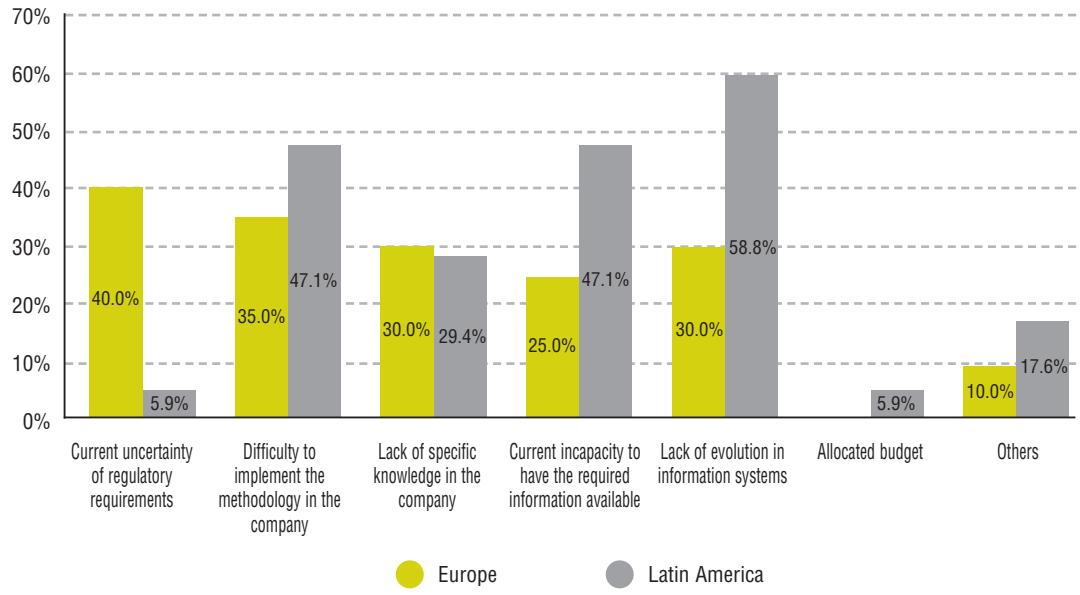
Source: **everis**

4.2.13. Main circumstances preventing or hindering efficient control

Upon being asked about the circumstances that are considered to be preventing or hindering efficient risk control by the various companies, the responses clearly show the different "moments" of Europe and Latin America.

When analyzing the responses globally, the main cause is the *lack of systems´evolution* and the *difficulty to implement the methodology in the company.* However, if the responses are analyzed by geographical area of the company, most European companies (40%) state that the main cause preventing or hindering efficient risk control is the *current uncertainty of regulatory requirements*, which is clearly aligned with the current times, as the new regulatory frame of Solvency II is being defined. In turn, most Latin American companies (58.8%) consider the *lack of systems´evolution* as one of the main causes identified, which falls to the fourth position in the case of the European companies. It should also be noted that no European company considers that the *allocated budget* is identified as one of the causes preventing or hindering control, which shows a higher commitment to risk control by these companies.

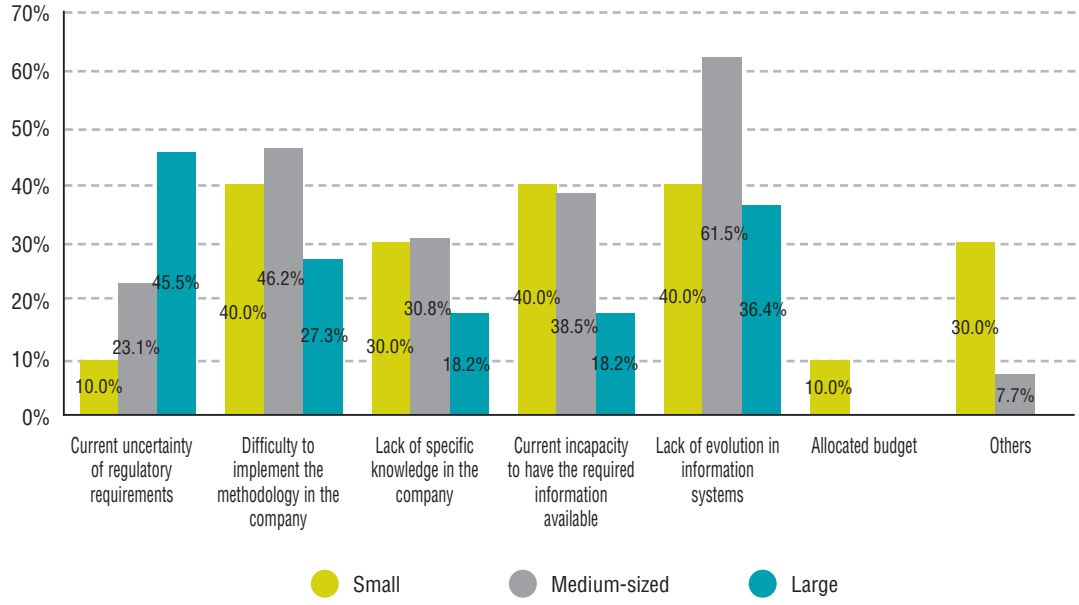
Graph 84: Main circumstances hindering or preventing efficient control, by geographical area of the company interviewed



Source: **everis**

When analyzing the responses by business volume of the company interviewed (see Graph 85), higher dispersion can be observed from small companies regarding the causes hindering or preventing efficient risk control. In turn, a vast majority of the medium-sized companies (61.5%) consider that the *lack of systems´evolution* is one of the reasons. As regards large companies, they consider the *current uncertainty of regulatory requirements* as the main cause. These data, together with those shown in Graph 84, evidence that such companies are mostly European. Finally, it should be mentioned that no medium-sized or large company indicated *allocated budget* as one of such causes.

Graph 85: Main circumstances hindering or preventing efficient control, by business volume of the company interviewed



Source: **everis**

4.2.14. Economic assessment of annual losses due to each type of risk

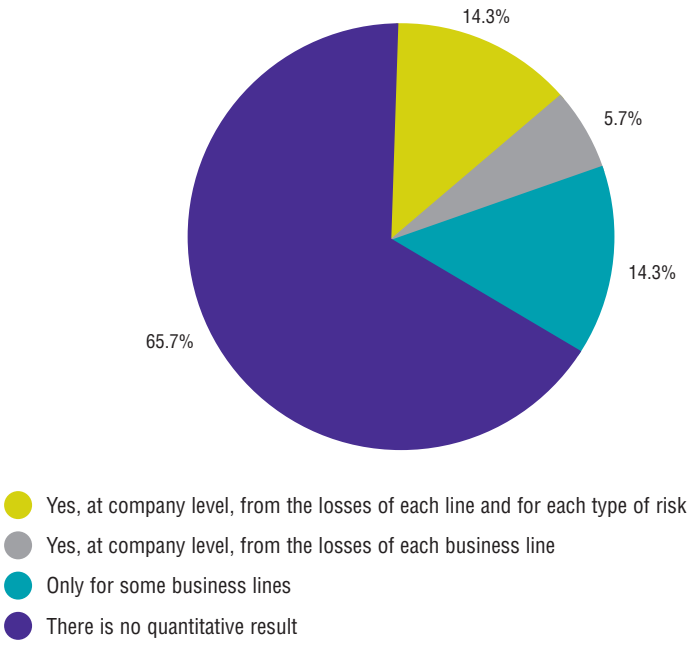
When assessing the information submitted by the companies on estimates of annual losses due to each type of risk, most of them (66%) indicate that they have no quantitative result.

As regards the companies having some kind of assessment, accounting for 34.3% of the total, they are distributed as follows:

- 14.3% have such estimates at company level, in all business lines and specified by type of risk.
- 5.7% have them also at company level, but just from the losses of each business line; and, finally,
- 14.3% only have the assessment of losses of some of its business lines.

When examing the responses by geographical area, the data reveal that in Europe 44.5% of companies have some kind of estimate of annual losses by type of risk, as opposed to 23.6% of Latin American companies. Besides, it can be observed that only in Europe, there are companies (27%) that have a very thorough estimate of losses.

Graph 86: There is an estimate of annual losses by type of risk



Source: **everis**

The responses were analyzed following two parameters: the geographical area of the company interviewed and according to whether it is listed or not. From the responses obtained, 40% of listed European companies already have a company wide loss assessment based on each business line's losses and for each type of risk, as opposed to 0% of Latin American companies. Once again, it is clear that Solvency II sets the pace.

Graph 87: There is an estimate of annual losses per type of risk, by geographical area and according to whether the company is listed or not

Source: **everis**

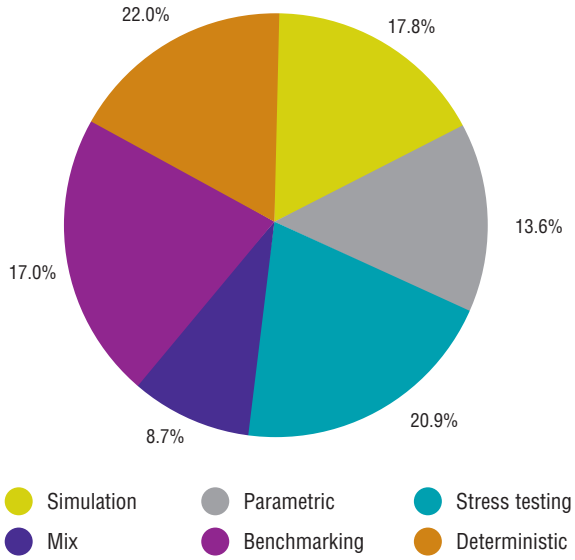
Tools and calculation methods for risk control

4.2.15. Calculation approaches

According to the responses obtained from the participating companies, the breakdown of the approaches used for risk calculation is displayed in Graph 88. There we can see that the majority approach is deterministic, applied by 22% of the companies, followed by stress testing, used by 21% of companies.

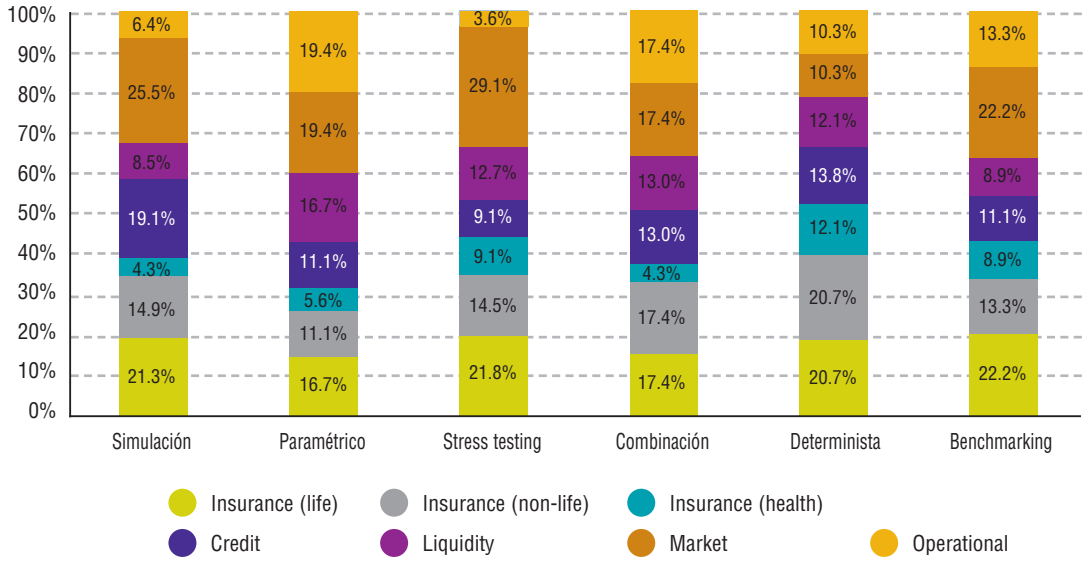
When analyzing the calculation approaches by type of risk, Graph 89 indicates that the use of all approaches is rather distributed, even if there are some remarkable data, such as the fact that the stress testing approach is mostly used for Market Risk (29.1%), as in the case of simulation (25.5%). The Insurance Risk (Health) calculation is mostly calculated with a benchmarking approach, while the Credit Risk is mostly calculated by simulation (19%).

Graph 88: Approaches used for risk calculation



Source: **everis**

Graph 89: Approaches used for risk calculation, by type of risk

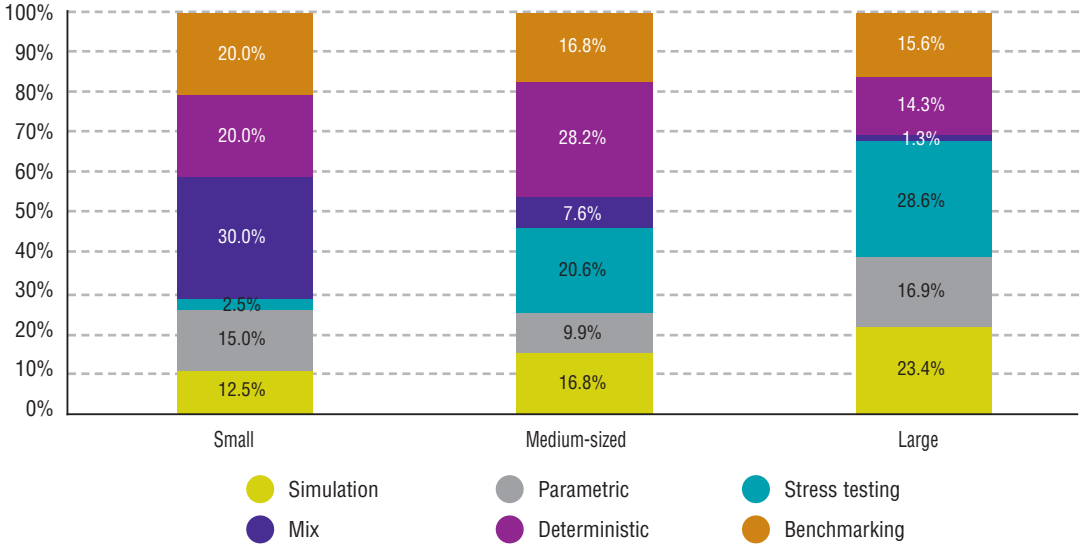


Source: **everis**

When examing the approaches for the calculation of solvency by geographical area of the company, it can be observed that in Europe the majority approaches are stress testing (25.7%) and deterministic (23%), while in Latin America, they are benchmarking (25%) and deterministic (20.5%).

From the study of the responses by business volume, displayed in Graph 90, it can be observed that there is a trend whereby the larger the company, the more relevant simulation and stress testing are, to the detriment of the mix approach.

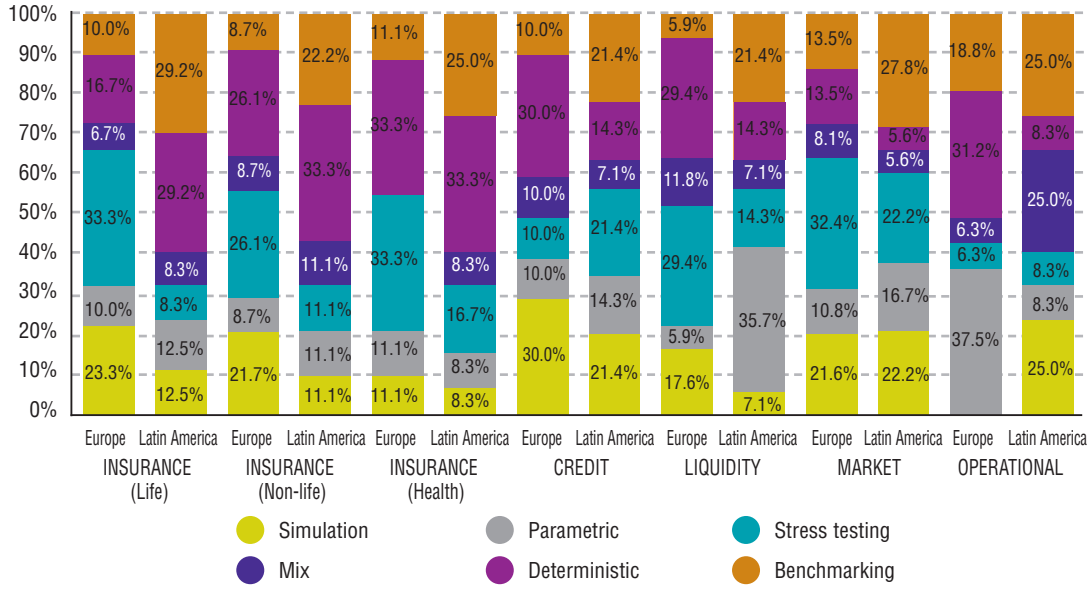
Graph 90: Approaches for risk calculation, by business volume of the company interviewed



Source: **everis**

When analyzing the responses by types of risk, we can observe from the data displayed in Graph 91 the percentage of use of the various approaches for the calculation of each one of the types of risks, compared by geographical area.

Graph 91: Approaches for the calculation of each type of risk, by geographical area of the company interviewed



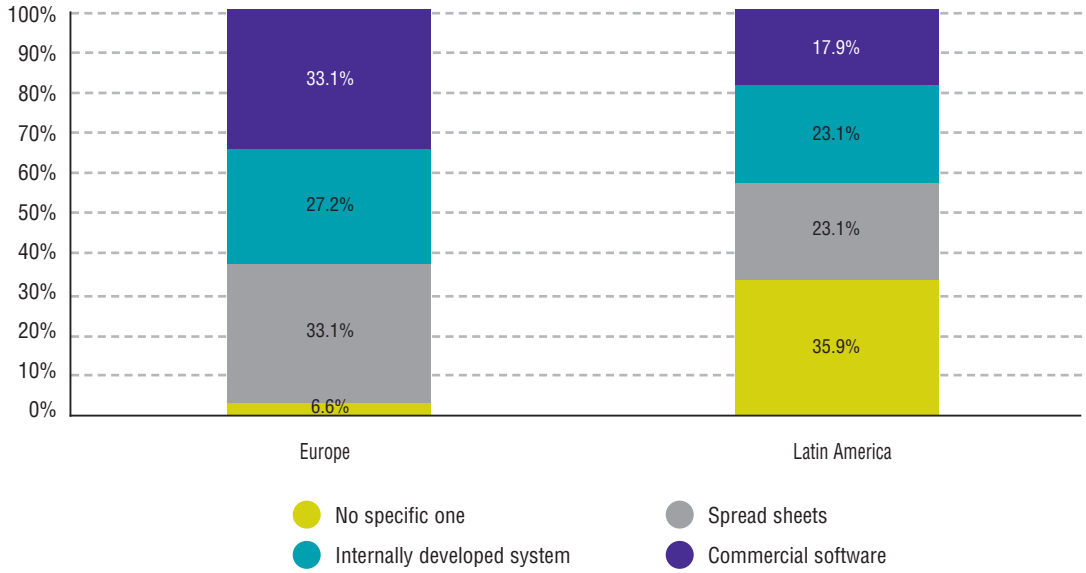
Source: **everis**

4.2.16. Types of tools

When asked about the types of tools employed for the calculation of solvency margins of the various risks, the tool mostly used are spread sheets (30%), closely followed by commercial software (28%).

From the study of the responses by geographical area of the company interviewed, it can be observed that 35.9% of Latin American companies do not use any specific tool, which in the case of European companies falls to 6.6%. These data are in line with the responses to question 4.2.13 above (Main circumstances preventing or hindering efficient control, page 83), since for Latin American companies, the main cause is the lack of evolution in information systems.

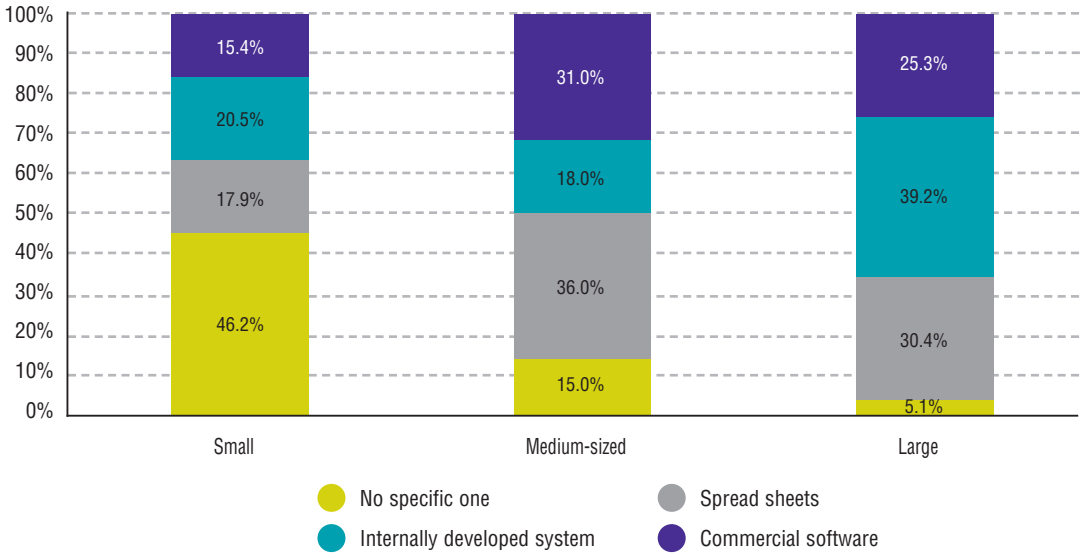
Graph 92: Tools used for risk calculation, by geographical area of the company interviewed



Source: **everis**

When analyzing the responses by business volume of the company, it can be observed that the larger the company, the fewer companies declare that they do not have any specific tool for the calculation of risk, and the more companies claim to have internally developed tools.

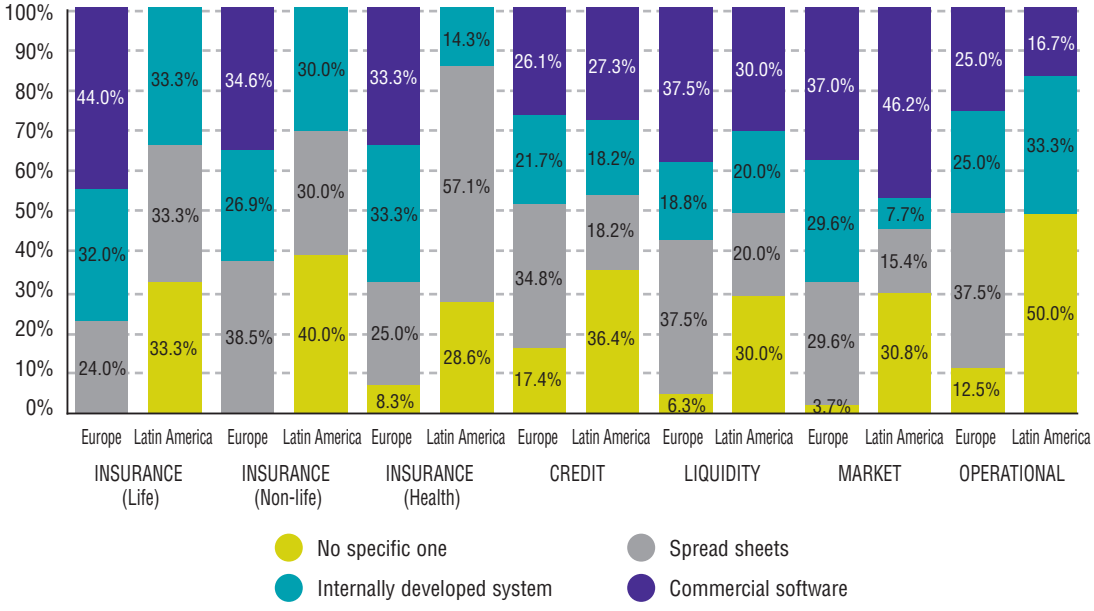
Graph 93: Approaches for risk calculation, by business volume of the company interviewed



Source: **everis**

When examing the responses on the various types of risks, the data contained in the following graph show the percentage of use of the different tools for the calculation of the types of risks.

Graph 94: Tools used for risk calculation, by type of risk and geographical area of the company interviewed



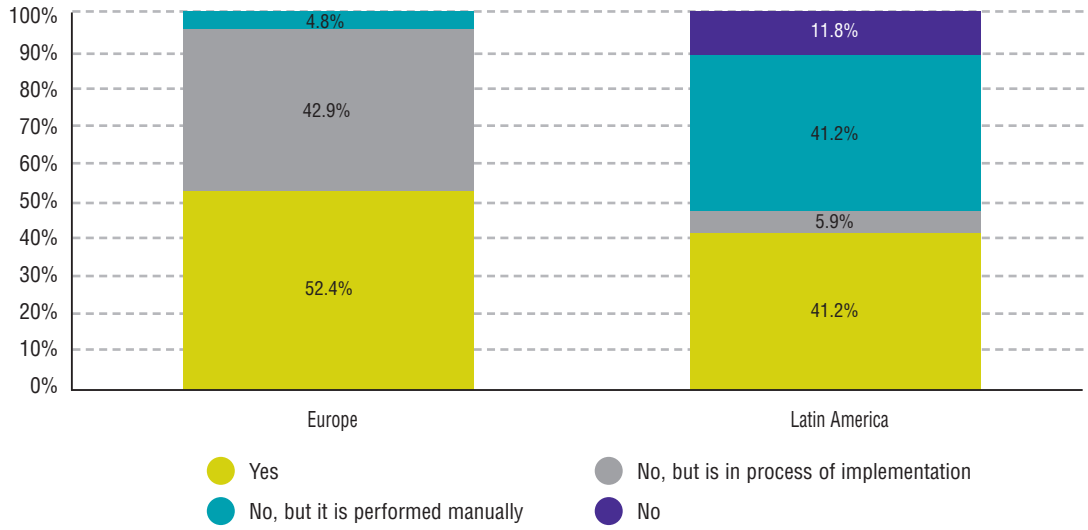
Source: **everis**

4.2.17. Risk control information among the company's reporting tools

When considering whether the different reporting tools used by the companies facilitate risk control information, only 47.4% state that they, in fact, collect such information from the tools, even if in 26.3% of the companies their implementation is in progress. Before this 73.7% of companies that have or are in process of having this information in their reporting tools, 7.9% do not conduct risk control reporting and 18.4% do so manually.

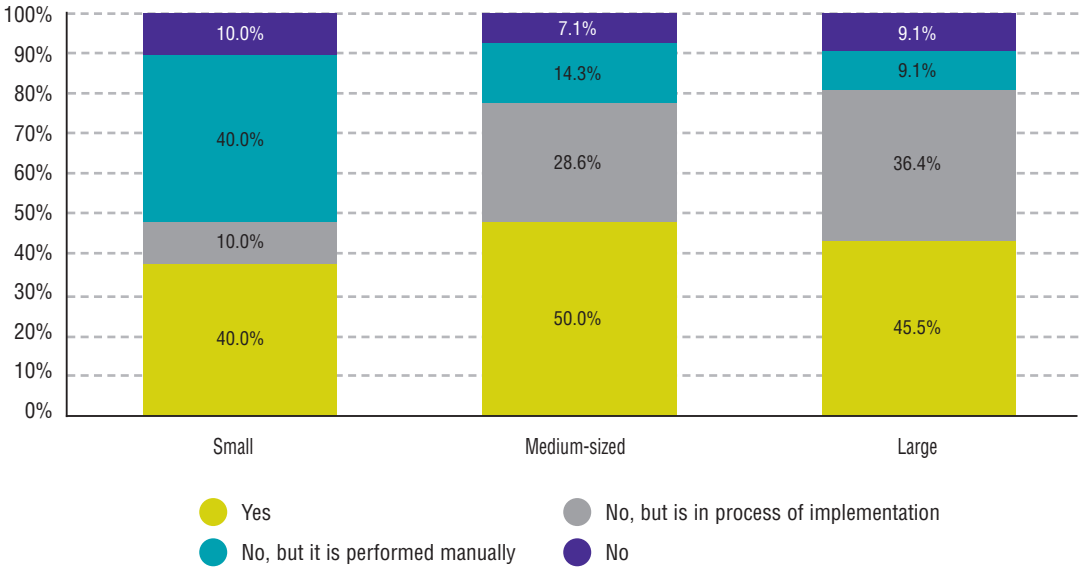
There are differences between Latin America and Europe: while in Europe 52.4% of the companies interviewed claim to have it, and 42.9% of the companies are in progress of obtaining it, in Latin America, the figure drops to 41.2% and 5.9% respectively. These data show once again that European companies are sensitive to risk control and are doing their homework in anticipation of Solvency II.

Graph 95: Information on risk control among the company's reporting tools, by geographical area of the company interviewed



Source: **everis**

Graph 96: Information of risk control among the company's reporting tools, by business volume of the company interviewed



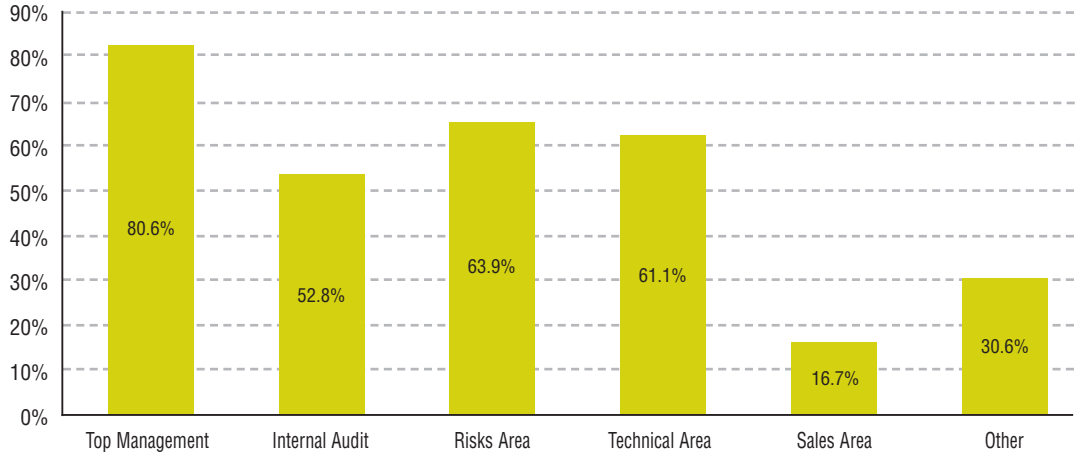
Source: **everis**

From the analysis of the responses according to whether the company is listed or not, it can be observed that 100% of listed companies that have answered this question perform risk control reporting, even if 16.7% do so manually. As regards unlisted companies, 12.5% do not have information on risk control among their reporting tools; nor do they do so manually. As it has been observed, once again, it is verified that listed companies exert tighter risk control than unlisted ones.

4.2.18. Scope of use of the information generated by the tools

According to the responses of the different companies, the information generated by the tools is being mostly used by Top Management in 80.6% of cases. In the Risk, Technical and Internal Audit areas, the results are very homogeneous with 63.9%, 61.1% and 52.8% respectively. When analyzing the responses by geographical area of the company interviewed, it may be concluded that in Europe, the areas that mainly use the information generated by such tools are Top Management (84.2%) and Risk Area (68.4%), which evidences that risk control information is another parameter for the decisions made by the higher management tiers of companies. In Latin America, even if Top Management is the most intended user of such tools, the percentage of companies whose top management uses such information decreases (76.5%). It should be noted that the Commercial area in Latin American companies is a significant intended user of such information (almost 30%), as opposed to European companies (5.3%).

Graph 97: Areas of the company which mainly use the information generated by risk control tools

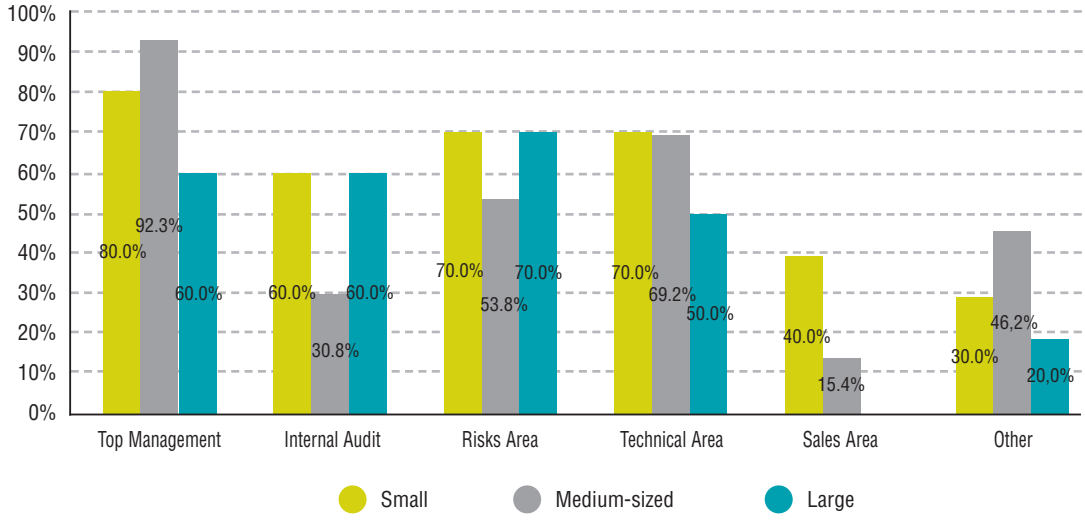


Source: **everis**

From the analysis of the responses by business volume of the company, it can be observed that the main intended user of the information generated for medium-sized and small companies is Top Management. However, the main intended user in large companies is the Risk Area. 90% of these companies, as per Graph 67 on page 72, have an independent risk area.

When comparing the responses according to whether the company is listed or not, it can be observed that the main intended user in listed companies is the Risk Area, while in unlisted companies it is Top Management. This information is aligned with the organization strategy of companies, since 100% of listed companies had an independent area for risk control.

Graph 98: Areas of the company which mainly use the information generated by risk control tools, by business volume of the company interviewed



Source: **everis**

5

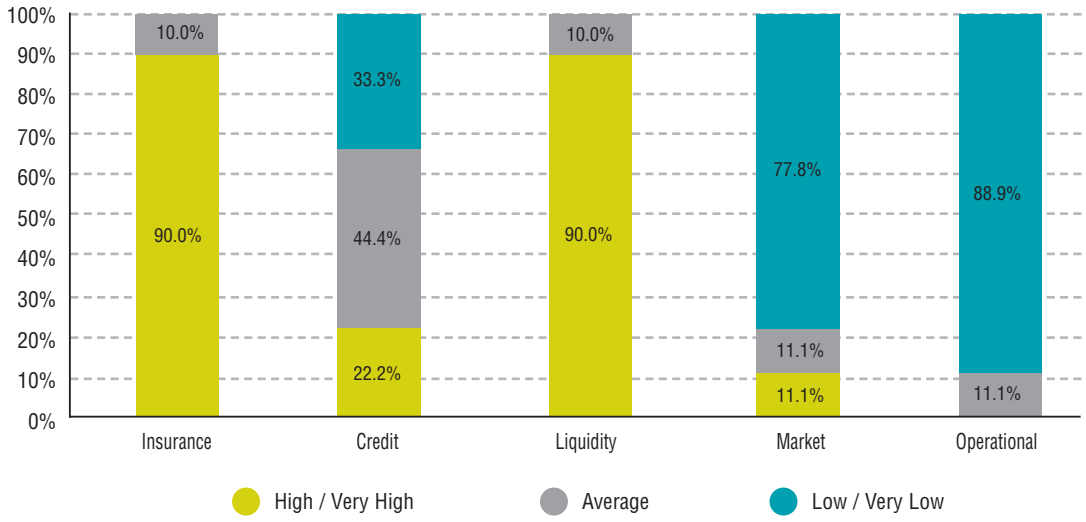
countries with highest representativity

5.1. Spain

100% of the Spanish companies that answered to the study believe that the insurance sector considers risk control among its strategic objectives but, in line with what has been mentioned in the study general conclusions, they do not believe in the sector's coherence since only 37% of such companies consider that the companies allocate part of their budget specifically to risk control. Before these perceptions, the reality shown by the Spanish companies interviewed is that 73% of them already have a reserve allocated to risk management in their 2008 budgets while 18% claim that even if they do not have one, they are considering its incorporation in the short/medium term. The remaining 9% do not have, nor consider having, such budgetary reserve.

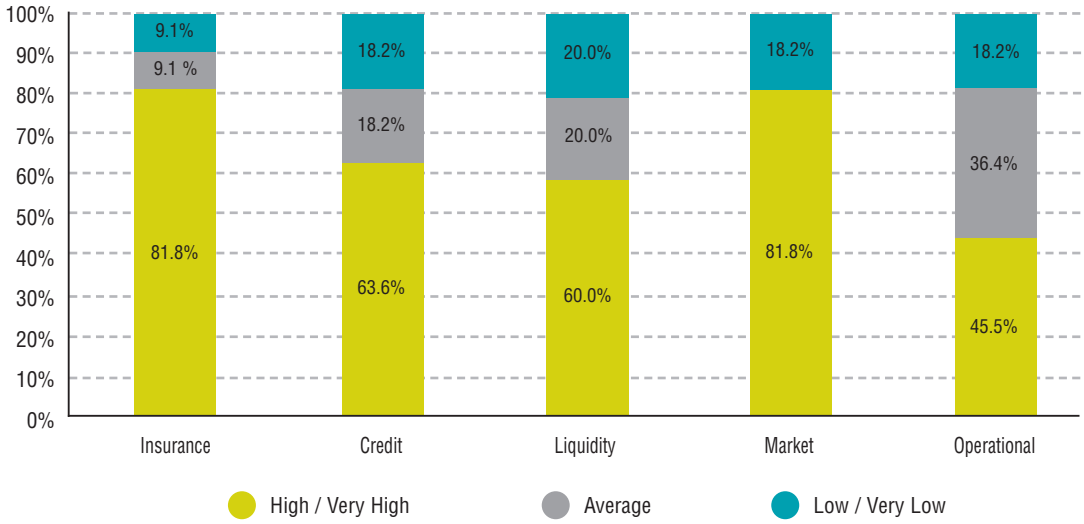
As regards the knowledge of the various types of risks, companies have the perception that there is asymmetric knowledge in this regard in the sector, highlighting the operational risk and the market risk, of which 88.8% and 77.8% of the companies respectively, consider that the sector has a low or very low knowledge. In view of this perception, only 18.2% of the companies state that in their own companies there is low or very low knowledge both of the operational risk and of the market risk. It is also startling that 9.1% of companies declare to have low or very low knowledge of the insurance risk.

Graph 99: Perception of Spanish companies of the knowledge of the various types of risks in the sector



Source: **everis**

Graph 100: Knowledge of Spanish companies of the various types of risks



Source: **everis**

When analyzing the risk management process model mostly implemented by Spanish companies, 73% of them declare that such process is defined as an *independent process*. The same number of companies has created an *independent area, with clearly defined objectives and tasks*, which mostly reports to the CEO (40% of companies). The tasks of this area are mainly the compliance with standards (91% of companies), followed by the identification, measurement, monitoring and control of each type of risk (73% of companies). Besides, 70% of companies claim to have a company's risk map, while the remaining 30% states that there is an initiative in this regard, but its analysis has not finished yet. Finally, 55% of companies claim to have a master plan to accompany the launch of the set of initiatives relative to risk control conducted by the company, while another 10% declare that they have such plan but have not implemented it yet.

In this backdrop, companies consider, on the one hand, that from the organizational viewpoint, these tasks are equally conducted by an independent area and by specific personnel integrated into different areas (45% in both cases). On the other hand, they consider that the main objective for the companies is the compliance with standards (90% of answers) and that the main circumstances preventing or hindering efficient risk control are the current uncertainty of regulatory requirements (55%) and the difficulty to implement the methodology in the company (45%). This last perception is verified in the different companies, since they consider both reasons as the most important causes, with 36% and 45% respectively.

As regards the calculation methods applied to risk control, the most widely used are simulation and benchmarking, with 32% each, while stress testing is used by 21% of companies and the deterministic one by the remaining 16%. As regards the tools supporting such methods, 35% use spread sheets, 29% internally developed systems, and 25% use commercial software. It is noteworthy that 11% of companies do not use any specific tool. Besides these data, 73% of companies declare that they have risk control information among their current tools, while 80% of the companies consider that the majority of the sector does not have such information.

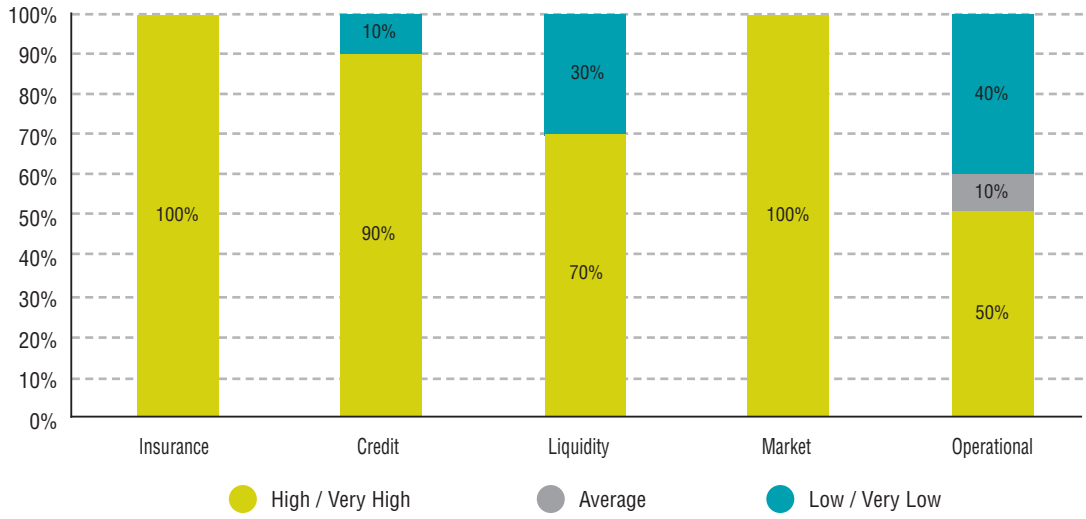
5.2. Portugal

From the results obtained, it could be concluded that Portugal is more advanced than Spain in risk management, at least if we consider the allocation of a budgetary reserve to risk control, since 100% of Portuguese companies already have one.

90% of Portuguese companies, from the organizational point of view, deals with risk control through an independent area within the company, with clearly defined objectives and tasks, while the remaining 10% claims to have specific personnel integrated into the company's different areas with clearly defined objectives and tasks for risk control, which is defined as an independent process in 70% of the companies. On the other hand, 100% of Portuguese companies have a company's risk map, or else, they have not as yet concluded the analysis thereof, evidencing a great sensitivity to risk by these companies.

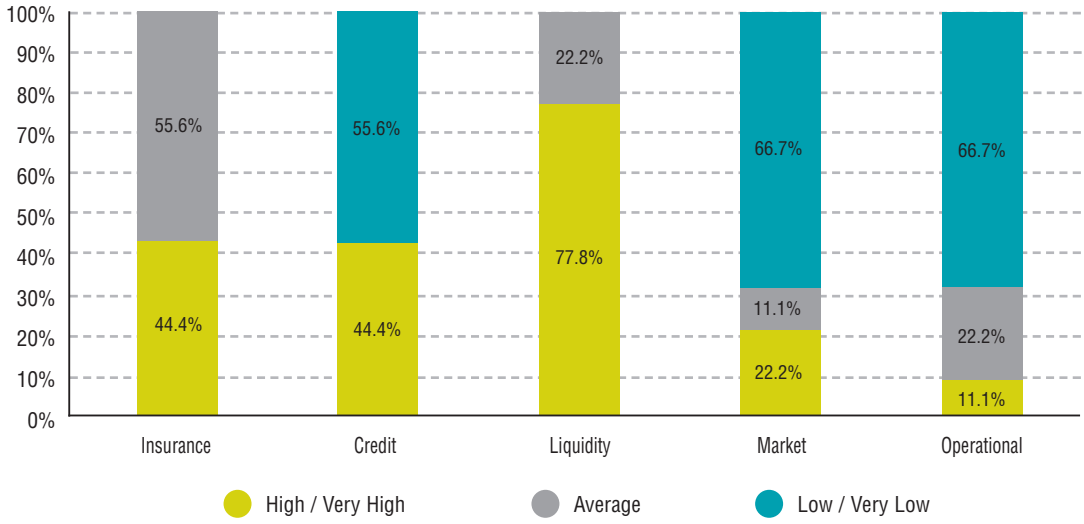
As regards the knowledge of the various types of risks in Portuguese companies, 100% of them claim to have high or very high knowledge of the insurance risk and of the market risk, while the percentage for operational risk drops to 50%. These data are radically different from the perception of the sector's companies, according to which 55.6% of the companies consider that the sector has an average knowledge in the case of insurance risk. For market risk, the consideration that the sector has high or very high knowledge drops to 22.2%.

Graph 101: Knowledge of the various types of risk in Portuguese companies



Source: **everis**

Graph 102: Perception of the sector's knowledge of the different types of risks



Source: **everis**

As regards the main circumstances preventing or hindering efficient control in Portuguese companies, 44% consider that the main reason is the current uncertainty on regulatory requirements, followed by 33% that consider that it is the current incapacity to have the information required available. In view of these data, the perception on the sector is that the main reasons are the difficulty to implement the methodology in the company and the current incapacity to have the required information available.

Regarding the method for risk calculation used by Portuguese companies, 25% of the companies use simulation and stress testing, while benchmarking is used by 31% of the companies, making it the most widely used method in Portugal. With respect to IT tools, 42% of Portuguese companies use commercial software, 31% use spread sheets and 25% claim to use internally developed systems. It is noteworthy that only 1% of companies claim not to use any specific tool.

Also in connection with the tools existing in the companies, 30% declare that they have risk information among their reporting tools. The remaining 70% mention that they currently do not have such information but are in process of implementing it. Besides, 100% of the companies indicate that the information generated is used by Top Management.

5.3. Brazil

57% of Brazilian companies have a budgetary reserve in their budget 2008, allocated to risk control, which evidences a lower level of awareness of risk control in these companies vis-à-vis European ones.

In most Brazilian companies (50%), the risk control process is not defined as an independent process, while in 30% of the companies it is defined as an independent process. As regards the organizational structure, 75% of the companies state that they have an independent area with clearly defined objectives and tasks, whose main functions are the compliance with standards and the identification, measurement, monitoring and control of the various types of risks. This area reports mostly to other officials in the companies, who are not defined but are not the CEO, CFO or CMO. On the other hand, 72% of the companies point out that there is a master plan in their companies in order to support the launch of the initiatives relative to risk control.

Evidencing sensitivity to risk control, 63% of Brazilian companies have a company's risk map and a further 25% state that there is an initiative to create one in their companies but the analysis thereof has not concluded yet. Another sign of awareness may be concluded from the high degree of knowledge of the principles and guidelines of Solvency II by Brazilian companies (60% of companies).

Brazilian companies consider that the main reasons hindering or preventing efficient risk control are the lack of systems´evolution and the difficulty to implement the methodology in the company, both with 50% of the companies.

As regards the methods applied to risk calculation, the method most widely used by Brazilian companies is stress testing, used by 40% of companies. On the other hand, we have the mix method, used by 30% of the companies, the parametric, with 20% and the deterministic, with 10% of the companies. Regarding the IT tools supporting such calculation methods, there is a wide margin for improvement in Brazilian companies, since 45% of them declare that they do not use any specific tool, while 27% use internally developed systems.

When asked whether they have information on risks among their reporting tools, 63% of the companies declare that they already have such information, and 75% state that it is used mainly by the risk area and by the technical area.

6 annexes

Annex I. Letter of presentation of questionnaire

The questionnaire included in this document is an essential tool for the Risk Management Study in the Insurance Business Sector to be conducted by **everis**. This study provides an opportunity to reflect on the current situation and main strategies that are being followed for risk control in the insurance sector. Even though the new Solvency II standards lie in the near future for companies within the EU area, the study intends not to limit itself to the European market but also cover the risk control approach implemented in the Latin American market.

Companies from nine countries participate in the study: Spain, Portugal, Chile, Argentina, Brazil, Colombia, Panama, Dominican Republic and Mexico. A group of companies from each country has been selected, each one having a different type, size and business model. Therefore, the results will be based on the experience of a representative number of companies with different types and geographical areas, offering a global analysis of the insurance sector.

As regards the insurance companies involved, their participation in the study will enable them to gain immediate benefits, such as having the analysis of the company's positioning against their direct or indirect competitors (in terms of size, market and business model). Besides, the companies will be able to benefit from distinctive practices emerging from the study in order to improve their operating excellence and boost the company's image.

Confidentiality of information

The data provided by the companies in their responses to the questionnaire, as well as any other information received from the Company, will be processed with the utmost care and reserve when preparing the study in question.

In this sense, **everis** undertakes to keep all the information collected from the Company, in whichever form it is received, as confidential information, and it shall not disclose or assign it to third parties in any way other than that established in its purpose without the Company's prior written consent.

To that end, **everis** shall adopt the same safety measures to prevent the information from being disclosed as those adopted for the protection of its own confidential information and trade secrets.

Likewise, it undertakes not to use the information for any purpose other than the Purpose, without the prior written consent of the Company.

This confidentiality agreement shall become effective as from the moment the company confirms its participation in the Study and shall be valid for a one-year term as from the disclosure of the information by the Company. Nevertheless, from the beginning of the study, **everis** shall be the only owner of all intellectual property rights thereto.

Completion of the questionnaire

Even if this questionnaire may be filled in directly by you, a representative from **everis** will be available to assist you during its completion. At the end of the questionnaire you will find **everis**' representatives per country, who may be contacted by you at any time.

Estimated time for the completion of the questionnaire: 1 hour.

Description of the questionnaire

This questionnaire, including information that will be used as basis for the study, is divided into three major sections:

- **General Aspects of the Company**, where a description of the operational reality of the insurance company is made. The questions in this section refer to the company's own data, such as size or type of company.

- **Perception of the Section and the Company**, where a description of the perception of the insurance sector and the positioning of each company with respect thereto, as far as risk management is concerned, is made.

- **Risk Management of the Company**, where there is an in-depth study of the risk management strategy implemented by the company, as well as the tools to perform such strategy.

Classification of risks according to ASSAL and Solvency II

For clarification purposes, an annex with the breakdown of the different types of risks and their classification according to ASSAL (Latin American Insurance Superintendents' Association) and Solvency II was included.

Annex II. Questionnaire

COMPANY GENERAL INFORMATION

We request here general data of the company, which will enable us to make an analysis based on the type of company.

Size

Specify the following indicators of your company approximately.

Multi-risk	Cars	Health	Life Risk	Life Savings	Others

No. of business lines:

I/C (specify individual and/or collective): ___

Business volume[3] _____

No. of employees: _____

No. of clients: _____

No. of offices: _____

Company type

Identify your company, classifying it into the following options:

Company type

☐ Bank-insurance[4] ☐ Insurance company ☐ Mutual insurance company

Area of the company in the market

☐ Local[5] ☐ Subsidiary of a multinational company ☐ Multinational

If multinational, answer the following questions:

- No. of countries where it has a market share (indicate country and % of revenues over the total in each country)

_____

_____

Listed company (or parent company if it is a subsidiary)

☐ YES ☐ NO

If no, is the company expected to be listed in the short/medium term (less than 3 years)?

☐ YES ☐ NO

[3] Volume of Premiums, including contributions to pension plans.
[4] Share Capital owned mostly by a banking institution.
[5] 75% of the revenues of the company answering the questionnaire are made in the country of origin.

Operational model

Identify the type of operational model of the company and its strategy as regards risk management:

Has the company outsourced activities? If yes, indicate the activity and the approximate percentage of outsourcing as regards the total cost of the activity:

Activity	Outsourcing percentage
Product design	
Contracting	
Contract administration	
Invoicing	
Losses / Services	
Customer service	
Fraud control	
Reinsurance administration	
Co-insurance administration	
Others	

Indicate the business percentage (in premiums) assigned in reinsurance by type of risk:

Multi-risk	Cars	Health	Life Risk	Life Savings	Others

Identify the percentage of the business assigned by the reinsurance companies you work with:

- Most important reinsurance companies you work with (complete):

_____

_____

_____

_____

_____

_____

- Other companies:

_____

_____

PERCEPTION OF THE SECTOR AND OF THE COMPANY

Strategies and initiatives

From your viewpoint, does the insurance sector consider risk management control among its strategic objectives?

☐ YES ☐ NO

If yes, rank the importance assigned to each type of risk (1 for the most important and 5 for the least important)

- ■ Insurance _____
- ■ Credit _____
- ■ Market _____
- ■ Liquidity _____
- ■ Operational _____

Considering that your company is in this area (tick an option):

☐ Below average
☐ Average
☐ Above average

Indicate the reason: _____

From your viewpoint, the companies in the sector allocate a considerable portion of their budget specifically to risk control (tick an option):

☐ No
☐ Not specifically
☐ Not at present, but they are planning to do so in the short/medium term
☐ Yes

Considering that, if compared to the average, your company in this sector is:

☐ Below average
☐ Average
☐ Above average

Indicate the reason: _____

Which are the main objectives pursued by the companies of the sector for risk control? Prioritize (1 to 3) the main three objectives expected to be reached with risk control

☐ Compliance with standards
☐ Follow-up and supervision of the company's risk
☐ Provide top management with information
☐ Provide other areas with information
☐ Lead initiatives to mitigate risk
☐ Others

Assess, with a percentage over the total, the effort made by the sector in the follow-up and supervision of each type of risk, or in the initiatives undertaken for their mitigation:

- Insurance _____
- Credit _____
- Market _____
- Liquidity _____
- Operational _____

Organization model

According to your perception, select from the list the strategy most commonly used by the companies of the sector for risk control, from the companies' organization point of view (tick an option):

- ☐ No specific personnel assigned to risk control.
- ☐ There are specific personnel, who are integrated into the different areas of the company.
- ☐ There is an independent area within the company.

Operational model

Do you consider the knowledge in your company about the various types of risks to be asymmetric?

☐ YES ☐ NO

If yes, rank the current knowledge in the market for each type of risk (1 for the best known and 5 for the least known).

- Insurance _____
- Credit _____
- Market _____
- Liquidity _____
- Operational _____

IIndicate the main circumstances preventing or hindering efficient control by the companies of the sector (select two from the list).

- ☐ Current uncertainty of regulatory requirements.
- ☐ Difficulty to implement the methodology in the company.
- ☐ Lack of specific knowledge in the company.
- ☐ Current incapacity to have the required information available.
- ☐ Lack of evolution in information systems.
- ☐ Allocated budget.
- ☐ Others _____

Risk management tools

According to your perception, do the companies of the sector have risk control information among their current reporting tools? (tick an option):

- ☐ No.
- ☐ No, but the market is starting to consider its need.
- ☐ Yes.

According to your perception, do the companies of the sector currently have simulation/forecasting tools? (tick an option):

☐ No.
☐ No, it is a need that has not been covered.
☐ No, we do not have specific tools but they are performed manually in most cases.
☐ Yes.

Indicate the degree of development and preparation of current systems used by your company for risk management in comparison with the sector (tick an option):

☐ Below average.
☐ Average.
☐ Above average.

Indicate the reason: _____

THE COMPANY'S RISK MANAGEMENT

Strategies and initiatives

Is there a specific reserve for risk control allocated in the 2008 budget? (tick an option):

☐ No, it has not been considered in the preparation of budgets.
☐ No, but it has been considered to include it in the short/medium term (max. 3 years).
☐ Yes, there is.

If yes, indicate the amount of the reserve considered for the following year (considering internal and external costs):

☐ Less than € 500,000.
☐ Between € 500,000 and € 1,500,000.
☐ More than € 1,500,000.

As regards the set of initiatives related to risk control performed by your company, is there a master plan to support their launch? (tick an option):

☐ No.
☐ It has been considered, but it has not been defined as at today.
☐ The plan has been defined, but its implementation has not started yet.
☐ There is a plan in process of implementation.

Within the company's strategy, when undertaking or concluding an initiative, the following is analyzed (tick one or more options):

☐ Profitability.
☐ Risk/Profitability.
☐ Others: _____

If your company is European, has it considered the objective approach to be adopted at the time of having to comply with the regulatory capital requirement of Solvency II?

☐ Own Model ☐ Standard Model ☐ Partial Model

If your company is not European, do you know Solvency II and the guidelines set?

☐ No.
☐ Yes, but not in depth.
☐ Yes.

Organization model

Select from the list your company's strategy, from the organization point of view for risk control (tick an option):

☐ No specific personnel assigned to risk control.
☐ There are specific personnel, who are integrated into the different areas of the company.
☐ There is not an independent area, but its implementation in the short/medium term (less than 3 years) is being considered
☐ There is an independent area within the company without clearly defined objectives and tasks.
☐ There is an independent area within the company with clearly defined objectives and tasks.

If there is an independent area, who does it report to, from the organizational point of view? (tick an option):

☐ Chief Executive Officer (CEO).
☐ Chief Financial Officer (CFO).
☐ Management Control Officer.
☐ Others (explain briefly) _____

Which are the main functions of the personnel assigned to risk control? (tick one or more options):

☐ Compliance with standards.
☐ Provide information to other areas.
☐ Follow-up and supervision of each type of risk.
☐ Deepen the knowledge of different types of risk and convey it to the rest of the organization.
☐ Define risk management policies and procedures.
☐ Identify, measure, monitor and control each type of risk.
☐ Design and implementation of risk reporting systems.
☐ Others (explain briefly) _____

How many resources are there assigned to risk control?

Type of risk	FTE
Insurance	
Credit	
Liquidity	
Market	
Operational	
TOTAL	

Operational model

Within the map of corporate processes, is the risk control process defined as an independent process? (tick an option):.

☐ No.
☐ No, but its incorporation in the short term has been considered.
☐ Yes.

Does your company have a risk map identifying the impact of each type of risk within the business processes and as support to the company's business?

☐ No.
☐ There is an initiative, but the analysis has not concluded yet.
☐ Yes.

Do you consider the knowledge in your company of the various types of risks to be asymmetric?

☐ YES ☐ NO

Indicate the degree of knowledge associated to each one of them (select one based on the treatment given in your company):

Type of risk	Identified risk	Identified and characterised risk	Especific risk management	Quantitative measurement of risk	Internal capital model
Insurance					
Credit					
Liquidity					
Market					
Operational					

Indicate the main circumstances preventing or hindering efficient control (tick two options):

☐ Current uncertainty of regulatory requirements.
☐ Difficulty to implement the methodology in the company.
☐ Lack of specific knowledge in the company.
☐ Current incapacity to have the required information available.
☐ Lack of evolution in information systems.
☐ Allocated budget.
☐ Others.

Does your company have an economic estimate or assessment of annual losses due to each type of risk?

☐ There is no quantitative result.
☐ Only for some business lines.
☐ Yes, at company level, based on losses from each business line.
☐ Yes, at company level, from the losses of each line and for each type of risk.

If you have answered yes to the previous question, indicate the annual losses over the business total, by type of risk.

Type of risk	Estimated loss	Loss from previous period	Extreme loss
Insurance (life)			
Insurance (non-life)			
Insurance (health)			
Credit			
Liquidity			
Market			
Operational			
TOTAL			

Tools and calculation methods for risk control

Complete the chart indicating which are the calculation approaches used in your company and what type of information tools are employed to support risk control (methods and tools are not exclusive):

Type of risk	Calculation approaches	IT tools
INSURANCE (LIFE)	☐ Mix ☐ Benchmarking ☐ Stress testing ☐ Deterministic ☐ Parametric ☐ Simulation	☐ No specific one ☐ Spread sheets ☐ Internally developed system ☐ Commercial software
INSURANCE (NON-LIFE)	☐ Mix ☐ Benchmarking ☐ Stress testing ☐ Deterministic ☐ Parametric ☐ Simulation	☐ No specific one ☐ Spread sheets ☐ Internally developed system ☐ Commercial software
INSURANCE (HEALTH)	☐ Mix ☐ Benchmarking ☐ Stress testing ☐ Deterministic ☐ Parametric ☐ Simulation	☐ No specific one ☐ Spread sheets ☐ Internally developed system ☐ Commercial software
CREDIT	☐ Mix ☐ Benchmarking ☐ Stress testing ☐ Deterministic ☐ Parametric ☐ Simulation	☐ No specific one ☐ Spread sheets ☐ Internally developed system ☐ Commercial software

Type of risk	Calculation approaches	IT tools
LIQUIDITY	☐ Mix ☐ Benchmarking ☐ Stress testing ☐ Deterministic ☐ Parametric ☐ Simulation	☐ No specific one ☐ Spread sheets ☐ Internally developed system ☐ Commercial software
MARKET	☐ Mix ☐ Benchmarking ☐ Stress testing ☐ Deterministic ☐ Parametric ☐ Simulation	☐ No specific one ☐ Spread sheets ☐ Internally developed system ☐ Commercial software
OPERA-TIONAL	☐ Mix ☐ Benchmarking ☐ Stress testing ☐ Deterministic ☐ Parametric ☐ Simulation	☐ No specific one ☐ Spread sheets ☐ Internally developed system ☐ Commercial software

Does you company have risk control tools among its current reporting tools?

- ☐ No.
- ☐ No, but it is performed manually.
- ☐ No, but is in process of implementation.
- ☐ Yes.

In addition to the organization structure defined in Subsection 3.2, the information generated by the tools is mainly being used by (tick one or more options):

- ☐ Top Management.
- ☐ Internal Audit Area.
- ☐ Risk Area.
- ☐ Technical Area.
- ☐ Commercial Area.
- ☐ Other. Indicate which: _____

Annex III. Classification of risks according to ASSAL and Solvency II

CLASSIFICATION OF RISKS	ASSAL CLASSIFICATION			SOLVENCY II CLASSIFICATION				
	Technical	Investment	Others	Insurance	Market	Credit	Liquidity	Operational
Deviation risk: It concerns statistical deviations of risks, such as changes in mortality rates, morbidity rates, improvements in life expectancy, crime, increase in prices and salaries, decrease of interest rates, etc.	X			X				
Insufficient premium risk: It represents the risk of the premiums collected turning out to be very low. This type of risk may present overlapping, since it may be classified as deviation risk when the premium is insufficient despite having performed a careful and responsible assessment with all the information available.	X			X				
Technical reserve assessment risk: It is used when there is an incorrect assessment of risks and, therefore, the technical reserves are insufficient to cover the obligations resulting from insurance contracts.	X			X				
Reinsurance risk: It is the bankruptcy or insolvency risk of reinsurers or of the bad quality thereof. It may also be classified with the non-technical ones.	X					X		
Operating expenses risk: It concerns the risk when the amount of operating expenses included in the premium is insufficient to cover them in the future.	X							X
Major losses risk (major risks): It appears only in non-life insurance and it reflects the potential risk that an insurance company may be exposed to higher risks in number or size.	X			X				
Accumulation or catastrophic risk: It describes the risk of accumulation of losses caused by a single event (earthquake, storm, etc.).	X			X				
Growth risk: It is associated to the technical consequences derived from excessive or uncoordinated growth.	X			X				
Depreciation risk: It describes the risk of loss in value of an investment due to changes in the capital markets, in the exchange rate (for obligations in foreign currencies) and incompliance due to bankruptcy of creditors.		X			X			
Liquidity risk: It concerns the risk that investments may not be liquidated at the right time, causing the insurance company to be unable to comply upon the maturity of their financial obligations.		X					X	
Mismatching or reinvestment risk: It is used when the assets of an insurance company, in terms of maturity and interest rate, do not cover the technical reserves in the same terms. = ALM RISK		X					X	

CLASSIFICATION OF RISKS *(cont.)*	ASSAL CLASSIFICATION			SOLVENCY II CLASSIFICATION II				
	Technical	Investment	Others	Insurance	Market	Credit	Liquidity	Operational
Market risk: It is the risk run by the financial situation of an insurance company as a result of the adverse movements in the market prices of the value of the assets comprising the portfolio of an insurance company, regardless of the nature of its liabilities.		X			X			
Credit risk: It occurs when the counterpart of a financial transaction does not fulfil the obligation it has before the insurance company.		X				X		
Investment assessment risk: Related to investments, it describes the risk that an investment be incorrectly assessed.		X			X			
Third-party account risk: It describes the risk that third parties external to the insurance company may not fulfil their obligations, either under the reinsurance, co-insurance or intermediation contract schemes.			X			X		
General business risk: It concerns the consequences that the modifications of the general legal, economic and social conditions have over the general situation of the insurance company.			X					X
Operational risk: It concerns the risk of generating losses derived from failures or lack of adequacy of internal processes, people, systems or external events.								X

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