Swiss Re
Institute

March
2023

The Life & Health Insurance Inclusion Radar

Why markets are more, or less, inclusive

Executive summary

Our framework for inclusive insurance: Availability, Accessibility, Affordability.

No Life & Health (L&H) insurance market is fully inclusive. This is supported by the findings of our L&H Insurance Inclusion Radar, which provides a measure of the degree of inclusivity of L&H insurance markets in a sample of advanced and emerging economies. Factors that promote and/or hinder inclusivity provide insights to help insurers extend their reach across a broader spectrum of society in the countries in which they operate. In this report, we consider "inclusive insurance" to be the provision of relevant risk protection covers to all people in society. In the context of L&H insurance, we explore three drivers of inclusion: the availability of and accessibility to relevant insurance services, and the affordability of insurance. The three dimensions – Availability, Accessibility and Affordability (the 3As) – make up the framework of the Inclusion Radar.

In advanced markets, inclusion is boosted by a wide range of L&H product types and greater skills development for industry professionals.

Following this approach, we find that no sample market has consistently high Radar scores across all the 3A dimensions. This indicates that there is scope for L&H business in all the sample markets to become more inclusive. Some common drivers explain the variance in Inclusion Radar scores. For instance, we find that the Availability of a wide range of L&H product types and options to suit consumer needs is one reasons why this dimension carries more weight in terms of fostering inclusion in advanced markets, more so than in emerging economies. The advanced markets also score higher with respect to offering skills development and training opportunities for industry professionals, another indicator of the Inclusion Radar's Availability dimension. These factors allow insurers to more easily allocate skilled and experienced employees to process and product innovation. There is a fair L&H product range in emerging markets too, but fewer opportunities for workers to upskill, notably in Latin America and emerging Asia.

In emerging markets, diversity in distribution models and simple products with low minimum face values support inclusion.

On average, consumers in advanced markets face fewer barriers to the 3As, but the typically higher income levels in advanced economies do not necessarily translate to higher levels of Affordability. With the exception of Japan, in advanced markets the smallest policy sizes on offer often are too expensive and not relevant for lower-income consumers with modest needs. The opposite is the case in emerging markets, where products with low minimum face values boost participation for low-income communities, and where there is regulatory support for mass distribution of small covers. In emerging markets, Accessibility hampers consumers most. This is in large part due to systemic factors like lower levels of bank account-holding and credit usage. In all markets, Accessibility is boosted by diversity in distribution models in terms of sales agents who represent different segments of society. Diversity in distribution technology also supports inclusivity. For instance, the use of mobile phones to distribute simple insurance products that can be commoditised for scale helps extend industry reach.

Country-specific factors offer insights into how to make L&H markets more inclusive.

Country-specific features also offer insights into what can make a market more and less inclusive. For example, in Japan life sales are boosted by a large door-to-door salesforce that is 90% women, which boosts performance relative to all the other sample markets on the Accessibility dimension of the Radar. Meanwhile, there is greater Availability and Accessibility of insurance in South Africa than in many advanced markets, with a strong funeral insurance segment and high levels of innovation supporting inclusion.

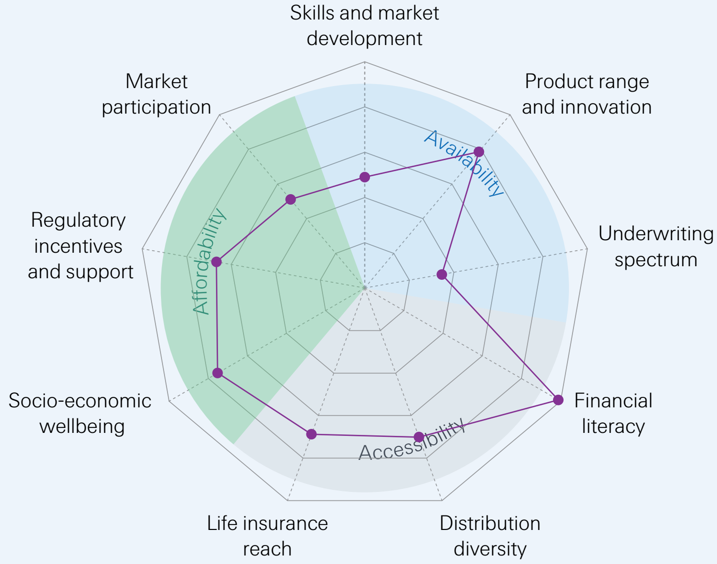
More inclusive insurance can help narrow mortality and health protection gaps.

Risk protection gaps remain a reality. The SRI Mortality Resilience Index indicates that more than 50% of the world's financial needs in event of a breadwinner's death remain unprotected. Our premise in this study is that L&H insurance that is more Available, Accessible and Affordable for both existing and underserved customers, can help narrow mortality and health protection gaps. Based on the insights derived from the Inclusion Radar, we see four main areas where insurers in both advanced and emerging economies could potentially foster a path to more inclusive insurance and narrow protection gaps. These are to seek to better understand consumer needs across all segments of society; to engage in strategic partnerships to boost diversity in distribution channels; to innovate in underwriting processes and product design to meet customer needs in more affordable and efficient ways; and to engage with regulators to maintain a balance of consumer protection and innovation. The importance given to each area depends on existing levels of inclusion across the 3A dimensions in individual markets.

Key takeaways: reading the Radars

Advanced markets example: Japan

Japan's strength is its effectiveness in making L&H insurance highly Accessible to a broad spectrum of customers, evidenced by novel approaches to distribution and a high life insurance penetration rate. On the other hand, Japan is somewhat weaker in providing skills development opportunities for insurance professionals, and innovation on the underwriting spectrum, creating a deficit in the Availability dimension.

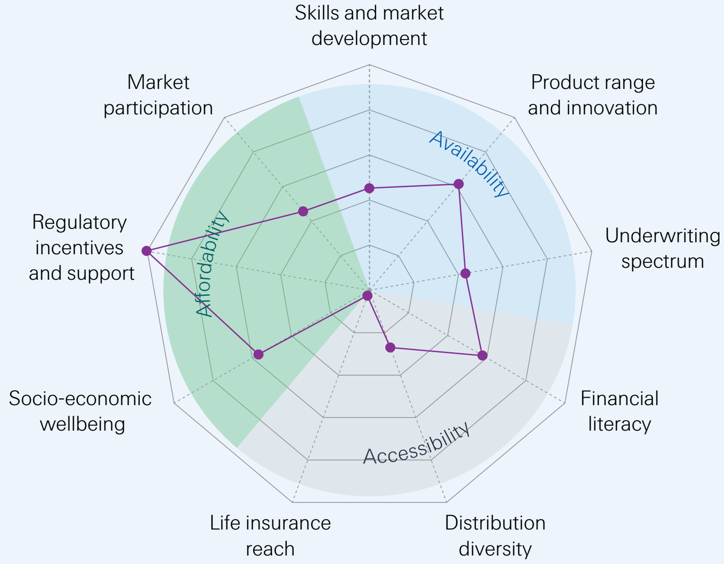


Source: Swiss Re Institute

The Inclusion Radars of all sample advanced markets are on page 11:
Australia, Canada, Japan, the UK and the US.

Emerging markets example: Turkey

Turkey's strength is how its market characteristics support better L&H insurance Affordability, especially its large middle class, relatively low poverty rate, a regulatory environment that supports microinsurance growth, and favourable tax rules. Conversely, Turkey's challenges are in the Accessibility dimension, with a life insurance penetration rate that is disproportionately low, and room for improvement on diversity in distribution.



Source: Swiss Re Institute

The Inclusion Radars of all sample emerging markets are on pages 15–17:
Brazil, Colombia, Egypt, Kenya, Indonesia, Mexico, Nigeria, South Africa, Turkey and Vietnam

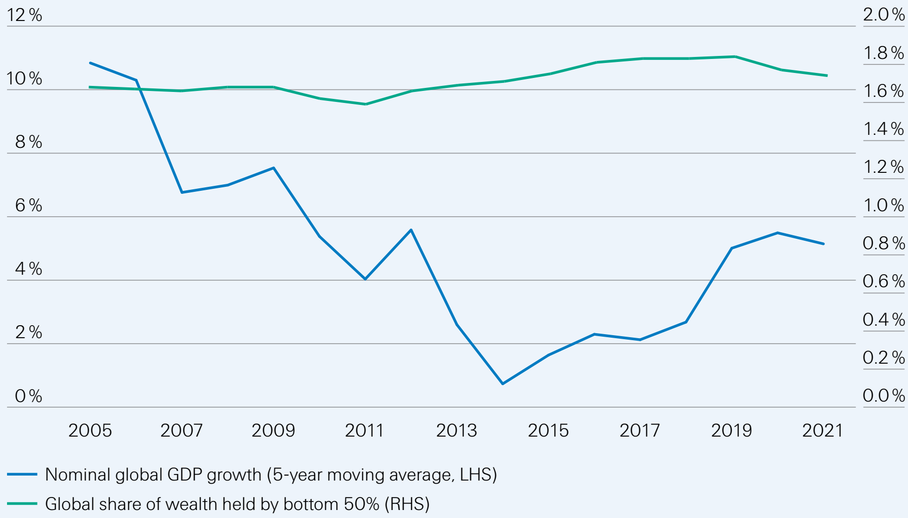
Introduction

Persistent protection gaps

L&H insurance can play an important role in promoting socio-economic equality.

Global economic growth is slowing and social inequalities within and between countries remain high. Figure 1 shows little progress on these twin challenges over the past two decades. Insurance has a role to play in fostering economic and social progress. Non-life insurance like Property and Casualty (P&C) covers help support financial resilience and promote economic growth. Life and Health (L&H) insurance, meanwhile, provides a family with financial relief in the event of existential threats such as death and disability, and also financial support for healthcare costs. Both can play an important role in redressing social inequalities.[1]

Figure 1
Global GDP and share of wealth held by bottom 50% of world population



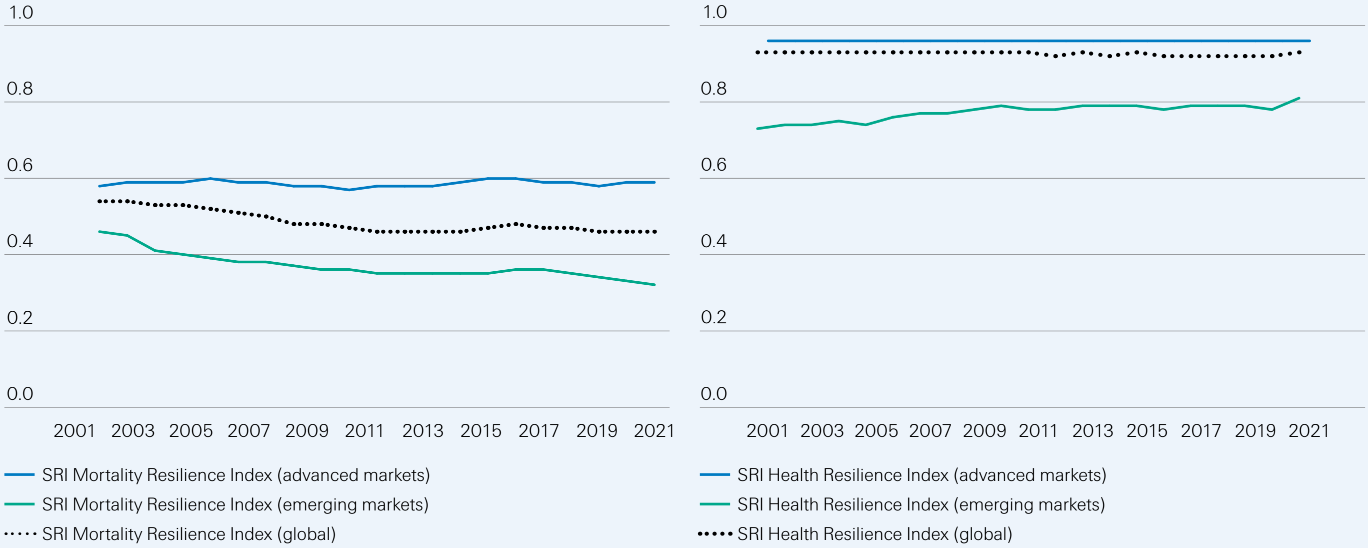
Source: World Inequality Database, Swiss Re Institute

Global mortality resilience has been stagnant, even declining, for two decades.

In spite of the well-recognised utility of insurance, large protection gaps persist across different lines of business in both the advanced and emerging markets. In 2021, the SRI Mortality Resilience Index stood at 45.7%, the inference being that 54.3% of the estimated global need for financial support after the death of a household breadwinner was not covered by either asset wealth or insurance protection.[2] Figure 2 shows stagnation of mortality and health resilience over the last two decades. And, in the case of global mortality resilience, a two-decade decline of 9 percentage points (ppt), with advanced markets stagnating, and emerging declining somewhat. Mortality resilience varies widely across countries, with India (SRI Mortality Resilience Index of 8.9%), Vietnam (9.2%) and Indonesia (18.6%) at the lower end of the range, and others such as Canada (89.4%), Japan (67.6%) and Brazil (56.1%) at the upper.

[1] *sigma* 3/2022: Reshaping the social contract - the role of insurance in reducing income inequality, Swiss Re Institute.
[2] *Resilience Index 2022: risks to resilience on the rise again*, Swiss Re Institute, June 2022.

Figure 2
Swiss Re Institute Mortality and Health Resilience Indices



Source: Swiss Re Institute

Focus on inclusion

Our premise: the more inclusive insurance is, the more able the industry is to help narrow protection gaps.

We consider "inclusive insurance" to be the provision of appropriate risk protection cover to all people in society. The underlying assumption of this study is that when L&H insurance is more inclusive, the industry will be better positioned to help narrow mortality and health protection gaps. In this study, in an attempt to assess how inclusive the private L&H markets in different countries are, we develop a framework based on three drivers of inclusivity.[3] Our premise is that protection gaps will shrink if private-sector L&H insurance is made more Available, Accessible and Affordable to society at large, including hitherto underserved communities (typically low-income households).[4]

- Availability = the existence of protection products/plans that adequately meet the range of mortality and morbidity protection needs of society.
- Accessibility = the places, people and processes deployed to connect available insurance products with the potential buyers.
- Affordability = whether insurance product premium price-points are reasonable/ within the financial resources of intended buyers and convey fair value.

Three key dimensions of inclusion: Availability, Accessibility and Affordability.

From hereforth, these dimensions are referred to as the "3As". A deficit in any one of the three limits the extent to which L&H insurance can reach both served and underserved customers. Our analysis considers and contrasts the drivers of inclusion within and between advanced and emerging market countries.

[3] The scope of this research is to assess inclusion with respect to private insurance cover, to provide insights of use to Swiss Re clients' business interests. Public social security provisions are not in scope.
[4] The term underserved is used to reference both existing insurance customers with inadequate coverage, and individuals/households with no insurance cover of any description.

Figure 3
The 3A dimensions

Source: Swiss Re Institute

Our L&H Insurance Inclusion Radar measures the degree of inclusivity of different countries' life insurance markets.

The Inclusion Radar framework
We have developed a framework we call the **L&H Insurance Inclusion Radar** based on the 3As to measure the degree of inclusivity of different markets. For each of the three dimensions, we have selected several sub-indicators that we seek to quantify using primary and secondary-sourced data, and analysed these for a sample of 16 countries (five advanced and 11 emerging markets). The scores for the respective sub-indicators are aggregated using weighted averages to reflect the quality of data and, in terms of influence, our assessment of each sub-indicator's contribution to inclusion. We thereby derive an Inclusion Radar score (also refered to as "Radar score") of each dimension as a representation of its contribution to making the respective L&H insurance market inclusive. The separate dimension Radar scores are further aggregated using an arithmetic mean to determine an overall Inclusion Radar score for each market. These overall scores are also aggregated using the population of each country as weights.

The radar analysis is based on proprietary insights of our sample markets, and also secondary-sourced data.

Due to a lack of secondary-source data, the primary-source data for the sub-indicators of Availability are the responses given by 35 Swiss Re experts from the 16 sample markets to a set of interview questions covering various aspects of the three dimensions. The secondary data used, such as statistics on bank account holdings and mobile phone penetration rates, are predominantly from the World Bank's *World Development Indicators*.[5] Data for equality measures are from the *World Inequality Database*.[6] Accessibility and Affordability Radar scores are derived from a combination of the primary and secondary data. Table 1 shows the indicator clusters with respective sub-indicators for each of the 3As. Please see the Appendix for further details on our methodology.

[5] See *World Development Indicators*, World Bank.
[6] See *World Inequality Database*, World Inequality Lab.

Table 1
The L&H Insurance Inclusion Radar framework: indicators and sub-indicators for each of the 3A dimensions

Dimension	Indicator cluster	Sub-indicators used
Availability	Skills and market development	▪ Extent of education and training programmes provided to insurance professionals ▪ Maturity of group business ▪ Facilitation of new entrants
	Product range and innovation	▪ Breadth of the universe of underwritten mortality and morbidity risks ▪ Prioritisation of underserved communities in innovation strategies
	Underwriting spectrum	▪ Variety of approaches in risk selection and stratification from minimal to extensive ▪ Adoption of underwriting technology and innovation
Accessibility	Financial literacy	▪ Bank account holding ▪ Access to credit
	Distribution diversity	▪ Fair representation by age, gender and ethnicity in the sales agent/advisor force ▪ Mobile phone penetration
	Life insurance reach	▪ Penetration rate of life insurance ▪ Highest policy size obtainable irrespective of health
Affordability	Socio-economic wellbeing[A]	▪ Gini coefficient of income ▪ Gini coefficient of wealth ▪ Percentage of population living above the poverty line ▪ Percentage of population considered to belong to the middle class
	Regulatory incentives and support	▪ Tax treatment of life insurance products ▪ Maturity of microinsurance legislation and market
	Market participation	▪ Economic/labour participation rates ▪ Average in force policy size ▪ Lowest policy size obtainable

Source: Swiss Re Institute
[A] The Gini coefficients of income and wealth, ranging from 0 to 1, represent the magnitude of inequality in an economy. They have been converted as a measure of 'equality' by subtracting these from 1. As per the available data series from the World Inequality Database, the Gini coefficients of income are based on the pre-tax national income while the wealth Gini coefficients are based on net personal wealth. See *Distributional National Accounts Guidelines*, World Inequality Lab, June 2021.

Measuring inclusion: key findings

Room for improvement, universally and across all 3As

The sample markets show deficits across all the 3A dimensions of inclusion.

We use our Inclusion Radar to measure the degree of inclusivity in L&H insurance across our sample markets, which represent all advanced and emerging regions (in alphabetical order Australia, Canada, Japan, the UK and the US (advanced markets); and Brazil, Colombia, Egypt, Kenya, India, Indonesia, Mexico, Nigeria, South Africa, Turkey and Vietnam (emerging markets)). The measure of inclusivity is based on the 3A dimensions: the Availability and Accessibility of insurance, and the Affordability of insurance products/services in each market. The Inclusion Radar has been developed as a model to simulate reality. The sub-indicator and dimension Radar scores are used as a tool to appraise, in relative terms, market differences in inclusion and the drivers of those differences. A Radar score closer to 1 represents a high level of inclusion, whereas a score closer to 0 infers a lack of inclusion.

Availability is the biggest contributor to the inclusivity of L&H insurance markets.

Table 2 displays the aggregated Radar scores we derive for each dimension, and an overall Inclusion Radar score for each sample market. As showing, there are widespread deficits in terms of inclusivity across all the sample markets. No market has high scores for all the 3A dimensions. And no market ranks consistently in the top three across all the 3As. On aggregate, we observe that Availability drivers make the highest contribution to inclusivity across the 16 markets, more notably in the advanced than in the emerging markets (with the exception of South Africa). Accessibility and Affordability drivers play a more nuanced role in influencing market inclusion. In emerging markets, Affordability plays a more important role than Accessibility in promoting inclusivity. In advanced markets, where L&H insurance business has developed in the context of serving larger pools of high-income buyers, Affordability appears to hinder inclusion for low-income underserved segments, more so than Accessibility does. For the small sample of advanced markets, however, many country-specific factors are at play, and generalised patterns do not emerge clearly.

Table 2
L&H Insurance Inclusion Radar scores for sample markets, overall and for each 3A, as of 2022

	Aggregate inclusion score	Country ranking	Availability score	Accessibility score	Affordability score
US	0.67	1	0.73	0.62	0.67
Japan	0.66	2	0.55	0.79	0.64
Canada	0.64	3	0.66	0.64	0.62
South Africa	0.62	4	0.73	0.74	0.38
UK	0.61	5	0.72	0.59	0.53
India	0.52	6	0.55	0.53	0.48
Australia	0.52	7	0.47	0.48	0.59
Indonesia	0.51	8	0.56	0.39	0.57
Mexico	0.49	9	0.50	0.45	0.52
Turkey	0.49	10	0.50	0.30	0.66
Brazil	0.48	11	0.53	0.50	0.42
Egypt	0.48	12	0.52	0.31	0.61
Kenya	0.47	13	0.59	0.32	0.50
Nigeria	0.44	14	0.44	0.30	0.58
Vietnam	0.43	15	0.44	0.40	0.46
Colombia	0.36	16	0.38	0.33	0.37
Advanced markets	0.65		0.67	0.65	0.64
Emerging markets	0.50		0.53	0.47	0.50
Global	**0.53**		**0.56**	**0.50**	**0.53**

Note: a score closer to 1 represents a high level of inclusion; a score closer to 0 infers a lack of inclusion.
Source: Swiss Re Institute

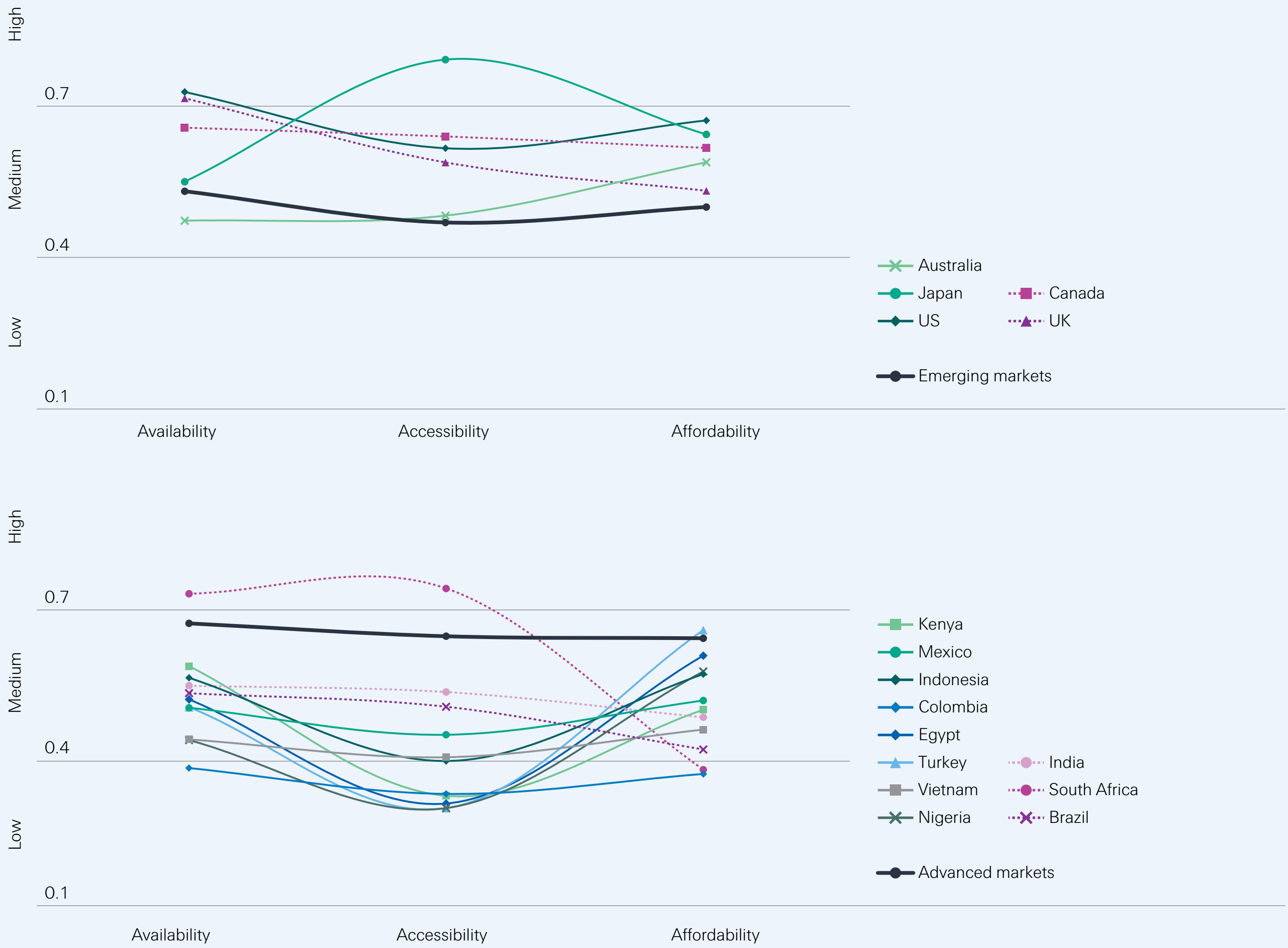
The Radar findings infer that L&H insurance in advanced markets is more inclusive than in emerging economies.

The two panels in Figure 4 separate out the advanced and emerging markets' Radar scores. They also compare each of the advanced markets' 3A dimension scores to the emerging market average, and vice versa. Overall, the display implies that L&H insurance business in our sample advanced economies is more inclusive than in emerging regions. With the exception of Availability in Australia, all of the other 3A dimension scores in each advanced market are higher than the emerging market average. With the 3As displayed in the order Availability, Accessibility and Affordability, two of the five advanced markets (Canada and the UK) demonstrate a consistent "downward" trend where strong Availability Radar scores are impeded by weaker Accessibility and Affordability scores. The US and Japan demonstrate opposite patterns to each other: while Accessibility is Japan's strength, it is the weakest dimension in a US context – a pattern shared with the average across the emerging markets (albeit at a generally higher level of inclusivity in the US).

However, it's a mixed picture: some emerging markets score higher than advanced economies for certain 3As.

In the emerging markets panel, two main 3A score patterns emerge. Eight of the 11 sample markets exhibit a "U" pattern, where Accessibility contributes least to inclusivity. Three (South Africa, India and Brazil) exhibit an overall 3A score curve akin to some advanced markets, with a downward trend on Affordability. South Africa is the only emerging market with higher Radar scores for Availability and Accessibility than the average advanced market, while Turkey performs better on the Affordability dimension of inclusion than the average advanced market.

Figure 4
Degrees of inclusion across the 3As in advanced markets, with comparison to the emerging markets average, and vice versa



Source: Swiss Re Institute

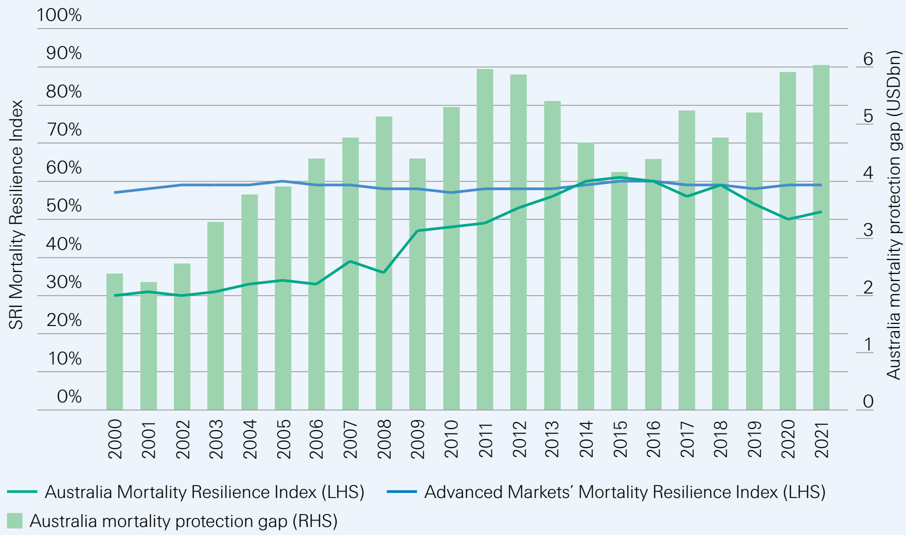
Advanced market 3As

In advanced markets, inclusion is bolstered by the existence of more established insurance and financial markets.

Overall, we observe that existing systemic conditions in advanced economies support greater inclusion than in emerging markets. Specifically, looking at the sub-indicators of each dimension, the Inclusion Radar findings indicate that inclusion in advanced markets is bolstered across the 3As by higher levels of insurance industry, financial market and socio-economic development, more so than in emerging markets.

- **Availability:** the Radar findings show that in advanced markets, a key driver of Availability is the provision of a wide range of cover types and innovative product options to suit consumer needs. All advanced markets in our sample, except Australia, perform similarly on this indicator. As Figure 5 shows, the SRI Mortality Resilience Index for Australia strengthened from 2000-2015, approaching the advanced markets average. However, from 2017 it has declined while at the same time, the mortality protection gap widens. A potential explanation could be related to regulatory reforms to prevent high-pressure selling, misrepresentation and unfair contract terms in the country's financial services sector, which began at the end of the last decade.[7] Increased disclosure requirements from those reforms led to a *Quality of Advice* review by the Australian Treasury starting in 2022, proposing further reforms to make it easier for customers to obtain sound financial advice. [8] The review has attracted over a hundred industry submissions and is ongoing, with the intention to restore better levels of inclusion for consumers.[9]

Figure 5
Australia and advanced market SRI Mortality Resilience Indices, and mortality protection gap in Australia, 2000–2022

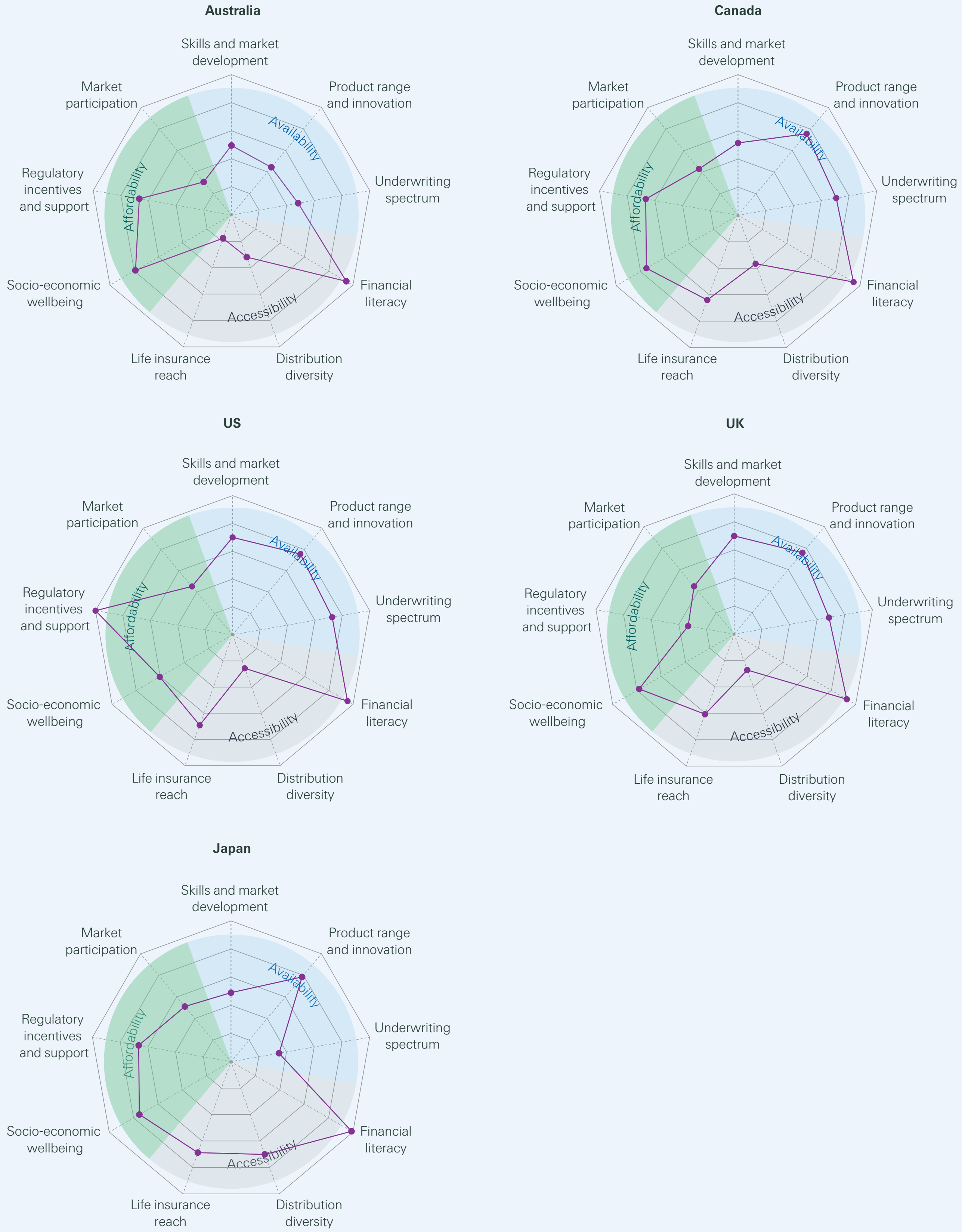


Source: Swiss Re Institute

The Radar findings also show that another driver of Availability in the advanced markets relative to emerging economies is scope for skills development and training for industry professionals (see Figure 6). The availability of such facilities help insurers more easily allocate skilled and experienced professionals to innovation.[10] Among the advanced markets sample, the US and UK outperform on this measure.

[7] *Royal Commission into Misconduct in the Banking, Superannuation and Financial Services Industry Vol 1*, Commonwealth of Australia, 2019.
[8] *A New Financial Services Landscape*, MinterEllison, 2020.
[9] Quality of Advice Review: Issues Paper, Commonwealth of Australia, 25 March 2022 to 3 June 2022.
[10] *Five Steps to Improve Innovation in the Insurance Industry*, McKinsey & Company, 4 March 2022.

Figure 6
L&H Insurance Inclusion Radars for sample advanced markets



Source: Swiss Re Institute

- **Accessibility:** consumers in advanced markets experience fewer difficulties in accessing insurance services than their peers in emerging markets. This is primarily driven by systemic factors like their financial markets being more established, leading to high levels of financial institution account-holding and credit usage. In our sample of advanced markets, the share of population with bank accounts averages 97%, compared with 54% in the emerging markets.[11] This suggests higher levels of financial literacy and trust in financial institutions. Advanced market consumers are generally more aware of insurance products. Physical access to banks is also greater: there are often no banks in remote regions in emerging markets.

  Of all the markets in our sample, Japan excels on Accessibility relative to the other dimensions. An explanatory factor could be that while distribution in most markets is male-dominated, in Japan sales are bolstered by a 230 000-strong insurer salesforce that is 90% women, so-called "seiho" ladies.[12] Other factors may boost the Radar Accessibility score in Japan. For example, simple cancer insurance products can be bought in post offices and, since the pandemic, life cover has been available in local convenience stores.[13,14] As with Availability, relative to the other advanced markets in our sample, Australia lags on the Accessibility score.

- **Affordability:** acts as a hinderance to insurance inclusion in advanced markets. This reflects the situation that, with the exception of Japan, the smallest policy sizes on offer are generally too expensive and not relevant for advanced market low-income consumers with modest needs. Another driver for low Affordability Radar scores in advanced markets relative to the other two 3A dimensions is how average in-force policy sizes compare to per capita GDP. Lower relative levels of protection suggest that consumers are not willing or able to allocate funds to the premiums required for the level of cover that would adequately meet their needs, leading to lower market participation. Japan has the lowest ratio of policy size to GDP per capita of all advanced markets.

  On the other hand, Affordability in advanced markets is buoyed by improved socio-economic wellbeing, due to lower levels of income inequality, a larger middle class and a smaller population segment living below the poverty line.

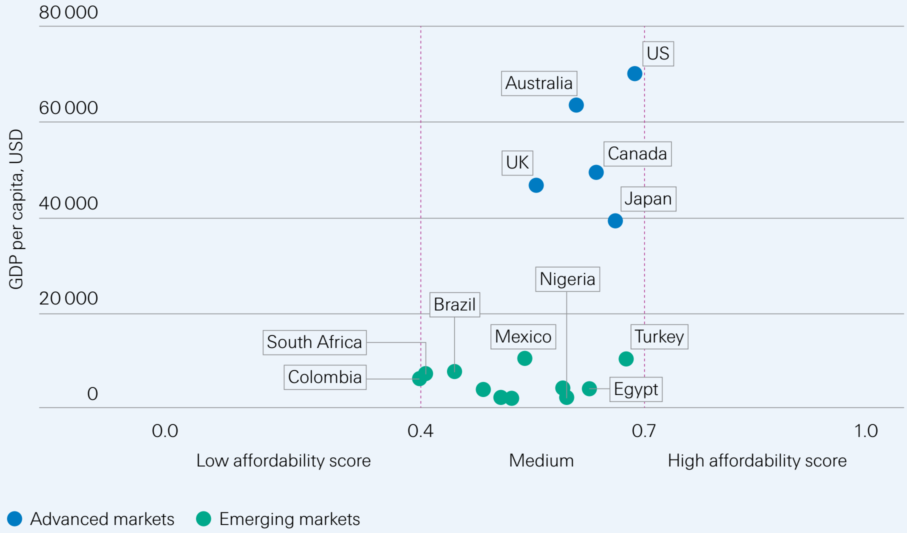
  Our Radar findings suggest that all five advanced markets have underdeveloped regulatory support for microinsurance, and a low number of microinsurance providers for low-income households. There is an absence of microinsurance in all of the sample advanced markets other than Australia.

Higher levels of income do not necessarily make L&H insurance more inclusive.

Figure 7 examines the relationship between per capita GDP, as a proxy for affluence, and each country's Affordability score. In 2021, the five advanced markets in our sample had an average per capita income of USD 54 000, ten times more than the average USD 5 400 for the 11 emerging markets.[15] However, we observe that the typically higher income levels in advanced economies do not consistently translate to a higher Affordability score.

[11] Source: World Bank
[12] "Japan's Army of Insurance Saleswomen Feel Threat of Digital Revolution", *ft.com*, 16 June 2020.
[13] *Annual Report*, Japan Post Insurance, 2014.
[14] "Seven-Eleven to sell life insurance at its convenience stores", *The Japan Times*, 8 June 2020.
[15] Source: *sigma* database

Figure 7
Affordability scores plotted against advanced and emerging markets' levels of GDP per capita



Source: Swiss Re Institute

Other socio-economic conditions and norms bear influence too.

As showing above, it appears that insurance markets are not inherently more inclusive at higher levels of income. In some markets with lower levels of affluence, insurers have been able to adjust propositions on offer in ways that overcome the financial constraints of low income customers. Systemic factors like financial market development and financial literacy may accompany rising incomes, in turn supporting inclusivity. However, other cultural and specific socio-economic norms, and factors of economic equality such as the role of women in household financial planning, likely influence degree of inclusivity also (see *L&H insurance buying norms by gender: the UK example*).

L&H insurance buying norms by gender: the UK example

Data shows that in the UK, women take out less risk coverage than men...

Personal financial resilience is important given the economic challenges faced by households. Underestimating financial needs is not a gender-specific issue, but market data from the UK indicates that there, female customers take out less income protection than men, and that their decision on how much insurance to take is based on covering their basic costs rather than their salary.[16] This trend could lead to a situation that when making a claim, female customers find they are underinsured, even more so in the current high-inflation environment, which will likely increase basic costs.

...and that only about 40% of UK policyholders are women.

Only 42% of policyholders in the UK in 2021 were women. In addition, men take out higher benefit amounts (14% higher than women in 2021).[17] While more women buy more level term insurance, the difference between the average new benefit for men's level term and critical illness (CI) policies is even higher than reported for income protection (17% for Level Term and 26% for Level Term with CI).

Raising awareness on the part of women can help address gender-based protection gaps.

If women are underinsured, it can be detrimental to society in the sense of contributing to larger protection gaps than could otherwise be the case. Underinsurance can be due to work patterns and occupations, for example more temporary work contracts and gig-economy jobs, which are themselves subject to gender equality challenges and do not offer the same access to insurance benefits as permanent working contracts. It can also be due to lack of awareness or engagement on the part of women in personal and household financial planning decisions. As a first step to address gender protection gaps, raising awareness is key. This could be addressed by increasing advice channels tailored to the buying preferences of female consumers, or through the workplace.

[16] *Term & Health Watch 2022*, Swiss Re, 2022.
[17] Ibid.

Emerging market 3As

Overall, our sample emerging markets have lower Inclusion Radar scores than the advanced economies. But the extent of underperformance varies across the 3As.

Figure 8 shows the Inclusion Radar charts for the Latin America, emerging Europe, Middle East & Africa (EMEA) and emerging Asia regions, respectively. Some emerging markets exhibit positive outliers on some scores and for certain indicator clusters. For instance, the availability of microinsurance and associated regulatory support to keep policy premiums within the means of low-income communities boost the Radar scores. On average, we observe lower Radar scores for emerging than for advanced markets, but the extent of underperformance varies across the 3A dimensions.

- **Availability:** there is a fair range of products and innovation effort in emerging markets, but Availability Radar scores in all regions are weakened by fewer opportunities for skills development and training. This is more marked in Latin America (particularly Colombia) and in emerging Asia (Vietnam). In South Africa and to a lesser extent India, Nigeria and Kenya, insurance sector professionals benefit from more opportunities to upskill and apply their knowledge to benefit market development.

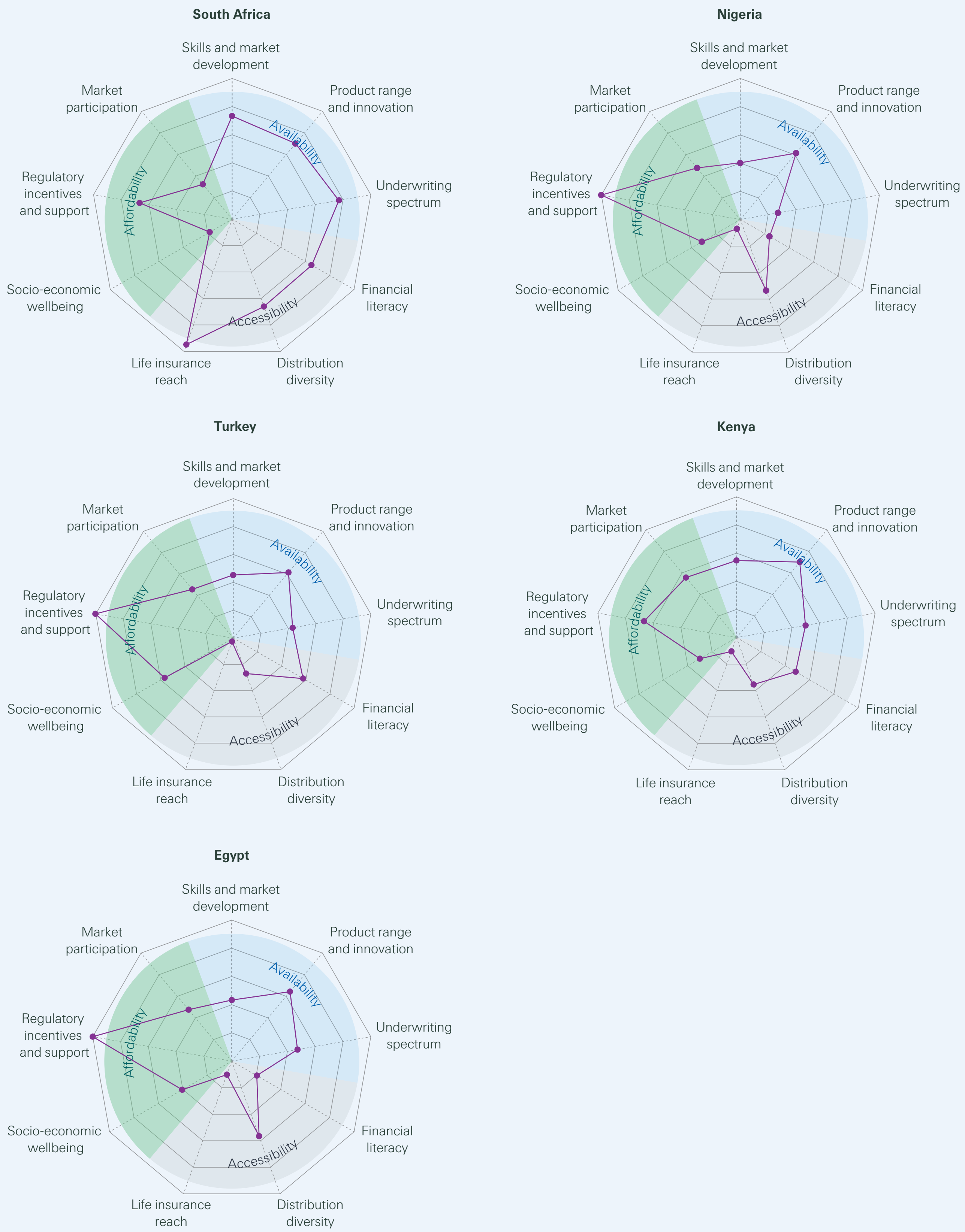
  In emerging markets where employers are required to provide group life cover by law, or where accepted employment contract conditions require it, and where coverage amounts are appropriate for maintaining standards of living, this line of business makes a strong contribution to market development and to Availability scores. Group life insurance is reasonably well developed in most of our sample emerging EMEA markets, but less mature in Latin America and emerging Asia. One explanation for the slower development of group life insurance in these regions is the relatively larger size of the informal economy.

- **Accessibility:** on aggregate, the Accessibility Radar scores for the emerging markets in our sample are the lowest of all the 3As, and also lag the advanced market scores most. Weighing on scores to different degrees are lower levels of financial literacy, and less usage of and trust in the financial services sector. For instance, in Brazil, India, South Africa and Turkey, consumers make more use of financial services than in the other emerging market sample countries. Another factor hampering Accessibility is low insurance penetration. With the exception of South Africa and to a lesser extent India, penetration in the other markets is low.

  Accessibility scores are supported by diversity within market distribution models. We see two types of diversity in distribution models: human and technological. To the extent that the L&H insurance industry relies on traditional agent/broker distribution models, those who sell insurance may be more successful when demographically similar to prospective buyers. Overall, the emerging markets in our sample score better than the advanced markets with respect to the diversity of sales agents and how they reflect underserved communities and the wider population. With respect to diversity in technology, another driver of distribution in the emerging markets is the high rate of mobile phone usage. In our sample of 11 emerging markets, South Africa has the highest per capita mobile cellular subscriptions (1.61 per person), followed by Vietnam (1.42) and Colombia (1.33).[18] Mobile technology facilitates distribution of simple insurance products that can be commoditised for scale, and also microinsurance solutions.

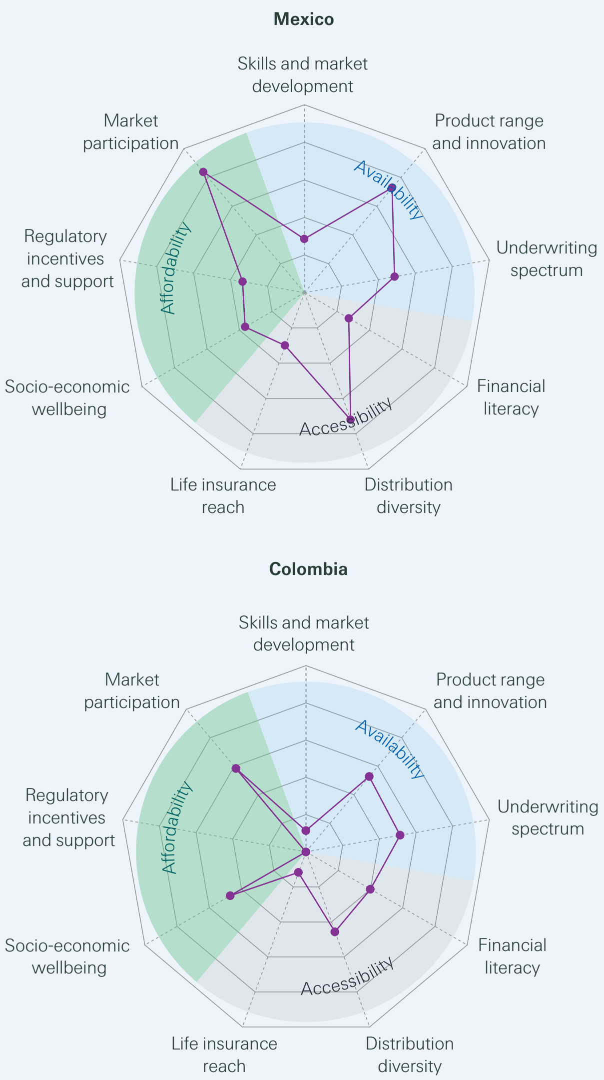
[18] Computations based on data from the *World Development Indicators*.

Figure 8
L&H Insurance Inclusion Radars for sample markets in emerging EMEA



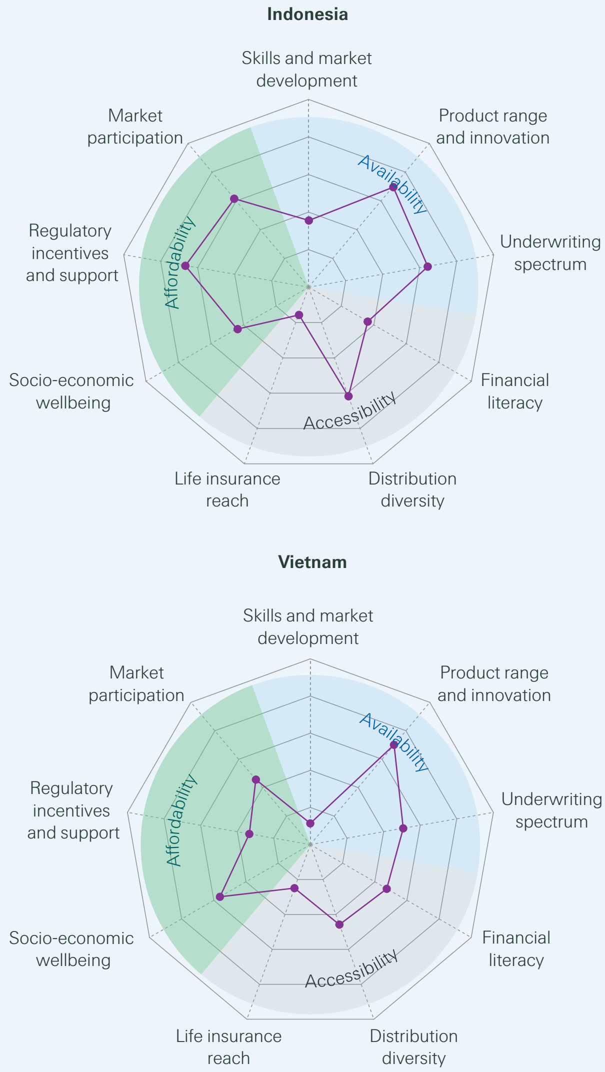
Source: Swiss Re Institute

Figure 9
L&H Insurance Inclusion Radars for sample markets in Latin America



Source: Swiss Re Institute

Figure 10
L&H Insurance Inclusion Radars for sample markets in emerging Asia



Source: Swiss Re Institute

- **Affordability:** emerging markets tend to have more providers of insurance products with very low minimum face amounts than the sample advanced markets. These providers support market participation for low-income communities and significantly raise Affordability Radar scores relative to the advanced markets. To this end, insurers and insureds in emerging markets benefit from regulations to promote the growth and mass distribution of small policy coverages, more so than the advanced markets. In Brazil for example, specific regulatory support in recent years includes giving parties more freedom and flexibility to determine terms of the contract, allowing on-demand insurance products, launching a regulatory sandbox, and establishing more flexible rules for personal insurance. The goal of these changes was to reduce insurance premiums and increase the number of policyholders in the Brazilian market, resulting in an 11.9% insurance growth rate in 2021 (up from 1.3% in 2020).[19] This trend has also been supported by the rapid growth of digital banking with embedded insurance since the COVID-19 pandemic (see *Digital banks help Brazil´s insurers extend financial and social inclusion*). With respect to fiscal incentives, such as premium tax deductibles (or indeed the opposite like sales or premium taxes), no clear pattern emerges in the emerging (nor the advanced) markets in our sample. For example, Brazil and Colombia lack any tax incentives for the purchase of life insurance, whereas in Kenya and Indonesia insurance premiums are tax deductible.

  Another consideration is that poverty and economic inequalities can negatively impact the Affordability scores in advanced and emerging markets, but much more so in the latter. Wealth inequality has a lesser influence in emerging markets than in advanced markets, while prevailing poverty and constrained social mobility to middle class status suppress the Affordability dimension in emerging markets.

South Africa is on par with advanced markets with respect to the Availability and Accessibility of L&H insurance.

The overall Inclusion Radar score for South Africa is the highest of all the emerging markets in our sample. This is based on strong Radar scores for Availability and Accessibility, where performance is similar to that of the advanced markets. Conversely, however, South Africa is the second-worst performing of all markets on Affordability, just slightly behind Colombia. This is largely driven by high unemployment and deep social inequalities. In South Africa, the L&H insurance market has high penetration and high levels of product innovation, and consumer awareness and familiarity with insurance and other financial services is also high relative to other emerging markets. This indicates that social inequality on its own need not hold back sector growth (see *South Africa: a top performer for Availability and Accessibility of L&H covers*).

[19] *Insurance and Reinsurance in Brazil: Overview*, Thomson Reuters Practical Law, 2022.

South Africa: a top performer for Availability and Accessibility of L&H covers

Financial services are well established in South Africa.

Many forces combine to create a thriving L&H insurance market in South Africa. According to the World Economic Forum's Global Competitiveness Report of 2019, South Africa ranks as 60th most competitive overall. However, as a regional financial hub, its financial system ranks far higher – 19th in the world.[20] One of South Africa's largest local insurance groups, Old Mutual, has origins dating back to 1845 and industry leaders have premium market shares in the teens, suggesting a healthy degree of competition. There are more than 70 registered long-term insurers in South Africa and the market is well regulated by the Financial Services Board.[21]

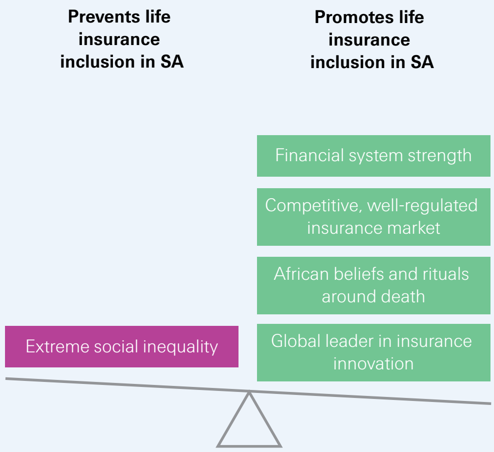
Social norms, such as beliefs around death also drive uptake of life insurance covers.

Beliefs and rituals around death in African cultures may be a strong driver for the social acceptance of life insurance as a tool to manage household finances. The funeral insurance market is well established in South Africa and has high penetration. Death does not end an individual's life, but is instead a change in its conditions. Referred to as "ancestors", those who have passed away have continued existence. Families seek to ensure that the lost loved one receives a "correct" funeral to make for a dignified transition, and to ensure that the deceased does not return to trouble the living relatives. Such a funeral involves a number of ceremonies in which the whole community joins in solidarity, at significant cost to the family.[22]

The life insurance market in South Africa is well known as a hub for industry innovation.

Further, the L&H insurance market in South Africa is recognised as being one of the most innovative globally. Many examples substantiate this view. In 1983, the first policy of the product genre now known interchangeably as Dread Disease, Critical Illness, or Severe Illness cover, was sold in South Africa.[23] In 2005, the country became the home market of the first provider offering protection to HIV+ customers – AllLife.[24] In the domain of mobile phone network operators, various apps and models exist to give low-income customers an easy route to buy funeral cover. The Discovery Group's health engagement programme, Vitality, originated in South Africa and is now internationally recognised.[25] Since 2020, the COVID-19 pandemic has accelerated the growth in the insurtech sector, and many well-established South African L&H insurers are collaborating with insurtech firms, improving product transparency and responsiveness for customers.[26]

Figure 11
Life insurance inclusivity in South Africa



Source: Swiss Re Institute

[20] *The Global Competitiveness Report 2019*, World Economic Forum, 2019.
[21] *The Report: South Africa 2016*, Oxford Business Group, 2016.
[22] See *The African Concept of Death*, Encyclopaedia of Death and Dying.
[23] *Critical Illness Insurance – Past, Present and Future*, *Institute and Faculty of Actuaries*, 2004.
[24] *AllLife*, Center for Health Market Innovations, 2005.
[25] "The Latest Hot Innovations from South Africa's Protection Insurance Market", *Life Insurance International*, 24 February 2022.
[26] "Is InsurTech Personalising South Africa's Long-Term Insurance Industry?" *Business Wire*, 22 February 2022.

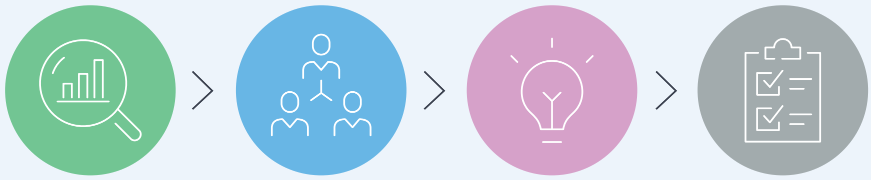
Paths to more inclusive insurance

Industry progress needed

Insurers can improve insurance inclusion in four key areas.

In our view, there are four key areas of opportunity where the industry could progress the inclusivity of L&H insurance markets: 1) consumer-focused market research across all segments to better understand the needs of underserved customer groups; 2) strategic partnerships to increase accessibility for consumers to insurance products; 3) innovation in product development and underwriting processes to better meet consumer needs in more affordable and efficient ways; and 4) dialogue with regulators to ensure consumer protection and an environment in which innovation can flourish.

Figure 12
The path to more inclusive insurance



Market research	Strategic partnerships	Product innovation	Regulatory dialogue
Prioritise customer-focused research to understand needs of underserved communities	Choose partners to help access new customer groups at scale	Design simple, more affordable products with efficient, inclusive underwriting	File new concepts & work with regulators to balance innovation with consumer protection

Source: Swiss Re Institute

Market research

1) Identify underserved communities…

A first step to greater inclusion is to ascertain which consumer groups are overlooked. Once identified, the next step is to understand the needs of these consumer segments by analysing existing consumer data and trends. Two types of data can help to inform business and policy decisions: "demand side" data, which comes from customers and "supply-side" data reported by financial institutions to government agencies and regulators. However, in many instances there is little to no data on underserved consumers. New research to uncover insights into target customers' needs, preferences and behaviours is essential.

…and better understand consumer needs.

Efforts to problem solve for new consumer groups where data is limited should be based on careful market research. Design-thinking methodology and behavioural research have gained traction in the insurance industry as useful tools to guide new product design. This could prove important in India, for example, where the industry regulator has a target to ensure that every Indian person and enterprise will have appropriate life, health, property and other insurance protection by 2047.[27] This is an ambitious target, not least because as of today, 30% of India's population (400 million people) has insufficient health cover (see *India's "missing middle"*).

Combining qualitative with quantitative research yields insights into consumer needs and preferences.

Combining qualitative and quantitative customer-centric research produces the best results when investigating consumer preferences and behaviours.[28] Qualitative study includes customer interviews, focus groups and immersive ethnography (ie, observing consumer behaviours in the context of existing socio-economic norms). The goal is to understand the challenges consumers face, what they value and prioritise, and the language they use to describe their needs. These qualitative findings tend to be gathered from small sample sizes and require validation in a larger sample, which can be

[27] *Insuring India by 2047*, Insurance Regulatory and Development Authority of India, 25 November 2022.
[28] "Innovate to Win: Why Market Research is Key to Insurance Industry Success", *Milliman*, May 2020.

accomplished through quantitative methods, such as surveys. Valuable quantitative data may also be obtained from financial institutions or brands already transacting with target customers, providing a strong value-add for embedded insurance opportunities, as long as data use is properly disclosed and authorised by customers.

India's "missing middle"

India has the world's largest state-funded health insurance scheme for the poorest 50% of the population.

Data from the World Health Organization show that 65% of India's healthcare expenditure in 2019 was out-of-pocket.[29] There has been progress towards healthcare insurance inclusion with initiatives such as the Ayushman Bharat government scheme (Pradhan Mantri Jan Arogya Yojana, or PM-JAY). It is the world's largest state-funded health insurance scheme and covers the poorest 50% of the population (about 700 million people). Each family is covered to the extent of 5 lakh rupees annually (approximately USD 6 000) for secondary and tertiary care, with a cashless service at the point of care.[30] At the opposite end of the spectrum, around 20% of India's wealthiest population are covered by private voluntary or social health plans.[31]

However, 30% of the population – the missing middle – have little or no cover.

Between these two ends of the spectrum is India's missing middle, underserved communities with insufficient health insurance protection. They number about 400 million people, roughly 30% of the country's population.[32] They are engaged in daily labour, informal work or run small businesses. Family income levels are characterised as being too poor to be rich, and too rich to be poor. Being ineligible for the PM-JAY scheme and not able to afford private cover means that out-of-pocket health expenses are high, and catastrophic expenditure can push this income group into poverty. This calls for deeper research to understand the needs of the missing middle.

Figure 13
India's missing middle

Source: Swiss Re Institute

[29] *Social Spending in South Asia — An Overview of Government Expenditure on Health, Education and Social Assistance*, UNICEF, 2020
[30] See *About Pradhan Mantri Jan Arogya Yojana (PM-JAY)*, National Health Authority, 2019
[31] *Health Insurance for India's Missing Middle*, NITI Aayog, October 2021.
[32] Ibid.

2) Foster new partnerships to recruit new...

Strategic partnerships
One way to address lack of Accessibility to L&H products and services is to bring more diversity into strategic partnerships. This includes both diversity in terms of *people and representation*, and diversity in terms of *technology-enabled distribution*. The value of diversity is to help attract new consumer segments and engage with people in settings familiar to their life circumstances, or situations in which they feel comfortable.

...and more diverse talent into the insurance industry.

To this end, insurers may seek to enter into new partnerships. For example, across the US, Canada and Europe, the traditional life insurance "salesperson" skews to the older, white male. Partnerships with colleges and universities to recruit more diversity among financial advisors – more women, younger ages, and minorities – is an important enabler for inclusive insurance. Such efforts are already underway in the US (see *What are US life insurers doing to recruit diverse talent into the industry?*)

US advisors and agents selling life insurance often lack diversity.

What are US life insurers doing to recruit diverse talent into the industry?
Access to life insurance in the US may be hampered in part by the lack of diversity within the industry itself, especially among financial advisors and agents who sell life insurance. According to a 2021 survey, older and white customers are more likely to rely on a financial advisor than younger and non-white customers.[33] One explanation is that life insurance agents themselves are more likely to be older (average age 45), white (69%), and male (54%), although these demographics may vary by distribution channel.[34]

Social unrest has prompted US insurers to make commitments and changes that advance racial equity.

Efforts to promote greater diversity and inclusion in the insurance industry took on new urgency after the social unrest that followed the death of George Floyd in 2020. A US House Committee study reported that 89% of 21 insurers surveyed released a public statement in response to this event.[35] Of those, 83% made commitments to advance racial equity. Examples of efforts to promote racial equity include:

- Workforce diversity, including recruitment of new talent taken from historically black colleges and universities.[36]
- Diversity and inclusion practices such as paid days off for employees volunteering in diversity and inclusion initiatives; observance of Juneteenth as an annual federal holiday;[37] granting funds for initiatives to improve police and community relations; and increased support for employee resource groups.
- Increased evaluation of diversity and inclusion programmes (92% of companies conducted an evaluation in 2021, compared to 80% in 2017).
- Greater transparency, including publication of key diversity and inclusion initiatives, pay equity information and diversity goals.

Increasing diversity within insurers and of insureds would support industry growth.

Actions to reach more diverse customers are an additional focus in some of these conversations. Having a more diverse customer base is an opportunity to extend insurance reach and can also help foster industry growth.

New types of distribution partners are also needed.

In addition, accessing new customer groups at scale will require partnership strategies that address distribution differently. We see three opportunities:

- Partnerships with non-insurance companies that already transact with target underserved customers. The partners can include telecoms and money transfer companies, grocery stores, online retailers and more. Customers already know and trust brands in these sectors, and insurers can benefit by partnering with them to layer

[33] *Financial Inclusion and the Underserved Life Insurance Market, Part Two*, Deloitte, 15 Sep 2021.
[34] See *Life Insurance Agent Demographics and Statistics in the US*, ZIPPIA.
[35] *Diversity and Inclusion: Holding America's Largest Insurance Companies Accountable*, US House of Representatives, 2022.
[36] "Insurance Sector Steps Up Recruitment Efforts", *Business Insurance*, 8 February 2022.
[37] US President Joe Biden signed the *Juneteenth National Independence Day Act* into law in 2021.

in insurance as part of the product offering. Using insurance as an embedded, value-added benefit to promote increased customer loyalty is a valuable strategy that has already proven successful in emerging markets.[38] One such market is Brazil (see *Digital banks help Brazil's insurers extend financial and social inclusion*).

- Digital platforms reduce the costs of transacting and enable easy, simple insurance sales processes. Insurers partnering with digital platform operators for distribution purposes should seek partners that can transact at scale. The aim is to sell high volumes of low-premium products. For their part, insurers should ensure simple, easy-to-understand products that offer clear benefits.

- Public-private partnerships also pave the way for new opportunities. These partnerships leverage the access that governments, non-profit organisations and microfinance institutions have to large and previously underserved customer groups, linking them to private-sector insurance propositions, potentially at subsidised rates.

Digital banks help Brazil's insurers extend financial and social inclusion

A digital banking revolution in Brazil is facilitating access to insurance for many consumers for the first time.

Two key developments are converging to democratise L&H insurance in Brazil. First, a revolution in digital banking over the past 10 years has led to a dramatic increase in Brazil's banked population, leading to increased competition and financial inclusion, and lower banking fees.[39] COVID-19 has accelerated this trend with 16 million people migrating to online banking services since the start of the pandemic, extending banking access in Brazil to 85% of the population. Digital banks such as Nubank, Mercado Pago, Banco Inter and C6 Bank[40] are now adding L&H covers to their service offerings. As a result, millions have access to L&H insurance for the first time ever.

Brazil's banking and insurance sectors need to comply with new sustainability regulations.

Second, Brazil's regulator, the Superintendence of Private Insurance (SUSEP), recently published guidelines on sustainability requirements for the insurance sector.[41] Under this regulation, insurers will be held accountable to properly manage sustainability risk and to create sustainability policies, with a requirement to publish an annual sustainability report on their effectiveness in implementing those policies. The new SUSEP regulations follow on the heels of similar sustainability regulations for Brazil's banks.[42] The focus of these regulations is primarily on management of environmental risk, but social issues are also acknowledged as important. Insurers seeking to meet Environmental, Social, and Governance (ESG) requirements according to the new regulation have a strong ally in digital bank distributors. By harnessing the reach of digital banks, they can protect more customers, meaning greater industry inclusion.

Strategic partnerships on skills and training can foster industry innovation.

Another avenue for strategic partnerships is industry bodies. Skills development and training programmes can help to equip insurers with new and diverse talent and ideas for inclusive innovation. Examples already in action include the Association for Savings and Investment South Africa (ASISA) Academy which upskills underwriters, claims assessors and other financial industry professionals,[43] and the Life Office Management Association (LOMA), which offers an employee training and development programme for US life insurers.[44]

[38] *Opportunities for Embedded Insurance Partners*, Celent, 11 February 2022.
[39] *Brazilians are Adopting Digital Payments Faster than Anyone Else – What Lessons can We Learn?* World Economic Forum, 19 May 2022.
[40] See *Chubb and Nubank Launch Fully Digital Life Insurance Offering in Brazil*, Chubb, 1 December 2020; "Swiss Re, Prudential Launch Digital Life Insurance in Brazil through Mercado Libre", *Inside Engage,*24 June 2022*; Liberty Seguros amplia contrato com Banco Inter por R$ 368 milhões*, Sonhu Serguos, 12 August 2020; and "C6 Bank oferece seguro de vida com oferta personalizada", *revistaapolice.com.br*, 9 November 2021.
[41] "Brazilian Insurance Regulator Publishes Guidelines on Sustainability Requirements for the Insurance Sector" *Eyes on ESG*, 19 July 2022.
[42] "Brazil's Banking System Braces for New ESG Regulation", *Latin Finance*, 13 September 2021.
[43] See *ASISA Academy*
[44] See "Professional Development", *loma.org*

3) Innovate new insurance products and processes.

Product innovation
Greater inclusion also requires continuous innovation and evolution of simple, more affordable products alongside more efficient, inclusive underwriting practice. Key examples of product and underwriting innovations for underserved segments include:

- Microinsurance provides small face amount coverage at low premiums. Examples of already-existing products include credit life and hospital cash products as well as insurance embedded into an existing and complementary transaction.

- Group life insurance provided by employers has traditionally been the most inclusive form of L&H insurance available to employees. Given the changing nature of work, efforts to extend group L&H cover to gig workers and buyer groups such as telecom service users are channels by which to extend insurance reach beyond the traditional employer/employee space.

- Simplified underwriting innovation also paves the way for greater inclusion. Reducing the number of underwriting questions, simplifying the wording, and using alternative data sources to make an assessment can accelerate the insurance buying process. However, insurers need to be cognisant that proxy discrimination in data usage for underwriting is becoming increasingly regulated, particularly in advanced markets.

- Fairness in underwriting also requires a commitment to find ways to better segment risk, particularly to cover people with chronic conditions such as HIV, diabetes and poor mental health, as understanding and treatments of these conditions improve.

4) Engage with regulators…

Regulatory dialogue
Finally, dialogue between insurers and regulators is required to strike the right balance between innovation in product development and underwriting processes, and consumer protection. Advanced markets insurance sectors are highly regulated with decades of rule-making, designed for higher-end and more complex products. Meanwhile, several emerging markets have allowed for more flexible standards for microinsurance that meet the needs of lower-income customers. Some examples may include lower capital requirements for providers, simpler rules for distribution, and restricted premium rates with upper and lower limits, all of which enable a more efficient sale of small, affordable policies. These allowances are more likely to be missing in advanced markets which have traditionally catered to more affluent customers. As a result, regulation can create a disincentive for innovation that benefits lower-income segments in advanced markets. New ideas face intense scrutiny and may be reviewed without appropriate context for new types of risk and new inclusive opportunities in mind.

…and pilot new concepts in regulatory sandboxes.

Progress here cannot be made in the abstract: to get regulatory sign off, insurers need to file specific new product concepts. But companies may resist trying new things to avoid long drawn-out regulatory reviews and the costs associated therewith, especially when approval is highly uncertain. Regulatory sandboxes allowing insurers to pilot new concepts outside of existing regulation to a limited scale, are one way forward. Working with regulators to overcome the challenges involved in making insurance more inclusive, with innovations that recognise synergies between social welfare benefits and private risk covers, is another important consideration.

Conclusion

More inclusive insurance can help narrow mortality and health protection gaps.

L&H insurance can play an important role in reducing social inequalities but for maximum impact, the industry must prioritise inclusion for all. By making L&H insurance more affordable, available, and accessible, individuals and households will be better equipped to withstand the financial challenges that occur when a primary breadwinner passes away, and/or when they incur high costs of healthcare treatments.

The Inclusion Radar provides insights for insurers globally…

The L&H Insurance Inclusion Radar framework allows us to move beyond measuring the size of mortality and health protection gaps to consider the drivers of those gaps. The insights derived from the Radar scores can serve as a call to action for insurers globally to make L&H insurance more inclusive for both existing and underserved consumers.

…to inform actions to extend the reach of L&H covers to all segments of society.

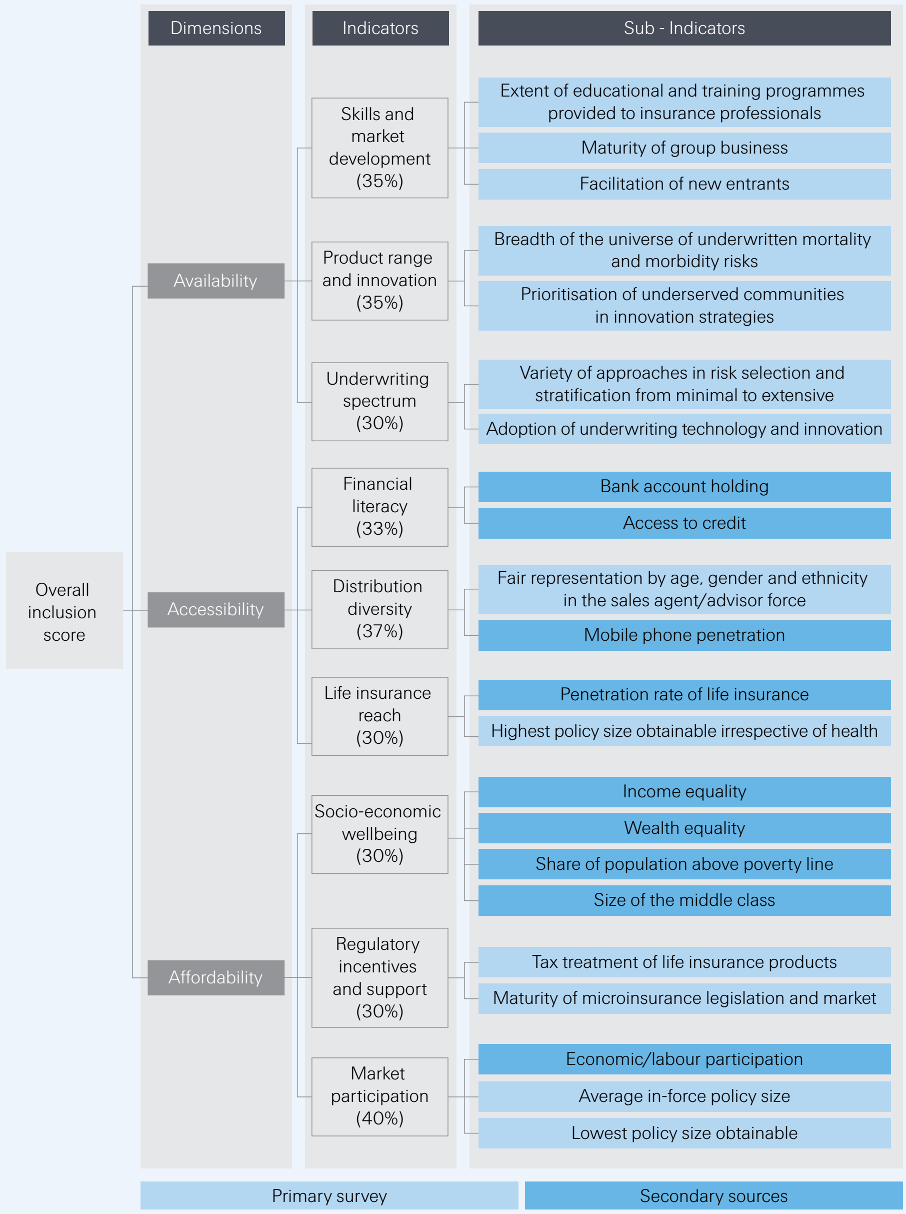
We see four main areas for positive action. First, insurers should undertake consumer-based market research that prioritises underserved communities. Second they should engage in strategic partnerships to foster diversity in distribution and use digital technology to achieve scale. Third, they should continue to innovate in product design alongside more efficient, inclusive underwriting practices and fourth, foster dialogue with regulators to strike the right balance between innovation and consumer protection.

Appendix: Methodology

Details of indicators used

For the Inclusion Radar study, we selected a sample of 16 markets (which includes five advanced and 11 emerging markets). These markets are important from Swiss Re's business perspective and constitute around 50% of the global L&H insurance market. The data collected is on the three dimensions: availability of, accessibility to and affordability of insurance in the different markets. Each dimension comprises several indicators and sub-indicators, information on which are from primary and secondary data sources. The details are given in Figure 14. Measures of "Availability" are entirely estimated from the primary/proprietary survey data. The measures of the other two dimensions – "Accessibility" and "Affordability" include sub-indicators estimated from primary as well as secondary data sources. To derive the Radar scores for each dimension, the scores for respective sub-indicators are aggregated using a weighted average. These scores are further aggregated using an arithmetic mean to come to an overall Inclusion Radar score for each market.

Figure 14
Inclusion Radar framework: dimension indicators and sub-indicators



Note: numbers in parentheses are weights.
Source: Swiss Re Institute

Primary survey data
The primary survey data forms a crucial part of this framework. After designing a comprehensive set of questions covering various aspects of the three dimensions, we interviewed around 35 internal experts across the 16 sample markets during course of 2022. This allowed us to access information about their respective L&H insurance markets not readily available from any other data or information source.

The survey comprises of questions yielding both qualitative and quantitative responses in the form of multiple choices, absolute values in US dollar terms, text and yes/no answers. Several Likert scale-like questions were included to derive a perspective on the magnitude of existence of a particular variable. For instance, to understand the level of availability of a particular L&H insurance product with no underwriting, a respondent could select from "not available", "niche product" and "widely available".

The scores for each question were estimated by aggregating the assigned weights to all the questions and the options within, based on expert judgement. A relatively higher weight was assigned to questions/options that can impact the level of inclusion significantly. The score of each question was treated as one sub-indicator under a specific dimension. All these sub-indicators are normalised using the min-max approach. The answers in absolute US dollar values were first converted into unit-less indices by dividing them with respective national GDP per capita, to allow for more fair comparisons between markets, and then normalised.

Processing secondary data
The secondary sub-indicators are sourced primarily from the World Development Indicators (World Bank), and World Inequality database. Where data for 2022 was not yet available, previous year information has been used. For each of the secondary sub-indicators, the latest available data is extracted for all countries of the world. Then, the outliers, if any, were removed using the inter-quartile range method. All the cross-country data series, whether coming from primary or secondary sources, have their own unit. To aggregate them, it is necessary to transform all these series to a unit-less indices. Hence, after eliminating the outliers, all the cross-country series are normalised to a unit-less index, on the scale of 0 to 1 using the min-max approach, 0 indicating lowest level while 1 representing the highest level of each series.[45] The advantage of using this transformation is that it preserves the order and the relative distance among the cross-country values of the same series. For each of the sub-indicator, *j*, the normalised value for each country (*Ii*) is calculated as per the equation below:

$$I_{ij} = \frac{(X_{ij} - \min(X_{1j,} X_{2j,} \ldots, X_{nj})}{\max(X_{1j,} X_{2j,} \ldots, X_{nj}) - \min(X_{1j,} X_{2j,} \ldots, X_{nj})}$$

Where i = 1, 2….n represents the countries; j = 1,2,…8 represents the sub-indicators. After normalising, the transformed values of the 16 sample markets were selected and aggregated with the sub-indicators from the primary survey, through a weighted average approach across each dimension for each market.

While most of the secondary sub-indicators are readily available, estimation of two of them, feeding into Affordability, require some explanation. For estimating the size of the middle-class, we follow the definition of the middle class as outlined in *sigma* 3/2022.[46] Middle-class in the emerging economies is the share of population living on a daily income of USD 13-70 (2011 PPP). For India, Kenya and Nigeria we use USD 10-50 due to their lower income levels. The daily income threshold for advanced economies is USD 25-80. For estimating the share of population above poverty line, we consider the World Bank's definition of poverty headcount ratio at 2011 PPP. The World Bank has defined poverty rate at three levels – USD 1.90/day, USD 3.20/day and USD 5.50/day. To have a more comparable data across the countries under this sub-indicator, we compiled poverty headcount ratio at USD 1.9/day for low-income countries, at USD 3.20/day for middle-income countries and at USD 5.50 /day for high-income countries.

[45] We have transformed the inequality measure of income and wealth to 'equality' by subtracting the Gini coefficients from 1. Hence, higher the value, more equality exists in that market.
[46] *sigma* 3/2022, op. cit.

To estimate the share of population above poverty line, we subtract the poverty headcount ratio from 1.

Limitations of the methodology

While utmost care is taken to incorporate all aspects of inclusion of L&H insurance markets, the approach taken to estimate the overall Inclusion Radar score has certain limitations. First, our primary survey is based only on the responses from internal experts, which may not be representative of the whole market. Second, this is the first study of its kind, and the weights assigned to each response are based on purely expert judgement and there is no mathematical reasoning behind them. A third limitation is that the indicators used to measure inclusion represent the best efforts of the authors to describe the driving factors of inclusion as holistically as possible. These may omit factors that are beyond the experience and knowledge of the authors, who welcome readers' feedback on this point.

Published by
Swiss Re Management Ltd.
Swiss Re Institute
Mythenquai 50/60
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The authors thank Erin Dullard and Kayla Eckles for their work in the design of the L&H Insurance Inclusion Radars and research interviews for primary data collection.

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The editorial deadline for this study was 24 February 2023.

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