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Introduction

This third edition of Economics and Insurance covers various current topics being analyzed by MAPFRE Economics in its reports. The challenges posed by population aging examines the impacts of the demographic transition on the global economy and on those social structures that are closely linked to demographic patterns such as pension and healthcare systems.

As usual, the magazine includes an article on the global economic outlook and another on the industry outlook for the insurance market. The first of the two articles provides revised macroeconomic forecasts from the second quarter of 2019 onward, while the second evaluates the impact of these forecasts on the insurance business.

There is also an article analyzing the placement of insurance industry investments, which provides a comparative study of a number of markets. As well as giving a general overview of the risk profile of the insurance portfolios in each market, it includes an analysis of the investment portfolios of a selection of international insurance groups, using information taken from their consolidated annual accounts at year-end 2018.

Lastly, this edition of Economics and Insurance features a special contribution from María Nuche Otero on insurance groups and Solvency II. The article summarizes the main aspects covered in her book El impacto de Solvencia II en los grupos de entidades aseguradoras [The impact of Solvency II on insurance groups], published by Fundación MAPFRE.

You can find these and other published studies on <u>MAPFRE Economics</u> <u>website</u>.

MAPFRE Economics



The Challenges posed by Population Aging

Author: MAPFRE Economics

Summary of the report's conclusions: MAPFRE Economics <u>Population aging</u> Madrid, Fundación MAPFRE, February 2019

Population ageing resulting from the combination of falling birth rates and a generalized increase in life expectancy constitutes one of the major challenges of our era. Table 1 shows the global change in the percentage of the population aged over 65 years, calculated on the basis of United Nations historical data and projections and broken down by geographical region.

It can be seen that in 1999 it was only in certain regions such as Europe, Australia & New Zealand and North America that more than 10% of the total population were aged over 65, and if the Far East and the Caribbean were excluded this ratio fell to under 5.5%. However, in the projections for twenty years from now (i.e. for 2039) the ratio is significantly higher than 20% for all developed economies, and approaches 30% by 2059, with even higher figures in Southern Europe and East Asia. Chart 1 shows the worldwide situation in 2059, broken down by country.

Budgetary impact: expenditure on retirement pensions and healthcare

This process of demographic transition anticipates a progressive increase in the pressure placed on public expenditure as a result of the increase in pension and healthcare spending caused by the increased ratio of older people in the total population.

According to data provided by the Organization for Economic Cooperation and Development (OECD), combined expenditure on pensions and healthcare represents between a third and a half of total direct government spending in OECD countries, so that the future increase of this expenditure anticipated by population aging will lead to significant pressure on their

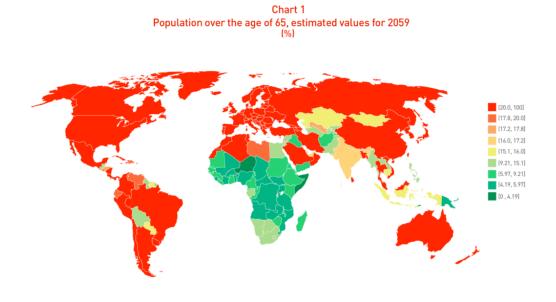


Region	1959	1979	1999	2019	2039	2059	2079	2099
Southern Europe	8.2%	11.6%	16.2%	21.3%	31.0%	33.8%	33.4%	33.8%
Eastern Asia	4.0%	5.0%	7.6%	13.1%	24.3%	31.0%	31.0%	32.0%
Western Europe	11.2%	14.6%	15.8%	20.7%	27.8%	29.2%	29.9%	31.5%
Eastern Europe	6.6%	10.7%	12.8%	16.4%	21.7%	27.2%	25.3%	26.6%
Northern Europe	11.2%	14.4%	15.5%	18.9%	24.1%	26.4%	27.7%	30.0%
Australia/New Zealand	8.6%	9.5%	12.2%	16.0%	21.3%	24.2%	26.4%	29.5%
Northern America	9.0%	11.2%	12.4%	16.4%	21.9%	23.8%	26.2%	28.0%
South America	3.7%	4.4%	5.5%	9.0%	15.8%	23.7%	28.7%	31.3%
Caribbean	4.1%	5.8%	7.3%	10.3%	17.0%	22.0%	25.9%	28.9%
Central America	3.3%	3.7%	4.8%	7.0%	13.0%	21.2%	28.1%	31.8%
South-Eastern Asia	3.6%	3.8%	4.8%	6.7%	12.6%	17.8%	21.6%	24.7%
Polynesia	2.7%	3.1%	4.5%	7.2%	13.5%	17.1%	23.0%	27.0%
Southern Asia	3.2%	3.5%	4.2%	6.0%	10.0%	16.3%	21.8%	25.5%
South-Central Asia	3.3%	3.6%	4.3%	6.0%	10.0%	16.3%	21.6%	25.4%
Western Asia	4.0%	4.5%	4.8%	5.7%	10.1%	15.6%	19.7%	23.1%
Central Asia	5.9%	5.5%	5.2%	5.3%	9.8%	15.5%	18.9%	23.3%
Micronesia	3.1%	3.3%	3.8%	7.2%	13.3%	15.0%	20.7%	23.6%
Northern Africa	3.5%	3.8%	4.6%	5.7%	9.2%	14.0%	17.2%	21.2%
Southern Africa	3.8%	3.5%	3.9%	5.4%	8.0%	12.9%	17.7%	22.2%
Melanesia	2.8%	2.8%	3.2%	4.4%	6.5%	9.2%	12.7%	16.1%
Eastern Africa	2.9%	2.9%	2.9%	3.1%	4.0%	6.9%	11.1%	15.5%
Sub-Saharan Africa	3.0%	3.0%	3.0%	3.1%	3.9%	6.0%	9.5%	13.6%
Middle Africa	3.3%	3.2%	3.0%	2.9%	3.5%	5.2%	8.6%	13.2%
Western Africa	2.8%	2.8%	2.9%	2.8%	3.4%	4.9%	7.6%	11.3%

		Та	ble 1		
Population	over the	age	of 65	by region,	1959-2099
			(%)		

Source: MAPFRE Economic Research (with UN data)

respective national budgets. In proportion to the inability to cover requirements, the increased budgetary pressures will affect coverage ratios



Source: MAPFRE Economic Research (with UN data)



for retirement pensions and public services related to healthcare, including the cost of long-term care.

Pension costs: two significant indicators

In the case of pensions, the elements of apportionment included in most current systems mean that the increased pressure on public accounts is to a great extent matched by the decreasing trend in the numbers in active employment as a ratio of the total population. The contributions paid by the former to support the retired population (via the mature dependency ratio) and the increase in life expectancy to the age of 65 years (the effective typical retirement age) are the principal factors here. The latter indicator is also particularly significant in terms of the basic elements relating to the capitalization of pension systems.

Table 2 shows the change in the dependence ratio, defined for the purpose of our analysis as the number of persons of working age for each retired person, taking into account a scenario in which the average age of entering the labor market is approximately 20 years and the effective retirement age is 65 years.

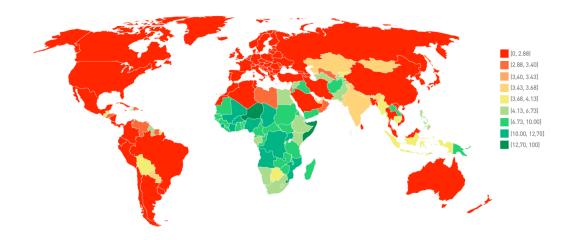
From the analysis of the ratios shown in Table 2 it can be seen that in Europe, Australia and North America the ratio currently (as in 2019) displays values of

		(popula	tion 20-64 /	population 6	5+)			
Region	1959	1979	1999	2019	2039	2059	2079	2099
Southern Europe	6.9	4.8	3.8	2.8	1.7	1.4	1.4	1.4
Eastern Asia	12.3	10.0	7.9	4.9	2.3	1.6	1.6	1.5
Western Europe	5.2	3.9	3.9	2.8	1.9	1.7	1.7	1.6
Eastern Europe	8.7	5.4	4.7	3.8	2.7	1.9	2.1	2.0
Northern Europe	5.2	3.9	3.8	3.1	2.2	2.0	1.9	1.7
Australia/New Zealand	6.2	5.8	4.9	3.7	2.6	2.2	2.0	1.7
Northern America	5.9	5.0	4.8	3.6	2.5	2.3	2.0	1.8
South America	12.3	10.6	9.5	6.6	3.8	2.3	1.8	1.6
Caribbean	11.3	7.9	7.3	5.6	3.3	2.5	2.1	1.8
Central America	12.7	10.9	10.1	8.1	4.6	2.7	1.9	1.5
Polynesia	15.3	13.1	10.8	7.6	4.0	3.2	2.3	1.9
South-Eastern Asia	12.6	11.4	10.9	8.9	4.7	3.2	2.6	2.2
Southern Asia	14.6	12.8	11.6	9.4	6.1	3.6	2.6	2.1
South-Central Asia	14.2	12.5	11.5	9.5	6.1	3.6	2.6	2.1
Western Asia	11.5	9.7	10.1	10.0	5.8	3.6	2.8	2.3
Central Asia	8.4	8.2	9.5	10.8	6.1	3.7	3.0	2.4
Micronesia	14.5	13.8	13.6	7.6	4.1	3.8	2.6	2.3
Northern Africa	12.8	11.1	10.3	9.5	6.2	4.0	3.2	2.6
Southern Africa	11.9	12.6	12.8	10.4	7.5	4.6	3.3	2.5
Melanesia	15.9	15.7	14.5	11.7	8.5	6.3	4.6	3.6
Eastern Africa	15.0	13.9	13.6	14.2	12.5	8.0	5.1	3.6
Sub-Saharan Africa	14.9	14.0	13.8	14.1	12.6	8.9	5.9	4.2
Middle Africa	13.7	13.2	13.3	14.0	13.2	10.1	6.6	4.3
Western Africa	16.3	15.0	14.5	15.3	13.9	10.7	7.4	5.1

Table 2 Dependency ratios by region, 1959-2099 (population 20-64 / population 65+)

Source: MAPFRE Economic Research (with UN data)

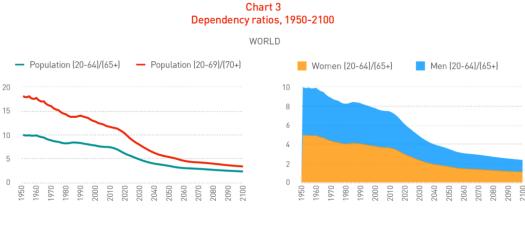
Chart 2 Dependency ratio (20-64/65+), estimated values for 2059



Source: MAPFRE Economic Research (with UN data)

fewer than four persons of working age for each person who had reached the age of retirement. The figures for the Southern Europe and Western Europe regions are particularly revealing, each with current levels of 2.8 persons of working age per retired person, but which according to United Nations 20-year estimates are projected to fall to 1.7 and 1.9 respectively by 2039. Chart 2 shows the worldwide situation in 2059, broken down by country.

The country-by-country analysis makes it clear that in the coming decades countries like Japan, South Korea, Taiwan, Spain, Hong Kong, Greece, Portugal, Poland, Singapore and Italy will reach dependence ratio values of under 1.5 persons of working age for every person who reaches the age of retirement. Only certain African countries, Iraq and Papua New Guinea display ratios approaching four or higher in projections for the end of the century. In summary, this information clearly confirms the process of a



Source: MAPFRE Economic Research (based on UN data)

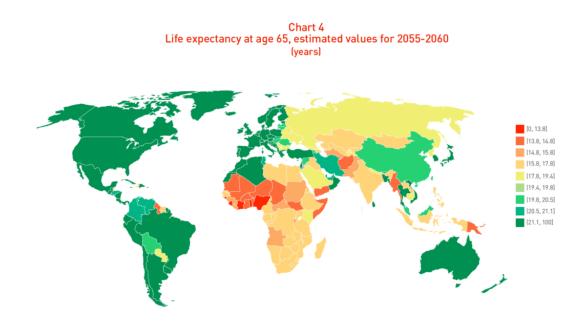


	Lif	e expectan	cy at age 65 (years from	i by region,	1955-2100			
Region	1955-1960	1975-1980	1995-2000	2015-2020	2035-2040	2055-2060	2075-2080	2095-2100
Australia/New Zealand	14.0	15.5	18.3	21.1	23.0	24.8	26.6	28.5
Western Europe	13.7	15.0	17.8	20.5	22.6	24.4	26.2	28.1
Southern Europe	13.6	15.1	17.6	20.3	22.4	24.3	26.1	28.1
Northern Europe	13.9	15.0	16.9	20.0	22.2	24.0	25.8	27.6
Northern America	14.4	16.3	17.7	20.0	21.9	23.7	25.2	26.7
Central America	13.3	15.2	17.1	19.2	20.9	22.6	24.1	25.5
South America	12.6	13.5	15.8	18.4	20.2	22.0	23.6	25.1
Polynesia	10.8	12.2	14.1	16.6	18.8	21.0	22.8	24.6
Caribbean	13.0	15.1	16.5	18.5	20.1	21.0	21.9	23.1
Eastern Asia	8.9	13.2	15.1	17.2	18.9	20.9	22.9	24.7
Western Asia	11.8	13.6	14.8	16.4	18.2	19.7	21.1	22.4
Micronesia	12.0	13.0	14.3	16.4	18.4	19.5	20.7	21.8
Eastern Europe	13.6	14.2	13.9	16.3	17.7	19.3	21.0	22.4
Northern Africa	11.8	12.8	13.9	15.4	17.1	18.7	20.1	21.5
South-Eastern Asia	11.4	12.7	14.1	15.4	16.7	18.1	19.4	20.9
Southern Asia	10.4	11.9	13.3	14.8	15.9	17.4	18.8	20.3
South-Central Asia	10.5	12.0	13.3	14.8	15.9	17.4	18.8	20.4
Central Asia	13.0	14.6	13.9	14.4	15.7	17.1	18.7	20.6
Eastern Africa	10.5	11.7	12.6	14.4	15.5	17.0	18.6	20.0
Southern Africa	11.6	11.4	12.6	13.8	15.1	16.5	18.2	19.7
Middle Africa	10.4	11.6	12.1	13.6	14.7	15.9	17.2	18.7
Sub-Saharan Africa	9.9	11.2	11.8	13.2	14.3	15.6	17.1	18.5
Melanesia	10.0	11.7	12.9	14.1	14.8	15.5	16.3	17.4
Western Africa	8.9	10.4	10.8	11.6	12.6	13.6	14.8	16.3

Table 3

Source: MAPFRE Economic Research (with UN data)

progressive reduction of the ratio of the working population to the retired population on a global level anticipated for the coming decades.



Source: MAPFRE Economic Research (with UN data)



If we carry out a sensitivity analysis, prolonging the age of effective retirement to 70 years, it can be seen that the situation improves considerably, although the trend continues in the direction of a marked decline (see Chart 3).

The second particularly significant indicator for pension systems is that of life expectancy at age 65, which represents the average length of time that retired people will receive their pensions. Table 3 shows the global change, calculated on the basis of United Nations historical data and projections and broken down by geographical region.

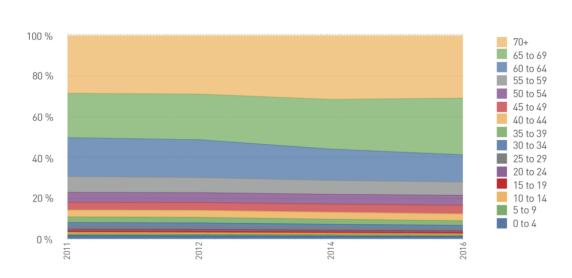
It can be seen that the Australia & New Zealand, Europe and North America regions currently have levels of life expectancy of 20 years or more at age 65. In projections for the 2055-2060 period, this will rise to over 23 years, while the projections for the end of the century attain 28 years in some areas of Australia & New Zealand, Western Europe and Southern Europe.

The country-by-country analysis that can be seen in Chart 4 makes it clear that in the coming decades countries such as Hong Kong, Macao, Japan, Martinique, Singapore, France, Guadeloupe, Spain, South Korea, Switzerland and Italy will attain levels of life expectancy at age 65 of 25 years or more by the 2055-2060 period and that this will approach 30 years by the end of the century, while the countries of sub-Saharan Africa will have the lowest levels of life expectancy.

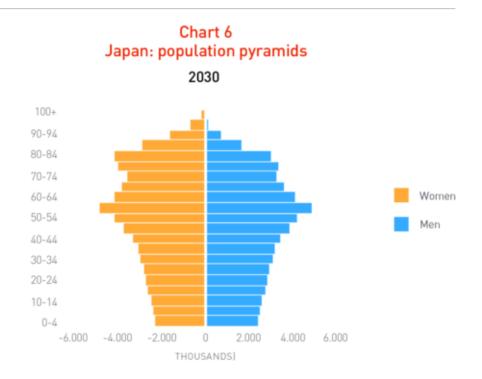
Healthcare expenditure: the Japanese experience

Since 2011, local authorities in Japan have been collecting data relating to the healthcare costs of the country's national health system borne by municipal councils (ranging from large cities and towns to smaller local

> Chart 5 Japan: healthcare spending by age group, 2011-2016 (%)



Source: MAPFRE Economic Research (with Japanese Health Ministry data on the payment of national health insurance bills by municipalities)



Source: MAPFRE Economic Research (with UN data)

communities), broken down by age and types of illness. The analysis of the data available up to and including 2016 is shown in Chart 5 and reveals that persons over age 65 receive approximately 58.5% of total healthcare expenditure.

This means that the demographic transition represented by population aging will have a major impact on total healthcare costs as new cohorts of persons reach age 65.

The Japanese population pyramid projected for 2030 (Chart 6), based on United Nations estimates, shows the incorporation of extensive cohorts of persons reaching age 65 from this year onward, which will substantially increase their healthcare costs. It can be assumed that this process will be reproduced sooner or later in most parts of the planet.

The importance of employment policies in the labor market

It is vital to underline the importance of economic and employment policies that avoid situations leading to structural unemployment, given that these are particularly prejudicial to the sustainability of pension systems in an environment increasingly characterized by a marked fall in the ratio of persons of working age capable of supporting the number of retired persons through their contributions. In certain economies, factors such as the reduced presence of women or specific other social groups in paid employment, or situations in which such groups earn reduced incomes, only add to the harmful effects on their respective systems.



Longevity and public pension policies

Faced with the pressures of the demographic transition, the route that offers the greatest opportunities of bringing medium- and long-term sustainability and stability to pension systems is to attain a better balance between systemic pillars as a mechanism for redistributing the risks to which such systems are exposed. In the long run this will make it possible to better absorb the economic effects arising from their potential advent. From a methodological viewpoint, the analysis of various reforms introduced internationally in recent years shows that they tend to comply with the following principles:

- a. Maintenance and reinforcement of a basic system of social protection (Pillar 0); i.e. a minimum non-contributory solidarity pension to support the strata of workers who were unable to complete their working life and therefore do not qualify for a contributory pension.
- b. The creation of a first contributory pillar that combines intergenerational solidarity with the effort of individual saving, aligning benefits more closely with individual contributions.
- c. The generation of incentives for companies to create and manage (directly or indirectly through professional fund managers) supplementary pension plans of the contributory variety (especially defined contributions) to complement Pillar 1 contributory pensions.
- d. Incentives for medium and long-term voluntary individual saving which workers can channel through professional managers with financial products designed to generate an income during retirement, thus supplementing the pensions from Pillars 1 and 2.

Longevity and public healthcare policies

The traditional patterns of healthcare model (i.e., the Bismarck, Beveridge or free market systems) are currently becoming less clearly-defined, with a trend toward the extension of universal healthcare cover to all persons residing in each country either free of charge or with the sharing of costs, through the use of variants or combinations of the original models.

Independently of the specific healthcare model, the public sector thus plays a fundamental role in establishing the public policies required to implement the obligation of healthcare providers (both public and private) to provide adequate healthcare to the persons whose entitlement to such services has been recognized.

The way in which this cover is provided follows various patterns, with a variety in the types and forms of participation on the part of institutions and healthcare providers, in the financing of services and even in the scope of the cover provided. Whatever the case, the current generalized increase in the volumes of public debt and fiscal deficit in the majority of countries, aggravated by increases in pension costs, make it difficult to extend the



budget for the public financing of universal healthcare cover and, as already mentioned above, the problem will only worsen in the future as a result of population aging.

A review of international experience based on a range of healthcare systems displaying a high level of effectiveness points to the existence of a range of public policies that can be highlighted as factors to be taken into consideration when confronting the challenge of demographic transition:

- a. Savings plans to reduce healthcare costs: The linking of medium- and long-term savings to the provision of healthcare requirements has always been one of the aspects that has been considered as a key factor in improving public healthcare services. In this respect, the health system in Singapore has incorporated a citizens' saving scheme with a view to providing for their future healthcare requirements (under a system known as "Medi-Save"). Through this mechanism, citizens can rely on funding that builds up while they are in good health so as to cover their future healthcare costs.
- b. Incentives for taking out voluntary health insurance: These usually take the form of tax breaks for the contracting of individual or collective voluntary health insurance, with a view to relieving the burden on public healthcare systems. In certain countries (e.g. Australia), the incentive takes the form of penalization through income tax, with a progressive additional surcharge imposed on the rate paid to finance the public system if no private health insurance is taken out.
- c. Insurance markets and price comparison websites: Various countries in which private health insurance policies play a significant role in the general healthcare system have introduced regulations to establish comparison websites so as to facilitate the comparison of prices and the cover provided. In the United States, for example, in addition to the provision of tax receivables, a digital market has been created for what are known as "Small Business Health Options Plans" (SHOPs), with a view to encouraging small and medium-sized companies to take out private health insurance for their employees. There are also digital platforms for taking out individual insurance policies managed by each state or, in their absence, at a federal level with standardized policies that are legally required to provide minimum healthcare cover (known as "exchanges").
- d. Consolidating the role of private insurance: The role played by insurance companies is to a great extent determined by the healthcare model of the territory in which they operate. They normally play a role that is complementary to that of the public sector. Consolidating the role of private insurance: The role played by insurance companies is to a great extent determined by the healthcare model of the territory in which they operate.
- e. Correction of market failings: Finally, it should be noted that in those countries that operate a healthcare system based on a free-market or shared-cost pattern, there are public welfare programs for specific more



vulnerable sectors of the population, including the elderly and those with low incomes, who otherwise would not have access to healthcare cover at a reasonable price. Taking into account the concentration of personal healthcare costs from age 65 onward and the trend toward an everincreasing number of the persons who will form a part of these cohorts, public policies that introduce such corrective mechanisms into the operation of the free-market system are destined to acquire ever greater significance.

The study <u>Population aging</u> prepared by MAPFRE Economics develops further the topics dealt with in this article. This study is available via the following <u>link</u>.



Location of Insurance Industry Investments

Author: MAPFRE Economics

This article provides a comparative view of the placement of insurance companies, by asset type, in a selection of markets, including both developed markets (the Eurozone, United States, United Kingdom and Spain) and emerging ones (Brazil and Mexico) as at the close of 2017. This analysis provides an overall impression of the risk profile of their portfolios, based on the proportions of the main categories of assets in each market's combined investment portfolio.

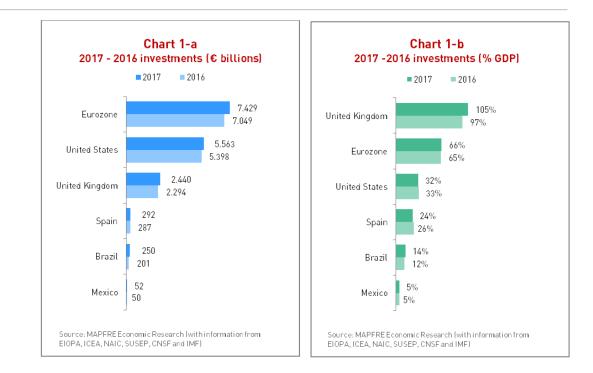
Moreover, it includes an analysis of the investment portfolios of a selection of international insurance groups, based on data gathered from their 2018 consolidated accounts. This analysis also offers comparative information about the rating of fixed income assets and the changes compared to the previous year, in order to provide a more in-depth view when comparing their risk profiles.

Whenever possible, the information presented distinguishes between the "traditional" investment portfolio (in which investment risk is locked into the balance sheets of the various insurance companies) and portfolios promoting products in which it is the person taking out the insurance who assumes the investment risk (products of the unit-linked type). Thus, once the traditional investment portfolio has been defined, the proportions corresponding to each category of assets are then shown.

Placement of investments at market level

Charts 1-a and 1-b provide an idea of the size of the investment portfolios of all the insurance companies in the markets analyzed and their relative





importance in relation to GDP. It follows from this information that the combined value of the investment portfolios for the sample of markets analyzed totaled 16 trillion euros in 2017, representing significant percentages of GDP in the respective markets, the most notable case being the United Kingdom, where this ratio was 105%.

As has been highlighted in other analyses prepared by MAPFRE Economic Research, from this information it emerges that the insurance industry is one of the largest institutional investors at global level. Suffice to say that the insurers in the selected markets manage a volume of assets that is greater than the combined GDP of all the Eurozone countries, and only slightly less than the GDP of the United States. By exercising this function, the insurance industry contributes to the consolidation of capital through a stable resource inflow for the long-term financing of projects that promote economic growth, also bringing stability to the financial system by providing a steady source of financing that reduces pro-cyclicality at times of crisis.

In Chart 1-a it can be seen that the volume of investments managed increased in absolute terms in all the markets analyzed, compared to the previous year. However, measured in relative terms, in Spain and the United States there was a reduction in the proportion of the investments managed in relation to the size of their respective economies, measured in terms of GDP (see Chart 1-b). The relative proportions of the other markets increased, with the highest increase experienced by the United Kingdom (+8 percentage points), followed by Brazil (+2 percentage points).

Also worth noting is that the proportion of investments managed by insurance companies in relation to GDP is considerably higher in developed markets than in emerging markets. This is explained by the limited



development of the Life business in the latter, which is an indicator of the future potential these markets display for this line of business.

Portfolios linked to traditional business compared to unit-linked business

Table 1 shows the proportion of traditional and unit-linked business, in markets where the data available allows for this distinction to be made.

Table 1Distribution of investment portfolios (traditional vs unit-linked business)

Types of business	EURC	ZONE	UNITED	STATES		KINGDOM	SPAIN		
Types of business	2017	2016	2017	2016	2017	2016	2017	2016	
Ordinary business portfolio	84%	85%	70%	71%	46%	46%	94%	95%	
Un-linked business portfolio	16%	15%	30%	29%	54%	54%	6%	5%	

Source: MAPFRE Economic Research (with information from EIOPA)

In general, it can be said that a higher proportion of unit-linked business is an indicator of the degree of sophistication of insurance markets, with the United Kingdom presenting the highest proportion (more than 54% of its total portfolio), followed by the United States, with unit-linked accounting for 30% of its portfolio in 2017. In all the markets shown, increases can be seen in the proportion of products in which those taking out the insurance assume the risk of the investment (unit-linked type) over the two years analyzed, except in the United Kingdom, where the percentage remained similar.

Meanwhile, Table 2 shows the breakdown of the portfolio of investments allocated to traditional business, and Table 3 the changes in the composition of portfolios in the years analyzed.

It can be seen that there has been a movement across the board in favor of higher-risk assets in the Eurozone, which can be attributed to the environment of continued low interest rates.

A similar shift can be seen in the United States, with a fall in investments in sovereign fixed income and an increase in variable income, which may have been influenced by forecasts of interest rate increases as part of the Federal Reserve's process of monetary normalization, which increased the official interest rate fourfold during 2018.

In any case, it is important to note that no abrupt movements can be seen in the composition of the portfolios of the insurance companies in any of the markets analyzed, and that fixed income (sovereign and corporate) represents the highest proportion of investments. Unlike other financial institutions, the insurance business model calls for the implementation of liability-driven investment strategies, with the objective of achieving an adequate degree of bundling in terms of maturity and interest rates between the liabilities assumed and the investment instruments backing them up. This in turn creates restrictions when it comes to making significant replacements in their traditional business portfolios.

Asset types	EURO	ZONE	UNITED	STATES		INGDOM	SPAIN		
Asset types	2017	2016	2017	2016	2017	2016	2017	2016	
Corporate fixed income	32%	33%	50%	50%	34%	35%	20%	23%	
Sovereign fixed income	32%	32%	15%	16%	21%	22%	57%	55%	
Variable income	16%	15%	14%	13%	16%	15%	7%	6%	
Loans	5%	5%	10%	10%	9%	8%	1%	1%	
Cash and deposits	5%	5%	4%	4%	10%	9%	9%	9%	
Real estate	2%	2%	1%	1%	3%	3%	2%	2%	
Other investments	8%	8%	7%	7%	7%	8%	4%	4%	

Table 2Breakdown of investment portfolios (traditional business)

Source: MAPFRE Economic Research (with information from EIOPA and NAIC)

Table 3 Changes in the composition of investment portfolios, 2017-2018

2017-2016 CHANGE		EUROZONE		NITED STATES	UNI	TED KINGDOM		SPAIN
Corporate fixed income	¢	-1%	⇔	0%	₽	-1%	ŧ	-3%
Sovereign fixed income	\$	0%	₽	-1%	₽	-1%	∱	2%
Variable income	∱	1%	♠	1%	♠	1%	∱	1%
Loans	⇒	0%	⇒	0%	↑	1%	⇒	0%
Cash and deposits	\$	0%	\$	0%	♠	1%	¢	0%
Real estate	\$	0%	⇔	0%	\$	0%	⇒	0%
Other investments	⇒	0%	♦	0%	₽	-1%	⇔	0%

Source: MAPFRE Economic Research (with information from EIOPA and NAIC)

Moreover, the solvency regulation regimes in these markets are based on risks, consequently penalizing, in terms of regulatory capital, any movements toward higher risk levels. The final section of this article gives an idea of the relative proportions of capital risk weights applicable to the different categories of assets in the European Union.

Comparison of the structure of traditional portfolios in developed and emerging markets

In Table 4 it can be seen that, regardless of the preeminence of fixed income investments, the most developed markets present a higher percentage of risk assets in their traditional business portfolios, which is an indicator of their



higher degree of sophistication. The fact that their financial and insurance markets are more developed means that they can offer a greater variety of savings-based insurance combining guaranteed interest rates with future discretionary benefits. It can be seen in Table 4 that the composition of the portfolio of the Spanish market more closely resembles those of the emerging markets, which is indicative of the low level of development of its life insurance market.

Asset types	EUROZONE	UNITED STATES	UNITED KINGDOM	SPAIN	BRAZIL	MEXICO
Fixed income	64%	65%	55%	75%	91%	83%
Variable income	16%	14%	16%	5%	8%	12%
Loans	5%	10%	9%	1%		3%
Cash and deposits	5%	4%	10%	8%	0%	1%
Real estate	2%	1%	3%	3%	0%	1%
Other investments	8%	7%	7%	6%	0%	0%

Table 4Structure of portfolios in developed and emerging markets

Source: MAPFRE Economic Research (with information from EIOPA, NAIC, SUSEP and CNSF)

Placement of investments at insurance group level

A selection of a sample of insurance groups providing sufficiently homogeneous information to make a comparison of their investment portfolios (including the ordinary portfolio, loans granted, cash and the investments allocated to unit-linked products) has been analyzed.

The information analyzed in Chart 2 shows that the two largest European groups in terms of these analysis criteria continue to be Allianz and Axa, which are head and shoulders above the rest. It is noteworthy that Generali is reducing in size, primarily due to the sale of its Generali Leben business.

As is the case with a general analysis of the insurance markets, in the combined investment portfolio of the traditional business (excluding the unitlinked business) of these groups, corporate fixed income is predominant, representing 40.3% of investments (see Chart 3).

Sovereign fixed income at the close of 2018 represented 34.2% of the portfolio, with its weight declining by 1.05 percentage points compared to the close of the previous year (see Chart 4).

Table 5 shows the relative proportion at the close of 2018 of the different categories of assets for each of the insurance groups analyzed and their comparison with the previous year.

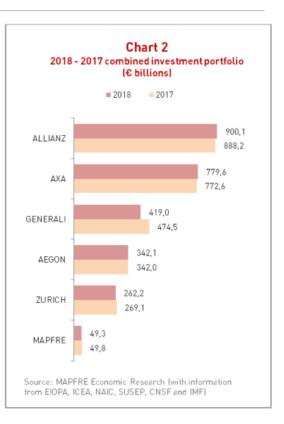
Table 6 shows the changes in the composition of the portfolio of the respective groups by asset type between fiscal years 2017 and 2018.



NUMBER 3, MAY 2019

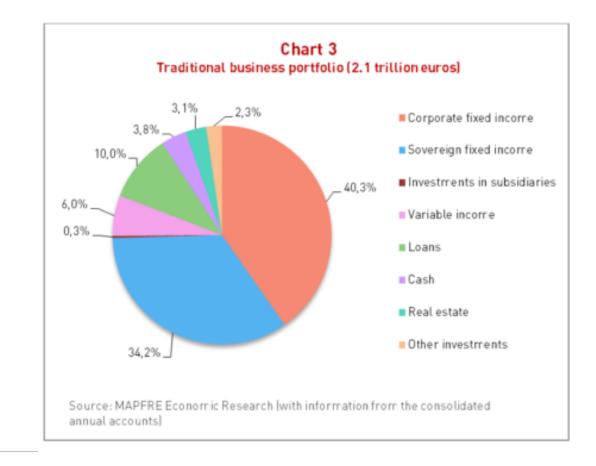
Unit-linked business in the major insurance groups

Finally, Chart 5 and Table 7 show the distribution of the investment portfolios between traditional business and business in which the person taking out the insurance assumes the investment risk (unitlinked and similar) for all the insurance groups included in the sample analyzed. In this regard, Aegon stands out, with its portfolio of unit-linked and similar business dominating its investment. In the case of the other insurance groups, portfolios linked to the traditional business prevail.



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Credit quality of the portfolios of the major groups analyzed

Table 8 summarizes the credit profiles of the investment portfolios with the highest level of disaggregation shown in the consolidated financial statements of the insurance groups analyzed, while Table 9 presents the changes in the credit profile of the portfolios' investments.

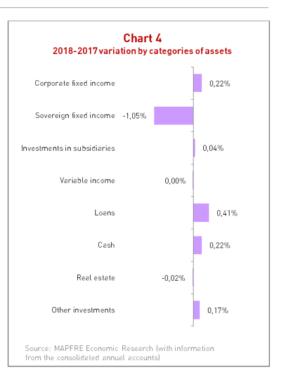


Table 5Distribution of investment portfolios (traditional business), 2017-2018

CATEGORY OF ASSETS	ALL	ALLIANZ AXA		KA	GENERALI		AEGON		ZURICH		MAPFRE	
CATEGORT OF ASSETS	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017
Corporate fixed income	47,0%	47,1%	36,0%	34,3%	37,6%	38,9%	36,5%	37,2%	39,6%	38,9%	19,0%	20,2%
Sovereign fixed income	27,0%	27,8%	39,8%	41,1%	45,1%	45,3%	18,5%	19,8%	33,5%	34,4%	58,7%	57,7%
Variable income	8,1%	7,8%	4,5%	5,3%	6,0%	4,9%	2,9%	2,4%	8,5%	8,8%	5,1%	5,1%
Loans	13,8%	13,6%	5,8%	5,8%	3,0%	2,9%	29,1%	26,9%	7,4%	7,8%	0,0%	0,0%
Cash	2,2%	2,2%	5,4%	4,2%	3,1%	3,4%	5,9%	7,3%	4,5%	4,1%	4,7%	3,9%
Real estate	1,6%	1,5%	3,6%	4,1%	4,3%	3,8%	1,8%	1,5%	6,5%	6,0%	4,5%	4,6%
Other investments	0,4%	0,0%	4,9%	5,2%	0,8%	0,8%	6,7%	6,4%	0,0%	0,0%	8,1%	8,6%

Source: MAPFRE Economic Research (with information from the consolidated annual accounts)

Table 6Changes in the composition of investment portfolios, 2017-2018 Table 7Distribution of investment portfolios by type business, 2017-2018

2018-2017 CHANGE		ALLIANZ		АХА		GENERALI		AEGON		ZURICH		MAPFRE
Corporate fixed income	÷	-0,2%	↑	1,7%	¥	-1,3%	÷	-0,8%	♠	0,7%	÷	-1,2%
Sovereign fixed income	÷	-0,8%	÷	-1,3%	÷	-0,2%	₽	-1,3%	÷	-0,9%	Ŷ	1,0%
Variable income	Ŷ	0,2%	₽	-0,8%	Ŷ	1,1%	♠	0,5%	÷	-0,3%	⇔	0,1%
Loans	Ŷ	0,2%	⇔	0,0%	\$	0,1%	₽	2,3%	÷	-0,4%	⇔	0,0%
Cash	\$	0,0%	Ť	1,1%	₽	-0,2%	÷	-1,4%	↑	0,5%	Ŷ	0,8%
Real estate	Ŷ	0,1%	ب	-0,5%	Ť	0,6%	♠	0,4%	↑	0,4%	۰.	-0,1%
Other investments	Ŷ	0,4%	÷	-0,3%	⇒	0,0%	Ŷ	0,3%	⇔	0,0%	÷	-0,5%

Source: MAPFRE Economic Research (with information from the consolidated annual accounts)

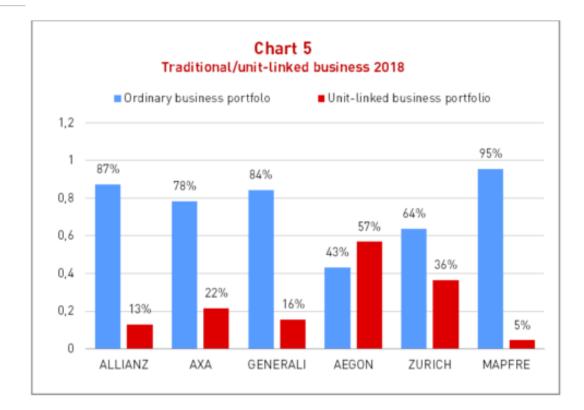


Table 7Distribution of investment portfolios by type business, 2017-2018

TYPES OF BUSINESS	ALLI	ALLIANZ AXA		(A	GENERALI		AEGON		ZURICH		MAPFRE	
	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017
Ordinary business portfolio	87,2%	86,6%	78,4%	76,3%	84,3%	84,1%	43,2%	43,3%	63,6%	62,6%	95,4%	95,3%
Unit-linked business portfolio	12,8%	13,4%	21,6%	23,7%	15,7%	15,9%	56,8%	56,7%	36,4%	37,4%	4,6%	4,7%

Source: MAPFRE Economic Research (with information from the consolidated annual accounts)

Table 8Credit rating of portfolios (traditional business), 2018

2018 CREDIT RATING	ALL	ALLIANZ		GENERALI		AEGON		ZURICH	MAPFRE
	Sovereign	Corporate	Total	Sovereign	Corporate	Sovereign	Corporate	Total	Total
AAA	20,8%	20,9%	20,0%	5,5%	8,9%	74,9%	15,0%	25,2%	11,8%
AA	44,3%	15,2%	27,0%	32,9%	10,6%	18,1%	8,3%	26,7%	13,8%
Α	14,2%	22,6%	24,0%	18,9%	25,3%	2,2%	33,2%	15,0%	51,5%
BBB	15,9%	33,7%	24,0%	41,7%	48,0%	3,5%	34,4%	28,3%	19,5%
<bbb< td=""><td>3,9%</td><td>2,7%</td><td>2,0%</td><td>0,9%</td><td>6,3%</td><td>1,3%</td><td>6,8%</td><td>3,8%</td><td>2,3%</td></bbb<>	3,9%	2,7%	2,0%	0,9%	6,3%	1,3%	6,8%	3,8%	2,3%
Non-rated	0,9%	4,8%	3,0%	0,0%	0,9%	0,0%	2,3%	1,0%	1,2%
Total	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%

Source: MAPFRE Economic Research (with information from the consolidated annual accounts)

VARIACIÓN EN LA CALIFICACIÓN CREDITICIA	ALLIANZ		ΑΧΑ	GENERALI		AEGON		ZURICH	MAPFRE
2018-2017	Sovereign	Corporate	Total	Sovereign	Corporate	Sovereign	Corporate	Total	Total
AAA	0,7%	-1,3%	0,0%	-1,8%	-0,9%	0,1%	-2,8%	0,0%	4,2%
AA	0,6%	1,7%	-2,0%	-0,1%	-0,6%	-0,6%	0,9%	0,0%	-3,1%
Α	5,1%	-2,0%	2,0%	7,2%	-3,3%	1,2%	-2,7%	-2,5%	38,0%
BBB	-6,4%	1,0%	0,0%	-5,4%	5,8%	-0,6%	3,0%	2,4%	-39,3%
<bbb< td=""><td>0,1%</td><td>0,4%</td><td>0,0%</td><td>0,1%</td><td>-1,1%</td><td>-0,2%</td><td>-0,5%</td><td>-0,3%</td><td>0,0%</td></bbb<>	0,1%	0,4%	0,0%	0,1%	-1,1%	-0,2%	-0,5%	-0,3%	0,0%
Non rated	-0,1%	0,1%	0,0%	0,0%	0,0%	0,0%	2,2%	0,5%	0,1%

Table 9 Changes in credit quality, 2017-2018

Source: MAPFRE Economic Research (with information from the consolidated annual accounts)

In general, an improvement in credit quality can be seen in investments in sovereign fixed income. In this regard, the case of MAPFRE stands out, thanks to the improved sovereign rating assigned to Spain by the main ratings agencies in 2018.

However, the changes in credit rating of the corporate fixed income portfolios have, in general, been the opposite to that of sovereign debt, with the trend toward increases in their risk profiles.

The influence of capital risk weights on the composition of portfolios

Finally, a comparison of the gross regulatory capital risk weights by asset type is shown below. This is an obligatory requirement for insurance companies that apply the standard formula in Solvency II for the main categories of investments.

In this regard, Table 10 shows the capital risk weights by year of duration, applicable to investments in fixed income bonds. To calculate the total gross risk weight for a specific bond, its modified duration must be multiplied by the percentages appearing in the table. For durations of longer than five years, the percentages applicable for excessive duration are somewhat lower, with the objective of not penalizing excessively long-term investment.

Table 10

Gross capital risk weights applicable to bonds per year of duration under Solvency II

CREDIT RATING	EEA sovereign bonds	Non-EEA sovereign bonds	Corporate bonds	Admissible infrastructures	Morgage bonds	Securitizations Type 1	Securitizations Type 2
AAA	0%	0%	0,9%	0,64%	0,7%	2,1%	12,5%
AA	0%	0%	1,1%	0,78%	0,9%	3,0%	13,4%
Α	0%	1,1%	1,4%	1%	1,4%	3,0%	16,6%
BBB	0%	1,4%	2,5%	1,67%	2,5%	3,0%	19,7%
BB	0%	2,5%	4,5%	4,5%	4,5%	82,0%	82,0%
В	0%	4,5%	7,5%	7,5%	7,5%	100%	100%
Lower than B	0%	4,5%	7,5%	7,5%	7,5%	100%	100%

Source: MAPFRE Economic Research (with information from EIOPA)

EEA: European Economic Area



As can be deduced from this information, investments in sovereign bonds from countries in the European Economic Area (EEA) do not have capital risk weights for spread risk, provided that they are denominated and financed in their own currency. It is important to point out that these percentages are applied both to direct investments and to investments made through mutual funds, to which the so-called "look-through" approach is applied.

In the case of variable-income investment, the gross capital risk weight applicable to shares listed on markets regulated by the Organization for Economic Cooperation and Development (OECD) is 39% of the value of the shares concerned. Counter-cyclical symmetrical adjustments related to this weight are published monthly by the European Insurance and Occupational Pensions Authority (EIOPA).

The gross capital risk weight for market risk for real estate investments is 25% of the value of the property concerned. As in the case of other assets, this percentage is applied both to direct investments and to investments implemented through property mutual funds, to which the "look-through" approach is applied.

Finally, additional capital risk weights are applied if there are concentrated risks over and above specific thresholds and in the event of defective management of the risk of unbundling of cash-flows and/or currency provisions between assets and liabilities.



Global Economic Outlook

Author: MAPFRE Economics

Summary of the report's conclusions: MAPFRE Economics <u>2019 Economic and Industry Outlook: Second Quarter Perspectives</u> Madrid, Fundación MAPFRE, April 2019

The situation today

The strong growth recorded between 2017 and the first half of 2018 was followed by a marked slowdown of economic activity during the second half of the past year, mainly due to the confluence of three factors that impacted the world's main economies.

On one side, the growth of China's economy fell due to a combination of the regulatory adjustments required to curb shadow banking and the increases in trade tensions with the United States.

On the other side, the economy of the eurozone lost more impetus than expected, due to the confluence of several factors: (i) the weakening of confidence among consumers and businesses; (ii) the disturbance of automobile production in Germany due to the introduction of new emission standards; (iii) the decline in investment in Italy as sovereign risk differentials increased; and (iv) the weakening of external demand, especially from the emerging countries of Asia.

Finally, the trade tensions increasingly undermined the confidence of businesses and therefore of the financial markets, with a hardening of financial conditions for the vulnerable emerging markets in the spring of 2018 and, subsequently, in the advanced economies over the year, impacting global demand.

Global financial conditions eased in 2019 as the US Federal Reserve signaled a more accommodative monetary policy and the markets became more

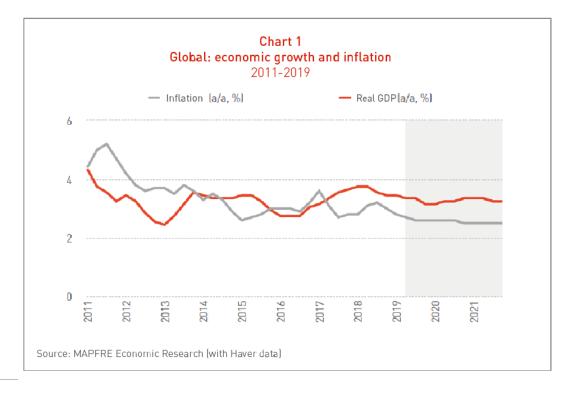


optimistic about a trade agreement between the USA and China. At the same time, there was a return of the pro-stimulus narrative in China, while some expectation of monetary normalization filtered through in the eurozone. Despite all of this, the financial and real conditions prevailing thus far in 2019 remain more restrictive than they were at the peak of the previous cycle, at the end of the second quarter of 2018.

The outlook ahead

Given this trend, we are confirming the forecast we made at the start of the year, namely that the growth of the world economy will fall from the 3.6% reached in 2018 to 3.3% in 2019 and 2020, on the principle of a baseline scenario of orderly adjustment. Chart 1 shows this evolution of activity and prices in a global aggregate manner.

Retracing our general view by geographical area (which is examined in greater detail in the next section of this report), the dynamic of global economic activity was influenced by different factors. In the eurozone, it is expected that the pace of growth will slow. The emerging markets, meanwhile, have been playing a significant role, with regard both to the gradual stabilization of conditions in certain economies in difficulties (Argentina and Turkey) and to the renewed impetus that China's expansionary policy and the return of a slack monetary policy in the United States could bring to the developing economies. These conditions are expected to persist beyond 2019. Conversely, activity in the advanced economies is expected to continue declining gradually as the impact of the USA's fiscal stimulus fades away and growth tends toward the modest potential of this group of economies.





Beyond 2020, world growth is expected to stabilize around 3.3-3.4%, supported by the increase in the relative size of economies such as those of China and India, which projections suggest will see robust growth in comparison with the slower-growing developed and emerging economies (although China's growth will slow down over time). Additionally, income and population growth and financial deepening will cause a continuing increase in the potential of these countries.

The long-term growth mentioned above is in line with a new global potential that is visibly lower than it was considered to be a few years ago, mainly due to population dynamics, the total global debt burden, and technological advances and their impact on productivity, among other factors. Thus, the weak growth of labor productivity and the slowing of the expansion of the workforce amid population aging will drag the growth of the advanced economies to a lower level over the projection horizon. The above is consistent with the thesis of "secular stagnation" that we have been advancing in the Economic and Industry Outlook reports since the end of 2016.

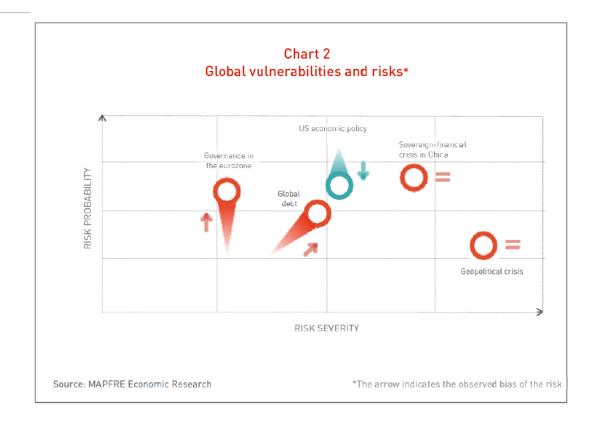
It is expected that growth in the emerging market and the developing economies will stabilize at slightly below 5%, albeit with variations by region and country. The reference outlook for the emerging markets of Asia remains favorable, and it is anticipated that China's growth will gradually slow to sustainable levels, with the frontier economies converging toward higher revenue levels.

In the case of other regions, the outlook is complicated by a combination of structural constrictions, slower growth in the advanced economies, and, in some cases, a high level of debt, as well as tighter financial conditions. These factors, together with the moderation of prices of basic products (and sociopolitical tensions in some cases), will contribute to a moderation of the medium-term outlook especially for Latin America, the Middle East and North Africa (MENA).

Balance of Risks

Although global growth could present an agreeable surprise if trade differences are resolved quickly, allowing a recovery of business confidence and a further strengthening of sentiment among investors, the risk assessment remains downward (see Chart 2). In this regard, we reiterate the risks highlighted in our previous report: (i) risk relating to governance in the eurozone, which appears to be increasingly likely but without any increase in severity, with the United Kingdom's participation in the European elections and the possible contagion of populism in both Finland and Poland; (ii) the risk arising from economic policy in the United States, which has filtered through thanks to the "wait and see" stance of the Federal Reserve, and (iii) the macro-financial adjustment in China, regardless of the fact that its current countercyclical fiscal policies are working and the geopolitical problems and global relationships are being maintained (the trade agreement between the United States and China is making progress, while the United States is setting its sights on the eurozone as a new economic policy objective).





In addition to these risks, given the dominance in the narrative of the global economic policy agenda, it is essential to take account of the potential relevance for levels of global leverage, both public (in some developed countries as well as emerging/frontier economies) and private (in the case of the emerging corporate sector with high levels of indebtedness in strong currencies), of the resurgence of the credit markets (Sponsor Leverage Loans and Lite Covenant Loans) with their main niche in shadow banking. These are unknown markets, huge and strongly dependent on a rise in the cost of financing (via risk aversion or interest rates).

This constellation of risks makes it necessary to outline a negative alternative scenario. Without being comparable to the situation preceding the Lehman crisis (the tools and the state of the agents are better today), a crisis could be brought about by similar triggers (crisis of liquidity, confidence, etc.) and affect prices via expectations. This mechanism, for the purposes of the alternative scenario outlined in this report, has been modulated through a stock-market and confidence correction that would significantly reduce global growth until we are very nearly (but not quite) in recession. Although we consider the baseline scenario to be more probable, the likelihood of the alternative scenario is non-negligible.

The complete analysis can be found in the report <u>2019 Economic and</u> <u>Industry Outlook: Second Quarter Perspectives</u>, prepared by MAPFRE Economics, available at the following <u>link</u>.



Industry Outlook for the Insurance Market

Author: MAPFRE Economics

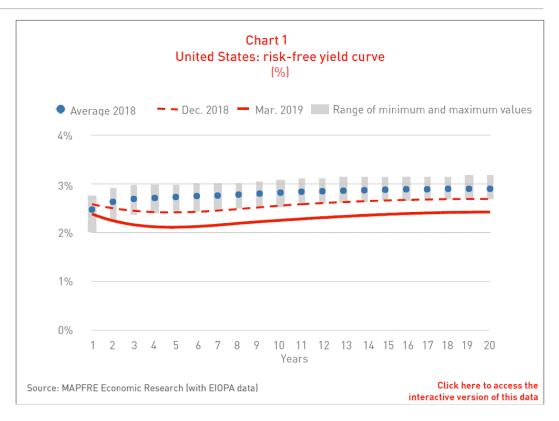
Summary of the report's conclusions: MAPFRE Economics 2019 Economic and Industry Outlook: Second Quarter Perspectives Madrid, Fundación MAPFRE, April 2019

The deceleration predicted in global economic growth in 2019, the halt in monetary normalization in the United States (see Chart 1) and the return to more accommodating monetary policies in some of the major world economies point to a slowdown in insurance business growth worldwide. The monetary and fiscal policies being adopted in some countries could ease the impact on the economy and on the insurance industry, but for now a slowdown is anticipated.

In the Eurozone, the downward revision in growth outlook has been even more marked, which could translate into a major slowdown in Non-Life and Life risk insurance business. In addition, expectations of deceleration and low inflation have led the European Central Bank (ECB) to adopt a more accommodating line in its monetary policy statements; as it is not expected to raise interest rates before 2020, the ECB has not made any decision for the moment regarding the normalization of deposit rates, even in negative territory (click here to access the interactive version of this data). The low interest rate environment will continue to hamper progress in Life savings and annuity products.

In Spain, the trend toward a smooth slowdown of the economy continues, albeit less than forecasted for the Eurozone overall, so expectations continue to be favorable for development in Non-Life and Life risk business lines, although they are tending to slow down. As for Life savings insurance and conventional annuity insurance, the low interest rate outlook persists, which will continue to weigh on this business as in the rest of the Eurozone.





On a positive note, control over inflation and currency depreciation achieved in emerging economies in the first quarter of the year is noteworthy in certain economies such as Brazil and Mexico, which is good news for development in their respective insurance markets. Other economies such as Argentina and Turkey still need to tackle the structural reforms required to control major economic variables in the medium-term.

Regarding major regulatory trends, in the European Union, it is worth noting that on March 8 of 2019, the European Commission adopted the amended Solvency II Delegated Regulation (EU) 2015/35, which affects certain aspects of the calculation of the Solvency Capital Requirement under the standard formula. The European Parliament and the Council have a three-month period to draft objections. If they do not do so, the changes will enter in force 20 days after their publication in the Official Journal of the European Union. Also, on April 4 of 2019, the European Parliament formally adopted the text of the Regulation on a pan-European Personal Pension Product (the PEPP Regulation).

At worldwide level, on April 4 of 2019, the International Association of Insurance Supervisors (IAIS) released the comments received on "ICS Version 2.0," the new version of the future Capital Global Standard. The IAIS launched a new field analysis on April 30 to assess the various options and issues that are still pending, particularly the valuation of assets and liabilities, consideration of benefits of diversification in capital risk weights and the treatment of the tax effect, among other items. ICS Version 2.0 is scheduled for adoption in November 2019.

The complete analysis of the industry prospects for the insurance market can be found in the report 2019 Economic and Industry Outlook: Second Quarter Perspectives prepared by MAPFRE Economics, which is available at the following <u>link</u>.

Insurance Groups in Solvency II

Author: María Nuche Otero

Directive 2009/138 EC of the European Parliament and the European Council, of 25 November 2009, on life insurance, access to insurance and reinsurance activities and the functioning of same, (Solvency II Directive), brings about significant progress in the establishment and recognition of common and standardized regulations applicable to all insurance groups carrying out their activities within the European Union.

This EC regulation requires a necessary adaptation to a new regulatory environment on the part of all insurance groups and gives an absolutely leading role to additional supervision at group level, which is founded on a risk management-based focus, and which encompasses such diverse multidisciplinary aspects that it requires the involvement of each of the integrating elements of the group's global structure.

Thus, for the first time, a global, complete and complex guidelines framework for insurance groups has been adopted within the European Union, guaranteeing equal rules of play for all participants in the insurance common market, and which ultimately implies a standardized level of protection of the interests of insured parties across the European Union.

The main objective of my book "El impacto de Solvencia II en los grupos de entidades aseguradoras" ("The impact of Solvency II on insurance companies"), published by Fundación MAPFRE, was to identify, analyze and examine each of the aspects regulated by Solvency II that may have a potential impact on the management of European insurance groups, detecting those areas or issues that, due to their particular relevance, may have a greater impact, both because they translate into higher or lower capital requirements for the group, and because they imply in-depth changes within the organization, its management or the insurance group's very structure.

The focus of the book is highly ambitious in terms of its scope, given that it deals with issues as diverse as the scope of group supervision, group solvency calculation, the governance system and ORSA (Own Risk and Solvency Assessment) at group level, third-country equivalence assessment, the particularities of mutual groups and groups adopting centralized risk management models, and the obligation to provide information to regulatory supervisors and public information requirements of insurance groups. In short, it offers a comprehensive analysis of the requirements facing insurance groups in relation to the three pillars of Solvency II.

Thus, the risk-oriented focus, the forward-looking vision of the business, the market valuation of the balance sheet elements, the requirements of a regulatory capital based on assumed risks, the requirements around the governance system and the exhaustive transparency requirements as regards the market and the supervisor are all aspects that will be applied, having changed what needs to be changed, at group level and have therefore been the subject of an in-depth analysis in this book.

The book takes a practical approach and attempts to cover the varied circumstances existing in European insurance groups and centering on the specific characteristics of the Spanish insurance market.

As such, exhaustive analysis of the main aspects relating to the application of Solvency II to insurance groups was carried out:

1. The supervision of Spanish insurance groups: origin and evolution

As a starting point, the development of the supervision of Spanish insurance groups was carried out, specifically the supervision regulations applicable to Solvency I, as well as the accounting regulations applicable to same.

2. Insurance groups subject to supervision under Solvency II: regulation, scope and supervision

Solvency II introduces important changes in the definition and scope of the insurance groups subject to supervision. Likewise, changes are introduced in the treatment of some subsidiaries and investees that affect the final structure of the groups subject to supervision and therefore the solvency calculation at group level.

The Solvency II Directive sets down group supervision at European parent company level as a general principle by identifying a group Supervisor, although it also includes the possibility of applying other intermediate supervision levels.

As a consequence of the change in supervisory focus, the Solvency II regulations require more coordination than ever before among European supervisory authorities involved in the supervision of each group.



To facilitate this, numerous regulations with different legal scopes are being put in place to regulate how these relationships develop. These regulations are the first step in the establishment of the rules of play, but make it possible for the supervisory authorities, via the Coordination Agreements of the Institutes of Supervision, to internally and jointly design the dynamic governing the relationships that will define their activity in supervising the group.

3. Financial situation of the insurance groups (Pillar I)

One of the most significant changes of the Solvency II regulations is the method used to calculate solvency at group level, the approach of which is based on risks and very specific mechanisms regarding the application of two calculation methods (consolidation and deduction-aggregation) as well as the assessment of the different associated companies, in line with their legal nature and their degree of association.

Group solvency supervision is complemented with the supervision of the intragroup operations and risk concentrations.

4. Third country equivalence assessment

Another significant update of Solvency II is the third country equivalence assessment procedure carried out by the European Commission, EIOPA (European Insurance and Occupational Pensions Authority) and the national supervisors, as well as the impact that said assessment will have on groups with parent companies or subsidiaries located in said third countries.

5. Particularities of certain types of groups: groups with centralized risk management and mutual groups

The book also analyzes the regime applicable to groups practicing centralized risk management, a residual system of the "group support" regime envisaged in the initial negotiations of the Solvency II Directive, as well as the national regulatory development planned for the groups formed by mutual insurance companies and mutual provident societies.

6. Group governance system and group ORSA (Pillar II)

The Solvency II Directive regulates the so-called Pillar II requirements regarding the governance system of the insurance and reinsurance companies and their groups and the own risk and solvency assessment (ORSA).

All requirements regarding the governance system at individual level will be applicable, having changed what needs to be changed, at group level. These requirements cover different aspects, such as:

- General governance requirements
- Fit and proper requirements
- Risk management and internal control



- Key functions
- Outsourcing
- ORSA

7. Public information for the purposes of supervision at group level (Pillar III)

Transparency and reporting obligations contained in the Solvency II regulations for groups of insurance and reinsurance companies aim to inform, both the market and the supervisors, of the risks in place and the management of same by insurance groups, in such a way that an assessment can be made of the adequacy of this management and its impact on their financial and equity situation.

The book <u>El impacto de Solvencia II en los grupos de entidades</u> <u>aseguradoras (The impact of Solvency II on insurance groups)</u> (Fundación MAPFRE) can serve as a reference point for all those interested in gaining a better understanding of the issues mentioned here.

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