# 2022 A P F R E G P

# Fundación **MAPFRE**

MAPFRE GIP 2022: GLOBAL INSURANCE POTENTIAL INDEX

MAPFRE Economics

# **MAPFRE GIP 2022**

Global Insurance Potential Index

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# **MAPFRE Economics**

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# Introduction

For another year, MAPFRE Economics has updated its *Global Insurance Potential Index* (MAPFRE GIP) with the latest available data from 2021. The purpose of this indicator, which is calculated for 96 developed and emerging insurance markets, is to measure the worldwide insurance protection gap, by creating a metric that can rank those markets in terms of their medium-term and long-term insurance potential. The indicator is constructed based on estimates of the size of the Insurance Protection Gap (IPG) in these markets and their capacity to close that gap in the future with premium volume growth, thus materializing the convergence of the penetration and density levels of the most developed markets. In 2021, this global insurance gap reached 7.0 trillion dollars or 730 basis points (bps) of the global GDP. This amount is distributed at 67.6% IPG in the Life segment and the remaining 32.4% in the Non-Life segment (4.744 and 2.272 trillion dollars, respectively).

For calculating the MAPFRE GIP, other factors in addition to the IGP are taken into account, such as penetration (premiums/GDP), size of the economy, and population size, among others. In short, it provides a score to put markets in order on the basis of their potential contribution to closing the global insurance gap. In order achieve a high ranking, a market needs to be large in size (measured in terms of GDP), and the country must have a significant capacity to close its own insurance gap. In this sense, the report considers more than 78% of the current insurance gap to be explained by insufficient insurance coverage in countries with emerging markets, which shows that there are still markets with a high growth capacity.

Additionally, the report emphasizes those countries that fall under the heading "promising markets," which present a large capacity to close their insurance gap but have relatively little economic weight, which places them lower in the rankings. However, they represent a future source of insurance potential, which, if they grow in size, could overtake other emerging markets in the long term in the potential index.

**MAPFRE Economics** 

# 1. The MAPFRE GIP: General aspects

Insurance levels in countries worldwide are very diverse; similar amounts are not allocated to purchase insurance in all of them. In fact, the difference is considerable as a function of the conditions of the country in question, the different socioeconomic and population conditions, and the insurance culture in each region. As we know, insurance activity is essential, as it enables the risk of many economic activities to be limited or facilitates the creation of new business opportunities where there is informational asymmetry. In this sense, the empirical evidence confirms that the economic system is in a better condition for development in those countries with more extensive insurance activity. Even under conditions as complex as those brought on by the Covid-19 pandemic, the insurance sector has been able to continue its activity at all times, overcoming the challenges and deploying multiple initiatives to the benefit of society as a whole.

The Global Insurance Potential Index (MAPFRE-GIP) is a measure that makes it possible to equate the economic structure and the insurance level in each of the 96 countries subjected to the analysis, despite presenting differences or inequalities in such economic interactions, characterizing a uniform measure of potential development of this activity in the context of the society and economy of these countries. In the next section, we summarize the methodological construction of this index, a more thorough and detailed explanation of which can be found in the inaugural report of this series<sup>1</sup>.

# 1.1 The insurance gap and insurance potential

The MAPFRE-GIP is constructed based on an estimate of what is called the Insurance Protection Gap (IPG). The IPG represents the difference between the insurance coverage that is economically necessary and beneficial to society, and the amount of coverage actually acquired. It should be noted that this is not a static concept, but instead that insurance gap evolves in tandem with growth of a country's economy and population, while also being influenced by emergence of new risks inherent to economic and social development.

From a methodological perspective, the IPG can be measured using two approaches. The first is an ex-post approach based on losses observed. In this case, the IPG is measured as the difference between the financial losses recorded during a specific period and the portion of those losses covered by insurance compensation. And the second way to take this measurement is an ex-ante focus, consisting of analyzing optimal theoretical levels of insurance protection and comparing them with the actual risk coverage in a country. In this case, the latter approach has been used to prepare the update of this report. In other words, the IPG is the penetration differential (premiums/GDP) between the market in question and a theoretical benchmark as a proxy for potential and optimal insurance coverage. Therefore, a country will have no Insurance Protection Gap when that differential is found to be zero, or, in other words, when the actual insurance market reaches the level of the potential market pursued.

From a quantitative perspective, the IPG decreases as a market's actual penetration index increases. And from a qualitative perspective, the IPG tends to decrease as the markets become more sophisticated and mature. Based on the above, there is a negative correlation between the insurance gap and growth of the insurance markets. Accordingly, factors such as sustained economic growth, increased personal disposable income, general development of the financial system, an efficient regulatory framework and application of public policies aimed at increasing financial education and inclusion are all elements that contribute to a lower IPG. It is therefore important to emphasize that the IPG is not a static concept. Instead, it changes as a country's economy grows and new risks emerge in conjunction with ongoing economic and social development.

#### 1.2 Components of the MAPFRE GIP

As in previous editions of this report<sup>2</sup>, the update to the MAPFRE-GIP uses data from the close of the previous year (2021) of 96 countries and for the seven variables comprising it. These variables are: (i) the existing IPG in each country; (ii) relative penetration (insurance premiums/GDP); (iii) elasticity of insurance demand in terms of the economic cycle; (iv) relative GDP per capita; (v) population level; (vi) the population growth gap; and (vii) the GDP growth gap. It should be noted that the first five variables are initial conditions, with the first and fifth referring to levels at the initial absolute size, while the second, third, and fourth variables refer to comparison with the ideal insurance situation, represented here by the benchmark. In this way, a perspective is provided for each of the markets regarding the margin of convergence towards the benchmark values. On the other hand, the sixth variable is dynamic, and it express the capacity for convergence (in terms of income and, implicitly, demand for insurance) towards the benchmark over time. It should be stated that all of these variables, except for the second and fourth<sup>3</sup>. have a positive effect on the potential.

The level and development of these variables will determine the insurance potential, which is reflected in the following markers: the GAI (Gap Absorption Index) and the MAPFRE GIP (Global Insurance Potential Index). The first is an index that indicates the capacity for closing the insurance gap over the medium term and long term in a particular country. It is obtained from the weighted sum of each of the variables used, and it is therefore very sensitive to underlying macroeconomic and industry conditions. This can cause it to vary from one year to the next. This indicator provides information about each country's insurance potential with respect to its market, although not as a proportion of the global potential. On the other hand, the MAPFRE GIP provides a point score and ranking that puts each market in order based on its potential contribution to closing the global insurance gap (measured in basis points of the global GDP or as a percentage of the total insurance market). This makes the MAPFRE GIP comparable to a measurement of the market

# **MAPFRE GIP**

The MAPFRE GIP (*Global Insurance Potential Index*) is a scoring system designed to rank each market based on its contribution to closing the global insurance gap (measured in basis points of global GDP or as a percentage of the total market), which makes it a measurement comparable to the concept of "market size".

# GAI

The *Gap Absorption Index* (GAI) is an intermediate measurement, which produces a point score and relative position (ranking) derived from each market's capacity for closing the insurance gap, until achieving the penetration and density levels selected as the benchmark. This measurement can be associated with a "speed of convergence".

size. The MAPFRE GIP is calculated by scaling the GAI point score by the relative size of each market. In this way, the local insurance potential obtained through the GAI is weighted based on each market's weight on the global market, thereby providing a measurement of each market's contribution to the global insurance potential<sup>4</sup>.

It should also be noted that the components of the MAPFRE-GIP can have absolute values used as *initial conditions* (for example, population level), or expressed in relative values can also be used for changes seen in certain explanatory variables, in the form of *differentials* with respect to a theoretical benchmark Finally, it must be remembered that these factors can have positive or negative effects on the insurance gap, which is updated using the penetration index data for a sample of 96 insurance markets, with approximately twothirds of those countries having emerging markets and one-third having developed markets.

### a) The benchmark

As outlined in the MAPFRE-GIP methodology, the benchmark is used as a reference point for

the analysis. It allows the different variables from each country to be evaluated and compared with respect to a common parameter. In this sense, the benchmark is highly relevant because of its use as a proxy when calculating the IPG, because an *ex-ante* focus is used to estimate the optimal protection level for each insurance market, with the IPG then determined based on the difference between the optimal and actual levels. The benchmark is also used to apply weighting to other variables that have a direct or indirect impact on calculation of the MAPFRE GIP, such as per capita income and population.

For purposes of the analytics presented in this report, the benchmark is represented statistically by the values recorded for the insurance market positioned at the 90th percentile of the penetration distribution for the sample of 96 countries, for the market as a whole as well as for the Life and Non-Life segments, and compared with the values recorded for the countries that are closest to its position<sup>5</sup>. It is therefore based on statistical criteria, and the countries used as a reference are not intended to be presented as examples to be followed, whether in terms of the structure of those markets or other specific characteristics.

#### b) The Insurance Protection Gap

The global IPG for the total market (grouping the Life and Non-Life segments) calculated using 2021 data was 7.016 trillion dollars. or 730 basis points (bps) of global GDP<sup>6</sup> (see Charts 1.2-a and 1.2-b). This IPG can be broken down into 67.6% in the Life segment (\$4.744 trillion) and 32.4% in the Non-Life segment (\$2.272 trillion), which in terms of global GDP, represent 493 and 236 bps, respectively7. In the medium term, compared to the situation existing in 1990 (a time reference parameter for this study), this breakdown of the IPG's composition has changed significantly. Specifically, the Life segment has gained 8.1 percentage points (pp) between 1990 and 2021 in terms of its contribution to the total insurance qap (see Chart 1.2-c).

In 2021, the insurance sector as a whole and economic activity, in general, were able to overcome the negative impact of the Covid-19







pandemic on global GDP in 2020. As shown on Chart 1.2-d, between 2020 and 2021, led by a drop in penetration, IPG grew 15.0% due to the very high momentum of global GDP (13.2%). Furthermore, when the trends of the IPG are broken down by segment, as shown in the previous year's report, the performance of the insurance gap is not balanced, but rather, the Non-Life segment has a greater impact than that produced in the Life segment (18.7% growth vs. 13.3% in the Life segment). Remember that, in general terms, the pandemic affected the Life segment more unfavorably than the Non-Life segment. However, when the IPG trends are analyzed in relation to the GDP, we see that the IPG grew at 11.6 bps of the global GDP, essentially as a result of the performance of the Non-Life segment (with 11.0 bps growth), where premiums grew (8.4%), with less impetus than global GDP (13.2), while the IPG of the Life segment barely changed with respect to the



Economic grouping / Insurance segment	Change in premiums 2021-2020 (%)	Change in GDP 2021-2020 (%)*	Change in total IPG (%)	Change in IPG/GDP (bps)	Change in relative penetration index [%]**
Non-Life					
BRICS	7.9%	19.8%	24.1%	9.5	-3.1%
G7	8.0%	9.5%	15.4%	0.4	-1.7%
Other emerging markets	10.4%	12.5%	13.1% -0.0		-0.2%
Other developed markets	9.9%	13.8%	29.7%	1.1	-2.7%
Global	8.4%	13.2%	18.7% 11.0		-
Life					
BRICS	8.2%	19.8%	19.6%	9.7	-1.8%
G7	10.4%	9.5%	10.7%	-2.3	-13.4%
Other emerging markets	6.2%	12.5%	9.8%	-5.5	1.3%
Other developed markets	19.0%	13.8%	9.1%	-1.3	0.2%
Global	9.9%	13.2%	13.3%	0.6	-

Table 1 Variation in the main variables for the MAPFRE GIP, by economic grouping and insurance segment

Source: MAPFRE Economics

\* Change in nominal GDP for each economic grouping (in dollars). \*\* Only considers relative penetration values under 100%.

previous year, with mild growth of 0.6 bps as a result of the higher premium growth (9.9%), which was not enough to close the gap created by the expansion of GDP in a context of postpandemic recovery. In this regard, it can be concluded that, in general terms, the dynamics of the IPG in this period largely reflect the nature of the Covid-19 crisis, and recovery from the crisis in 2021 was fundamentally guided by consumption (which is why penetration grows consistently and the insurance gap closes), and not so much by savings since investment was not activated and the savings used during the health crisis as a measure to offset the lost income were not recovered.

In addition to this analysis, Table 1 shows how the IPG trends are distributed in relation to GDP by country and insurance segment grouping. In the Non-Life segment, IPG grew 11 bps, a growth explained fundamentally by the 9.5 bps increase recorded in the BRICS7 countries with emerging markets. In turn, in the Life segment, the IPG/GDP contribution barely grew with respect to 2020 at 0.6 bps, sustained by the favorable evolution of the BRICS (9.65 bps), which is compensated by the decrease in the rest of the countries, especially the countries with emerging markets group, which dropped 5.5 bps. When the performance of the IPG is analyzed based on the various economic groupings of countries, two facts that had been revealed in previous reports are confirmed. First, most of the worldwide insurance gap is derived from emerging markets (77.6%); and, second, the insurance gap for the Life segment has grown at a faster pace than the IPG for the Non-Life segment.

Therefore, in 2021 there was 72.8% of the IPG in the Life segment derived from emerging markets (36.3% from the BRICS countries and 36.5% from other emerging markets). This is a decrease of 4.8 pp compared to 1990, indicating that in this segment, emerging insurance markets made progress in convergence towards the benchmark. Overall, between 2020 and 2021 the insurance gap in the Life segment grew by 9.7% in the BRICS countries, and decreased 5.5% in the rest of the emerging markets, while in the G7<sup>8</sup> markets, the decrease was 2.3%, but with a 1.3% increase in the other developed markets (see Charts 1.2-e and 1.2-g). In the Non-Life segment in 2021, 87.7% of the insurance gap (87.8% in 2020) was derived from emerging markets (45.6% from the BRICS countries and 42.1% from the rest of the emerging markets), which is 1.7 pp higher than the figure recorded in 1990. Overall, in





2020-2021, Non-Life IPG grew 9.5% in the BRICS and remained practically unchanged in the other emerging markets (see Charts 1.2-f and 1.2-h).

Additionally, measured in terms of the size of the existing insurance business, it is clear that the insurance gap in the Life segment was between 3.2 times the insurance business in the case of the BRICS and 5.1 times the insurance business for the other emerging markets in 2021, while in the previous year the figures were 2.9 and 5.0, respectively. In 2021, the IPG of the BRICS in the Non-Life segment assumed a factor of 2.5 (2.2 times the insurance business in 2020) and 3.1 in the other emerging markets. For G7 markets and the other developed insurance markets, the multiplier was 0.1 and 0.2 pp in each case without significant changes with respect to the previous year.

Analyzing the insurance gap dynamic since 1990 as a multiplier of the existing market highlights the fact that in the Life segment, there is a more pronounced convergence process in the BRICS and other countries with emerging markets, which start from initial IPG values close to 10.5 times and 7.4 times the current market, respectively, to end at values of 3.2 and 5.1 in 2021. In countries with developed markets, on the other hand, the indicator has increased only slightly. There is a similar dynamic in the Non-Life segment, although more pronounced for the other emerging markets, whose multiplier went from 7.7 in 1990 to 3.1 in 2021, while in the BRICS, the multiplier examined dropped 6.4 pp in that period (see Charts 1.2-i and 1.2-j).

Finally, it should be noted that the war (with its effect on energy and commodities prices) has fed inflationary pressures globally, which were already observed to be strong toward the end of the post-pandemic recovery due to supply change disruptions and the reactivation of demand. Largely, this environment produced a rapid response by the central banks of the emerging economies with interest rate hikes, which led to a situation in 2022 marked by geopolitical and macroeconomic uncertainty. As a result, lower overall GDP growth is expected



in 2022, with growth expectations revised downward for Germany, Italy, the United Kingdom, China, and the United States, to name some of the more relevant cases<sup>9</sup>. In that environment, it is expected that the total IPG in absolute terms will increase in 2022, although less than in 2021 when it grew by double digits, 18.7% in Non-Life and 13.3% in the Life segment. The latter can be explained as a result of lower GDP growth and a positive outlook for the relative penetration index with respect to the benchmark compared to the previous year. Thus, the expected slowdown would be more significant in GDP than in



premiums, and the variation of the IPG with respect to the GDP will also drop, as GDP growth is also expected to be greater than that of the IPG.

### c) Relative penetration

Relative penetration measures the penetration levels for the market under analysis with respect to the benchmark. This means that this measurement can have values above 100% if a market's penetration index exceeds the target (benchmark) penetration index, or lower if the target penetration is higher than the market.



When the indexes are analyzed by economic groupings (developed and emerging markets)<sup>10</sup> and by segments (Life and Non-Life), it can be seen that in the Non-Life segment, only the insurance markets in the G7 countries have a relative penetration above 100% (105%). The rest of the developed markets are next with 69%, while the figures for the markets in the BRICS countries and the rest of the emerging markets are similar to each other (41% and 46%, respectively). It should be noted, however, that all of them reflect relative penetration less than that of 2020, mainly because the goal penetration index has grown significantly with respect to the previous year and the penetration markers for the groups of countries in question (see the aforementioned Table 1). When relative penetration is considered only for the markets that have a non-zero insurance protection gap (IPG), the G7 countries show a relative penetration that has decreased by 4.5%, followed by a 4.1% decrease in developed markets, while other emerging markets and the BRICS countries have decreased by 2.2% and 3.1%, respectively.



However, it should be noted that this evolution of relative penetration is different in the Life segment, where all of the markets analyzed are significantly below the target level for penetration, with the G7 countries at 88%, the BRICS countries at 60%, the rest of the developed markets at 49%, and the rest of the emerging markets at just 25%. For relative penetration compared to the benchmark (and only considering markets with a non-zero insurance protection gap), the variation with respect to the previous year has been different, in accordance with the changes seen in the premiums and GDP and the increase in the IPG. Thus, relative penetration increased in 2021 in the G7 group (2.3%) and other developed markets (1.0%), while it contracted in the other markets (especially the BRICS, with -2.2%).

### d) Elasticity of insurance demand in terms of the economic cycle

As in previous versions of this report, in this MAPFRE GIP update it has been assumed that for the two consecutive years being discussed, there have been no changes in the elasticity of insurance demand in terms of the economic cycle.

#### e) Relative GDP per capita

The global GDP per capita in 2021 showed 12.1% growth over the previous year, the most significant expansion being observed in the BRICS countries (18.7%), which offset the previous year's performance, when it experienced the largest drop in the rest of the group of countries (-10.9%). The other emerging and developed companies grew over the previous year by around 12.5%, and, to a lesser degree, the G7 countries (11.0%). In 2021, the average GDP per capita in countries with developed markets represented approximately 109.5% of the benchmark GDP per capita used for all markets, while the average for countries with emerging markets represented only 22.4% of the benchmark. It should be noted that, in this metric, both the developed and the countries with emerging markets saw their GDP per capita retract relative to the previous year by -8.4 pp and -1.1 pp, respectively, when they represented 117.9% and 23.5% of the benchmark. The explanation can be seen in the fact that the GDP per capita, despite having grown on average in both country groupings, was less than the growth of the benchmark with which it is compared.

### f) Population size

According to United Nations figures, the global population in 2021 (which corresponds to the sample composed of the 96 countries included in this analysis) was 6.57 billion people.<sup>11</sup> The population of the countries on that list with developed markets has grown barely 0.04% since 2020 to reach a total of 953.8 million people (+0.4 million). The negative effects of the Covid-19 pandemic on life expectancy at birth and deaths are notable, reducing the G7 population by 27,000 people, the figures remaining slightly lower than the previous year (772.8 million); and in the other countries with emerging markets, the effect barely reached 0.24% (0.439 million people more than the prior year's population). Whereas the population of all countries with emerging markets has grown by 44.6 million (to 48.5 million the previous year), to 5.62 billion, which represents 0.80% more than the previous year, a lower figure than the previous year's growth (0.88%). Finally, the population of the countries with developed markets represents 16.98% of the population of countries with emerging markets, while in 1990 the same ratio was 20.77%, and in 2020 17.11%. Thus, average size of an emerging country (80.2 million residents) is double the size of the average population of the countries with developed markets (36.7 million).

### g) The population growth gap

Under normal conditions, fertility and life expectancy, given the nature of their structural variables, do not change from year to year. However, in 2021, an overall deterioration in life expectancy began to be observed due to the effects of the Covid-19 pandemic. Despite this, the impact and effects on the population growth gap are still very limited. It is worth noting that in 2021, the countries with emerging markets had 0.8% population growth, which is similar to the benchmark figure (0.79%) but much higher than the figure for countries with developed markets (0.04%).

#### h) The GDP growth gap

The global GDP growth gap with respect to the benchmark in 2021 grew 0.5 pp over the previous year when it dropped 1.32 pp. When examined by country grouping, the BRICS showed the highest growth in GDP gap from the benchmark, reaching 3.44% in 2021, when they had seen a GDP growth gap of 1.27% in 2020. Next, the other countries with developed markets presented a GDP growth gap figure close to 2.63%, which is nearly double the figure obtained by countries with emerging markets (1.37% on average), and finally, the G7 countries had a gap of 0.89%, very close to the benchmark from which it barely distanced itself at 0.09% last year. Thus, we can anticipate that the MAPFRE GIP ranking (in both the Life and Non-Life segments) will be increasingly dominated by countries with emerging insurance markets, especially large markets, and which have a capacity to converge in terms of income while still maintaining high levels of underinsurance.

#### 1.3 Scores, rankings, and levels

The point scores obtained by calculation of the Gap Absorption Index (GAI), and their redimensioning as part of the overall contribution to the MAPFRE GIP (Global Insurance Potential Index), are used to categorize and rank the countries based on their insurance potential. The order of the ranking is based on the MAPFRE GIP. since that index takes into account the size of the market and therefore its contribution to closing the global insurance gap. This report presents the 2022 ranking for the MAPFRE GIP Index based on these elements, using figures taken from the insurance industry and other economic data from 2021. This ranking includes a total of 96 countries with emerging and developed insurance markets, for both the Life and Non-Life segments, ranked according to their potential contribution to eliminating the global insurance gap. In this regard, it should be stated that in recording this data through 2021, the data presented in previous years have been revised and supplemented. This is particularly the case of corrected data. Although these adjustments do not change the conclusions of prior publications, they may include minor changes in the ranges reported in prior editions when recalculated using updated information<sup>12</sup>.

Thus, the MAPFRE GIP ranking identifies two categories or lists of markets with high insurance potential. The first of these, Tier 2, includes insurance markets positioned above the 75th percentile in terms of their insurance potential. When taken as a whole, these countries represent over 80% of the global insurance potential. The second of these categories, Tier 1, is more restrictive. It is a sub-group of latter, and it includes only countries with an insurance potential positioned above the 95th percentile and which, when taken as a whole, account for over 50% of global insurance potential. This means that in order to achieve a high position in the ranking, a market needs to be relevant in terms of its size (measured on the basis of GDP), and it also needs to have adequate capacity to close its own IPG. It also means that there are some countries with ample capacity to close their own insurance gap, but which are still positioned low in the ranking because of their relatively minor economic weight. However, like in prior versions, this report also pays some attention to that set of countries because their convergence towards the benchmarks makes them a future source of insurance potential.

# 2. Life ranking

## 2.1 A look at the Top 10

Table 2.1-a Chart 2.1-a top ten markets in the Life segment ranking according to *insurance potential* measured through the MAPFRE GIP. The top five countries (China, United States, India, Russia, and Indonesia) are in Tier-1 of the Life insurance markets. They are followed by Germany, Turkey, Japan, Brazil, and Mexico, which make up the top of Tier-2. The top four countries have maintained the same positions as in the previous year, while Japan has moved ahead of Indonesia. In turn, Germany has climbed one place, and Turkey has climbed three places, becoming the seventh-highest potential insurance market economy in the Life segment.

With respect to the previous year, overall growth of the *potential insurance* market was observed, with the markets of Russia and Turkey standing out with higher GAI values. The relative positions with respect to 2020<sup>13</sup> showed few changes. Although they are more notable if the timeframe is extended to the last decade. The increase in GAI and MAPFRE GIP values is explained because the insurance gap (IPG)





			Ranking		Years to close				
Country	MAPFRE GIP	2021	∆2021-2020*	∆2021-2011*	GAI	2021 IPG			
Tier-1									
China	8.87	1	0	0	47.67	39			
United States	4.20	2	0	1	26.79	11			
India	3.56	3	0	-1	51.09	10			
Russia	1.41	4	0	0	43.12	39			
Indonesia	1.00	5	1	1	40.99	17			
			Tier-2						
Germany	0.87	6	1	4	26.61	25			
Turkey	0.69	7	3	7	39.00	14			
Japan	0.67	8	-3	1	18.08	0			
Brazil	0.62	9	-1	-4	26.37	21			
Mexico	0.57	10	-1	1	31.97	10			
France	0.53	11	0	6	22.73	0			
United Kingdom	0.49	12	0	23	21.50	0			
Saudi Arabia	0.46	13	0	-6	38.86	15			
Egypt	0.44	14	0	-2	46.51	18			
Pakistan	0.43	15	2	-2	47.81	20			
Iran	0.39	16	4	-8	43.04	3			
Italy	0.39	17	-2	2	20.89	0			
Poland	0.37	18	3	9	38.47	32			
South Korea	0.37	19	-3	14	22.35	1			
Canada	0.36	20	-1	1	26.28	4			
Spain	0.36	21	-3	1	27.04	9			
Bangladesh	0.35	22	2	6	46.50	22			
Nigeria	0.34	23	0	-8	42.60	30			
Vietnam	0.32	24	3	-6	41.39	5			

 Table 2.1-a

 Life: MAPFRE GIP ranking (75+ percentile, 96 countries)

Source: MAPFRE Economics

Tier 1: A sub-group of Tier 2, containing countries with MAPFRE GIP scores in the 95+ percentile. Tier 2: Countries with a MAPFRE GIP score that places them in the highest quartile of the ranking.

\* Variation in the 2021 ranking compared to previous years may differ from the contents published in previous versions of this report, because of recalculations performed in 2021 using updated information for previous years for some of the variables included in the estimation.

grew, as shown in the first section of this report. This serves as a starting point for the GAI calculation and, therefore, the MAPFRE GIP. The IPG in the Life segment grew 13.3%, thanks to overall growth in the GDP (13.2%) and premium growth (9.9%), which has not been enough to close the potential growth gap of the penetration index with respect to the benchmark. China's extraordinary performance is notable among the BRICS countries, whose total GDP has grown by double digits (19.8%). However, it has not attained the highest growth in premium volume, with this achievement going to the other countries with developed markets (19.0%) and the G7 (10.4%), which explains why these are the largest contributors to IPG growth with respect to GDP, and their relative penetration index has dropped on the Life market.

In addition, in 2021, the potential insurance concentration has increased from 53.2% in the previous year to 57.1%, corresponding to the potential attributable to Tier-1 markets. The insurance potential of the Tier-2 markets is also significant, especially for the countries appearing in the upper portion of that tier, with 10.2% of the MAPFRE GIP concentrated there. This is lower than the 2020 figure, which was 12.0% (see Table 2.1-b). The complete list of GAI

#### Table 2.1-b Life segment: Concentration in the MAPFRE GIP ranking

Variable	MAPFRE GIP Life					
Variable	2021	2020	2011			
Maximum annual rise	5	2	7			
Maximum annual fall	-6	-2	-8			
Threshold to Tier 2	0.28	0.39	0.22			
Concentration up to Tier 2	84.1%	83.0%	84.3%			
Threshold to Tier 1	0.90	1.22	1.07			
Concentration in Tier 1	57.1%	53.2%	55.4%			

Source: MAPFRE Economics

and MAPFRE GIP values for markets in the Life segment is found in the Appendix to this report in Table A-1.

In addition to Japan's overtaking of Indonesia, Germany, and Turkey (which has placed it in eighth place in the Life ranking), Brazil and Mexico have each dropped one place to ninth and tenth, respectively. At the end of the table comprising the Tier-2 MAPFRE GIP Life ranking, it should be noted that Iran has gained four places, while Poland and Vietnam have climbed three places to 18th and 24th. It is notable that Vietnam, which occupied the 27th position last year, appeared for the first time in Tier-2 of the MAPFRE GIP ranking for the Life segment.

However, if the timeframe is expanded to the last ten years, we can see that the United Kingdom, South Korea, Poland, and Turkey have climbed 23, 14, 9, and 7 places, respectively, and therefore lead the highest growth of insurance potential among the top 19 most important countries in the MAPFRE GIP Life ranking. It should be noted that although the United Kingdom and South Korea have an average penetration rate in the Life market of around 8% and 7%, respectively, over the last 10 years. Poland and Turkey barely reached 1.0% and 0.2% in each case. These countries owe their climb in the rankings to the higher growth in the potential GDP gap with respect to the benchmark, which has an impact on potential insurance growth and the capacity to close the insurance gap.

The Tier 1 and Tier 2 lists for the Life segment, and more specifically the Top 10, are strongly conditioned by the potential contribution of these markets to closing the global IPG, since they are weighted by their relative weight in terms of GDP. This can make it difficult to establish which of these markets have considerable potential in terms of closing their own gap. In relation to this, some of those countries show a high local potential (GAI) and have a relatively large size, although not as large as the countries included in Tier 1 (see Chart 2.1-b).



#### 2.2 Other promising markets

Additionally, this section examines those insurance markets that, in the long term, could be in a position to challenge the Top-10 positions currently held by countries with emerging markets with a lower GAI. The analysis uses the GAI to rank the 10 countries with the greatest capacity to close their local gap, with the inclusion of only the countries in Tier-2 (i.e., excluding Tier-1 and Tier-3). These countries should have a strong potential for joining the Top-10 list in the future and should therefore be considered a focus of attention. This way, the countries on the radar in the Life segment in 2021 (as in last year's report) are led by Pakistan and Egypt, followed by Bangladesh and Iran, all placed at the middle and bottom of the Tier-2 list.

# 2.3 Number of years needed to close the IPG in the Life segment

Based on the insurance potential calculated through MAPFRE GIP, the time needed to close the domestic insurance gap estimated for 2021 in the Life segment has remained at seven years for developed markets and has decreased by four years to 16 years for emerging markets, especially due to the decrease in the number of years needed to close the gap in emerging European countries. The reason for these changes is that the performance seen in the Life segment in 2021 was closely linked to the evolution of premiums, the nominal GDP, and changes to the IPG in the geographic areas (this information is found in Table 1).

The countries with emerging markets grew in Life segment premium volume (8.2% in the BRICS). Nominal GDP growth doubled this premium growth (19.8% for the BRICS), which resulted in a decrease in the penetration index for this group of countries (with a variation of -1.8 pp in relative penetration) and, therefore, higher IPG. Consequently, one more year has become necessary to close that differential in the insurance gap with respect to 2020. The other countries with emerging markets, however, grew both in premiums (+6.2%) and GDP (12.5%), as well as IPG (9.8%). However, the number of years needed to close the gap has decreased because the relative penetration index has grown 1.3 pp; therefore, the weight of



that IPG growth on the GDP has been lower (-5.49 bps).

Furthermore, the other developed markets and the G7, unlike the emerging market groups analyzed above, saw growth in Life insurance premiums (19.0% and 10.4%, respectively) that exceeded the nominal GDP growth (13.8% and 9.5%, in each case). The IPG in nominal terms grew (9.1 pp and 10.7 pp) in both cases, and although with it, the growth in premium volume over GDP was sufficient to improve the relative penetration index with respect to the benchmark in the last year (+ 0.2 pp), it was not the case for the G7 (-13.4 pp), which partially explains why the IPG grew more in the latter (10.7%) than in the other developed markets (10.7%). Thus, the total net effect for the set of developed markets results in a maintenance of the seven years necessary to close the insurance gap. The information regarding the number of years necessary to close the IPG determined in 2021 for the Life segment corresponding to each of the insurance markets examined is shown in Table A-3 in the Appendix to this report.

#### 2.4 Overview of insurance potential and its components in the Life segment

This section provides a retrospective overview of what has happened in terms of the evolution of *insurance potential*, as measured by the GAI and MAPFRE GIP indexes over the last five years since the first MAPFRE GIP report<sup>14</sup> was prepared. In this regard, Charts 2.4-a and 2.4-b illustrate this evolution for the various economic and statistical groupings of countries (tiers) included in the ranking for the Life segment.

In general terms, the evolution of the GAI and MAPFRE GIP, except for the 2020 contraction produced by the Covid-19 pandemic, presents a growing trend during the 2017-2021 period, while the values have not reached the pre-pandemic levels attained in 2019. The trends are more pronounced in the BRICS countries, with a GAI of 43.12 in 2021 (32.53 in 2020) than in the other emerging markets (with a GAI of 34.89 in 2021 when they had 29.34 in 2020). From the perspective of the tiers into which countries have been grouped in the MAPFRE GIP ranking for the Life segment, and taking into account the fact that three of the five countries that make up Tier-1 belong to the BRICS countries, it is not surprising that these are the countries, the Tier-1, that have demonstrated the best performance during that time period in terms of insurance potential. Tier-2 remains, for the second year, at values above Tier-3, confirming the trend that began last year. Although the BRICS countries were the most impacted by the pandemic last year, it confirms that they also had the most significant rebound effect in 2021, presenting the most growth. With respect to evolution of the MAPFRE GIP, where because weighting is applied based on each country's GDP. The BRICS countries continue to lead in terms of growth of insurance potential, followed by the G7 countries, which take on more relevance because of the specific weight of their own GDP, followed by the other developed and emerging markets, with practically the same evolution.

Furthermore, the performance of the GAI and its seven components are summarized in Chart 2.4-c. This information reveals that the main component for all economic regions is the *GDP growth gap*, which in 2021 recovered part of the prominence lost in the previous year but is still below 2019. Thus, as an example, we can see that the GDP gap accounts for 75.8% of the G7 group's GAI value (64.8% in 2020) and 51.0% for the BRICS (while in 2020 it was 42.6%). Additionally, the representative nature of this component on the GAI has grown in all regions examined, whether as geographical groupings or as Tiers. It is helpful to note that Tier-3 is the subgroup with the most growth in this indicator, increasing 18.1 pp to 59.0%. Tier-2 is the group with the second highest growth (16.1 pp), bringing the GDP growth gap to 52.7% of the GAI. Finally, Tier-1 has grown 7.3 pp, to 47.2%, in line with the information shown for the BRICS, where this component accounts for 51.0% of the GAI.

Additionally, *demand elasticity* is the explanatory factor whose representative nature has decreased the most in favor of the GDP growth gap, in both the G7 (6.8%) and the other developed markets (7.4%), which have dropped 9.4 pp and 5.5 pp, respectively, compared to the previous year. In the other emerging markets, growth of the above parameter was absorbed by the IPG gap, which fell 5.2 pp to 27.8%, while in the BRICS (with the highest presence with respect to the other countries of the population size component) the *IPG gap* lost its representative nature, going from 20.6% to 17.0% in one year, and on the *population size* it went from 20.4% to 17.5%.

In conclusion, it has been confirmed that the BRICS and the other emerging markets show the most significant insurance potential and the most growth, followed by the G7 countries and other developed markets. However, it must be pointed out that during the COVID-19 crisis, the BRICS countries and the other emerging markets also suffered the largest relative corrections, caused by a sharper decrease in their GAI, which we have previously called the "rebound effect." The above explains that this expansive effect on Tier-1 is greater than that of Tier-2 and Tier-3, increasing its insurance potential without reaching pre-pandemic levels but above the decreasing trend shown in Tier-2 and Tier-3, in the trends of the GAI (see Chart 2.4-d).









# 3. Non-Life ranking

# 3.1 A look at the Top 10

According to the information presented in Table 3.1-a and Charts 3.1-a and 3.1-b, and based on their insurance potential measured through MAPFRE GIP, the top five positions in the Non-Life segment ranking go to China, the United States, India, Russia, and Indonesia (Tier-1). The most significant change in Tier-1 is the addition of Russia, which is placed positively in fourth place, displacing Japan, which held this position the year before and this year is in seventh place. In the Tier-2 group, Germany also placed sixth, above Japan, followed by Brazil, France, and Mexico, noting the rise of France to ninth place, and Pakistan, which also climbed three places to 14th, while the United Kingdom (12th) and South Korea (18th) dropped three places from their last-year estimate, respectively.

As has been pointed out, the change in the respective ranking from the previous year may differ from what was published in previous versions of this report based on the recalculations made this year with the updated population, macroeconomics, and insurance premium information.





Country			Ranking	CAL	Years to close	
Country	MAPPRE GIP	2021	∆2021-2020*	∆2021-2011*	GAI	2021 IPG
			Tier-1			
China	8.98	1	0	0	48.24	10
United States	4.25	2	0	1	27.11	0
India	3.90	3	0	-1	56.03	13
Russia	1.27	4	2	0	38.84	28
Indonesia	1.02	5	0	0	42.15	19
			Tier-2			
Germany	0.84	6	1	6	25.74	0
Japan	0.71	7	-3	1	19.22	7
Brazil	0.66	8	0	-2	28.12	10
France	0.60	9	3	6	25.84	0
Mexico	0.59	10	1	3	33.18	8
Turkey	0.58	11	-1	3	32.98	16
United Kingdom	0.52	12	-3	20	22.61	1
Italy	0.49	13	1	4	26.25	8
Pakistan	0.44	14	3	-4	48.66	36
Egypt	0.41	15	-2	-4	43.81	30
Saudi Arabia	0.38	16	0	-7	31.85	14
Iran	0.37	17	1	-10	40.92	0
South Korea	0.37	18	-3	10	22.33	0
Bangladesh	0.35	19	3	5	46.16	47
Spain	0.34	20	3	6	25.93	3
Nigeria	0.32	21	-1	-5	40.96	41
Vietnam	0.32	22	3	-3	40.75	22
Poland	0.31	23	1	0	32.00	8
Canada	0.31	24	-5	7	22.67	0

Table 3.1-a Non-Life segment: MAPFRE GIP ranking (75+ percentile, 96 countries)

Source: MAPFRE Economics

Tier 1: A sub-group of Tier 2, containing countries with MAPFRE GIP scores in the 95+ percentile. Tier 2: Countries with a MAPFRE GIP score that places them in the highest quartile of the ranking.

\* Variation in the 2021 ranking compared to previous years may differ from the contents published in previous versions of this report, because of recalculations performed in 2021 using updated information for previous years for some of the variables included in the estimation.

Concerning the previous year, growth in overall insurance potential has been observed (noting the Mexican, Brazilian, and Saudi Arabian markets), with higher GAI and MAPFRE GIP values in the Non-Life segment, except for Turkey and South Korea, whose insurance potential decreased. It should be noted that Turkey is one of the Tier-2 countries that gained the most potential in the Life market but also dropped the most in the Non-Life segment.

Moreover, as shown in Table 3.1-b, the group of insurance markets on the Tier-1 list concentrates 58.2% (56.3% in 2020) of the Non-Life insu-

rance potential, while the following five countries concentrate approximately 10.2% of the potential, 1.6 pp less than 2020 data. According to this information, the total growth in insurance potential growth levels compared to the previous year, as reflected in both the MAPFRE GIP and the GAI, has been higher for the set of countries in Tier-1 than for those in Tier-2 (from 84.3% to 84.8% between 2020 and 2021), and this has allowed the concentration of just Tier-2 to increase from 65.9% to 68.4%.

Like the analysis of the Life segment, the increase in GAI and MAPFRE GIP values for the Non-



Life segment are also accounted for by growth in the insurance gap (IPG). However, premium growth over the previous year in this segment has been more moderate than the growth in the Life segment (especially the group of other countries with developed markets). Additionally, the growth in premium volume of all country groupings is below GDP growth. This fact alone explains why all changes in the relative penetration index with respect to the previous year have been negative (note that in the case of the Life segment, this was not the case in the other countries with developed and emerging markets), which means an increase in the insurance gap due to lower relative penetration with respect to the benchmark.

#### Table 3.1-b Non-Life segment: Concentration in the MAPFRE GIP ranking

Variable	MAPFRE GIP Non-Life segment						
Variable	2020	2019	2010				
Maximum annual rise	5	9	5				
Maximum annual fall	-7	-9	-8				
Threshold to Tier 2	0.29	0.31	0.19				
Concentration up to Tier 2	84.8%	84.3%	84.7%				
Threshold to Tier 1	0.89	1.17	1.07				
Concentration in Tier 1	58.2%	56.3%	56.0%				

Source: MAPFRE Economics

Expanding the timeframe to the last decade, we see that the most significant change in positions within the MAPFRE GIP ranking continues to be the United Kingdom (+20 places), Germany (+6), and France (+6), while Iran (-10 places in the ranking), Saudi Arabia (-7), Nigeria (-5), Pakistan (-4) and Egypt (-4) recorded the most significant drops in ranking position in the MAPFRE GIP Non-Life segment in the last ten years. The complete list of GAI and MAPFRE GIP values for the Non-Life markets analyzed is included in Table A-2 in the Appendix to this report.

#### 3.2 Other promising markets

As in the case of the Life insurance segment, there are certain insurance markets with a high capacity for closing the insurance gap and a relevant size that, despite not being included in the Top 10 countries in the MAPFRE GIP ranking, offer a significant future insurance potential. In the Non-Life segment (similar to what is observed in last year's report), markets with those characteristics include Bangladesh, Pakistan, Egypt, Egypt, Nigeria, and Iran. These countries show an outstanding capacity to eliminate their domestic insurance gap and grow in size, and in the medium-term, they could move ahead of other emerging markets currently in the Top-10 positions in the MAPFRE GIP ranking.

# Non-Life: On the radar Bangladesh Pakistan Egypt Nigeria Iran In the Non-Life segment, these markets could stand out during the next decade because of their ability to absorb the insurance gap.

# 3.3 Number of years needed to close the IPG in the Non-Life segment

The estimated time necessary to close the domestic insurance gap for 2021 in the Non-Life segment according to the estimated insurance potential through MAPFRE GIP has grown overall, fundamentally due to the performance of the BRICS, and other countries with developed markets, which show GDP growth over the previous year of 19.8% and 13.8%, respectively, which represents a gap increase of 24.1% and 29.7%. In both cases, the above is based on 7.9% and 9.9% premium growth, which is not enough to close the gap generated with the benchmark. Therefore, the relative penetration index variation is negative, and, in turn, the variation in the IPG with respect to the GDP is positive, with both groups of countries with emerging markets needing 2 and 3 more years than in 2020 to close that gap.

According to this estimate, the BRICS would require 21 years to close their domestic insurance gap, whereas the other countries with developed markets would need five years. The G7 and the other emerging markets group (especially the latter) present more balanced respective Non-Life segment premium volume growth and nominal GDP growth figures, which results in a considerable increase in the overall IPG (15.4% and 13.1%), but more tempered when compared to the benchmark or deflated with respect to the global GDP. In this way, for both the other emerging markets group and the G7, this indicator shows similar figures to the previous year for closing the insurance gap determined in 2021, 14 years and 2 years, respectively. In the Appendix to this report, Table A-4 presents the information regarding the number of years needed to close the IPG for each of the insurance markets analyzed, as determined in 2021 for the Non-Life segment.

# 3.4 Overview of insurance potential and its components in the Non-Life segment

Charts 3.4-a and 3.4-b illustrate the Non-Life insurance potential evolution measured through the GAI and MAPFRE GIP for the different economic sectors and tiers during the 2017-2021 period. As with the analysis of the Life segment, except for 2020 when they suffered the consequences of the pandemic-caused recession, the trends of the MAPFRE GIP and the GAI showed a growth trend for the 2017-2021 period, with more significant insurance potential growth over the last year in the BRICS and the other emerging markets, but without reaching the levels attained in 2019, as they also experienced greater contractions of that potential in 2020. In the last year, there was also a noticeable approximation of the insurance potential measured by the GAI between the G7 and the other countries with developed markets. Compared to the Life segment, in the Non-Life segment, all country groupings also present growth in the GAI during 2021, with levels lower than those attained in 2020. Moreover, the G7 countries and the other developed markets showed a clear convergence in 2021, while in the Life segment, the opposite occurred, as the other developed markets clearly separated from the G7. A similar situation is seen in relation to evolution of the MAP-FRE GIP, where because weighting is applied based on each country's GDP. The BRICS countries continue to lead in terms of growth of insurance potential, followed by the G7 countries, which take on more relevance because of the specific weight of their own GDP.

The analysis of performance of the GAI and its seven components shows that the *GDP growth gap* remains the primary component for all economic groupings. However, in the case of the G7 and other developed markets, it represents a bit more than 71% of the GAI, falling about 50% in the case of the BRICS, since in this group *population size* (17.0%) and the *IPG gap* (18.8%) gain dominance, and 57% for the other emerging markets with an IPG gap around 24.3% (see Chart 3.4-c).





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In the case of the Non-Life segment, the participation of the *GDP growth gap* in explaining the GAI has increased in 2021 in all economic groupings, especially those in Tier-2, increasing from 47.0% to 54.6%. Compared to the Life segment, this component has grown less in the Non-Life segment, thus for the Tier-1 group, going from 44.9% to 45.5%, due to the 4.7 pp increase in Tier-1 from 42.5% to 47.2%. This factor has also grown in this way in the BRICS insurance mar-

kets, from 41.7% to 49.6%. As was the case in the insurance potential analysis of the Life segment, the space left by the decline in the representative nature of *demand elasticity* to the economic cycle and the representative nature of population size has been replaced by a greater share of the *GDP* growth gap.

It must be emphasized that in the Non-Life segment, the dynamics affecting the GAI by Tier are visibly different from those existing in the Life segment. While the prior insurance potential order was maintained, the 2021 growth rates were flatter, and the rebound effect was softer than was discussed in the previous section. In this sense, the potential correction of the BRICS on the Non-Life market was 25%, reaching a GAI of 38.8, while the Life segment increased 33%, reaching a GAI of 43.1, which means that the BRICS insurance markets showed a greater sensitivity to the demand for Life products than for Non-Life to abrupt increases in income.

Finally, it should be noted, as a sign of the convergence of insurance consumption, that while the insurance markets grouped in Tier-1 experience a correction during the crisis in 2020 like the other countries, the recovery in 2021 was more timid compared with Tier-2. Likewise, when analyzing the dynamics of insurance potential based on grouping of the countries (tiers), it is observed that countries grouped in Tier 3 and in Tier 2 have similar GAI evolution over the long-term, while the GIP evolution is flatter, so the net emerging character of Tier 3 does not have a clear effect on insurance potential in the Non-Life segment.

# 4. Summary of conclusions

The following general conclusions can be drawn from the analysis discussed in this report:

- 1) The year 2021 has been one of recovery after the economic crisis produced by the Covid-19 pandemic. This year had a rebound effect on the economy, in general, and in the insurance sector, in particular. The global Insurance Protection Gap (IPG) grew 15% between 2020 and 2021, although asymmetrically by seqment and country grouping. The trend of greater participation of the IPG in the Life segment, which concentrates 67.6% of it, is confirmed, although in relative terms, the growth of the IPG was greater in the Non-Life segment (18.7%) than in the Life segment (13.3%). In addition, the premium volume growth has been greater in the Life segment (9.9%) than in the Non-Life segment (8.4%). Concerning the asymmetry of the IPG structure by grouping and its distribution among the group of countries analyzed, it should be noted that 39.3% is concentrated in the BRICS, gaining 2 pp over the previous year, followed by the other countries with emerging markets, with 38.3% (-1.4% with respect to 2020), and, to a lesser degree, the G7 with 16.6% and the other developed markets with 5.8%. This share of the IPG by region has varied since 1990 when the IPG of the other countries with emerging markets accounted for almost 50% of the IPG. Initial conditions and elements of convergence have an unequal effect on the development of insurance potential in the emerging markets, especially in the case of large markets.
- 2) The growth of the global insurance potential in 2021 was generalized and similar in the groups of countries of the Non-Life segment, all presenting a drop in the relative penetration rate that has produced a higher growth of the IPG compared to the previous year and higher than the growth of the IPG of the Life segment over the last year. However, this common pattern has not existed, and it is evident that the largest emerging markets (especially the BRICS) showed the most

growth in insurance potential and experienced the most abrupt corrections during the year of the Covid-19 pandemic, with the rebound effect discussed throughout this report clearly materializing. Thus, the IPG movement indicates a private savings deficit consistent with what we would expect, given the demographic status of the society of those countries.

- 3) The most significant changes produced in the ranking of insurance markets with the greatest potential in the Life segment were Japan's drop to eighth place and the rise of Turkey three places to seventh, while in the case of the Non-Life segment Russia (fourth) and Germany (sixth) overtook Japan, which dropped three places to seventh.
- 4) There are some insurance markets, predominantly in Asia and Africa, that, although they do not occupy high positions in the MAPFRE GIP ranking, have a high national insurance potential and a relevant relative weight, which could cause their positions in that ranking to rise in the future. The cases of Pakistan, Egypt and Bangladesh are notable, in the case of the Life segment, Nigeria and Iran joining them in the case of the Non-Life segment.
- 5) Based on the estimated insurance potential and IPG existing in 2021, and assuming other factors remain the same, it can be forecast that the IPG in the Life segment could close (ceteris paribus) within 7 and 16 years in the developed and emerging markets, respectively. In the Non-Life segment, that closing of the insurance gap could occur within 4 years in the developed markets and 15 years in the emerging markets.
- 6) Both the GAI and MAPFRE GIP potential insurance markers have recovered the growth trend after the effects of the health emergency produced by Covid-19 in 2020, although they have not reached pre-pandemic values. This performance has been somew-

hat softer in the Non-Life segment than in the Life segment. From the perspective of the country groupings and statistical groupings (tiers), it should be noted that the response of the GAI for tier-2 diverges from tier-3, although this is not as pronounced in the Life segment. Furthermore, the statistical relevance of *population size*, one of the two key factors that explain close to 17% of the GAI in both the BRICS and in tier-1, has decreased with respect to the previous year due to the increased importance of the GDP gap, although it is also due to the stagnation in population growth (especially in the other countries with emerging markets) as a result of the Covid-19 pandemic.

7) Insurance potential does not remain stable over time, because it will change in accordance with the way its various components evolve. From their analysis throughout the 2017-2021 period, it is evident that their effect is differential depending on whether each economy is developed or emerging. In the developed economies, the effects of income and elasticity of demand are dominant, while in the emerging markets, the primary effects are related to their size and the need to achieve convergence. These differences have in turn led to differing behavior in those economic groupings in terms of developing insurance potential. With the emerging markets, higher potential corresponds with larger populations and GDP figures, given the needs for convergence in those markets.

# Methodological considerations for the MAPFRE GIP

Production of the MAPFRE Global Insurance Potential Index (MAPFRE GIP) is based upon an analysis of the dynamics of the Insurance Protection Gap (IPG). The IPG calculated for a particular country or economic grouping represents the difference between the amount of insurance coverage that is economically necessary and beneficial to society and the amount of coverage that is actually acquired. Establishing this figure helps define the potential market for insurance, which is the market size that could be achieved through elimination of the insurance gap. This means that the IPG is not a static concept. Instead, it is one that evolves in accordance with the growth of a country's economy and population, while also being affected by emergence of new risks that are inherent to ongoing economic and social development.

In general terms, the IPG can be measured using two approaches. The first, in an ex post approach, is based on observed losses. In this case, the IPG will be calculated as the difference between the economic losses recorded during a specific period and the portion of those losses that were covered by insurance compensation. The second is an ex-ante approach that analyzes optimal protection levels, estimated as the difference between the level of coverage socially and economically appropriate to cover risk compared to the actual level of protection. For the fiscal year being discussed in this report, and in keeping with the methodology followed in other reports produced by MAPFRE Economics, we have applied the second approach, i.e., calculating IPG as a differential based on penetration (premiums/GDP), between each market being analyzed and a theoretical benchmark.

For the purposes of calculating the MAPFRE GIP, the benchmark used for comparisons of density and penetration corresponds to the 90th percentile in the distribution formed by a sample of 96 insurance markets. This use of the 90th percentile ensures that there are at least 9 countries above the benchmark, while also ensuring that the benchmark will not be an atypically high figure resulting from measurement errors. The allows the benchmark density and penetration measurements to remain at stable levels over time, ensuring that the IPG and its evolution are accurate and reliable.

Once the parameters dictated by the IPG were defined, a simulation method was derived based on initial conditions and growth differentials relating to income levels, population levels and the elasticity of insurance premiums to the economic cycle. Thus, comparison of the simulation results with the results from the initial definition allowed the effectiveness of the projections and their predictive capacity to be measured. This process allowed identification of the most significant variables for estimating the insurance gap, and these have been selected for use in calculating the MAPFRE GIP. Specifically, seven re-scaled and standardized variables between 0 and 1 were selected, where 0 indicates a low impact on market potential and 1 indicates the maximum potential. These variables are: (i) the initial IPG; (ii) the relative penetration compared to the benchmark; (iii) the relative elasticity of premiums to income level, compared to the benchmark; (iv) the relative GDP per capita; (v) the GDP growth gap; (vi) the population growth gap; and (vii) population size.

Use of these variables allows two measurements to be generated, which contribute complementary dimensions to the analysis. The first of these is the GAI (Gap Absorption Index), which produces a point score and a relative position (ranking) based on each market's potential to close its insurance gap. This can be seen as similar to a speed of convergence towards the penetration and density levels selected as the benchmark. The second is the Global Insurance Potential Index (MAPFRE GIP), which provides a point score and ranking that puts each market in an order based on its potential contribution to closing the global insurance gap (measured in basis points of the global GDP, or as a percentage of the total insurance market). This makes the MAPFRE GIP comparable to a

measurement of the "size of the market". In this way, the MAPFRE GIP is able to produce forecasts that are consistent with the actual performance observed. In other words, the cases where this indicator suggests a high insurance potential and the ones where the largest contributions toward closing the global IPG have actually occurred.

The corresponding methodological details can be found in the report: MAPFRE Economic Research (2018), <u>Global Insurance Potential Index</u>, Madrid, Fundación MAPFRE.

# Appendix: Worldwide ranking for the MAPFRE GIP, GAI and years needed to close IPG

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			Ranking	3					Ranking			
Country	MAPFRE GIP	2021	∆2021- 2020*	∆2021- 2011*	GAI	Country	MAPFR E GIP	2021	∆2021- 2020*	∆2021- 2011*	GAI	
China	8.870	1	0	0	47.67	Angola	0.090	49	4	-3	56.87	
United States	4.200	2	0	1	26.79	Sri Lanka	0.080	50	-3	-7	38.79	
India	3.560	3	0	-1	51.09	Kenya	0.080	51	-1	5	43.87	
Russia	1.410	4	0	0	43.12	Norway	0.080	52	5	2	25.95	
Indonesia	1.000	5	1	1	40.99	Morocco	0.080	53	1	-6	35.93	
Germany	0.870	6	1	4	26.61	Hong Kong	0.070	54	-5	7	20.78	
Turkey	0.690	7	3	7	39.00	Qatar	0.070	55	1	-24	35.44	
Japan	0.670	8	-3	1	18.08	Portugal	0.060	56	-5	8	25.54	
Brazil	0.620	9	-1	-4	26.37	Greece	0.060	57	1	0	27.31	
Mexico	0.570	10	-1	1	31.97	Denmark	0.060	58	-3	13	22.15	
France	0.530	11	0	6	22.73	Dominican Rep.	0.050	59	0	0	35.29	
United Kingdom	0.490	12	0	23	21.50	Bulgaria	0.050	60	4	2	40.10	
Saudi Arabia	0.460	13	0	-6	38.86	New Zealand	0.050	61	1	5	28.60	
Egypt	0.440	14	0	-2	46.51	Finland	0.040	62	-1	10	21.52	
Pakistan	0.430	15	2	-2	47.81	Kuwait	0.040	63	-3	-21	31.64	
Iran	0.390	16	4	-8	43.04	Ecuador	0.040	64	-1	-9	30.16	
Italy	0.390	17	-2	2	20.89	Serbia	0.040	65	3	2	41.21	
Poland	0.370	18	3	9	38.47	Slovakia	0.040	66	0	2	33.26	
South Korea	0.370	19	-3	14	22.35	Guatemala	0.040	67	-2	-4	34.29	
Canada	0.360	20	-1	1	26.28	Oman	0.040	68	-1	-20	35.22	
Spain	0.360	21	-3	1	27.04	Tunisia	0.040	69	0	-9	37.50	
Bangladesh	0.350	22	2	6	46.50	Lithuania	0.030	70	3	7	38.27	
Nigeria	0.340	23	0	-8	42.60	Croatia	0.030	71	3	7	34.43	
Vietnam	0.320	24	3	-6	41.39	Panama	0.030	72	-2	2	31.16	
Thailand	0.270	25	-3	-5	29.70	Jordan	0.030	73	-2	-8	37.05	
Australia	0.270	26	-1	-3	27.55	Costa Rica	0.020	74	-2	1	29.49	
Philippines	0.250	27	-1	-3	36.44	Slovenia	0.020	75	2	10	33.61	
Netherlands	0.220	28	0	9	28.58	Bahrain	0.020	76	-1	0	36.79	
Ukraine	0.210	29	3	3	53.59	Luxembourg	0.020	77	2	7	29.62	
Argentina	0.210	30	-1	-14	28.82		0.020	78	3	5	35.27	
Colombia	0.200	31	0	-2	34.04	El Salvador	0.010	79	1	2	33.59	
Komania	0.190	32	1	.7	41.36	Estonia	0.010	80	2	.7	37.29	
South Africa	0.190	33	-3	-3	28.73	Uruguay	0.010	81	-3	-8	24.18	
Kazakhatan	0.160	34	1	2	27.62	Betawana	0.010	82	-6	-12	28.05	
Algoria	0.150	35	1	-1	41.81	Zimbabwa	0.010	83	1	3	33.07	
	0.150	36	-1	-10	41.68		0.010	84	-1	-4	34.89	
Bolgium	0.130	3/	-3	-12	27.67	Malta	0.010	85	0	3	29.63	
Czech Republic	0.120	20	2	12	26.30	Масац	0.010	07	1	10	14.25	
Chile	0.120		2	12	20.00	Mauritius	0.010	07	-1	-10	10.00	
Ireland	0.110	40	U 2	20	30.08	Trinidad and Tobago	0.010	00	2	7	20.02	
Switzerland	0.110	41	_/.	30 2	22.80	Jamaica	0.010	07 QN	-2	-/	20.04	
Peru	0.100 0.100	42	-4 2	-5	31 35	Namibia	0.010	91	-2	0 N	24.74	
Austria	0.100	40	1	-J 5	27.05	Iceland	0.000	00	1	1	20.77	
Singanore	<u>η</u> ηση	44	- I	_/	21.00	Bahamas	0.000	92	- I N	1	20.00	
Sweden	0.070 0.070	4.5	_/	-4	27.00	Barbados	0.000	9/.	n	1	19 69	
Hungarv	0.070 0 090	40	5	11	36.42	Liechtenstein	0 000	95	n	1	19.14	
Israel	0.090	48	0	5	31.44	Venezuela	0.000	96	0	-56	29.30	

## Appendix: Table A-1 Life segment: Worldwide ranking for the MAPFRE GIP with GAI values

Source: MAPFRE Economics

\* Variation in the ranking compared to previous years may differ from the contents published in previous versions of this report, because of recalculations performed in 2020 using updated information for previous years for some of the variables included in the estimation.

Appendix: Table A-2							
Non-Life segment: Worldwide ranking for the MAPFRE GIP with GAI values							

			Rankin	9							
Country	MAPFRE GIP	2021	∆2021- 2020*	∆2021- 2011*	GAI	Country	MAPF RE GIP	2021	∆2021- 2020*	∆2021- 2011*	GAI
China	8.980	1	0	0	48.24	Israel	0.080	49	-2	6	28.62
United States	4.250	2	0	1	27.11	Hong Kong	0.080	50	-5	-2	23.71
India	3.900	3	0	-1	56.03	Kenya	0.080	51	-1	6	39.88
Russia	1.270	4	2	0	38.84	Norway	0.070	52	1	2	25.12
Indonesia	1.020	5	0	0	42.15	Angola	0.070	53	5	-2	47.45
Germany	0.840	6	1	6	25.74	Portugal	0.070	54	1	5	27.95
Japan	0.710	7	-3	1	19.22	Greece	0.070	55	4	5	28.95
Brazil	0.660	8	0	-2	28.12	Morocco	0.060	56	-2	-4	30.63
France	0.600	9	3	6	25.84	Denmark	0.060	57	-5	13	22.14
Mexico	0.590	10	1	3	33.18	Qatar	0.050	58	-1	-23	29.10
Turkey	0.580	11	- 1	3	32.98	Dominican Rep.	0.050	59	3	2	33.79
United Kingdom	0.520	12	-3	20	22.61	Finland	0.050	60	-4	7	22.99
Italy	0.490	13	1	4	26.25	Ecuador	0.040	61	2	-3	29.91
Pakistan	0.440	14	3	-4	48.66	Bulgaria	0.040	62	2	0	32.42
Egypt	0.410	15	-2	-4	43.81	Guatemala	0.040	63	3	0	33.91
Saudi Arabia	0.380	16	0	-7	31.85	New Zealand	0.040	64	-3	9	22.99
Iran	0.370	17	1	-10	40.92	Kuwait	0.040	65	-5	-21	26.38
South Korea	0.370	18	-3	10	22.33	Slovakia	0.040	66	-1	-2	29.44
Bangladesh	0.350	19	3	5	46.16	Serbia	0.040	67	1	1	35.31
Spain	0.340	20	3	6	25.93	Oman	0.030	68	-1	-22	29.71
Nigeria	0.320	21	-1	-5	40.96	Lithuania	0.030	69	1	6	35.11
Vietnam	0.320	22	3	-3	40.75	Tunisia	0.030	70	-1	-5	29.61
Poland	0.310	23	1	0	32.00	Panama	0.030	71	1	6	29.46
Canada	0.310	24	-5	7	22.67	Croatia	0.030	72	1	7	28.22
Thailand	0.280	25	-4	-7	30.76	Jordan	0.020	73	-2	-4	29.81
Philippines	0.270	26	0	-5	38.54	Costa Rica	0.020	74	0	2	27.32
Australia	0.220	27	0	0	22.61	Luxembourg	0.020	75	3	7	31.91
Malaysia	0.220	28	0	-3	33.03	Bahrain	0.020	76	-1	2	30.78
Netherlands	0.200	29	0	12	26.60	Slovenia	0.020	77	0	9	26.20
Ukraine	0.190	30	0	6	48.11	El Salvador	0.020	78	2	3	36.38
Argentina	0.190	31	1	-11	26.11	Uruguay	0.020	79	0	-8	25.73
Colombia	0.190	32	2	-2	31.51	Latvia	0.010	80	1	3	31.00
South Africa	0.180	33	0	1	30.05	Estonia	0.010	81	1	6	32.93
Romania	0.170	34	-3	6	36.82	Lebanon	0.010	82	-6	-8	22.32
Alassia	0.140	35	1	-3	38.68	Botswana	0.010	83	0	2	33.12
Algeria Bolaivee	0.140	36	0	-13	39.14	масац	0.010	84	1	-18	23.96
Belgium	0.130	37	4	10	27.69	Zinchabara	0.010	85	1	3	30.26
	0.130	38	4	34	34.78		0.010	86	-2	-6	29.76
Chile	0.120	39	5	4	30.75	Maila	0.010	87	3	5	35.66
Singapore	0.110	40		-3	26.33	Nemibie	0.010	88	-1	-4	20.36
	0.110	41	5	-2	33.37		0.000	89	-1	1	28.62
Czech Popublic	0.100	42	-6	-13	22.39	Mauritius	0.000	90	2	1	21.69
Sweden	0.100	43	U /	/F	30.75	Iceland	0.000	71	-∠	-2	20.01
Austria	0.100	44	-0	0	25.40	Bahamac	0.000	72	- 1	<u></u>	24.07
Switzerland	0.090	40	- 4	<u>۲</u>	10 55	Barhados	0.000	73	0	1	20.31
Srilanka	0.070	40	- /	- 1	27 70	l jechtenstein	0.000	74 0F	0	1	20.13
	0.000	4/	- I	-5	37.17	Vanazuela	0.000	70	0	FO	31.63
nungaly	0.080	48	3	ð	32.77	VENEZUEId	0.000	70	U	-28	0.00

Source: MAPFRE Economics

\* Variation in the ranking compared to previous years may differ from the contents published in previous versions of this report, because of recalculations performed in 2020 using updated information for previous years for some of the variables included in the estimation.

#### Appendix: Table A-3 Life segment: years needed to close the 2021 domestic IPG

Country	Years	Country	Years
China	39	Angola	20
United States	11	Sri Lanka	29
India	10	Kenya	26
Russia	39	Norway	12
Indonesia	17	Morocco	8
Germany	25	Hong Kong	0
Turkey	14	Qatar	23
Japan	0	Portugal	1
Brazil	21	Greece	8
Mexico	10	Denmark	0
France	0	Dominican Rep.	16
United Kingdom	0	Bulgaria	11
Saudi Arabia	15	New Zealand	7
Egypt	18	Finland	0
Pakistan	20	Kuwait	30
Iran	3	Ecuador	17
Italy	0	Serbia	9
Poland	32	Slovakia	8
South Korea	1	Guatemala	15
Canada	4	Oman	33
Spain	9	Tunisia	20
Bangladesh	22	Lithuania	12
Nigeria	30	Croatia	7
Vietnam	5	Panama	7
Thailand	40	Jordan	15
Australia	6	Costa Rica	15
Philippines	9	Slovenia	6
Netherlands	18	Bahrain	25
Ukraine	27	Luxembourg	0
Argentina	32	Latvia	11
Colombia	15	El Salvador	23
Romania	14	Estonia	11
Malaysia	5	Uruguay	13
South Africa	0	Lebanon	16
Kazakhstan	6	Botswana	15
Algeria	15	Zimbabwe	25
UAE	7	Cyprus	34
Belgium	2	Malta	2
Czech Republic	7	Macau	0
Chile	7	Mauritius	23
Ireland	0	Trinidad and Tobago	13
Switzerland	2	Jamaica	15
Peru	14	Namibia	15
Austria	15	Iceland	20
Singapore	0	Bahamas	30
Sweden	1	Barbados	10
Hungary	12	Liechtenstein	-
Israel	27	Venezuela	-

Appendix: Table A-4 Non-Life segment: years needed to close the 2021 domestic IPG

Country	Years	Country	Years
China	13	Israel	7
United States	0	Hong Kong	6
India	18	Kenya	15
Russia	28	Norway	8
Indonesia	19	Angola	25
Germany	0	Portugal	5
Japan	7	Greece	15
Brazil	23	Morocco	7
France	0	Denmark	4
Mexico	8	Qatar	19
Turkey	16	Dominican Rep.	14
United Kingdom	1	Finland	9
Italy	8	Ecuador	13
Pakistan	36	Bulgaria	8
Egypt	30	Guatemala	13
Saudi Arabia	14	New Zealand	0
Iran	0	Kuwait	14
South Korea	0	Slovakia	17
Bangladesh	47	Serbia	12
Spain	3	Oman	14
Nigeria	41	Lithuania	28
Vietnam	22	Tunisia	13
Poland	8	Panama	9
Canada	0	Croatia	8
Thailand	30	Jordan	11
Philippines	36	Costa Rica	9
Australia	4	Luxembourg	0
Malaysia	13	Bahrain	12
Netherlands	0	Slovenia	5
Ukraine	19	El Salvador	9
Argentina	8	Uruguay	13
Colombia	8	Latvia	19
South Africa	21	Estonia	19
Romania	19	Lebanon	0
Kazakhstan	20	Botswana	20
Algeria	25	Macau	14
Belgium	0	Cyprus	15
Ireland	10	Zimbabwe	5
Chile	4	Malta	0
Singapore	6	Trinidad and Tobago	2
Peru	12	Namibia	10
UAE	7	Jamaica	1
Czech Republic	18	Mauritius	5
Sweden	9	Iceland	7
Austria	2	Bahamas	0
Switzerland	0	Barbados	0
Sri Lanka	23	Liechtenstein	-
Hungary	14	Venezuela	-

Source: MAPFRE Economics

Source: MAPFRE Economics

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# References

1/ See: MAPFRE Economic Research (2018), Global Insurance Potential Index, Madrid, Fundación MAPFRE.

2/ See: MAPFRE Economics (2021), *GIP-MAPFRE 2021*, Madrid, Fundación MAPFRE.

3/ See: MAPFRE Economic Research (2018), *Global Insurance Potential Index*, Madrid, Fundación MAPFRE, pp. 15-17.

4/ The methodological details of the MAPFRE GIP calculation (which can be found in the appendix to this report) explain how the variations at both the level and relative rates of the variables may impact on the insurance potential evolution at the time the analysis is conducted.

5/ The benchmark is statistically represented by the values of the insurance market located at the 90th percentile of the penetration distribution based on Life and Non-Life premiums. Using the data from 2021, the benchmark values would correspond to Italy for the market as a whole, while the Non-Life and Life segments would be Germany and France, respectively. For comparison, in the analysis using data from 2020, the benchmark values would correspond to Canada for the market as a whole, while the Non-Life and Life segments would be Australia and Japan, respectively.

6/ It is important to point out that the IPG figures calculated for previous years have been modified compared to the contents appearing in previous reports, because statistical updates were made to the values using during previous years in relation to GDP and premiums. This has implications for calculation of the insurance potential for some countries, and it therefore could produce changes to their position in the global ranking.

7/ The following countries are included in the BRICS economic grouping: Brazil, Russia, India, China, and South Africa.

8/ The G7 consists of Germany, Canada, United States, France, Italy, Japan and the United Kingdom.

9/ See: MAPFRE Economics (2022), <u>2022 Economic and Industry Outlook: Third-Quarter Perspectives</u>, Madrid, Fundación MAPFRE.

10/ As in previous reports related to MAPFRE GIP, in this update when calculating regional averages, data from some countries has been excluded because it distorted the sample, either due to the country's size or particular situation: San Marino, Liechtenstein, Barbados, Bahrain, and Qatar.

11/ This report does not take into account the 7.836 trillion people who, according to United Nations data, made up the world's population in 2021, since it covers only a sample of 96 countries rather than the full global population.

12/ A statistical review of the sources of information related to premium volumes and the different macroeconomic and population variables used in the analysis has produced minor changes to the MAPFRE GIP scoring presented in previous editions, and therefore to each country's insurance potential and ranking, and to year-on-year variations in those rankings.

13/ It must be pointed out that when calculating the MAPFRE GIP for that year, as expressed in this version of the report, the data used for premiums and GDP were updated and revised compared to the figures used in previous years. Therefore, the estimated insurance potential for some countries may have undergone minor changes, although in all cases this only caused an exchange of positions. This occurred only in a very small number of cases in the Tier 2 list for both the Life and Non-Life segments, and it does not affect the comparative interpretation of the rankings.

14/ See: MAPFRE Economic Research (2019), MAPFRE GIP 2018, Madrid, Fundación MAPFRE.



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- MAPFRE Economics (2022), 2022 Economic and Industry Outlook: Second quarter perspectives, Madrid, Fundación MAPFRE.
- MAPFRE Economics (2022), The Spanish Insurance Market in 2021, Madrid, Fundación MAPFRE.
- MAPFRE Economics (2022), <u>2021 Ranking of Insurance Groups in Latin America</u>, Madrid, Fundación MAPFRE.
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# **MAPFRE GIP 2022**

Based on an analysis of the economic and demographic factors that lead to increases or decreases in the Insurance Protection Gap, and on measurement of each country's capacity to close the insurance gap in its own market, the MAPFRE GIP Index (Global Insurance Potential Index) provides a scoring system and ranking that places insurance markets in order based upon their potential contribution to closing the global insurance gap.

This report produced by MAPFRE Economics updates the MAPFRE GIP estimations for insurance markets in 96 countries, providing a comparative perspective on the global potential to expand the insurance industry in the coming years.