2017 Global Retirement Index

An in-depth assessment of retirement security in the developed world

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The world is getting older.
Policy needs to be wiser.

Retirement security is challenged on many fronts across the globe. Slow growth, low interest rates, and the looming threat of inflation stretch the economics of retirement funding. Debates about the viability of entitlement programs and the prioritization of short-term goals for lower taxes and deficit reductions over ensuring long-term sustainability of retirement benefits make the politics of retirement contentious. And the perpetual shifting of funding responsibility to the individual is changing the mechanics of retirement.

Above all other issues, one factor holds the greatest sway over retirement security: demographics. Simply put, the world is getting older. Today, there are more individuals age 65 and older than ever before and these 600 million individuals are placing pressures on established retirement systems. By 2050, the World Bank estimates that the global elder population will more than triple to 2.1 billion people, making retirement security one of the most pressing social issues facing the world in the next 30 years.

Older populations forcing new thinking on policy

This rapid growth of seniors will force many countries to rethink their public pension systems. Many in the developed world will be forced to address powerful demographic trends sooner rather than later.

In Japan, the United Kingdom, the United States, Italy, and Australia, 90% of those in the over 65 age bracket receive some sort of public pension.[1] These countries already have high old age dependency ratios, which measure the number ratio of people age 65 and older as compared to those of working age.

Japan ranks lowest for dependency among the 43 countries included in the 2017 Natixis Global Retirement Index, followed by Italy at 42, the UK at 26 and Australia at 18. The US may rank 16 out of 43 on the list, but it too will feel increased pressure, as it is estimated that the worker-to-beneficiary ratio will decline from 3.3 in 2005 to just 2.1 in 2040[2] – the same year it is projected that the Social Security Trust Fund will be exhausted.

In Europe, the age wave has already had an impact. According to the European Parliamentary Research Service, one in four citizens in the European Union currently depends on pension income. It is estimated that by 2060 the number of working people per person over the age of 65 will decline from four today to just two.[3]

Even China is not immune to demographic pressure; its Bureau of National Statistics reports that the number of workers between the ages of 16 and 59 dropped by a record 4.87 million people in 2015. While a workforce of 911 million individuals may still seem large, the World Economic Forum estimates that the total working population in China will decline by 23% by 2050, this despite the elimination of the one child policy in 2015.

The state of affairs may be best summarized as: "There are many more people living longer and there are not enough people coming up behind them to support today's system."

Longer lifespans Larger liabilities.

Pension managers have been feeling the pressure for quite some time, as the increased lifespans of members and the economic pressure of low interest rates have increased liabilities and created a pension gap, or funding shortfall, that could reach $400 trillion by 2050. More than half of that gap – $224 trillion – will be driven by just six countries: the US, the UK, the Netherlands, Canada, Japan and Australia according to the World Economic Forum.

The threat of unfunded liabilities has led to a significant change in employer retirement plan offerings, with many organizations transitioning from traditional defined benefit pension plans to defined contribution plans – a switch that off-loads the liabilities for retirement funding from the employer to the employee. As a result of these types of

[1] U.S. Census Bureau, International Population Reports, P95/16-1, An Aging World: 2015; https://www.census.gov/content/dam/Census/library/publications/2016/demo/p95-16-1.pdf

[2] Social Security Administration; *https://www.ssa.gov/policy/docs/ssb/v66n4/v66n4p37.html*

[3] European Union pension systems Adequate and sustainable?; EPRS | European Parliamentary Research Service

pressures, none of the UK's FTSE 100 companies provide traditional final salary pensions to new employees and only two continue to provide any form of defined benefit pension provision as standard to new recruits.[4]

While the switch to defined contribution has been ongoing for decades in the US, holdover companies with pensions are still continuing the process. Facing a funding shortfall of $9.85 billion at the end of 2016, United Parcel Service (UPS) closed its pension to all non-union new hires in July 2016 and will end contributions for all non-union employees in 2023.

While the expanding lifespans of members are the significant challenge for pension managers, the problem has been further exacerbated by an eight-year period of historically low interest rates, which has driven pension liabilities even higher. The Natixis 2016 Global Survey of Institutional Investors[5] shows just how heavily low rates weigh on the mind of pension managers. When asked to identify their primary risk management concerns, these institutional investors called out the low-yield environment, interest rates, and their ability to fund long-term liabilities as their top three concerns.

Our survey also finds that institutions are moderating their expectations. Seven in ten institutions believe their current return expectations are realistically achievable, but half report that they will lower their expectations within the next 12 months.

Pensions and other institutions are among the world's most sophisticated investors and have proactively deployed liability-driven investment (LDI) strategies to help match funding today for their long-term obligations that will be due decades from now. However, not all are convinced that they will succeed. In fact, 62% of institutions worldwide believe that despite adopting LDI strategies most organizations will fail to meet their obligations.

Realizing the responsibility

Given the failing math behind traditional government retirement benefits and the funding crisis facing pension managers around the world, it's no wonder nearly eight in ten of those participating in our survey of individual investors believe that the responsibility for retirement funding is increasingly theirs. The belief is the strongest among those in countries where there are compulsory retirement savings schemes in place, including Mexico (86%), Chile (84%), Singapore (84%) and Hong Kong (81%).[6]

Given the daunting task ahead of them, even Americans, who have generally rejected mandated options at first, such as Obamacare, hold mandated savings in a positive light. Eight in ten individuals responding to our US Survey of Defined Contribution Plan Participants believe it should be mandatory for employers to offer a plan, and 61% believe that individual contributions should be mandatory as well.[7]

It is important to note that investors around the world are showing signs of skepticism about the viability of government pension programs, and they are seeing the concept of retirement income through a multi-dimensional lens. Seven in ten members of the Baby Boom Generation (ages 53–71) believe government benefits will be available to them when they retire. Given that this generation is closest to retirement age, the 30% who question the viability of these programs in their lifetime may indicate a level of skepticism that approaches that of younger individuals. Approximately six in ten Generation X and Millennial investors think they will be receiving government pension funds when they retire.

If government funds are less reliable to investors, where do investors believe they will draw an income? Overall, we see that many believe they will need to be self-reliant. When asked what their sources of retirement income will be, respondents in our investor survey most frequently identified personal savings (90%), personal investments (79%), and workplace savings (76%) before Social Security (70%). They also see an important role for their spouse's or partner's savings (63%) and liquidation of personal assets such as a home or business (51%) as contributing to the whole.

[4] LCP Accounting for Pensions 2016; Lane Clark & Peacock LLP. August 2016.

[5] Natixis Investment Managers, Global Survey of Institutional Investors conducted by CoreData Research in October and November 2016. Survey included 500 institutional investors in 31 countries.

[6] Natixis Investment Managers, Global Survey of Individual Investors conducted by CoreData Research, February-March 2017. Survey included 8,300 investors from 26 countries.

[7] Natixis Investment Managers, Survey of US Defined Contribution Plan Participants conducted by CoreData Research, August 2016. Survey included 951 US workers, 651 being plan participants and 300 being non-participants.

A large number are even looking outside of their own generation for help with retirement expenses, as 45% believe they will receive an inheritance and 41% believe they will count on contributions such as cash or a living space from their children. Millennials are most likely to say they will count on these contributions, with 60% expecting they will rely on an inheritance and 51% counting on contributions from their kids. This raises the question as to whether the generation that was chided for starting their working years in their parents' basements may actually end up retiring to their children's garages.

Older but wiser

What this shows is that achieving long-term retirement security will mean being resourceful. For policy makers, it will require making not only smart fiscal choices to ensure governments are able to deliver on public pension entitlements, but also practical policy decisions that expand access to retirement savings plans and incent workers to participate. For employers, it will require continued engagement with retirement benefits. Whether it's shoring up pension liabilities or encouraging greater participation in defined contribution plans, there is much to be done to help improve the odds that workers can retire with dignity. For individuals, it will require commitment to maximizing their retirement savings, both at the workplace and on their own.

The world is getting older. Let's hope that it's also getting wiser – and that all players do their part to achieve a more secure retirement globally.

Background

The Global Retirement Index (GRI) is a multi-dimensional index developed by Natixis Investment Managers and CoreData Research to examine the factors that drive retirement security and to provide a comparison tool for best practices in retirement policy.

The index incorporates 18 performance indicators, grouped into four thematic sub-indices, which have been calculated on the basis of reliable data from a range of international organizations and academic sources. It takes into account the particular characteristics of the older demographic retiree group in order to assess and compare the level of retirement security in different countries around the world.

The four thematic indices cover key aspects for welfare in retirement: the material means to live comfortably in retirement; access to quality financial services to help preserve savings value and maximize income; access to quality health services; and a clean and safe environment.

The sub-indices provide insight into which particular characteristics are driving an improvement or worsening each country's position. Data has been tracked consistently to provide a basis for year-over-year comparison. This is the fifth year Natixis and CoreData have produced the GRI as a guide to the changing decisions facing retirees as they focus on their needs and goals for the future, and where and how to most efficiently preserve wealth while enjoying retirement.

As the GRI continues to run each year, it is our hope it will be possible to discern ongoing trends in, for instance, the quality of a nation's financial services sector, thereby identifying those variables that can be best managed to ensure a more secure retirement.

The index includes International Monetary Fund (IMF) advanced economies, members of the Organization for Economic Co-operation and Development (OECD) and the BRIC countries (Brazil, Russia, India and China). The researchers calculated a mean score in each category and combined the category scores for a final overall ranking of the 43 nations studied. See page 66 for the full list of countries.

Executive Summary

Norway, Switzerland and Iceland continue to present the environments most favorable to retirement security as they reclaim the top three spots in the 2017 Natixis Global Retirement Index. Number-one Norway and number-two Switzerland rose to the top of the index based on strong scores in all four sub-indices, the lowest being 73% for Norway in the Finances sub-index. Despite Iceland's absence from the top ten in two of the four sub-indices, its robust performance in Material Wellbeing and Quality of Life supports its third place position.

Old North America leads Finances and Health indices

Although countries in Western Europe dominate the top 10 ranking, on a regional basis, Europe loses out to North America. The United States and Canada succeed in supplanting Europe by dominating the Finances and Health sub-indices. Western Europe is home to countries that continue to be faced with financial difficulties – namely Italy, Spain and Portugal – which pulls down the Finances score for the region.

Older Europe weighted down by financial pressures

Western Europe's lagging regional performance in the Finances sub-index is echoed across most of the top 10. Higher tax burdens and levels of public debt leave some of the strongest players in the lurch, reducing their scores for the Finances sub-index. This suggests central bank interventions across the region have not supported the recovery enough to match Western Europe's Finances scores with its own performance in other sub-indices.

Seven of the top 10 performers in this sub-index are not based in Europe. Instead, the top performing countries in this sub-index are countries like Singapore, Chile, South Korea and Estonia that do not feature in the top 20 overall. This underscores the important role that stable and robust government finances play in ensuring retirement security.

Quality of Life and Material Wellbeing offset poorer performances in Finances

Results for countries ranking high in the index, including Germany, Denmark and Sweden, are buoyed by strong performances in the Quality of Life and Material Wellbeing indices. This is despite more lackluster achievements in the Finances sub-index. While retirement discussions often focus on the conditions in which retirees live rather than the financial strength of their country, any disruption on the financial side of the equation is likely to impact their quality of life as well.

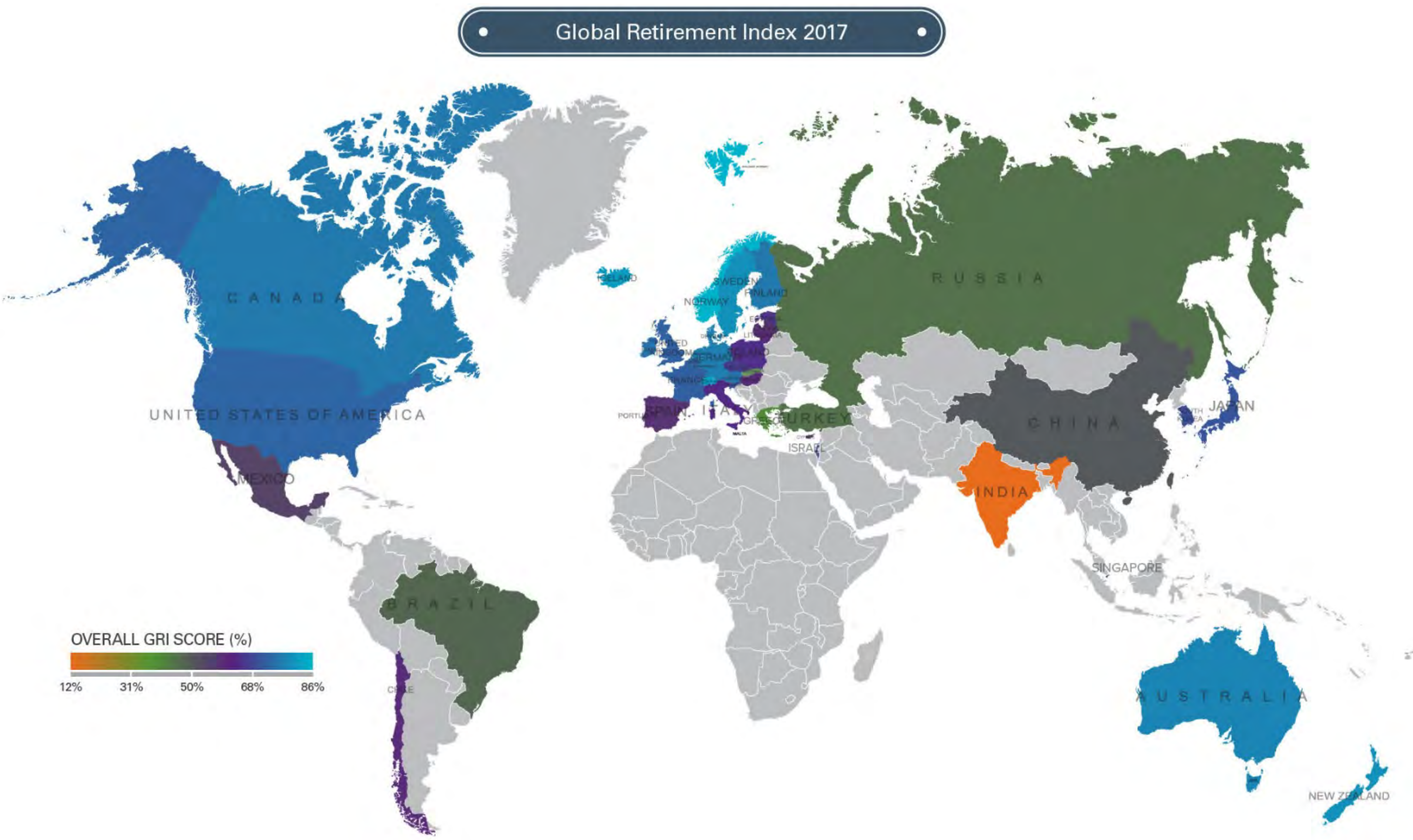
Governance poses a challenge to the BRICs

Poor governance is a key driving force behind the below-average performance of the BRIC (Brazil, Russia, India, and China) countries' finances. But they also rank high where Western Europe stumbles, offering better old age dependency ratios and lower tax pressures, while employment and government indebtedness score more positively. The challenge is that governance accounts for a large portion of the Finances sub-index and Western Europe continues to outpace the BRICs in this sector. These countries have a poor showing in the other sub-indices, indicating that crucial elements related to the life of retirees, such as health expenditure per capita, remain inadequate.

The Global Retirement Index 2017

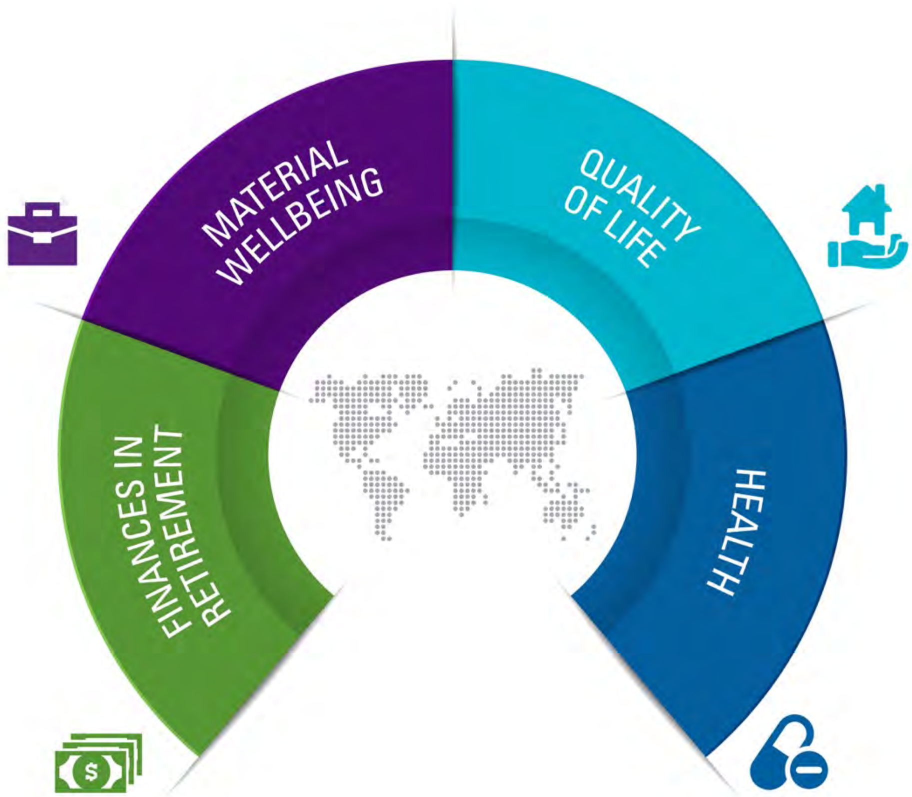
Evaluating the progression of different countries and assessing their potential risk factors are key elements of the GRI. A static representation of a country's current conditions, without considering the past or future, would misrepresent the true level of security for retirees. The GRI takes into account economic development, policy and political modifications, demographic changes, and environmental conservation when assessing retiree welfare. The main objectives of this report are evaluating how these elements may increase or decrease retiree welfare in a particular nation and analyzing how a country's indicator scores stand in relation to its peers.

The map below features the results of the 2017 GRI. The cooler colors represent higher overall GRI performance, while the warmer colors indicate poorer performance. Western European countries account for eight of the top 10 performers. The two non-European countries in the top 10 are from Asia Pacific. The bottom is mostly composed of BRIC countries, although Russia and Brazil actually perform better than Greece while China ranks ahead of both Turkey and Greece.



Framework

The Global Retirement Index is a multi-faceted index that focuses on various factors determining the welfare and financial security of retirees in the developed world. Specifically, the index considers 18 drivers of retiree welfare that are grouped into four sub-indices capturing the key aspects impacting the welfare of those in retirement: Health, Finances in Retirement, Quality of Life and Material Wellbeing. The GRI thus looks at the numerous and diverse nature of elements influencing the welfare of people in their older years.



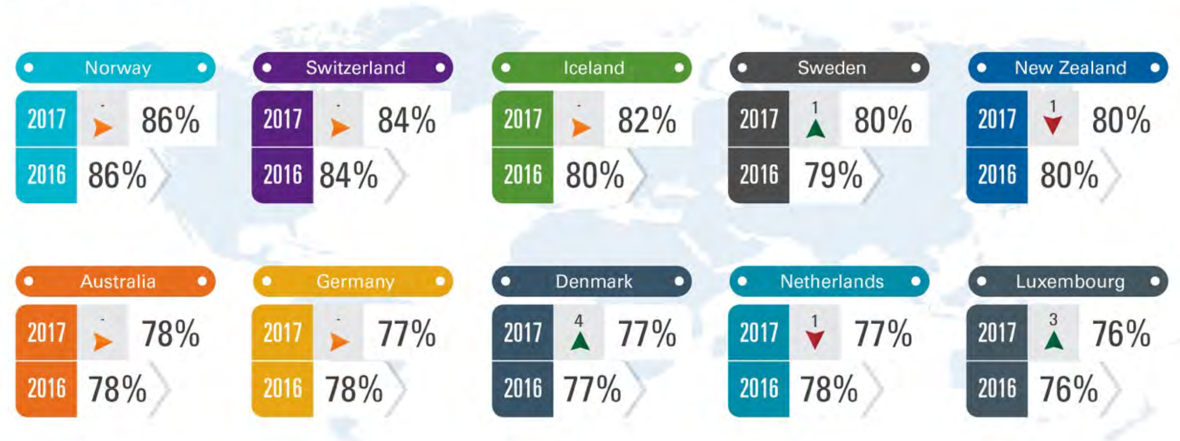
FINANCES IN RETIREMENT	MATERIAL WELLBEING	QUALITY OF LIFE	HEALTH
✓ Old-Age Dependency	✓ Income Equality	✓ Happiness	✓ Life Expectancy
✓ Bank Non-Performing Loans	✓ Income per Capita	✓ Air Quality	✓ Health Expenditure per Capita
✓ Inflation	✓ Unemployment	✓ Water and Sanitation	✓ Non-Insured Health Expenditure
✓ Interest Rates		✓ Biodiversity and Habitat	
✓ Tax Pressure		✓ Environmental Factors	
✓ Governance			
✓ Government Indebtedness			

The Best Performers

Eight of the top-performing countries in this year's GRI – Norway, Switzerland, Iceland, Sweden, Germany, Denmark, the Netherlands and Luxembourg – are located in Western Europe.

Each of the countries in the top 10 overall ranks highly in at least one sub-index, and most have strong scores across multiple sub-indices. Seven of the countries place in the top 10 for Material Wellbeing, seven place in the top 10 for Quality of Life, and six place in the top 10 for Health. Additionally, the top three in Material Wellbeing mirrors the overall ranking, except for the order of second and third place with Switzerland and Iceland swapping places. Eight of the top 10 overall also have some of the highest scores for the happiness indicator.

TOP 10 COUNTRIES IN 2017 GRI



However, the Finances in Retirement sub-index proves to be a stumbling block for a number of the strongest players. Only four countries in the top 10 overall – New Zealand, Switzerland, Australia and Norway – rank in the top 10 for the Finances sub-index. The higher tax burdens and public debt as a percentage of their GDP pulled some of the other countries down. This led to them having less favorable public finances compared to countries who have lower overall scores. Some top 10 countries are also struggling with a base of younger working-age citizens which is too narrow to provide for older retirees – Germany, Sweden and Denmark all rank in the bottom 10 for the old age dependency indicator. In fact, seven of the bottom 10 overall countries rank in the top 10 for the old age dependency indicator, so the general case of countries with higher overall scores outpacing indicator scores does not apply in this case.

However, four of the top five countries overall are also in the top five for the governance indicator and seven in the top 10 overall are in the top 10 for governance, so the countries with high governance scores also tend to perform well overall. New Zealand has the highest score in the Finances sub-index with a score of 79% and Austria the lowest with a score of 55% among the top 25 overall countries.

Seven of the top 10 countries – Norway, Iceland, Switzerland, Luxembourg, Germany, Denmark and Sweden – also place in the top 10 for Material Wellbeing. The countries in the top 10 overall all have high income per capita scores and relatively high levels of income equality. There is no such distinct parallel between a country's performance in the employment indicator and its ranking overall. Three countries from the top 10 (Norway, Iceland and Switzerland) and three from the bottom 10 (India, Mexico and China) all score highly in the employment indicator. Among the top 25 overall countries, Norway has the highest score in the Material Wellbeing sub-index with 91% while the United States has the lowest with 57%.

Six of the top 10 countries – Luxembourg, Norway, the Netherlands, Sweden, Switzerland and Germany – also place in the top 10 for the Health sub-index. These countries typically spend large amounts on healthcare per person, have high insurance coverage for these expenditures and have relatively high life expectancies. Within the top 25 overall, Luxembourg has the highest Health sub-index score with 92% while Slovak Republic has the lowest score with 65%.

Quality of Life is also a driver of the rankings as seven countries placing in the top 10 for this sub-index – Denmark, Norway, Switzerland, Sweden, New Zealand, Iceland and Australia – also finish in the top 10 overall. Countries in the top 10 overall also perform very well in the happiness indicator, as Germany and Luxembourg are the only countries from the top 10 overall who do not place in the top 10 for happiness. Meanwhile, the environmental factors scores for these top 10 overall countries run the gamut of the ranking. Six are in the top 10 but three, Luxembourg, the Netherlands and Australia, have some of the worst environmental factors scores in the GRI. Denmark has the highest Quality of Life sub-index score at 94% while South Korea is the lowest ranked of the top 25 overall, with a sub-index score of 53%.

Top 25 Countries in the 2017 GRI

Color Scale
91%-100%
81%-90%
71%-80%
61%-70%
51%-60%
41%-50%
31%-40%
21%-30%
11%-20%
0%-10%

Rank	Country	Health Index	Finances in Retirement Index	Quality of Life Index	Material Wellbeing Index	Global Retirement Index
1	Norway	89%	73%	92%	91%	86%
2	Switzerland	87%	77%	92%	81%	84%
3	Iceland	84%	70%	88%	88%	82%
4	Sweden	88%	69%	91%	75%	80%
5	New Zealand	85%	79%	91%	66%	80%
6	Australia	85%	77%	84%	66%	78%
7	Germany	86%	66%	82%	76%	77%
8	Denmark	84%	59%	94%	75%	77%
9	Netherlands	89%	64%	81%	75%	77%
10	Luxembourg	92%	62%	77%	77%	76%
11	Canada	87%	73%	81%	65%	76%
12	Finland	81%	65%	92%	68%	76%
13	Austria	85%	55%	86%	77%	75%
14	Ireland	82%	71%	83%	64%	74%
15	Belgium	82%	62%	78%	70%	73%
16	Czech Republic	70%	68%	75%	76%	72%
17	United States	87%	71%	78%	57%	72%
18	United Kingdom	83%	58%	81%	68%	72%
19	France	90%	61%	79%	61%	71%
20	Israel	76%	70%	79%	61%	71%
21	Malta	77%	65%	68%	72%	70%
22	Japan	88%	56%	65%	74%	70%
23	Korea, Rep.	73%	76%	53%	75%	68%
24	Slovenia	78%	64%	66%	66%	68%
25	Slovak Republic	65%	68%	71%	60%	66%

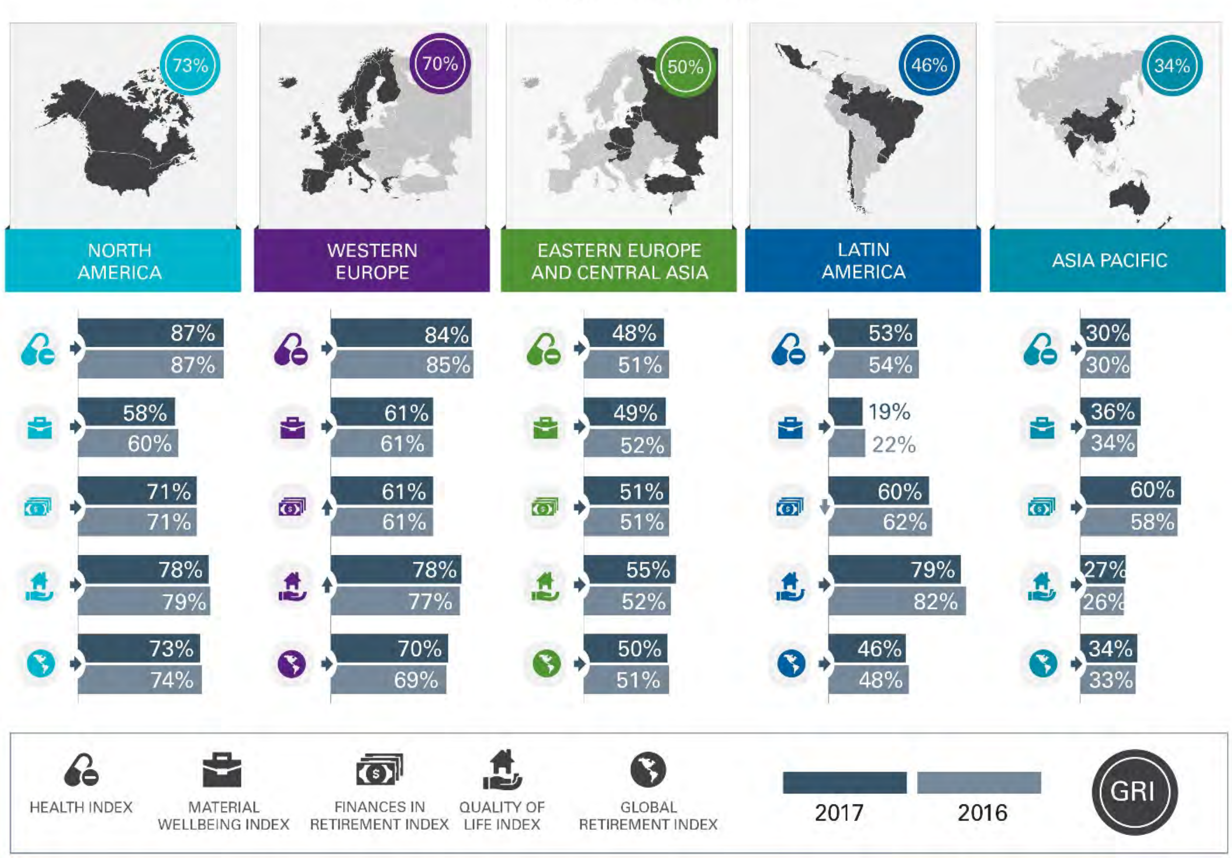
Regional Perspective

North America comes in first place when countries in the GRI are considered by region. This is despite the majority of Western Europe outranking North American countries. North America (United States and Canada) ranks in the top spot with a score of 73%, beating out Western Europe's score of 70%.

There is a considerable gap between these two regions and the rest of the pack, further indication of what economic historians call the "Great Divergence," as the next highest, Eastern Europe and Central Asia, has a score of 50%. Asia Pacific comes in last overall with a score of 34%.

It must be noted that the GRI considers mostly developed countries and the regional analyses only included the countries in the GRI and are not indicative of all countries in the region. The GRI regional scores are calculated using a population-weighted method, meaning countries with larger populations have the potential for greater influence than those with smaller populations.

Top Regions in 2017 GRI



North America ranks highest in both the Finances and Health sub-indices, second in Material Wellbeing and third in Quality of Life. Compared to last year, it falls one spot in Quality of Life but the rest of the region's sub-index rankings remain the same. Western Europe beats North America in Material Wellbeing while the three Latin American countries in the GRI (Brazil, Mexico, and Chile) have the highest Quality of Life score. While it remains in first place, North America falls by a percentage point compared to last year.

Western Europe rises by a percentage point in its overall score compared to last year. Both its score and ranking for Quality of Life rise while its Health sub-index remains in second place despite falling by one percentage point to 84%. It ranks first in Material Wellbeing and improves its ranking in Finances from third to second.

Eastern Europe and Central Asia ranks third among all regions. It compensates for lower scores in certain indicators with balanced performances across most sub-indices. This allows the region to beat out the three Latin American countries for third place despite these countries having better scores than Eastern Europe for three out of the four sub-indices. However, Material Wellbeing is Eastern Europe's redeeming sub-index because it scores more than double that of the Latin American countries included in the GRI. This difference outstrips the lag Eastern Europe has in the other three sub-indices. The Material Wellbeing sub-index in effect drags down the three Latin American countries' overall score and dampens the strong performance of the other three sub-indices. While Eastern Europe ranks third, it has no standout performances in any of the sub-indices and all sub-index rankings remain the same compared to last year.

It is worth noting the results for Latin America only pertain to the three countries included in the GRI – Brazil, Mexico and Chile, arguably among the better performing Latin American countries which might explain their high scores for Quality of Life. They rank fourth overall, come in last for Material Wellbeing and finish third in both the Health and Finances sub-indices. Compared to last year, their scores decline for all sub-indices and fall one spot in Finances.

Asia Pacific scores 34% and comes in last. It has the lowest scores for both the Health and Quality of Life sub-indices and the second-worst scores for both the Material Wellbeing and Finances sub-indices. The Asia Pacific region includes top finishers such as New Zealand and Australia, which rank fifth and sixth overall, respectively. However, it also includes India and China, which come in last and sixth-to-last overall, respectively. The population-weighted methodology could have contributed to Asia Pacific finishing last in the regional rankings. Were it not for China and India, two countries with the largest populations in the GRI and some of the lowest overall scores, Asia Pacific would have a much higher regional score.

The Top 25: Year-on-Year Trends

Europe dominates the upper ranks, with 15 of the top 25 countries hailing from Western Europe and three from Eastern Europe.

In this year's GRI, the countries with the largest positive change in rankings are Denmark, Luxembourg, Ireland, the Czech Republic and Malta. Denmark rises to 8th place from 12th last year due to the Quality of Life and Material Wellbeing sub-indices, while Ireland and the Czech Republic both gain two spots because of higher scores in the Material Wellbeing, Finance and Quality of Life sub-indices. Luxembourg moves up three spots to 10th because Austria, Canada and Finland – all countries that ranked higher than Luxembourg last year – decline in overall score. Malta moves up two spots to 21st because of gains in the Health, Quality of Life and Material Wellbeing sub-indices.

The biggest declines among the top 25 are Austria and the United States. Austria slips four spots to 13th mainly due to a significant drop in Finances owing to the interest rate indicator as well as declines in the Quality of Life and Health sub-indices. And the United States falls three spots to 17th because of declines in the income equality, happiness and life expectancy indicators. Ireland, Belgium and Czech Republic – all countries ranking behind the United States last year – increase their score and move ahead of the United States in overall ranking.

Meanwhile, the Slovak Republic moves into the top 25 after Singapore drops out. The Slovak Republic improves in all indicators within the Material Wellbeing sub-index and has higher scores for the environmental factors and happiness indicators within the Quality of Life sub-index. Singapore declines in overall score, falling two places to 27th because of a drop in the income equality indicator within the Material Wellbeing sub-index.

Year-On-Year (YoY) Top 25 Countries in the 2017 GRI

Color Scale: 91%-100%, 81%-90%, 71%-80%, 61%-70%, 51%-60%, 41%-50%, 31%-40%, 21%-30%, 11%-20%, 0%-10%

Changes in 2017: Increase, Consistent, Decrease

Country	Ranking 2017	Ranking 2016	Trend in Ranking [2016-2017]	Score 2017	Score 2016
Norway	1	1		86%	86%
Switzerland	2	2		84%	84%
Iceland	3	3		82%	80%
Sweden	4	5		80%	79%
New Zealand	5	4		80%	80%
Australia	6	6		78%	78%
Germany	7	7		77%	78%
Denmark	8	12		77%	77%
Netherlands	9	8		77%	78%
Luxembourg	10	13		76%	76%
Canada	11	10		76%	77%
Finland	12	11		76%	77%
Austria	13	9		75%	77%
Ireland	14	16		74%	72%
Belgium	15	15		73%	73%
Czech Republic	16	18		72%	71%
United States	17	14		72%	73%
United Kingdom	18	17		72%	71%
France	19	20		71%	71%
Israel	20	19		71%	71%
Malta	21	23		70%	69%
Japan	22	21		70%	70%
Korea, Rep.	23	22		68%	69%
Slovenia	24	24		68%	67%
Slovak Republic	25	26		66%	64%

Country Reports

This section offers a summary of GRI performance for each country finishing in the top 25 overall. Each country report references last year's figures and shows how different indicator movements have affected the country's overall and sub-index scores this year. The goal of the country analyses is to obtain an adequate proxy for changes in retirement conditions in a particular country by comparing year-on-year performance and movements in rankings.

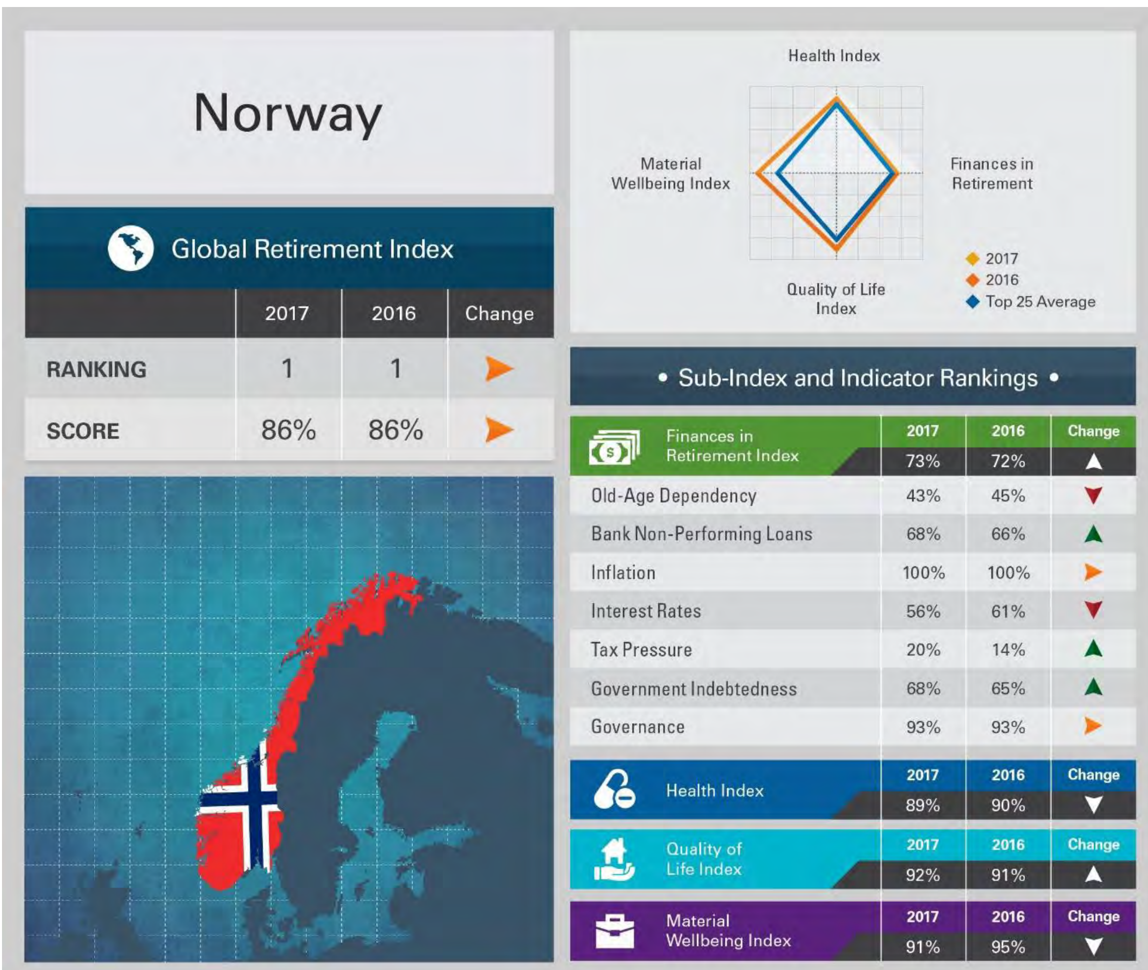
1. Norway

For the second year in a row, Norway ranks first overall in the GRI. It has the highest score for the Material Wellbeing sub-index and also features in the top 10 of the Health (3rd), Quality of Life (3rd) and Finances (9th) sub-indices.

Norway improves its score in the Finances sub-index compared to last year. The country still has the eighth-lowest score for the tax pressure indicator among all GRI countries, however, despite lessening its tax burden to a significant degree compared to last year. But government indebtedness ranks fifth, giving Norway something of a mixed performance for its two public finance indicators. Meanwhile, the country improves one spot in governance, which ranks third among all countries in the GRI, and has a higher score for bank non-performing loans.

The Quality of Life sub-index has also seen an improvement. Norway leapfrogs three countries to achieve the highest score for the happiness indicator of all countries in the GRI. Norway's improvement in CO_2 emissions per GDP also gives the country a higher score for its environmental factors indicator, which ranks second for the second year in a row. A third-place finish in air quality completes an excellent performance in Quality of Life.

Although Norway does not manage to improve its performance in the Material Wellbeing or Health sub-indices, it does achieve top 10 placements in both. Within Material Wellbeing, it ranks sixth for employment and third for both income equality and income per capita. Meanwhile, the country finishes fourth in health expenditure per capita and also has relatively strong placements for the two other indicators in the Health sub-index.



2. Switzerland

Switzerland remains in second place in this year's GRI. Along with Norway, it is the only country that ranks in the top 10 for all sub-indices.

Switzerland improves in the Material Wellbeing (3rd) sub-index. The country's scores for both income per capita and employment remain in the top 10, and the income equality indicator ranks one spot higher compared to last year's report. Meanwhile, Switzerland dropped two places in the Quality of Life sub-index, while keeping the same score as last year. This is despite ranking first in the environmental factors indicator and showing improvements in both CO2 emissions per GDP and capita. It achieves a top 10 finish in the happiness indicator by ranking fourth.

Switzerland also ranks very well in the Finances (4th) sub-index despite not improving on last year's score. A decline in the old-age dependency indicator offsets gains in the government indebtedness and real interest rate indicators. It still has strong finishes in other indicators – ranking second in governance, sixth in bank non-performing loans and eighth in tax pressure.

The country drops two spots in Health (8th) where all indicators within the sub-index registered declines. It ranks third in both life expectancy and health expenditure per capita but only notches up a middle of the pack finish for insured health expenditure.

Switzerland

Global Retirement Index

	2017	2016	Change
RANKING	2	2	►
SCORE	84%	84%	►

• Sub-Index and Indicator Rankings •

Finances in Retirement Index	2017	2016	Change
	77%	77%	►
Old-Age Dependency	39%	40%	▼
Bank Non-Performing Loans	77%	77%	►
Inflation	100%	100%	►
Interest Rates	75%	74%	▲
Tax Pressure	47%	47%	►
Government Indebtedness	53%	52%	▲
Governance	93%	93%	►

Health Index	2017	2016	Change
	87%	88%	▼

Quality of Life Index	2017	2016	Change
	92%	92%	►

Material Wellbeing Index	2017	2016	Change
	81%	80%	▲

3. Iceland

Iceland improves its overall score but remains in third place in the 2017 GRI. The country's biggest gains are in the Material Wellbeing (2nd) and Finance (13th) sub-indices. Its Quality of Life (7th) score remains the same compared to last year.

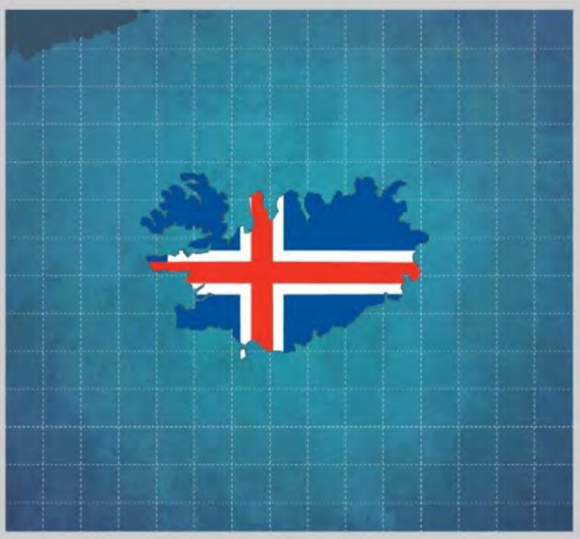
Iceland moves up six spots in the Finances sub-index due to strong indicator performances. The 2015 bank reforms seem to have helped repair some of the lingering effects of the financial crisis. Iceland registers its strongest indicator improvement in bank non-performing loans on the back of slashing its bad loans by half over the course of two years. Inflation is still relatively high compared to other countries in the GRI, however, but it has a lower five-year inflation average compared to last year. While it still has one of the 10 highest tax burdens in the GRI, Iceland managed to lower its public debt compared to last year and consequently improves its government indebtedness score. Its governance score is also relatively high.

Iceland notches top 10 performances in both Material Wellbeing and Quality of Life, with the former of these sub-indices improving 7% compared to last year. This is its largest sub-index score gain. Iceland now boasts the highest level of income equality of all countries in the GRI – up from sixth-highest last year. It also achieved significant improvements in the income per capita and employment indicators.

Iceland

Global Retirement Index

	2017	2016	Change
RANKING	3	3	►
SCORE	82%	80%	▲



• Sub-Index and Indicator Rankings •

Finances in Retirement Index	2017	2016	Change
	70%	68%	▲
Old-Age Dependency	55%	57%	▼
Bank Non-Performing Loans	62%	44%	▲
Inflation	65%	54%	▲
Interest Rates	79%	81%	▼
Tax Pressure	21%	25%	▼
Government Indebtedness	41%	34%	▲
Governance	90%	90%	►

	2017	2016	Change
Health Index	84%	86%	▼
Quality of Life Index	88%	88%	►
Material Wellbeing Index	88%	81%	▲

4. Sweden

Sweden has an overall score of 80% and ranks fourth this year. It improves in three out of its four sub-indices and achieves top 10 finishes in Health (5th), Quality of Life (5th) and Material Wellbeing (9th).

Sweden's Finances (14th) is the only sub-index not to feature in the top 10. However, it still achieves a higher sub-index score compared to last year due to improvements in certain indicators. The proportion of bank non-performing loans, for example, has improved while the tax burden is smaller. Governance is also relatively strong. But while its score for tax pressure has improved compared to last year, the country still has the seventh-lowest score for this indicator. It also has the seventh-lowest score for old-age dependency.

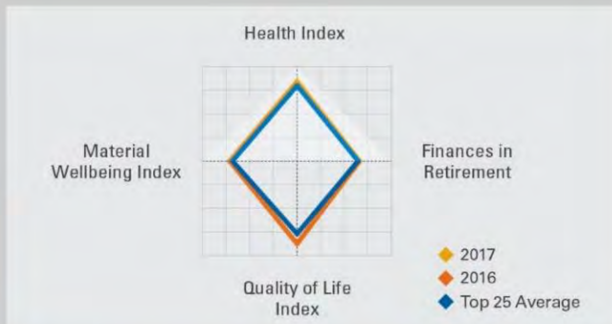
The main reason for Sweden's overall improvement is progress in the Health sub-index. Sweden improves in both the health expenditure per capita and the insured health expenditure indicators compared to last year. It has the fifth-highest score for health expenditure per capita.

Sweden's other two sub-indices, Material Wellbeing and Quality of Life, also contribute to its overall score rise. Material Wellbeing improves on the back of lower unemployment, less income inequality and higher income per capita. Quality of Life registers a strong score due to progress on CO2 emissions per GDP and capita. The country also has the ninth-highest score for the happiness indicator.

Sweden

Global Retirement Index

	2017	2016	Change
RANKING	4	5	▲
SCORE	80%	79%	▲



• Sub-Index and Indicator Rankings •

Finances in Retirement Index	2017	2016	Change
	69%	68%	▲
Old-Age Dependency	28%	30%	▼
Bank Non-Performing Loans	70%	69%	▲
Inflation	100%	100%	►
Interest Rates	61%	63%	▼
Tax Pressure	13%	10%	▲
Government Indebtedness	54%	55%	▼
Governance	92%	92%	►

Health Index	2017	2016	Change
	88%	86%	▲

Quality of Life Index	2017	2016	Change
	91%	91%	►

Material Wellbeing Index	2017	2016	Change
	75%	74%	▲

5. New Zealand

New Zealand falls one spot to fifth place overall in the 2017 GRI. It has top 10 finishes in Finances (2nd) and Quality of Life (6th).

New Zealand's slight fall in the overall rankings is due to its performance in Material Wellbeing (19th) – the only sub-index to decline compared to last year. Income equality is the only indicator to register a lower score within this sub-index. The country fails to achieve a top 10 finish for any indicator within the sub-index and, as a result, Material Wellbeing is the country's worst sub-index ranking for the second year in a row.

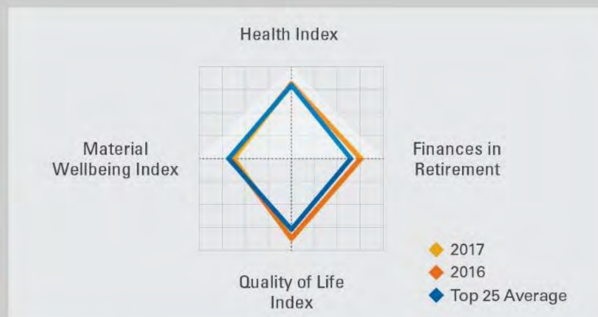
But the country performs exceptionally well in the Finances (2nd) sub-index and just loses out to Singapore in the race for top spot due to lower scores for both old-age dependency and tax pressure. It still has the highest score of any country in the GRI for governance and ranks in the top 10 for bank non-performing loans (2nd), interest rates (8th) and government indebtedness (6th).

New Zealand notches up another stellar showing in the Quality of Life (6th) sub-index because of top 10 finishes in the air quality (4th) and happiness (8th) indicators. Within Health (12th), New Zealand also has a top 10 placement in insured health expenditure (5th), but middle-of-the-pack performances in the other two indicators prevent the sub-index from breaking into the top 10.

New Zealand

Global Retirement Index

	2017	2016	Change
RANKING	5	4	▼
SCORE	80%	80%	►



• Sub-Index and Indicator Rankings •

	2017	2016	Change
Finances in Retirement Index	79%	78%	▲
Old-Age Dependency	49%	51%	▼
Bank Non-Performing Loans	84%	73%	▲
Inflation	100%	100%	►
Interest Rates	81%	73%	▲
Tax Pressure	34%	33%	▲
Government Indebtedness	66%	61%	▲
Governance	94%	94%	►
Health Index	85%	85%	►
Quality of Life Index	91%	90%	▲
Material Wellbeing Index	66%	68%	▼

6. Australia

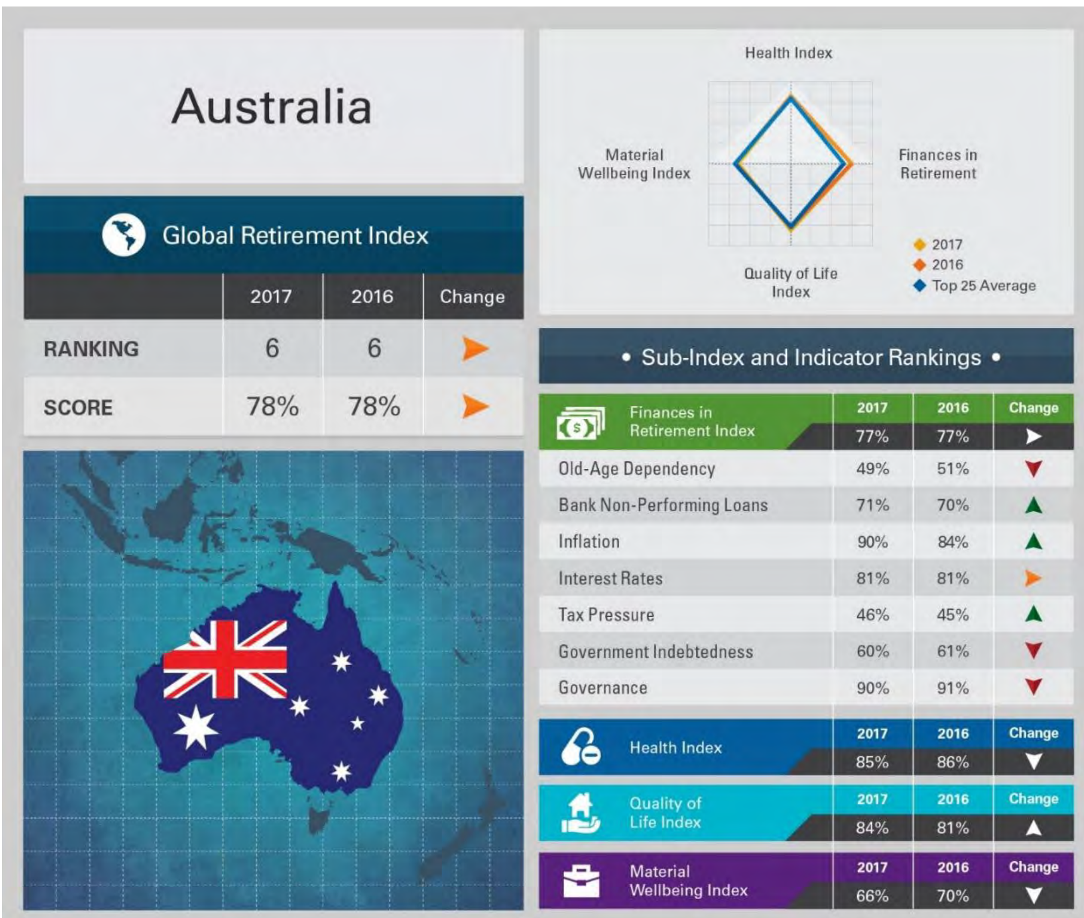
Australia remains in sixth place overall in this year's GRI. A higher score for Quality of Life (9th) and a solid performance in Finances (5th) offset declines in the Material Wellbeing (18th) and Health (13th) sub-indices.

The country performs very well in the Finances sub-index. It is one of the only countries in the GRI to feature in the top 10 for both tax pressures and government indebtedness, indicating that its public finances are on a sustainable footing. It also ranks eighth in bank non-performing loans and seventh in the interest rate indicator. And while it still ranks favorably for governance, a slight decline in indicator score sees it fall one spot and out of the top 10.

Meanwhile, the Quality of Life sub-index improves on the back of environmental progress. In fact, Australia registers the fifth-strongest improvement of all countries in the environmental factors indicator, primarily due to declines in CO2 emissions and increased prevalence of renewable electricity. Nevertheless, the country still has the ninth-lowest score in this indicator so further improvements are needed.

The country's Material Wellbeing ranking falls two spots to 18th this year due to declines in the income equality and employment indicators. Australia's GINI coefficient*, a measure of income inequality, increased between 2012 and 2014, the latest year for which data is available, thus implying higher levels of income inequality. On the other hand, Australia's income per capita score rises compared to last year.

Health also decreases slightly this year, but this is mainly a function of other countries achieving competitive sub-index rankings and does not necessarily reflect worsening healthcare conditions. Australia still has the seventh-highest life expectancy of all countries in the GRI.



*Measures the degree to which a country deviates from a hypothetically perfect equal distribution of income across individuals or households, with an index of 0 representing perfect equality and 100 implying perfect inequality.

7. Germany

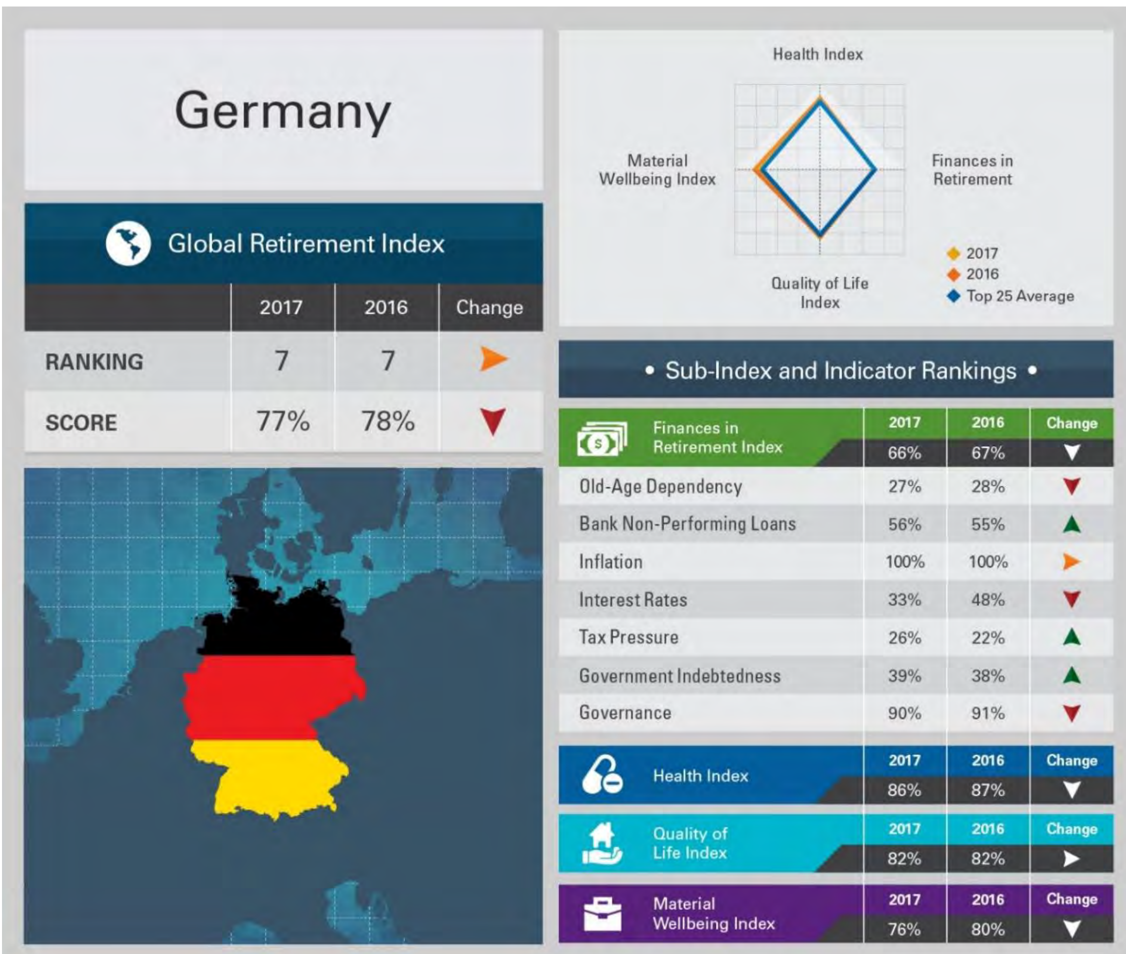
Germany remains in the seventh spot this year, despite its overall score slipping slightly. The main reason for the country's overall score decline is lower scores in the Material Wellbeing (7th), Health (10th) and Finances (21st) sub-indices.

Germany's decline in the Material Wellbeing sub-index can be attributed to a drop in its income equality indicator score. But the country is otherwise doing well in the Material Wellbeing sub-index, with top 10 finishes in the employment (9th) and income per capita (10th) indicators.

The country falls two spots in the Health sub-index because of a lower life expectancy indicator score compared to last year. But Germany finishes in the top 10 for health expenditure per capita (7th) and insured health expenditure (8th).

Germany's Finances sub-index performance also has a negative effect on its overall score. The country has relatively low inflation and ranks 12th in governance. However, its interest rate indicator declines to a significant degree compared to last year's report and it has a slightly lower score for the old-age dependency indicator. In fact, Germany has the fifth-lowest score for old-age dependency and the eighth-lowest for interest rates among all countries in the GRI.

Germany's rank in the Quality of Life index also fell. However, it is the only sub-index in which the country does not have a lower score compared to last year. The country makes progress in the environmental factors indicator.



8. Denmark

Denmark climbs four spots this year to finish eighth overall. The country improves in the Quality of Life (1st) sub-index and declines in Health (14th). Its scores for the Material Wellbeing (8th) and Finances (33rd) sub-indices remain the same as last year.

For the second year in a row, Denmark has the highest Quality of Life sub-index ranking. A better performance in the environmental factors indicator – where it currently ranks in sixth place – results from across-the-board environmental improvements. And Denmark has the second-highest score for the happiness indicator.

The country ranks 33rd in the Finances sub-index with mixed indicator performances. It has the highest tax burden of any country in the GRI and the ninth-worst ranking for both the old-age dependency and interest rate indicators, yet achieves the sixth-highest governance score of any country in the GRI. Indeed, were it not for its strong showing in governance, Denmark would likely rank near the bottom of the pack for Finances.

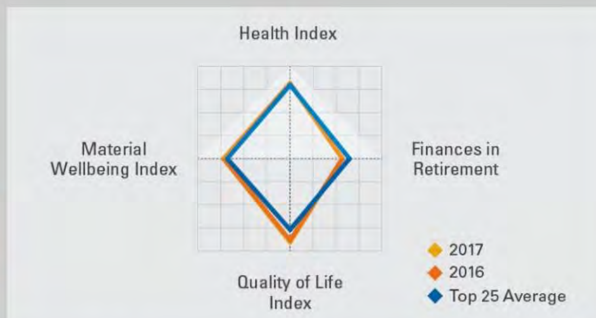
In addition to Quality of Life, Denmark ranks in the top 10 for the Material Wellbeing (8th) sub-index. It manages to improve its scores in both the employment and income per capita indicators, ranking eighth in the latter.

Within Health (14th), Denmark achieves top 10 finishes for health expenditure per capita and insured health expenditure, both of which rank ninth among all countries.

Denmark

Global Retirement Index

	2017	2016	Change
RANKING	8	12	▲
SCORE	77%	77%	►



Sub-Index and Indicator Rankings

Finances in Retirement Index	2017	2016	Change
	59%	59%	►
Old-Age Dependency	33%	34%	▼
Bank Non-Performing Loans	49%	43%	▲
Inflation	100%	100%	►
Interest Rates	39%	43%	▼
Tax Pressure	1%	1%	►
Government Indebtedness	53%	54%	▼
Governance	92%	92%	►

	2017	2016	Change
Health Index	84%	85%	▼
Quality of Life Index	94%	92%	▲
Material Wellbeing Index	75%	75%	►

9. Netherlands

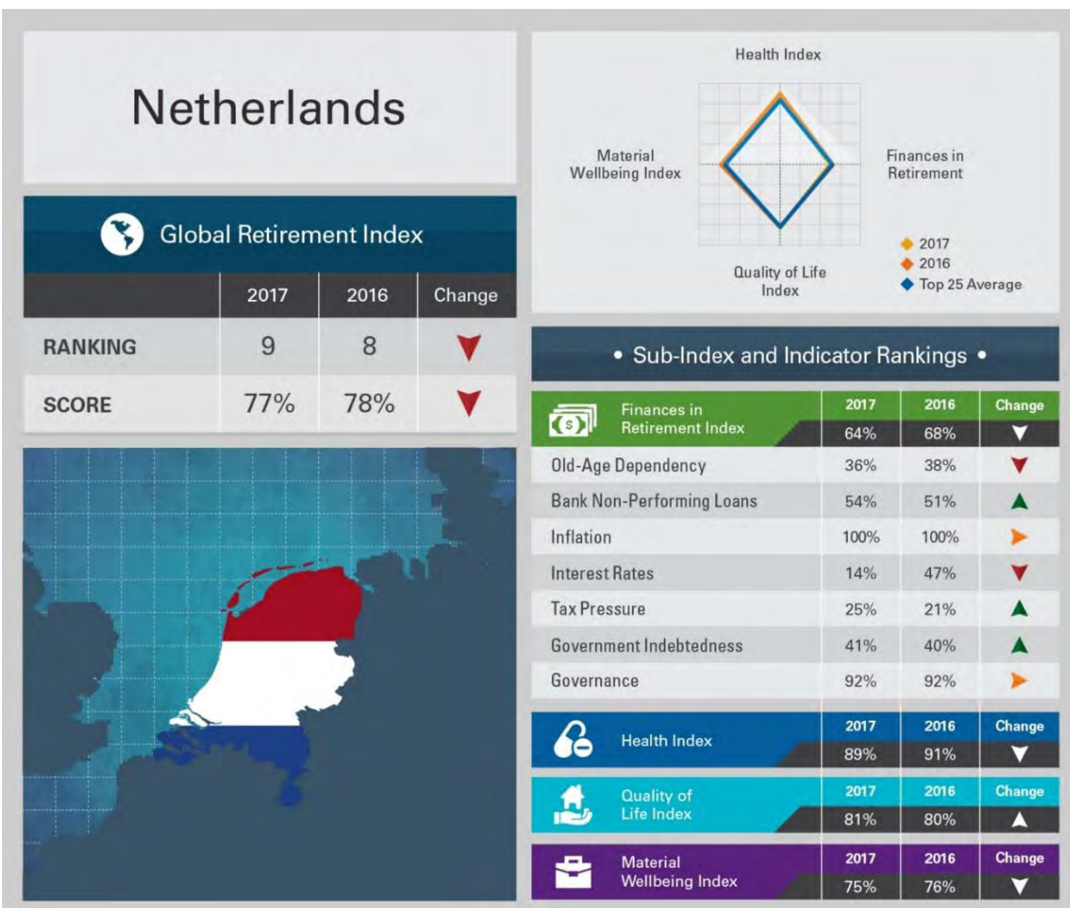
The Netherlands falls one spot to ninth place in the 2017 GRI and sees its overall score decline from last year. It declines in three out of four sub-indices but stages an improvement in the Quality of Life (13th) sub-index.

The country sees its biggest decline in the Finances (24th) sub-index, with a significant fall in the real interest rate indicator. While its old-age dependency score falls slightly from last year, its governance score remains unchanged and ranks eighth among all GRI countries.

Health (4th) is another sub-index to have shown a decline from last year. The country's Health score decreases owing to declines in both the health expenditure per capita and life expectancy indicators. But despite the sub-index falling two spots in the rankings, the Netherlands still has the fourth-highest sub-index score of all countries in the GRI. This can be attributed to the country having the highest score for insured health expenditure and the sixth-highest score for health expenditure per capita.

Meanwhile, its Material Wellbeing (11th) sub-index performance declines from last year due to lower scores for both the income equality and employment indicators. Still, the Netherlands has the ninth-highest income equality score and the seventh-highest income per capita score. Its employment score is the only indicator holding it back from a top 10 finish in the sub-index.

The only sub-index to stage an improvement from last year is Quality of Life. All environmental factors considered for their indicator register improvements, with the largest gains coming in CO_2 emissions per GDP. A rise in the happiness indicator also contributes to the improved sub-index score.



10. Luxembourg

Luxembourg moves up three spots to 10th overall in this year's GRI. It improves its score in the Material Wellbeing (5th) and Quality of Life (20th) sub-indices but declines in Finances (29th). Its score for the Health (1st) sub-index remains unchanged from last year.

For the second year in a row, Luxembourg ranks first in the Health sub-index. It has top 10 rankings in all three indicators, finishing eighth in life expectancy, second in health expenditure per capita and fourth in insured health expenditure.

Luxembourg improves in multiple indicators within the Material Wellbeing sub-index. With lower income inequality from last year and higher income per capita, Luxembourg achieves a top five finish in the sub-index.

The country also registers an improvement in the Quality of Life sub-index compared to last year. Driving the stronger showing in the sub-index are higher scores in renewable electricity and CO2 emissions per GDP within the environmental factors indicator.

Finance is the only sub-index in which Luxembourg registers a decline compared to last year. This is due to the impact of interest rates; every other indicator either improves or stays the same. Indeed, it ranks first in bank non-performing loans, fourth in government indebtedness and seventh in governance.

Luxembourg

Global Retirement Index

	2017	2016	Change
RANKING	10	13	▲
SCORE	76%	76%	►

Sub-Index and Indicator Rankings

Finances in Retirement Index	2017	2016	Change
	62%	69%	▼
Old-Age Dependency	57%	57%	►
Bank Non-Performing Loans	100%	100%	►
Inflation	100%	96%	▲
Interest Rates	1%	15%	▼
Tax Pressure	22%	17%	▲
Government Indebtedness	76%	71%	▲
Governance	92%	92%	►

	2017	2016	Change
Health Index	92%	92%	►
Quality of Life Index	77%	75%	▲
Material Wellbeing Index	77%	71%	▲

11. Canada

Canada falls one spot to 11th this year. Declines in Material Wellbeing (20th) and Quality of Life (15th) drag down the overall score. Its scores for the Finances (8th) and Health (9th) sub-indices remain the same compared to last year.

The main reason for the fall in Material Wellbeing is the income equality indicator. Canada has higher levels of income inequality compared to last year. While its GINI coefficient is by no means dangerously high (the country ranks 21st compared to 41st for Mexico and 38th for the US), the country's fall from 16th in this indicator last year to 21st this year has affected its Material Wellbeing score. Canada also suffers declines in the employment and income per capita indicators.

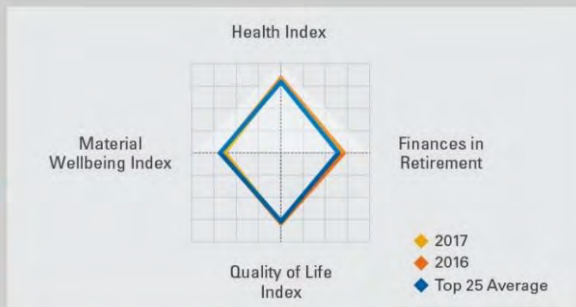
Canada also saw its Quality of Life score decline due to a poorer showing in the happiness indicator. However, it manages a stronger performance in the environmental factors indicator because of progress in CO2 emissions per GDP.

Canada neither gains nor loses in the other sub-indices and manages to notch up top 10 finishes in Finances and Health. It ranks fourth in bank non-performing loans and ninth in governance, even though the score for the former declines from last year. Within the Health sub-index, Canada finishes 10th for both health expenditure per capita and insured health expenditure while its score for the life expectancy indicator improves from last year.

Canada

Global Retirement Index

	2017	2016	Change
RANKING	11	10	▼
SCORE	76%	77%	▼



• Sub-Index and Indicator Rankings •

Finances in Retirement Index	2017	2016	Change
Finances in Retirement Index	73%	73%	►
Old-Age Dependency	46%	48%	▼
Bank Non-Performing Loans	81%	84%	▼
Inflation	100%	100%	►
Interest Rates	66%	57%	▲
Tax Pressure	38%	37%	▲
Government Indebtedness	31%	32%	▼
Governance	91%	91%	►

	2017	2016	Change
Health Index	87%	87%	►
Quality of Life Index	81%	82%	▼
Material Wellbeing Index	65%	70%	▼

12. Finland

Finland ranks 12th in the 2017 GRI and sees its overall score slip slightly compared to last year. Its performance declines in three of its four sub-indices but improves in the Quality of Life sub-index (2nd).

Finland declines in its scores for Material Wellbeing (16th) and Health (20th). The country's score for income equality falls compared to last year, but it still manages a top 10 ranking to finish sixth. It also sees its employment indicator score deteriorate. Meanwhile, a decline in Finland's health expenditure per capita score drags down its Health sub-index score from last year.

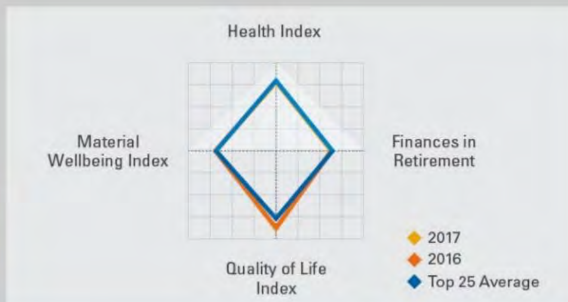
The country also slips down the table when it comes to its score for the Finances (22nd) sub-index. It records poorer scores in interest rates, old-age dependency, governance and government indebtedness compared to last year. And it has the fourth-worst score for both tax pressure and old-age dependency and the seventh-worst for interest rates. Against this, it has the fourth-highest score in governance and, for the second year in a row, the second-highest score for bank non-performing loans. A mixed bag of results suggests Finland has the potential to be a high flyer in this sub-index if it addresses those indicators holding it back.

Quality of Life (2nd) is Finland's only sub-index to improve from last year. It manages an improvement in its environmental factors indicator due to progress in CO_2 emissions per GDP and capita.

Finland

Global Retirement Index

	2017	2016	Change
RANKING	12	11	▼
SCORE	76%	77%	▼



• Sub-Index and Indicator Rankings •

Finances in Retirement Index	2017	2016	Change
	65%	66%	▼
Old-Age Dependency	27%	30%	▼
Bank Non-Performing Loans	84%	84%	►
Inflation	100%	100%	►
Interest Rates	27%	42%	▼
Tax Pressure	11%	8%	▲
Government Indebtedness	43%	44%	▼
Governance	93%	94%	▼

	2017	2016	Change
Health Index	81%	82%	▼
Quality of Life Index	92%	91%	▲
Material Wellbeing Index	68%	72%	▼

13. Austria

Austria sees its overall ranking slide from ninth to 13th this year. The Finances (37th) sub-index is the main culprit for the drop in performance, with the interest rates indicator driving the fall. Health (11th) also declines but to less significant degrees. Austria's sub-index scores for both Material Wellbeing (4th) and Quality of Life (8th) remain the same.

Austria falls 10 spots and into the bottom 10 of the Finances in Retirement sub-index, mainly because of its real interest rate indicator. A decline in the old-age dependency indicator completes a poor sub-index showing.

Austria's performance in Health also affects its overall score. Declines in the insured health expenditure and health expenditure per capita indicator scores drag down its sub-index performance. Still, the country has a top 10 finish in health expenditure per capita and Austrian citizens have a longer life expectancy compared to last year.

Austria declines in the happiness indicator within the Quality of Life sub-index. However, it makes positive strides in the environmental factors indicator, where the country has managed to lower CO2 emissions per capita as well as up usage of renewable electricity.

Within the Material Wellbeing sub-index, Austria ranks in the top 10 for income per capita (9th) and income equality (10th) – both registering improvements from last year.

Austria

Global Retirement Index

	2017	2016	Change
RANKING	13	9	▼
SCORE	75%	77%	▼

Sub-Index and Indicator Rankings

	2017	2016	Change
Finances in Retirement Index	55%	63%	▼
Old-Age Dependency	36%	37%	▼
Bank Non-Performing Loans	49%	48%	▲
Inflation	98%	93%	▲
Interest Rates	1%	42%	▼
Tax Pressure	13%	11%	▲
Government Indebtedness	33%	32%	▲
Governance	90%	90%	►
Health Index	85%	86%	▼
Quality of Life Index	86%	86%	►
Material Wellbeing Index	77%	77%	►

14. Ireland

Ireland jumps two spots in this year's GRI to 14th overall. Improvements in the Material Wellbeing (22nd), Finances (11th), and Quality of Life (10th) sub-indices drive the positive change.

Ireland almost breaks into the top 10 in the Finances sub-index, climbing nine spots from its 20th position last year. The country has low levels of inflation and a favorable old-age dependency ratio. Ireland records its largest improvement in the bank non-performing loan indicator, where it came third from bottom in last year's GRI. However, it still ranks in the bottom 10 so more needs to be done to rein in bad bank debts. Public finances are relatively favorable: Public debt fell significantly compared to last year and Ireland trails only Switzerland as the Western European country in the GRI with the lowest tax burden.

Despite Material Wellbeing being Ireland's poorest-ranking sub-index this year, it has managed to make improvements that feed into a higher overall score. Irish citizens have a significantly higher income per capita compared to last year by more than $10,000.

Meanwhile, Ireland stages an improvement in the Quality of Life sub-index through progress in the environmental factors indicator such as lower CO2 emissions per capita and higher usage of renewable electricity. It also improves its happiness score and has the sixth-highest score for the air quality indicator.

But the country's Health (19th) sub-index performance falls due to declines in all three indicators.

Ireland

Global Retirement Index

	2017	2016	Change
RANKING	14	16	▲
SCORE	74%	72%	▲

• Sub-Index and Indicator Rankings •

Finances in Retirement Index	2017	2016	Change
	71%	68%	▲
Old-Age Dependency	56%	59%	▼
Bank Non-Performing Loans	31%	16%	▲
Inflation	100%	100%	►
Interest Rates	78%	81%	▼
Tax Pressure	40%	43%	▼
Government Indebtedness	36%	25%	▲
Governance	90%	90%	►

	2017	2016	Change
Health Index	82%	83%	▼
Quality of Life Index	83%	82%	▲
Material Wellbeing Index	64%	58%	▲

15. Belgium

Belgium remains in 15th place overall with a score of 73% in this year's GRI. It registers improvements in Finances (28th) but suffers declines in its scores for Material Wellbeing (14th). Belgium holds the same scores as last year for both the Quality of Life (18th) and Health (17th) sub-indices.

Belgium manages to improve its Finances sub-index performance from last year. However, its public finances are not on a particularly strong footing – it has the third-highest tax burden of all countries in the GRI and the sixth-highest level of public debt. It finishes in the middle of the pack when it comes to the old-age dependency, bank non-performing loans and interest rate indicators. However, its sub-index score is propped up by its governance score and low levels of inflation.

Belgium's Quality of Life sees better performance from the environmental factors indicator because of decreased CO2 emissions per GDP and higher usage of renewable electricity. However, its environmental factors indicator still ranks near the bottom and its air quality ranks 40th. Its strong biodiversity and habitat score represent a bright spot, however.

Meanwhile, lower scores in the income equality and employment indicators drag down Belgium's performance in the Material Wellbeing sub-index.

And the country's Health sub-index sees a lower score for the health expenditure per capita indicator.

Belgium

Global Retirement Index

	2017	2016	Change
RANKING	15	15	▶
SCORE	73%	73%	▶

• Sub-Index and Indicator Rankings •

Finances in Retirement Index	2017	2016	Change
	62%	61%	▲
Old-Age Dependency	36%	37%	▼
Bank Non-Performing Loans	48%	45%	▲
Inflation	100%	100%	▶
Interest Rates	57%	60%	▼
Tax Pressure	10%	7%	▲
Government Indebtedness	26%	26%	▶
Governance	87%	87%	▶

	2017	2016	Change
Health Index	82%	82%	▶
Quality of Life Index	78%	78%	▶
Material Wellbeing Index	70%	71%	▼

16. Czech Republic

The Czech Republic improves its ranking from 18th to 16th this year. The country achieves a balanced set of results across all sub-indices and registers its strongest performance in Material Wellbeing (6th).

The country performs well in the Finance (18th) sub-index, improving in multiple indicators compared to last year. Its public finances are healthier due to less public debt and a lower tax burden. And its banking sector has a lower proportion of non-performing loans. While none of its indicators lies in the bottom 10, only one – the interest rates indicator (10th) – breaks into the top 10.

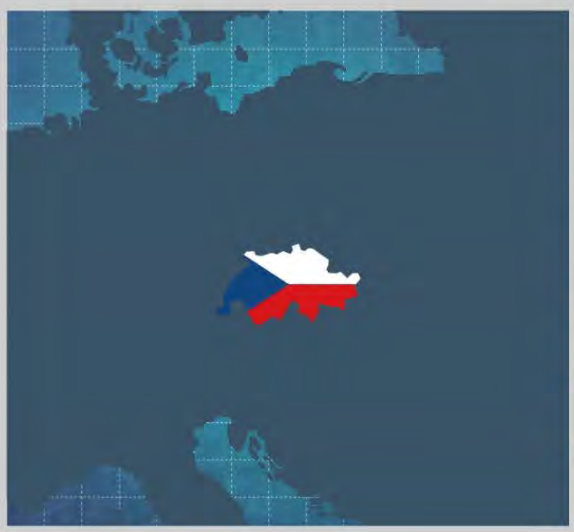
The Material Wellbeing (6th) and Quality of Life (23rd) sub-indices have also improved compared to last year. Unemployment falls and income per capita rises within Material Wellbeing. And in the Quality of Life sub-index, lower CO2 emissions per GDP and higher usage of renewable electricity drive improvement in the environmental factors indicator. The happiness indicator also increases compared to last year.

Health (27th) is the only sub-index in which the Czech Republic fares worse than last year. The country sees a fall in its life expectancy score and none of its indicators breaks into the top 10.

Czech Republic

Global Retirement Index

	2017	2016	Change
RANKING	16	18	▲
SCORE	72%	71%	▲



Sub-Index and Indicator Rankings

Finances in Retirement Index	2017	2016	Change
	68%	67%	▲
Old-Age Dependency	38%	41%	▼
Bank Non-Performing Loans	41%	39%	▲
Inflation	100%	100%	►
Interest Rates	78%	81%	▼
Tax Pressure	31%	28%	▲
Government Indebtedness	56%	55%	▲
Governance	83%	83%	►

	2017	2016	Change
Health Index	70%	71%	▼
Quality of Life Index	75%	74%	▲
Material Wellbeing Index	76%	73%	▲

17. United States

The United States falls three places to 17th in this year's GRI. The country registers declines in two of its four sub-indices.

The country's highest-ranking sub-index is Health (7th), where it sits in the same place as last year. The only indicator to fall is life expectancy. Meanwhile, it boasts the highest score for health expenditure per capita of all countries in the GRI and the sixth-highest for insured health expenditure.

The United States achieves the same top 10 finish in Finances (10th) as last year. It improves its scores in bank non-performing loans and government indebtedness. It also notches up the seventh-highest score for the tax pressure indicator. But with the seventh-highest public debt as a percentage of GDP of all countries in the GRI, there is clearly room for improvement.

Meanwhile, the Material Wellbeing (28th) sub-index suffers the biggest decline of the four. While the country has the fifth-highest income per capita, inequality remains an area of concern given it has the sixth-lowest score for income equality.

The US ranks 19th in the Quality of Life sub-index. Its score declines slightly from last year because of a poorer showing for the happiness indicator. It has the seventh-lowest environmental factors score of all GRI countries, but nevertheless manages an improvement in this indicator compared to last year because of progress in CO2 emissions per GDP and higher uses of renewable electricity.

United States

Global Retirement Index

	2017	2016	Change
RANKING	17	14	▼
SCORE	72%	73%	▼

• Sub-Index and Indicator Rankings •

Finances in Retirement Index	2017	2016	Change
	71%	71%	►
Old-Age Dependency	50%	52%	▼
Bank Non-Performing Loans	64%	61%	▲
Inflation	100%	100%	►
Interest Rates	66%	67%	▼
Tax Pressure	50%	51%	▼
Government Indebtedness	27%	26%	▲
Governance	87%	87%	►

Health Index	2017	2016	Change
	87%	87%	►

Quality of Life Index	2017	2016	Change
	78%	79%	▼

Material Wellbeing Index	2017	2016	Change
	57%	59%	▼

18. United Kingdom

The United Kingdom drops one place to 18th in this year's GRI. It registers a fall in its Health (16th) score but improves in Finance (34th) and Quality of Life (14th). Its Material Wellbeing (15th) score is the same as last year.

The UK's scores for all three indicators in the Health sub-index fall compared to last year. However, the UK still has the third-highest score for the insured health expenditure indicator among all GRI countries.

The other sub-index in which the UK does not improve compared to last year is Material Wellbeing, with none of its indicators making it into the top 10. Its sub-index ranking improves by three places despite the score remaining the same.

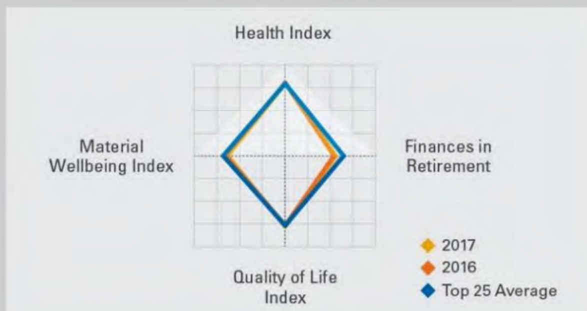
Meanwhile, the UK still ranks in the bottom 10 for the Finances sub-index, despite improving in both rank and score from last year. For the second year in a row, it scores 1% in the interest rates indicator and is only two spots away from being in the bottom 10 for government indebtedness. However, it boasts the ninth-highest score for bank non-performing loans of all countries in the GRI and does relatively well in governance.

The UK also manages to improve its Quality of Life sub-index performance. The environmental factors indicator rises because of improvements in all environmental factors considered for the GRI, especially increased renewable electricity usage and CO2 emissions per capita.

United Kingdom

Global Retirement Index

	2017	2016	Change
RANKING	18	17	▼
SCORE	72%	71%	▲



• Sub-Index and Indicator Rankings •

	2017	2016	Change
Finances in Retirement Index	58%	56%	▲
Old-Age Dependency	37%	38%	▼
Bank Non-Performing Loans	71%	61%	▲
Inflation	91%	76%	▲
Interest Rates	1%	1%	►
Tax Pressure	33%	31%	▲
Government Indebtedness	32%	31%	▲
Governance	90%	89%	▲
Health Index	83%	84%	▼
Quality of Life Index	81%	80%	▲
Material Wellbeing Index	68%	68%	►

19. France

France moves up one spot to 19th place in this year's GRI and maintains its overall score of 71%. It manages to improve its scores in all four sub-indices.

France improves its score in the Material Wellbeing (23rd) sub-index after gaining ground in two of the three indicators. Both its income equality and income per capita indicator scores increased from last year. Less positively, it has the seventh-highest unemployment rate of any country in the GRI.

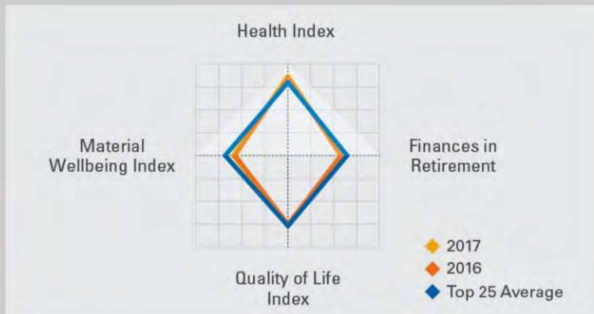
Finances (31st) marks another sub-index improvement compared to last year. Both the bank non-performing loans and tax pressures indicator scores increase compared to last year. However, France has the second-highest tax burden of all countries in the GRI as well as the eighth-lowest score for old-age dependency and the tenth-lowest score for government indebtedness.

Quality of Life (17th) and especially Health (2nd) are bright spots for France. It manages to improve its environmental factors indicator because of improvements in CO2 emissions per GDP and capita as well as increased usage of renewable electricity. And it improves its highly ranked Health sub-index via increased life expectancy and the provision of more insurance coverage for health expenditure. France has the second-highest insured health expenditure and the sixth-highest life expectancy and just misses the top 10 for health expenditure per capita.

France

Global Retirement Index

	2017	2016	Change
RANKING	19	20	▲
SCORE	71%	71%	►



• Sub-Index and Indicator Rankings •

Finances in Retirement Index	2017	2016	Change
	61%	60%	▲
Old-Age Dependency	30%	32%	▼
Bank Non-Performing Loans	46%	44%	▲
Inflation	100%	100%	►
Interest Rates	61%	63%	▼
Tax Pressure	9%	6%	▲
Government Indebtedness	29%	29%	►
Governance	85%	86%	▼

Health Index	2017	2016	Change
	90%	89%	▲

Quality of Life Index	2017	2016	Change
	79%	78%	▲

Material Wellbeing Index	2017	2016	Change
	61%	60%	▲

20. Israel

Israel falls one spot to 20th but maintains the same score as last year. It declines in the Material Wellbeing (24th) and Health (24th) sub-indices but gains ground in Quality of Life (16th) and Finances (12th).

Israel's Material Wellbeing sub-index declines because of rising levels of income inequality. The country has the tenth-lowest score for the income equality indicator. But Israel's employment and income per capita indicators, both of which rise compared to last year, represent a bright spot.

The other sub-index Israel loses ground in is Health, with declines in both the life expectancy and insured health expenditure indicators compared to last year. However, Israel has the tenth-highest score for life expectancy.

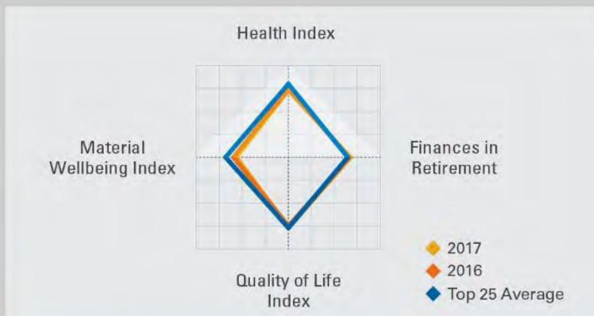
Israel performs relatively well in the Finance (12th) sub-index and slightly increases its score from last year. It has the tenth-highest score for the old-age dependency indicator and improves in both the bank non-performing loans and government indebtedness indicators compared to last year. However, the country's performance in the interest rates indicator declines from last year and it narrowly misses being in the bottom 10 forgovernance.

Meanwhile, Quality of Life (16th) increases from last year because of improvements in the environmental factors indicator, led by progress in all environmental factors considered for theGRI.

Israel

Global Retirement Index

	2017	2016	Change
RANKING	20	19	▼
SCORE	71%	71%	►



• Sub-Index and Indicator Rankings •

Finances in Retirement Index	2017	2016	Change
	70%	69%	▲
Old-Age Dependency	62%	63%	▼
Bank Non-Performing Loans	62%	57%	▲
Inflation	100%	100%	►
Interest Rates	70%	75%	▼
Tax Pressure	37%	37%	►
Government Indebtedness	42%	39%	▲
Governance	80%	80%	►
Health Index	**2017**	**2016**	**Change**
	76%	77%	▼
Quality of Life Index	**2017**	**2016**	**Change**
	79%	78%	▲
Material Wellbeing Index	**2017**	**2016**	**Change**
	61%	62%	▼

21. Malta

Malta sees its overall score improve to 70% this year from 69% last year, moving up two spots to 21st. Improvements in Health (23rd), Quality of Life (28th) and Material Wellbeing (13th) drive Malta's overall score increase.

Malta records its largest improvement in the Health sub-index. It manages especially strong gains in the life expectancy indicator, while health expenditure per capita and insured health expenditure register increases too. An improved showing in the Quality of Life sub-index (28th) is driven by environmental improvements – lower CO2 emissions per GDP and a higher prevalence of renewable electricity – as well as gains in the happiness indicator.

Malta finishes 23rd in the Finances sub-index after recording the same score as last year. While its inflation score remains favorable and there is improvement in the interest rate indicator, most of the other indicator scores are average if not poor compared to other countries in the GRI. It ranks in the bottom 10 for bank non-performing loans and has a relatively high proportion of older citizens compared to working-age adults.

Malta remains in 13th place in the Material Wellbeing sub-index after registering improvements in the income per capita and employment indicators. However, the country's score for the income equality indicator falls from last year.

Malta

Global Retirement Index

	2017	2016	Change
RANKING	21	23	▲
SCORE	70%	69%	▲

• Sub-Index and Indicator Rankings •

Finances in Retirement Index	2017	2016	Change
	65%	65%	►
Old-Age Dependency	34%	36%	▼
Bank Non-Performing Loans	31%	31%	►
Inflation	100%	100%	►
Interest Rates	69%	63%	▲
Tax Pressure	27%	28%	▼
Government Indebtedness	42%	40%	▲
Governance	85%	85%	►

	2017	2016	Change
Health Index	77%	74%	▲
Quality of Life Index	68%	66%	▲
Material Wellbeing Index	72%	71%	▲

22. Japan

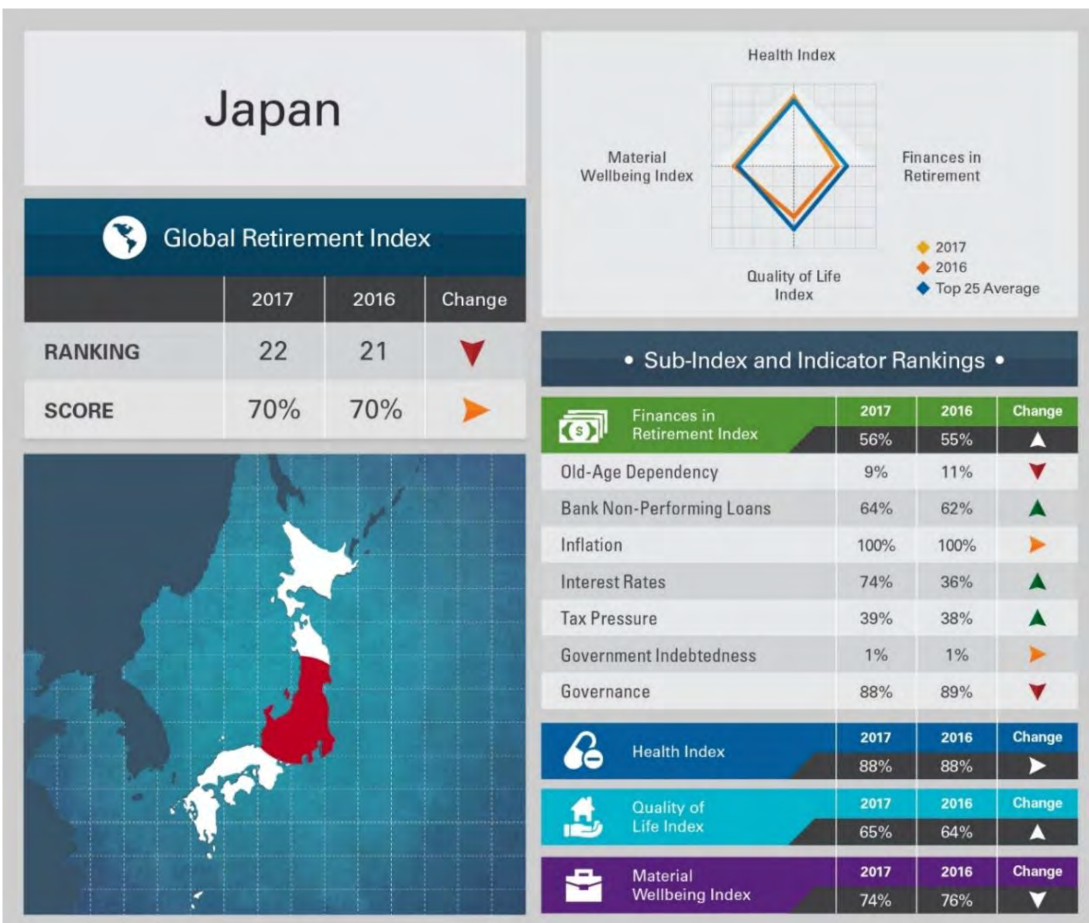
Japan falls one spot to 22nd in this year's GRI, despite its overall score remaining at 70%. Japan declines in the Material Wellbeing (12th) sub-index but rises in Quality of Life (31st) and Finances (36th). Its score for the Health (6th) sub-index remains the same as last year.

The main reason for Japan's five-spot slide in the Material Wellbeing sub-index is a lower score for its income equality indicator. However, Japan remains a relatively strong player in the Material Wellbeing arena, boasting the second-highest score for the employment indicator. And its income per capita performance is better than last year.

Meanwhile, Japan slips in the Health sub-index due to a decline in health expenditure per capita. But it still manages a stellar performance in Health – it has the sixth-highest Health sub-index score and the longest life expectancy of any country in the GRI.

Less positively, Japan ranks in the bottom 10 for Finances (36th), although it manages to improve its score in the sub-index from last year. The country achieves a significant improvement in the interest rates indicator and also records better scores in the bank non-performing loans and tax pressure indicators. But on the flip side, Japan has the worst score for both old-age dependency and government indebtedness of any country in the GRI. It must focus on improving these poor performances if it is to compete with those other highly developed countries ahead of Japan in the GRI rankings.

Japan improves its Quality of Life (31st) score on the back of improvements in both the environmental factors and happiness indicators.



23. Korea, Rep.

South Korea falls one spot to 23rd overall in this year's GRI. Its scores decline in the Material Wellbeing (10th) sub-index but improve in the Health (26th) and Quality of Life (38th) sub-indices. It has the same score in the Finances (6th) sub-index as last year.

South Korea slips down the rankings in the Material Wellbeing sub-index due to worse scores in all three indicators. However, the country still manages a top 10 finish for the sub-index. None of its indicators is in the bottom 10, and it still has the fourth-highest score for the employment indicator among all countries in the GRI.

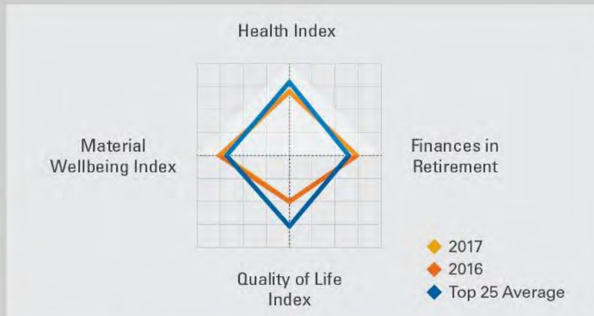
South Korea also manages a top 10 finish in the Finances sub-index. It performs very well in most indicators and achieves top 10 finishes in old-age dependency (8th), bank non-performing loans (5th), tax pressure (6th) and government indebtedness (9th). The only indicator not ranking near the top 10 is governance, which accounts for half of the index weighting.

South Korea's Health and Quality of Life sub-indices do not rank as highly as the other two sub-indices. While it has the ninth-highest life expectancy, it has the sixth-lowest score for insured health expenditure of all countries in the GRI. Meanwhile, the country performs very poorly in certain Quality of Life indicators, ranking in the bottom 10 for air quality (41st), biodiversity and habitat (41st) and environmental factors (39th).

Korea, Rep.

Global Retirement Index

	2017	2016	Change
RANKING	23	22	▼
SCORE	68%	69%	▼



Sub-Index and Indicator Rankings

	2017	2016	Change
Finances in Retirement Index	76%	76%	▶
Old-Age Dependency	63%	66%	▼
Bank Non-Performing Loans	80%	80%	▶
Inflation	100%	90%	▲
Interest Rates	77%	78%	▼
Tax Pressure	54%	55%	▼
Government Indebtedness	60%	60%	▶
Governance	81%	81%	▶
Health Index	73%	72%	▲
Quality of Life Index	53%	52%	▲
Material Wellbeing Index	75%	79%	▼

24. Slovenia

Slovenia remains in the 24th spot for the second year in a row and manages to improve its overall score from last year due to its performance in the Quality of Life (30th) and Finances (26th) sub-indices.

The country ranks in the middle of the pack for the Finances sub-index, with none of its indicators breaking into the top 10. But while Slovenia has the ninth-lowest score for bank non-performing loans, a better performance in this indicator is actually the main reason why the country improves its sub-index score. Other indicator improvements include tax pressure and interest rates.

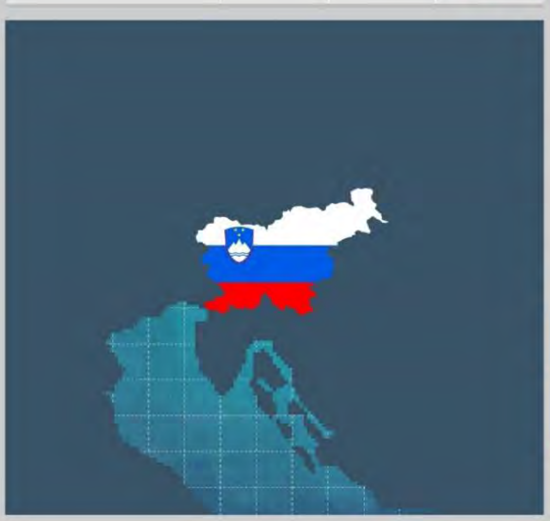
Slovenia improves in the Quality of Life sub-index due to gains in the environmental factors indicator and, in particular, CO2 emissions per GDP and capita as well as increased usage of renewable electricity. The country also sees an improvement in its happiness indicator score.

The country's scores decline in the Health (22nd) and Material Wellbeing (17th) sub-indices, despite its ranking staying the same and improving three spots in each of the indices, respectively. Slovenia has lower scores in both the life expectancy and health expenditure per capita indicators within the Health sub-index compared to last year but still has the seventh-highest insured health expenditure. Meanwhile, the main culprit for Slovenia's lower Material Wellbeing score is the income equality indicator. But it still ranks highly in income equality despite falling from first to fourth place in this indicator.

Slovenia

Global Retirement Index

	2017	2016	Change
RANKING	24	24	►
SCORE	68%	67%	▲



Sub-Index and Indicator Rankings

Finances in Retirement Index	2017	2016	Change
	64%	62%	▲
Old-Age Dependency	39%	41%	▼
Bank Non-Performing Loans	33%	25%	▲
Inflation	100%	100%	►
Interest Rates	76%	75%	▲
Tax Pressure	25%	22%	▲
Government Indebtedness	34%	34%	►
Governance	82%	82%	►

Health Index	2017	2016	Change
	78%	79%	▼

Quality of Life Index	2017	2016	Change
	66%	63%	▲

Material Wellbeing Index	2017	2016	Change
	66%	67%	▼

25. Slovak Republic

The Slovak Republic (25th) moves into the top 25 overall this year after missing out by just one spot last year. Driving the higher overall score are improvements within the Material Wellbeing (25th) and Quality of Life (25th) sub-indices.

The Slovak Republic ranks 25th this year in the Material Wellbeing sub-index. Slovakia now has the second-highest score for income equality of all countries in the GRI, up from third-highest last year. The only country with a higher distribution of income is Iceland. But although the country's citizens have a higher income per capita compared to last year, Slovakia still fails to rival the incomes of other wealthy European countries. Indeed, Slovakia has the lowest income per capita of all countries in the top 25.

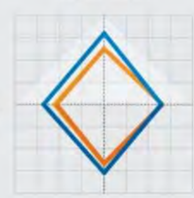
The Quality of Life sub-index also helps drive Slovakia's overall improvement compared to last year, although to a lesser extent than the Material Wellbeing sub-index. Slovakia manages an across-the-board improvement in the environmental factors indicator and has a better score for happiness.

Meanwhile, the country registers a relatively mediocre performance in Finances in Retirement (19th). While it has a favorable old-age dependency ratio and low levels of inflation, its score for bank non-performing loans and governance, where it finishes in the bottom 10, means that it fails to rival other elite countries in the GRI. There is also room for improvement in the Health (31st) sub-index, with its life expectancy sitting in the bottom 10 for all countries in the GRI.

Slovak Republic

Global Retirement Index

	2017	2016	Change
RANKING	25	26	▲
SCORE	66%	64%	▲



• Sub-Index and Indicator Rankings •

Finances in Retirement Index	2017	2016	Change
	68%	68%	▶
Old-Age Dependency	59%	61%	▼
Bank Non-Performing Loans	42%	40%	▲
Inflation	100%	100%	▶
Interest Rates	64%	67%	▼
Tax Pressure	37%	39%	▼
Government Indebtedness	48%	47%	▲
Governance	80%	80%	▶

	2017	2016	Change
Health Index	65%	65%	▶
Quality of Life Index	71%	69%	▲
Material Wellbeing Index	60%	56%	▲

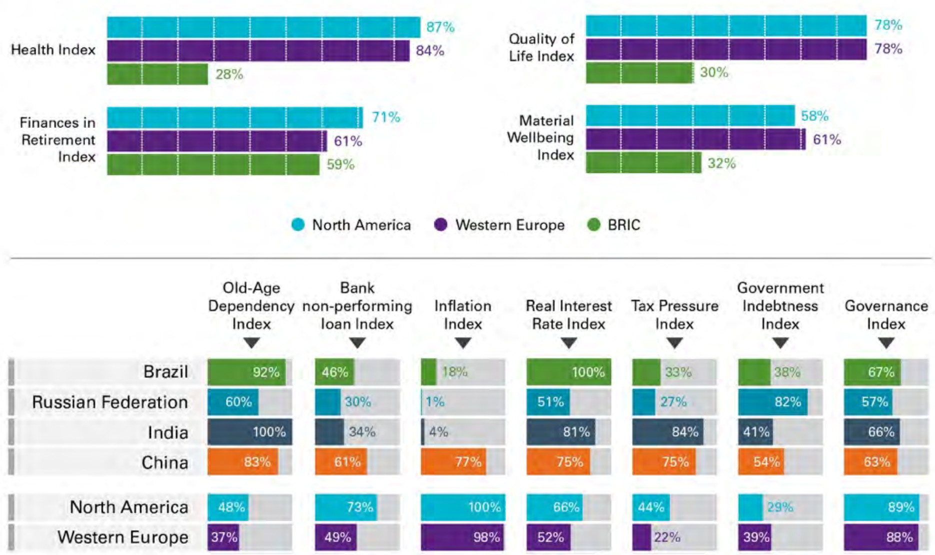
BRICs Trail North America and Western Europe

The Global Retirement Index aims to assess retiree welfare in developed nations since retirement funding is unequivocally a more pressing problem in these countries. However, it seems befitting to include the BRIC countries as a benchmark for developing countries and point of comparison to the developed world. Given that the BRIC countries finish near the bottom of the overall rankings, they should not be expected as a group to outperform the top-ranked regions of North America and Western Europe in most indicators. However, there are certain indicators where the BRIC countries do much better than their peers.

Three out of the four countries place in the top 10 for old-age dependency (with Russia ranking 11th), China and India each have top 10 scores for both employment and tax pressure, Russia ranks third for government indebtedness, and Brazil ranks fourth in the environmental factors indicator.

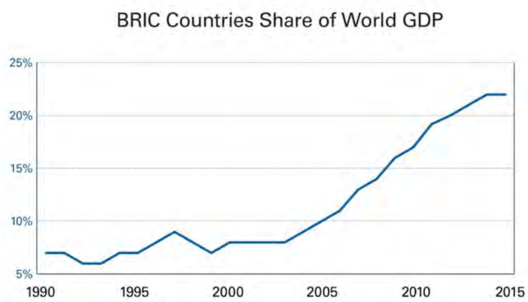
In fact, the BRIC's Finances sub-index score is only 2% less than Western Europe's. The main reason BRICs do not edge out Western Europe is that all BRIC countries finish in the bottom five for governance, an important indicator in the Finances sub-index.

BRIC comparison to North America and Western Europe

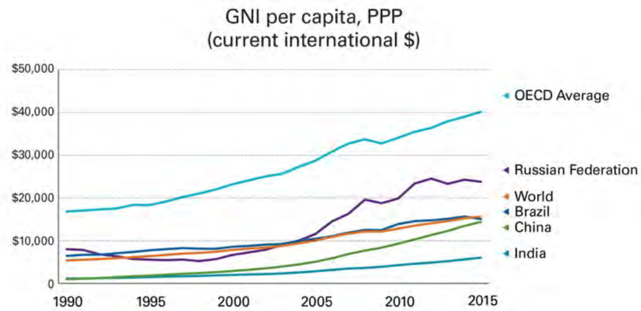


However, Western European and North American countries far outpace BRIC countries in the Health, Material Wellbeing and Quality of Life sub-indices. Except for Brazil in Quality of Life and China in Material Wellbeing, each of the BRIC countries places in the bottom 10 for these three sub-indices and some BRIC countries have the worst indicator scores among all countries in the GRI. India has the worst score for all three indicators within the Health sub-index, the lowest income per capita score, the lowest score for happiness and the lowest score for water and sanitation. Brazil has the lowest score for income equality and the third-lowest score for income per capita. China has the second-lowest scores for the health expenditure per capita, income per capita and air quality indicators, while Russia has the second-lowest life expectancy and third-lowest score for the environmental factors indicator. Evidently, the BRIC countries have a long way to go before matching the consistent performance of Western Europe and North America.

Part of the general promise of the BRICs, and part of the justification for their inclusion in the GRI, is their remarkable economic growth over the past 25 years. The BRICs' share of the world GDP has tripled since 1999, increasing from 7% to 22% in 2015. However, the change in share of world GDP from year to year, while generally on the rise, has stalled in recent years. While the share of world GDP is still the highest it has ever been, the rapid development of the BRICs is leveling out and the once-optimistic growth projections could be starting to cool.



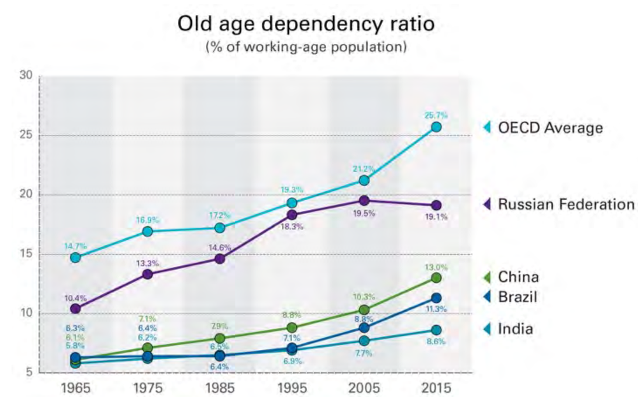
Source: World Bank (2016), World Development Indicators 2016. Washington, DC.



Source: World Bank (2016), World Development Indicators 2016. Washington, DC.

Part of the measure of a country's prosperity is its income per person and how equally distributed it is throughout society. The OECD countries, as expected, significantly outpace the BRIC countries when it comes to income per capita. While the BRICs trail the OECD countries in the GRI in terms of income per person, BRICs are actually on par with the rest of the world. Brazil and China have comparable levels of income per capita to the world average. India is the only BRIC country with significantly lower levels of income than the rest of the group.

However, the other side of the prosperity coin is, especially in Russia's case, the prosperity is not particularly well balanced among BRICs' citizens. The average GINI coefficient figures indicate much higher levels of income inequality in BRIC countries compared to OECD countries. Three of the bottom 10 scores for the income equality indicator belong to BRIC countries. Western European countries, in contrast, are able to have high levels of individual prosperity while still having relatively equal incomes throughout society.



While the Western European and North American countries outperform the BRICs in most indicators, one measure that BRICs have an advantage over higher-scoring countries in the GRI is the old-age dependency ratio. BRICs have a lower old-age dependency than OECD countries and this same trend has existed going back 50 years. These demographics favor BRIC countries more than other higher-performing countries in the GRI because they have a younger population with more people in the workforce that are able to provide for retirees.

However, challenges remain as the percentage of China's population aged 60 or older is projected to more than double within the next 35 years, increasing from 15.2% in 2015 to 36.5% in 2050.[8] Brazil's 65 and older proportion is similarly expected to more than double from 11.7% to 29.3% over the same period. While the BRIC countries currently have an advantage over higher-ranked countries overall in the GRI rankings, they will inevitably confront the same problems currently facing certain Western European countries and should learn from these countries to avoid future problems.

[8] http://www.un.org/en/development/desa/population/publications/pdf/ageing/WPA2015_Report.pdf

38. China

China remains at 38th in the 2017 GRI despite increasing its overall score from last year. The country improves in two out of its four sub-indices.

China has bottom five placements in the Health (40th) and Quality of Life (41st) sub-indices despite improving in both compared to last year. China places in the bottom 10 in all three indicators in the Health sub-index by having the second-lowest health expenditure per capita, the seventh-lowest life expectancy and the ninth-lowest insured health expenditure of all countries in the GRI. However, China has a longer life expectancy and higher insured health expenditure compared to last year so its progress in these two indicators helps boost its sub-index placement. Meanwhile, China improves in the Quality of Life sub-index because of progress in CO2 emissions per GDP and increased usage of renewable electricity within the environmental factors indicator as well as improved levels of happiness. However, it places in the bottom 10 for all indicators within the sub-index and has the second-lowest score for air quality among all GRI countries.

The Material Wellbeing (31st) sub-index has the largest effect on China's gain in overall score. China has lower levels of income inequality compared to last year's report, and income per capita has been rising. It also finishes ninth in the employment indicator. However, it still has the second-lowest score for income per capita and the ninth-lowest score for income equality.

China performs very well in certain indicators within the Finances (20th) sub-index. It has the fifth-highest score for old-age dependency and the third-highest score for tax pressure among all countries in the GRI. Bank non-performing loans and government indebtedness also fare relatively well. However, China has the second-lowest score for governance among all countries in the GRI. Since China has relatively good to excellent scores for most of its other indicators, an improvement in governance would dramatically increase China's sub-index score.

40. Russian Federation

Russia remains at 40th place in this year's GRI despite dropping in overall score from 46% to 45%. It declines in the Material Wellbeing (35th) and Health (42nd) sub-indices but improves in Quality of Life (36th) and Finance (43rd).

Russia falls in the Material Wellbeing sub-index because of declines in all three of its indicator scores. Income equality ranks fifth lowest while income per capita is seventh to last among all countries in the GRI. Meanwhile, Russia's ranking for the employment indicator falls five spots to 17th.

Health is another sub-index where Russia declines in score compared to last year. Russia's score for life expectancy is lower this year than it was last year and, for the second year in a row, it ranks second to last in this indicator. It also finishes fourth to last in insured health expenditure and misses the bottom 10 by two spots for health expenditure per capita.

Russia finishes last in the Finances sub-index despite improving its score compared to last year. It has the lowest score for both governance and inflation, and it ranks sixth to last for bank non-performing loans and tenth lowest for the interest rate indicator. Despite these bottom 10 indicator finishes, Russia actually ranks quite well in other indicators. It has the third-highest score for the government indebtedness indicator and ranks 11th for old-age dependency.

Russia improves in the Quality of Life sub-index because of a higher score for happiness and gains in the environmental factors indicator resulting from progress in CO_2 emissions per GDP. However, it still has the third-lowest score for the environmental factors indicator and the sixth-lowest for biodiversity and habitat.

Russian Federation

Global Retirement Index

	2017	2016	Change
RANKING	40	40	►
SCORE	45%	46%	▼

• Sub-Index and Indicator Rankings •

Finances in Retirement Index	2017	2016	Change
	41%	40%	▲
Old-Age Dependency	60%	61%	▼
Bank Non-Performing Loans	30%	34%	▼
Inflation	1%	20%	▼
Interest Rates	51%	1%	▲
Tax Pressure	27%	27%	►
Government Indebtedness	82%	81%	▲
Governance	57%	58%	▼

	2017	2016	Change
Health Index	36%	40%	▼
Quality of Life Index	58%	54%	▲
Material Wellbeing Index	47%	52%	▼

41. Brazil

Brazil remains in 41st place in this year's GRI and its overall score falls from 44% to 41%. It declines in score in all four sub-indices.

Finances (35th) is one of Brazil's largest sub-index declines this year. Compared to last year's report, it has worse performances in the inflation, bank non-performing loans, government indebtedness, old-age dependency and governance indicators. Furthermore, Brazil has the sixth-worst ranking for governance of all countries in the GRI. However, a bright spot for Brazil is that it ranks first in the interest rate indicator and fourth in old-age dependency.

Brazil's Health (38th) sub-index also declines compared to last year's performance. Multiple indicators finish in the bottom 10 with life expectancy finishing fifth to last and health expenditure per capita finishing sixth to last.

Brazil has the worst Material Wellbeing (43rd) sub-index score of any country in the GRI. It has the highest level of income inequality and the third-lowest income per capita. Declines in both the employment and income per capita indicators are the main reason why the sub-index score falls compared to last year.

Brazil declines in its highest-ranked Quality of Life (11th) sub-index because of a lower happiness indicator score. However, it has the fourth-highest score for the environmental factors indicator and improves compared to last year because of progress in CO_2 emissions per GDP.

Brazil

Global Retirement Index

	2017	2016	Change
RANKING	41	41	►
SCORE	41%	44%	▼

• Sub-Index and Indicator Rankings •

Finances in Retirement Index	2017	2016	Change
	57%	60%	▼
Old-Age Dependency	92%	94%	▼
Bank Non-Performing Loans	46%	50%	▼
Inflation	18%	30%	▼
Interest Rates	100%	100%	►
Tax Pressure	33%	30%	▲
Government Indebtedness	38%	41%	▼
Governance	67%	69%	▼

Health Index	2017	2016	Change
	52%	54%	▼

Quality of Life Index	2017	2016	Change
	82%	86%	▼

Material Wellbeing Index	2017	2016	Change
	12%	13%	▼

43. India

India ranks 43rd in this year's GRI and has the same score compared to last year. Its sub-indices all rank in the bottom five. Compared to last year's report, India declines in the Material Wellbeing (41st) and Health (43rd) sub-indices but gains ground in Finances (39th) and Quality of Life (43rd).

Despite finishing third to last for the Material Wellbeing sub-index, India actually has a top five finish by having the third-highest score for the employment indicator. However, it has the lowest income per capita of all countries in the GRI. Additionally, its score for the income equality indicator declines compared to last year's report.

For the second year in a row, India ranks last in the Health sub-index and its score declines even more from last year. It has the lowest scores for all indicators within the sub-index and declines in the insured health expenditure compared to last year.

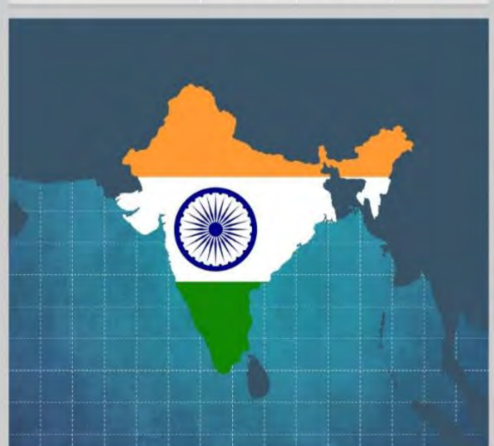
India's largest sub-index improvement is in Finances and it moves up three spots from its ranking last year. However, India still has the fifth-worst sub-index score of any country in the GRI. The main reason for the improvement is better scores in the interest rate, inflation and governance indicators. It also finishes first in old-age dependency, second in tax pressure and sixth in interest rates. Counterbalancing the high scores in these sub-indices is the governance indicator which, despite improving from last year, ranks as the fifth worst among all countries in the GRI. It also has the tenth-lowest score for the bank non-performing loans indicator.

India places last in the Quality of Life sub-index for the second year in a row. Progress in CO_2 emissions per GDP improves India's environmental factors indicator. However, the country still has the worst scores for happiness, water and sanitation, and air quality as well as the second-worst score for biodiversity and habitat among all GRI countries.

India

Global Retirement Index

	2017	2016	Change
RANKING	43	43	►
SCORE	12%	12%	►



• Sub-Index and Indicator Rankings •

Finances in Retirement Index	2017	2016	Change
	53%	49%	▲
Old-Age Dependency	100%	100%	►
Bank Non-Performing Loans	34%	44%	▼
Inflation	4%	1%	▲
Interest Rates	81%	76%	▲
Tax Pressure	84%	85%	▼
Government Indebtedness	41%	41%	►
Governance	66%	65%	▲

Health Index	2017	2016	Change
	3%	4%	▼

Quality of Life Index	2017	2016	Change
	7%	6%	▲

Material Wellbeing Index	2017	2016	Change
	17%	18%	▼

Performance By Sub-Index

The performance by sub-index section analyzes GRI performance on an indicator-by-indicator basis. Focusing on sub-index performance highlights the strengths of some countries' indicators and illuminates good practices for certain countries while highlighting needed areas of improvement for others.

Health

The Health sub-index measures health expenditure per capita, non-insured health expenditure and life expectancy in the 43 countries included in this year's GRI. These indicators are important determinants of physical wellness and therefore retiree welfare. The Health index scores range from a high of 92% for Luxembourg to a low of 3% for India.

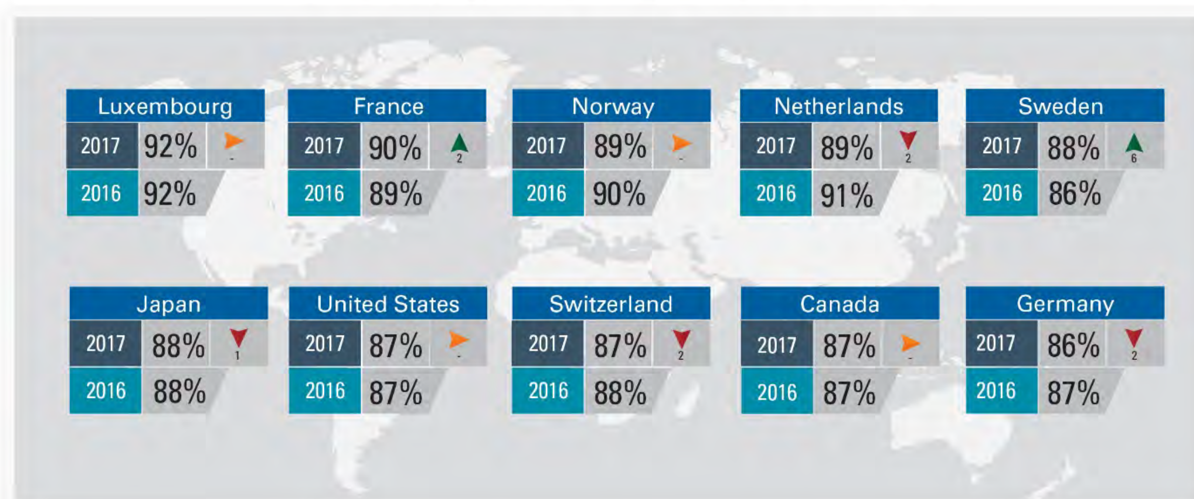
Luxembourg maintains its first position in this year's Health sub-index. Similar to last year, it is in the top five for both health expenditure per capita and insured health expenditure.

While the US spends the most per person on healthcare, the Netherlands has the highest insured health expenditure of all countries in the GRI. The Netherlands' sixth place ranking in health expenditure also helps it achieve a fourth place finish in the Health sub-index.

France moves into second place in this year's Health sub-index and has the second-highest insured health expenditure, trailing only the Netherlands. Its life expectancy of 82 years is also the sixth-highest among all countries in the GRI.

Malta and Sweden achieve the biggest positive gains compared to last year in the Health sub-index. Malta's score improves by almost 3% because of positive gains in all indicators, resulting in the country moving up three spots to 23rd. Sweden moves up six spots in the Health sub-index to fifth, with both its health expenditure per capita and insured health expenditure scores increasing.

TOP 10 COUNTRIES IN THE HEALTH SUB-INDEX

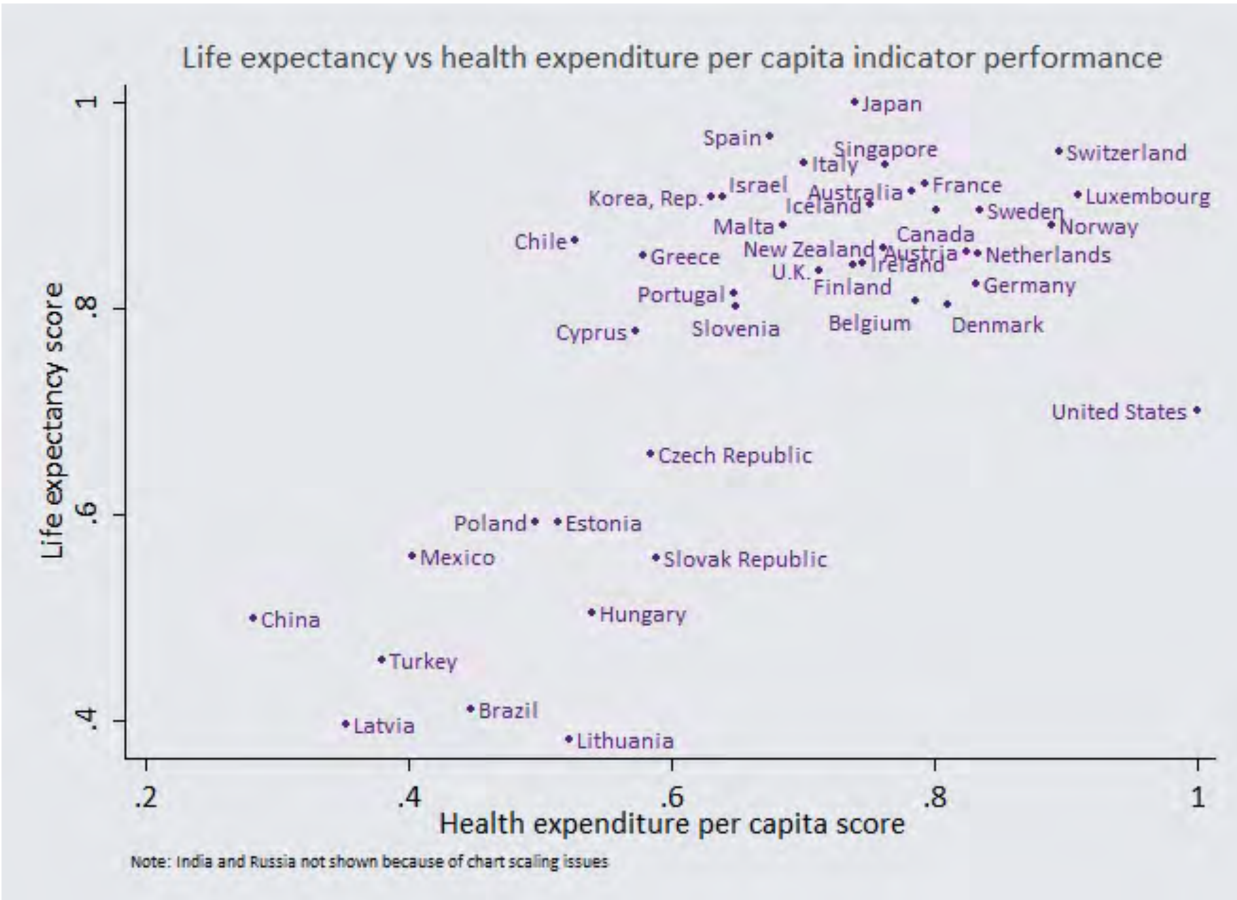


The biggest losses compared to last year in the Health sub-index are registered by Iceland and Ireland. Iceland falls five spots to 15th, mainly because of decreases in life expectancy. Meanwhile, Ireland has a worse score in all three health indicators compared to last year.

Japan has the highest life expectancy of any country in the GRI, helping it to a sixth-place finish in the sub-index rankings. The United States falls just behind Japan with a sub-index ranking of seventh and the highest health expenditure per capita and sixth-highest insured health expenditure. However, its relatively low placement in life expectancy (30th) holds back its sub-index score.

The higher a country's health expenditure per person, the higher its life expectancy is expected to be. But with the US, life expectancy does not move in line with how much it spends on healthcare per person. For example, Cyprus spends a quarter of what the US spends on healthcare per person, yet a citizen in Cyprus can expect to live an average of two years longer than a typical person in the US. So, while more healthcare spending can generally lead to positive healthcare benefits such as longer life expectancy, spending more will not necessarily guarantee good results.

India scores poorly in the Health sub-index. It has the worst scores for all three indicators in addition to having the worst Health sub-index score.



TOP 25 IN HEALTH SUB-INDEX

COLOR SCALE
91%-100%
81%-90%
71%-80%
61%-70%
51%-60%
41%-50%
31%-40%
21%-30%
11%-20%
0%-10%

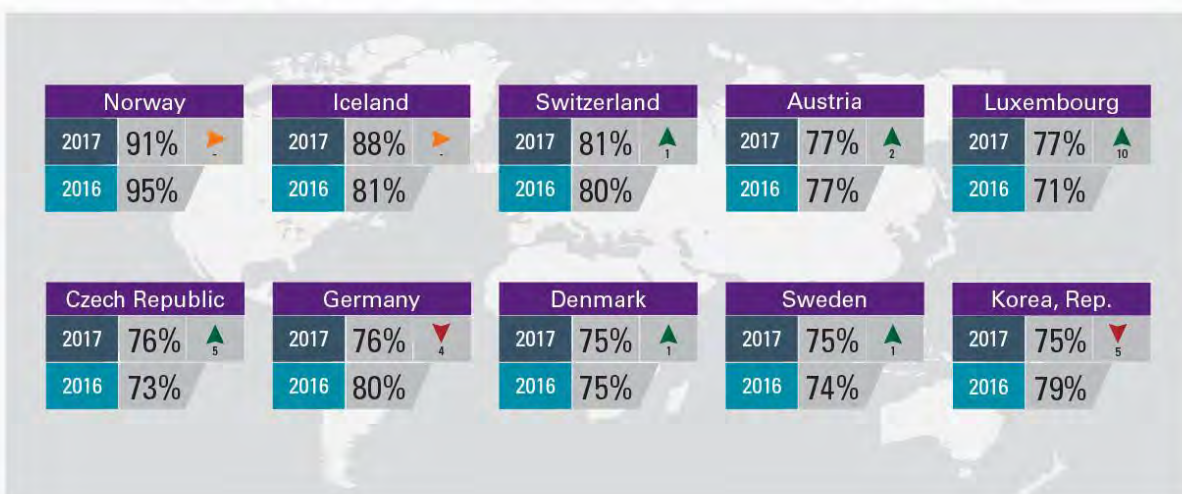
COUNTRY	RANKING		SCORE	
	2017	2016	2017	2016
Luxembourg	1	1	92%	92%
France	2	4	90%	89%
Norway	3	3	89%	90%
Netherlands	4	2	89%	91%
Sweden	5	11	88%	86%
Japan	6	5	88%	88%
United States	7	7	87%	87%
Switzerland	8	6	87%	88%
Canada	9	9	87%	87%
Germany	10	8	86%	87%
Austria	11	13	85%	86%
New Zealand	12	14	85%	85%
Australia	13	12	85%	86%
Denmark	14	15	84%	85%
Iceland	15	10	84%	86%
United Kingdom	16	16	83%	84%
Belgium	17	19	82%	82%
Italy	18	18	82%	83%
Ireland	19	17	82%	83%
Finland	20	20	81%	82%
Spain	21	21	81%	81%
Slovenia	22	22	78%	79%
Malta	23	26	77%	74%
Israel	24	23	76%	77%
Portugal	25	25	74%	74%

Material Wellbeing

Scores for the Material Wellbeing sub-index are calculated using income per capita, unemployment and income equality. This sub-index measures the ability of retirees to support themselves in retirement.

While declining in sub-index performance compared to last year, Norway's score of 91% in Material Wellbeing still leads all countries in the GRI. Its top three finishes in two of the indicators and sixth-place finish in employment explain its GRI-leading sub-index score. While other countries edge Norway in terms of having the highest score for a particular indicator, those same countries are not able to have across-the-board strong performances in all indicators.

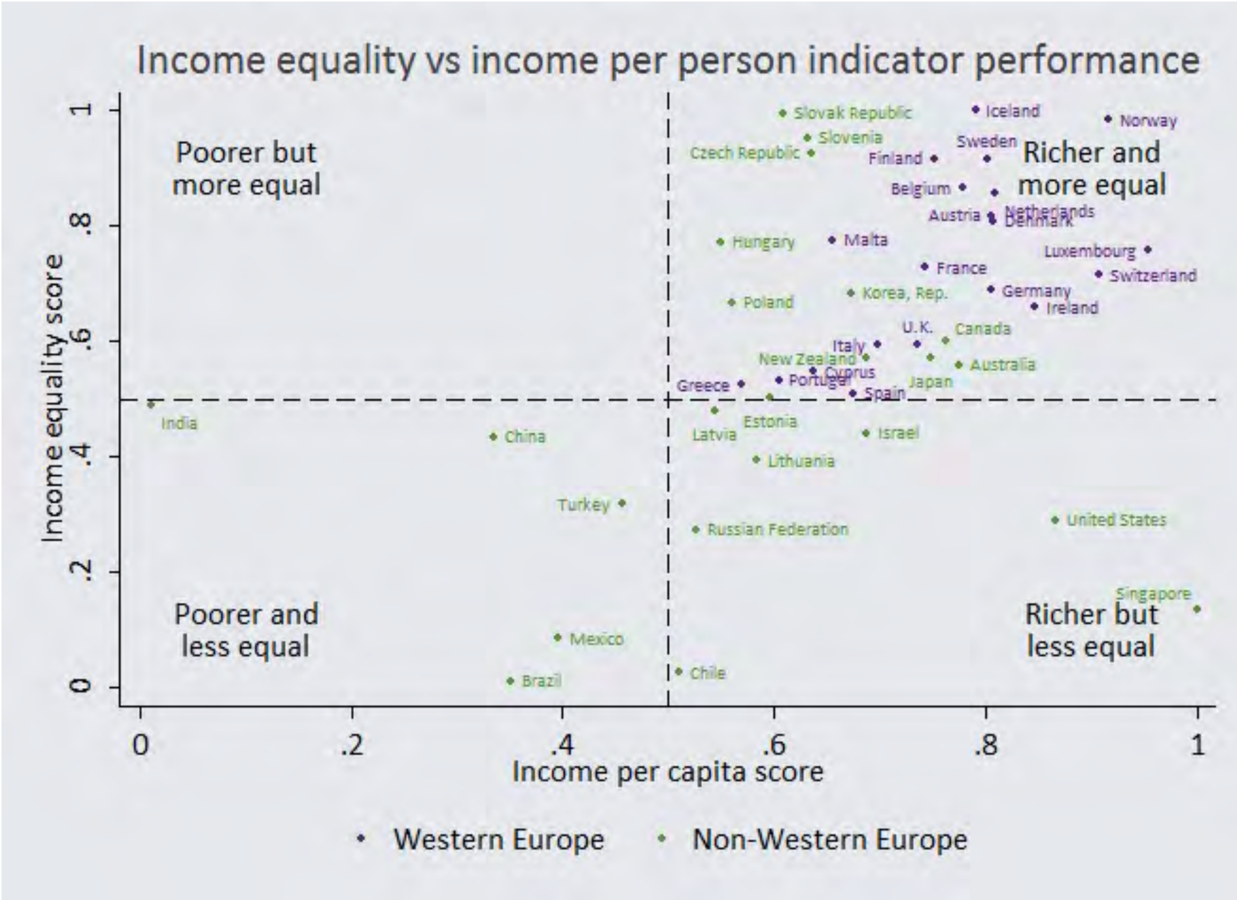
TOP 10 COUNTRIES IN THE MATERIAL WELLBEING SUB-INDEX



Iceland, for example, ranks second behind Norway in Material Wellbeing with a score of 88%. It has the highest score in income equality and fifth-highest employment score of all countries in the GRI, beating Norway's third- and sixth-place finishes, respectively. However, Iceland ranks 12th in income per capita and therefore does not pass Norway in sub-index ranking. The other country ranking ahead of Norway in second place in income equality, the Slovak Republic, has much poorer placements in employment (38th) and income per capita (29th), resulting in a 25th place sub-index finish.

Luxembourg is similar to Iceland in that it ranks highly in the Material Wellbeing sub-index (5th) and manages a better performance than Norway in one of the indicators (income per capita at second). But the country fails to edge ahead of Norway and others in front of it because of its other two indicators, namely income equality (14th) and employment (23rd). Singapore has the highest scores for both employment and income per capita of any country in the GRI, yet only manages a 30th place finish in Material Wellbeing because of its very poor placement in income equality (40th). It is similar to the United States in this regard, which ranks fifth in income per capita but 38th in income equality.

It seems Western European countries have mastered the balance between higher individual prosperity and maintaining relative levels of income equality. All Western European countries have both their income equality scores and income per capita scores above 50%. Non-Western European countries such as the Czech Republic and Canada are just as likely to score greater than 50% in both indicators, but all countries lacking in one or both indicators are non-Western European. Retirees in the rich but more unequal countries such as the United States, Singapore and Israel run the risk of having retirement systems set up to disproportionally benefit certain citizens who have higher levels of incomes. The countries that have less than 50% in both income equality and income per capita are mainly BRIC countries including India, China and Brazil, with Mexico and Turkey thrown in as well. South Korea, the only non-European country in the top 10 for the Material Wellbeing sub-index, drops from fifth to 10th because of score declines in all three indicators.


Income equality vs income per person indicator performance
Income equality score
Income per capita score
Poorer but more equal
Richer and more equal
Poorer and less equal
Richer but less equal
Slovak Republic
Iceland
Norway
Slovenia
Sweden
Czech Republic
Finland
Belgium
Austria
Netherlands
Denmark
Hungary
Malta
Luxembourg
France
Switzerland
Poland
Korea, Rep.
Germany
Ireland
U.K.
Canada
Italy
New Zealand
Cyprus
Australia
Portugal
Japan
Greece
Spain
India
China
Latvia
Estonia
Israel
Lithuania
Turkey
Russian Federation
United States
Singapore
Mexico
Brazil
Chile
Western Europe
Non-Western Europe

TOP 25 IN MATERIAL WELLBEING SUB-INDEX

COLOR SCALE

- 91%-100%
- 81%-90%
- 71%-80%
- 61%-70%
- 51%-60%
- 41%-50%
- 31%-40%
- 21%-30%
- 11%-20%
- 0%-10%

COUNTRY	RANKING		SCORE	
	2017	2016	2017	2016
Norway	1	1	91%	95%
Iceland	2	2	88%	81%
Switzerland	3	4	81%	80%
Austria	4	6	77%	77%
Luxembourg	5	15	77%	71%
Czech Republic	6	11	76%	73%
Germany	7	3	76%	80%
Denmark	8	9	75%	75%
Sweden	9	10	75%	74%
Korea, Rep.	10	5	75%	79%
Netherlands	11	8	75%	76%
Japan	12	7	74%	76%
Malta	13	13	72%	71%
Belgium	14	14	70%	71%
United Kingdom	15	18	68%	68%
Finland	16	12	68%	72%
Slovenia	17	20	66%	67%
Australia	18	16	66%	70%
New Zealand	19	19	66%	68%
Canada	20	17	65%	70%
Hungary	21	21	64%	63%
Ireland	22	26	64%	58%
France	23	23	61%	60%
Israel	24	22	61%	62%
Slovak Republic	25	28	60%	56%

Finances in Retirement

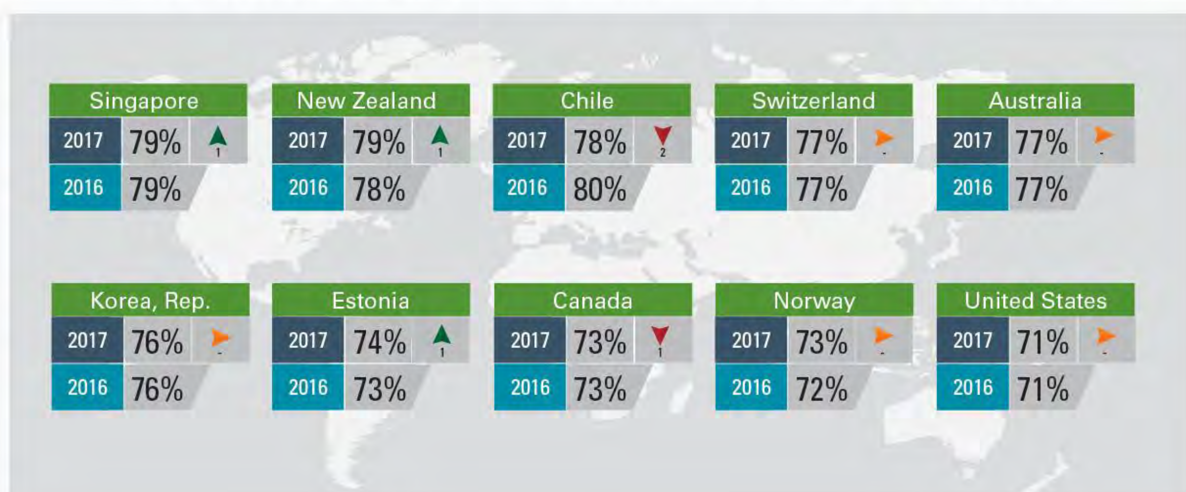
The Finances in Retirement sub-index differs from the other sub-indices in that the usual suspects are not the top sub-index performers. Instead, seven of the top 10 performers in the Finances in Retirement index are non-European countries – a rarity considering the prevalence of European countries performing well in the GRI. In fact, Germany, the Netherlands and Denmark are in the top 10 overall but finish below 20th place in the Finances sub-index while Singapore, Chile, South Korea and Estonia manage top 10 finishes for Finances but do not break into the top 20 overall. Most European countries face an aging population, high levels of public debt and high tax burdens, thus dragging down their scores in this sub-index.

Singapore moves into the top spot in the Finances sub-index with a score of 79%. New Zealand moves up to second place with a score of 79%. Both leapfrog Chile in the sub-index ranking, which was first last year in Finances. Russia finishes last with a score of 41%.

Singapore maintains its first-place ranking in the tax pressure indicator with the lowest tax burden of all countries in the GRI. It also manages top 10 finishes in interest rates, old-age dependency, bank non-performing loans and governance. Singapore sees improvements in government indebtedness and especially inflation, two indicator scores that were holding it back from pole position in the past.

New Zealand gets the boost it needs to move ahead in the Finances sub-index ranking because of improvements in the bank non-performing loans and government indebtedness indicators. Another reason it manages to move to second is through maintaining its top performance in governance where, similar to last year, it has the highest score of all countries in the GRI.

TOP 10 COUNTRIES IN THE FINANCES IN RETIREMENT SUB-INDEX



Chile still maintains top 10 finishes in old-age dependency, interest rates, tax pressures and government indebtedness. However, its inflation indicator score decreases by 14% and, while still ranking second in government indebtedness, its score decreases by 5% compared to last year. These setbacks, along with smaller declines in old-age dependency and governance, are the main reasons the country falls two spots in its sub-index performance.

Canada manages an eighth-place finish in Finances because of top 10 performances in bank non-performing loans and governance. And Ireland sees significant improvement in its government indebtedness score, going from 25% to 36%. But Ireland's climb in sub-index ranking from 20th to 11th is also helped by improvements in bank non-performing loans where, while still ranking a lowly 37th, it manages to improve its score by 14.5% compared to last year.

Of all the countries in the GRI, Luxembourg and Austria suffer the most precipitous drops in the Finances sub-index compared to last year. Luxembourg moves from 12th to 29th place in Finances, while Austria moves from 27th to 37th. For a country that moves so significantly in sub-index ranking, Luxembourg actually does not decline that much in most of its indicator rankings. It retains the highest score for bank non-performing loans and either improves or maintains its scores in all but one indicator. However, its five-year average for real interest rates moves into negative territory, resulting in a 14% decline in its interest rates indicator compared to last year, which in turn leads to its fall in sub-index performance.

The story is the same for Austria: While it experiences minor declines in some indicators that are offset by gains in others, its five-year average for real interest rates moves from positive to negative territory, resulting in an 8% decline in its sub-index score and therefore a significant drop in ranking. The examples of these two countries illustrate the competitiveness of the GRI rankings and the importance of achieving balance among all indicators. A significant decline in one indicator, even while maintaining or gaining ground in others, can result in a decline in ranking.

Russia remains in last place in Finances in this year's GRI. While the country has the third-highest score for government indebtedness, Russia's last-place governance score ultimately brings down its Finances sub-index placement. In addition, it has a bottom-10 finish in bank non-performing loans and the highest levels of inflation of any country in the GRI.

The Finances in Retirement is a particularly important index, as it reflects the strength of a country's financial system and the ability of the government to provide for its citizens in retirement. In a rapidly graying world as evidenced by the old-age dependency ratio indicator, the already challenging task for a government to provide social security benefits compounds to a much more severe challenge.

Current and future rankings for Finances in Retirement based on old age dependency ratio projections

	Rank 2017	Rank 2030	Rank 2050	Change between 2017 and 2030	Change between 2017 and 2050
Singapore	1	5	15	4	14
Korea, Rep.	6	8	19	2	13
Poland	15	18	26	3	11
Slovak Republic	19	19	29	0	10
China	20	20	34	0	14
Germany	21	28	22	7	1
Slovenia	26	29	31	3	5
Portugal	30	33	30	3	0
Japan	36	38	35	2	-1
Italy	38	41	41	3	3

According to the UN, a country is said to be aging after 7% of its population becomes 65 years or older. When it exceeds 14%, the country is considered aged and above 21%, the country becomes hyper-aged. By this definition, Germany, Italy and Japan are already hyper-aged today, and a host of other countries in the GRI like Sweden, Portugal and Slovenia could join them by 2020. Developed countries currently spend 9.5% of GDP on public pensions, and as old-age dependency ratios increase, it will add considerable pressure on these countries' public finances.[9]

One way to look at the sustainability of the countries' public finances is to look at how the countries would fare with the current rate of aging by considering the projections for old-age dependency ratios in 2030 and 2050, holding all else constant. Germany slips down seven positions in 2030; Singapore, which currently holds the first position in the Finances sub-index, moves down four spots; and other aging countries like Poland, Portugal and Slovenia drop by three places.

Other countries like South Korea and China face a bigger problem in the long run. China and Singapore drop 14 places in 2050, South Korea 13 places, Poland 11 spots and Slovak Republic 10 spots. China and South Korea already face declining demographic dividends, but their older populations are slated to increase sharply after 2030.

TOP 25 IN FINANCES IN RETIREMENT SUB-INDEX

COLOR SCALE
91%-100%
81%-90%
71%-80%
61%-70%
51%-60%
41%-50%
31%-40%
21%-30%
11%-20%
0%-10%

COUNTRY	RANKING 2017	RANKING 2016	SCORE 2017	SCORE 2016
Singapore	1	2	79%	79%
New Zealand	2	3	79%	78%
Chile	3	1	78%	80%
Switzerland	4	4	77%	77%
Australia	5	5	77%	77%
Korea, Rep.	6	6	76%	76%
Estonia	7	8	74%	73%
Canada	8	7	73%	73%
Norway	9	9	73%	72%
United States	10	10	71%	71%
Ireland	11	20	71%	68%
Israel	12	13	70%	69%
Iceland	13	19	70%	68%
Sweden	14	16	69%	68%
Poland	15	18	69%	68%
Latvia	16	14	68%	68%
Lithuania	17	11	68%	70%
Czech Republic	18	21	68%	67%
Slovak Republic	19	17	68%	68%
China	20	24	66%	66%
Germany	21	22	66%	67%
Finland	22	23	65%	66%
Malta	23	25	65%	65%
Netherlands	24	15	64%	68%
Mexico	25	26	64%	64%

[9] "The Fiscal Consequences of Shrinking Populations," Clements, et al., IMF Staff Discussion Note, October 2015.

Quality of Life

Denmark remains in first place in the Quality of Life sub-index with a score of 94%, while India again sits in last place with a score of 7%. Denmark has the second-highest score for the happiness indicator and a sixth-place finish in the environmental factors indicator. Meanwhile, India has the lowest scores for both the happiness and air quality indicators as well as the second-lowest score for biodiversity and habitat.

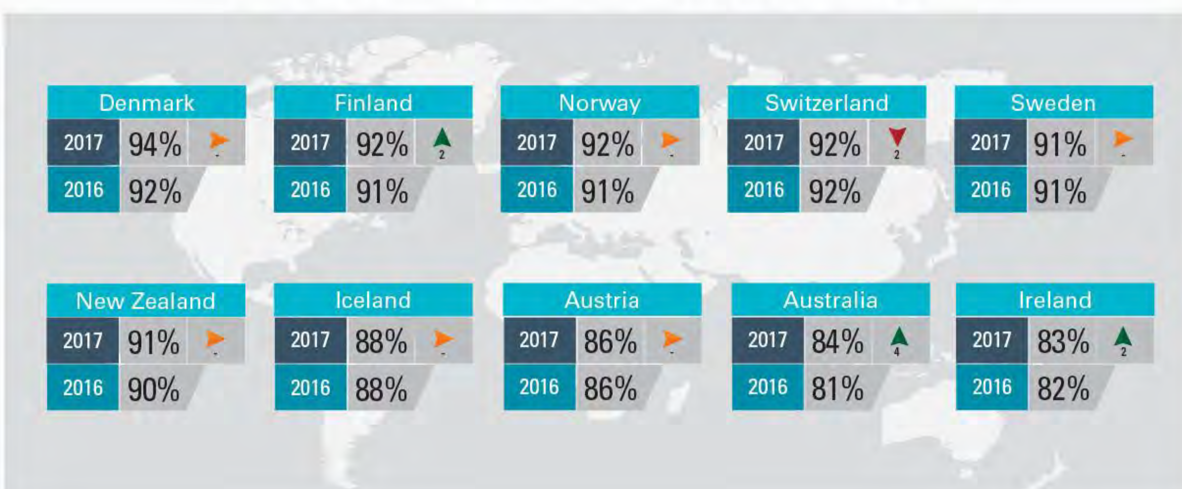
Similar to the overall rankings, New Zealand and Australia are the only non-European countries to feature in the top 10 of the Quality of Life sub-index. Australia moves into 9th place after being 13th last year. This is mainly due to improvements in environmental factors (35th), where it increases its score by 9%. Australia also has the second-highest score for air quality and the ninth-highest for happiness. Meanwhile, New Zealand ranks sixth in the sub-index and has top 10 finishes in air quality (4th) and happiness (8th).

Brazil and Germany move out of the top 10 this year because of declines in the happiness indicator. Brazil ranks fourth in environmental factors, while Germany ranks favorably in the biodiversity and habitat indicator. Ireland, one of the countries to replace them in the top 10 along with Australia, moves into 10th place in the sub-index ranking because of improvements in happiness. The country also ranks sixth in the air quality indicator.

The countries with the most dramatic improvements are Greece (40th), Latvia (27th) and Hungary (37th). These countries all benefit from improvements in both the environmental factors and happiness indicators yet still rank near the bottom of the pack in terms of overall sub-index ranking. In terms of the happiness indicator, Greece ranks third to last, Hungary has the fifth-worst score and Latvia misses the bottom 10 by one spot – despite these countries improving by at least 8% in the indicator.

Lithuania, Slovenia and Israel all improve their environmental factors score by at least 10%. A worse happiness indicator score for Austria offsets strong gains in the environmental factors indicator.

TOP 10 COUNTRIES IN THE QUALITY OF LIFE SUB-INDEX



TOP 25 IN QUALITY OF LIFE SUB-INDEX

COLOR SCALE
91%-100%
81%-90%
71%-80%
61%-70%
51%-60%
41%-50%
31%-40%
21%-30%
11%-20%
0%-10%

COUNTRY	RANKING		SCORE	
	2017	2016	2017	2016
Denmark	1	1	94%	92%
Finland	2	4	92%	91%
Norway	3	3	92%	91%
Switzerland	4	2	92%	92%
Sweden	5	5	91%	91%
New Zealand	6	6	91%	90%
Iceland	7	7	88%	88%
Austria	8	8	86%	86%
Australia	9	13	84%	81%
Ireland	10	12	83%	82%
Brazil	11	9	82%	86%
Germany	12	10	82%	82%
Netherlands	13	14	81%	80%
United Kingdom	14	15	81%	80%
Canada	15	11	81%	82%
Israel	16	19	79%	78%
France	17	17	79%	78%
Belgium	18	18	78%	78%
United States	19	16	78%	79%
Luxembourg	20	21	77%	75%
Chile	21	20	77%	76%
Spain	22	23	77%	74%
Czech Republic	23	24	75%	74%
Mexico	24	22	74%	75%
Slovak Republic	25	25	71%	69%

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Framework

Index	Sub-index	Policy Category Weight (% of Index)	Indicators	Indicator Weight (% of Sub-Index)	Data Source	Latest Data Available	Target	Low performance benchmark	Statistical transformation
Health Index	Life Expectancy Index	GEOMEAN	Life expectancy at birth	1	World Bank WDI 2016	2014	Sample Maximum (83.59 years, Japan)	Sample Minimum (68.01 years, India)	None
	Health Expenditure Per Capita Index	GEOMEAN	Health expenditure per capita, PPP (constant 2011 international $)	1	World Bank WDI 2016	2014	Sample Maximum ($9,402.54, USA)	Sample Minimum ($261.41, India)	Natural Algorithm
	Non-Insured Health Expenditure Index	GEOMEAN	Out-of-pocket health expenditure (% of total health expenditure)	1	World Bank WDI 2016	2014	Sample Minimum (5.22%, Netherlands)	100%	None
Material Wellbeing Index	Income Equality Index	GEOMEAN	GINI Index	1	World Bank WDI 2016, Eurostat, OECD, CIA World Factbook	Between 2011 and 2015 depending on Country	Sample Minimum (23.60, Iceland)	Sample Maximum (51.48, Brazil)	Natural Algorithm
	Income Per Capita Index	GEOMEAN	GNI per capita, PPP (current international $)	1	World Bank WDI 2016	2015	Sample Maximum ($81,360, Singapore)	Sample Minimum ($6,030, India)	Natural Algorithm
	Unemployment Index	GEOMEAN	Unemployment (% of total labor force)	1	World Bank WDI 201, ILOSTAT	2015	3% Unemployment	Sample Maximum (25%, Greece)	Natural Algorithm
Finances in Retirement Index	Institutional Strength Index	0.5	Average of World Bank Governance Indicators	1	World Bank Worldwide Governance Indicators 2016	2015	Maximum on Scale (2.5)	Minimum on Scale (-2.5)	Natural Algorithm
	Investment Environment Index	0.5	Age dependency ratio, old (% of working age population)	GEOMEAN	World Bank WDI 2016	2015	10%	50%	Natural Algorithm
			Banking nonperforming loans to total gross loans (%)	GEOMEAN	World Bank WDI 2016	2016, 2015	Sample Minimum (0.21%, Luxembourg)	Sample Maximum (46.95%, Cyprus)	Natural Algorithm
			Inflation, consumer prices (% annual)	GEOMEAN	World Bank WDI 2016	2011 to 2015	2%	Sample Maximum (8.72%, Russian Federation)	Natural Algorithm
			Real interest rates (%)	GEOMEAN	World Bank WDI 2016, OECD	2011 to 2015	20%	0%	Natural Algorithm
			Public Debt (% of GDP)	GEOMEAN	CIA World Factbook	2016	Sample Minimum (10.10%, Estonia)	Sample Maximum (248.10%, Japan)	Natural Algorithm
			Tax Burden (% of GDP)	GEOMEAN	Country statistical agencies, central banks, and ministries of finance economy	2016	Sample Minimum (13.40%, Singapore)	Sample Maximum (50.90%, Denmark)	Natural Algorithm
Quality of Life Index	Air Quality Index (EPI 2016)	0.125 GEOMEAN	Household Air Quality	0.3	Environmental Performance Index 2016	2013	0% of population using solid fuels as primary cooking fuel	100%	None
			Air pollution - Average Exposure to PM2.5	0.3	Environmental Performance Index 2016	2014	10 ug/m3	31.12 ug/m3	None
			Air pollution - PM2.5 Exceedance	0.3	Environmental Performance Index 2016	2014	0	0.73 ug/m3	None
			Air pollution - Average Exposure to NO2	0.1	Environmental Performance Index 2016	2011	0	6.6 ppb	None
	Water and Sanitation Index	0.125 GEOMEAN	Improved water source (% of population with access)	0.5	World Bank WDI 2016, WHO Global Health Obeservatory Data Repository	2015	100% of population with access	36%	Natural Algorithm
			Improved sanitation facilities (% of population with access)	0.5	World Bank WDI 2016, WHO Global Health Obeservatory Data Repository	2015	100% of population with access	11.4%	Natural Algorithm
	Biodiversity and Habitat Index (EPI 2016)	0.125 GEOMEAN	Terrestrial Protected Areas (National Biome Weights)	0.2	Environmental Performance Index 2016	2015	17% weighted average of biomes protected	0%	None
			Terrestrial Protected Areas (Global Biome Weights)	0.2	Environmental Performance Index 2016	2015	17% of country's terestrial weighted average of biomes protected	0%	None
			Species Protection (National)	0.2	Environmental Performance Index 2016	2014	17%	0%	None
			Species Protection (Global)	0.2	Environmental Performance Index 2016	2014	17%	0%	None
			Marine Protected Areas	0.2	Environmental Performance Index 2016	2015	10% of country's exclusive economic zone under protection by a nationally designated marine protected area	0%	Natural Logarithm, alpha 0.000255309 added
	Environmental Factors Index	0.125 GEOMEAN	CO2 emissions per capita	0.33	US Energy Information Administration (EIA), World Bank WDI 2016	2014	1262 kg CO2 eq. (Estimated value associated with 50% reduction in global GHG emissions by 2050, against 1990 levels)	19588.33059	Natural Logarithm
			CO2 emissions per GDP	0.33	US Energy Information Administration (EIA), World Bank WDI 2016	2014	0.07642 kg CO2 eq. (Estimated value associated with 50% reduction in global GHG emissions by 2050, against 1990 levels)	1.532823116	Natural Logarithm
			CO2 emissions per electricity generation	0.165	US Energy Information Administration (EIA), World Bank WDI 2016	2014	0 grams CO2 per KWh	8.453269722	Natural Logarithm
			Renewable electricity	0.165	US Energy Information Administration (EIA), World Bank WDI 2016	2014	100% electricity from renewable sources	0%	None
	Hapiness Index	0.5 GEOMEAN	Happiness (0-10)	1	World Happiness Report 2017	2016	Sample Maximum (7.5, Norway)	Sample Minimum (4.3, India)	Natural Logarithm

Appendix A: Methodology

The Natixis CoreData Global Retirement Index is a composite welfare index which combines 18 target-oriented indicators, grouped into four thematic sub-indices.

The four sub-indices cover four relevant considerations for welfare in old age and are:

Health Index

Material Wellbeing Index

Quality of Life / Environmental Index

Finances in Retirement Index

Constructing the Indicators

The first step in expanding the index is to construct the 18 indicators. These are constructed by selecting and preparing the raw data obtained from reliable secondary sources, and then transforming it into normalized indices.

In order to create normalized indices, minima and maxima need to be established. As a target-oriented performance index, the maxima are determined as ideal outcomes. The selection of target varies from variable to variable, and will be explored in greater depth later on.

The minima are in fact the opposite, and are defined as lower performance benchmarks, which mark the worst possible scenario. In some cases, they will refer to subsistence minimum levels and in others, simply as the worst observed value in the sample for that variable.

These indicators are created, following Emerson et al. (2012)[1] and based on a "proximity-to-target" methodology by which "each country's performance on any given indicator is measured based on its position within a range" established by the lower performance benchmark and the target, on a scale from 0.01 (instead of 0 to facilitate further calculation) to 1, where 0.01 is equal to or lower than the lower performance benchmark and 1 equal to or higher than the target.

The general formula to normalize the indicators is then given by:

$$Indicator = \frac{\text{Observed value} - \text{lower performance benchmark}}{\text{Target} - \text{lower performance benchmark}}$$

However, this formula is, in certain cases, adapted to the characteristics of the data for each variable.

Again, following Emerson et al. (2012)[1], most indicators are transformed into logarithms[2] due to the high level of skewness of the data. This has the advantage of identifying not only differences between the worst and the best performers, but it more clearly differentiates between top-performing countries, allowing to better distinguish variations among them.

Moreover, using logarithms allows for better identification of differences across the whole scale, distinguishing between differences in performance which are equal in the absolute but very different proportionally.

Also, logarithmic functions are a better representation of variables which have decreasing marginal welfare benefits, such as income.

Once the indicators have been created, they are aggregated by obtaining their geometric mean[3] to obtain the thematic indices. The geometric mean offers a number of advantages over the arithmetic mean;[4] this will be discussed later in this chapter.[5]

The four thematic sub-indices are constructed using the indicators in the following way:

1. **The Health in Retirement Index**: This sub-index is obtained by taking the geometric mean of the following indicators:

[1] Emerson, J.W., A. Hsu, M.A. Levy, A. de Sherbinin, V. Mara, D.C. Esty, and M. Jaiteh (2012), 2012 Environmental Performance Index and Pilot Trend Environmental Performance Index. New Haven: Yale Center for Environmental Law and Policy.

[2] Logarithmic form: Variables with skewed distributions are transformed into logarithmic form by taking natural logarithms of the values to make the distribution less skewed. When calculating an indicator we transform into logarithmic form by doing the following:
Where:
t = target or sample maximum
m = lower performance benchmark or sample minimum
x = value of the variable

non-logarithmic indicator = (x-m) / (t-m) → take logs → indicator in logarithmic form = [ln(x)-ln(m)] / [ln(t)-ln(m)]

[3] Geometric mean is a representation of the typical value or central tendency of a series of numbers calculated as the *n*th root of the product of *n* numbers. Geometric mean = $\sqrt[n]{x_1 \times x_2 \times \ldots \times x_n}$

[4] Arithmetic mean (or average) is a representation of the typical value or central tendency of a series of numbers calculated as the sum of all the values in the series and divided by the number in the series. Arithmetic mean = $\frac{x_1 + x_2 + \ldots + x_n}{n}$

[5] See *Constructing the Global Retirement Index* on page 65.

a. **Life expectancy Index**: obtained using data from the World Bank (WB)'s World Development Indicators (WDI) 2016. The target for this indicator is the sample maximum which is equal to 83.59 years, and the low performance benchmark is equal to 68.01 years, a figure observed as the sample minimum.

b. **Health expenditure per capita Index**: obtained using data on health expenditure per capita, PPP (constant 2011 international $) from WB's WDI 2016. The target set for this indicator is the sample maximum, equal to $9,402.54 USD, and the low performance benchmark is equal to the sample minimum of $267.41. The indicator is transformed into logarithms, as the marginal returns to extra expenditure are decreasing.

c. **Non-insured health expenditure Index**: This indicator is included to take into account the level of expenditure in health that is not insured. The smaller the proportion of expenditure in healthcare that is uninsured, the higher the probability of having access to healthcare. This indicator is calculated using data on out-of-pocket health expenditure (percentage of total health expenditure), included in the WB's WDI 2016. The target for this indicator is equal to the sample minimum of 5.22% and the low performance benchmark is equal to 100%, which means that none of the population is covered by health insurance.

2. **The Material Wellbeing in Retirement Index**: This sub-index measures the ability of a country's population to provide for their material needs. The following indicators are aggregated by obtaining their geometric mean to obtain a single measure:

a. **Income per capita Index**: This indicator is calculated using data for the gross national income per capita, PPP (current International $) from the WB's WDI 2016. The purchasing power parity (PPP) version is used as it provides a better approximation to the real purchasing power of incomes across countries. The target used for this indicator is the sample maximum of $81,360 USD, and the low performance benchmark is equal to the sample minimum of $6,030 USD. Logarithmic transformation is applied to calculate the indicator.

b. **Income equality Index**: This indicator is included as it has been generally accepted that average levels of income in a society cannot on their own measure material welfare, and including a measure of equality ensures that countries with higher and more equally distributed income get a better score. This index is constructed using the GINI index with data obtained from the WB's WDI 2016, Eurostat, the Organization for Economic Co-operation and Development (OECD) and the CIA World Factbook. The target is set at 23.60, which is the sample minimum. The low performance benchmark is set at 51.48, which is the sample maximum. The index is presented in a logarithmic form.

c. **Unemployment Index**: A measure of unemployment was included in this index, despite the fact that its focus is on people who have already retired from the labor market. This is because societies with high levels of unemployment will see their social security systems under pressure, putting in danger the financing and provision of services for the elderly. Moreover, retirees in countries with low unemployment levels will have a better possibility of complementing their pension incomes with employment income, which is becoming increasingly necessary and common. High levels of unemployment are also indicative of a country undergoing economic problems, and it is likely that this will affect the living standards of those in retirement. The target for this index is 3% unemployment, at which level structural and cyclical unemployment can be assumed to be 0 and only frictional unemployment persists, which indicates practical full employment. The low performance benchmark is set at 25%, which is the sample maximum. The index undergoes a logarithmic transformation and the raw data used for this index was sourced from the WB's WDI 2016.

3. **Finances in Retirement Index**: This sub-index captures the soundness of a country's financial system as well as the level of returns to savings and investment and the preservation of the purchasing power of savings. It is calculated as the arithmetic mean of the institutional strength index and the investment environment index, which is in itself the geometric mean of six indicators of the soundness of government finances and the strength of the financial system. The rationale behind this construction is that while a favorable investment environment is extremely important for the finances of retirees, this will only be long lasting and stable in the presence of sound institutions, low levels of corruption, strong property rights and a strong regulatory framework. Hence, good governance is a necessary condition for long-term financial strength and stability and as much receives an equal weight.

a. **Institutional Strength Index**: This is calculated under logarithms after obtaining the arithmetic mean of the estimates of governance from six different dimensions (Voice and Accountability, Political Stability and Absence of Violence/Terrorism, Government Effectiveness, Regulatory Quality, Rule of Law, and Control of Corruption) of the WB's Worldwide Governance Indicators (2016 Update). The target level is set equal to the maximum on the scale used by the indicators, which is +2.5, while the lower performance benchmark is equal to the lowest value of the scale, -2.5.

b. **Investment Environment Index**: This is calculated as the geometric mean of the following indicators:

I. **Old-age dependency Index**: This indicator is included because a high dependency ratio poses a severe threat to the capacity of society to pay for the care of the elderly, as well as risks reducing the value of savings in the long run, through several channels such as a fall in asset prices and a fall in output, among others. This index is transformed into logarithms and is calculated using data on old-age dependency ratio (percentage of working-age population) from the WB's WDI 2016. The target value is equal to 10%, which reflects healthy demographics, where for every old-age dependent there are 10 people in the workforce. The low performance benchmark is equal to 50%, as it is potentially unsustainable to have fewer than two workers for every old-age dependent.

II. **Inflation Index**: This is important due to the fact that high inflation will reduce the purchasing power of savings and pensions, which can affect retirees disproportionately. The data used is on annual consumer price inflation and is sourced from the WB's WDI 2016. The value for each country is the five-year average from 2011 to 2015. The target is 2%, which is a level of inflation pursued by major central banks, and considered to be sufficiently close to price stability and sufficiently far from deflation to provide some buffer from either. The low performance benchmark is set at the sample maximum of 8.72%. This indicator undergoes a logarithmic transformation when calculated.

III. **Real interest rate Index**: This is included as higher interest rates will increase the returns to investment and saving, which in turn increases the level of wealth of retirees, who tend to benefit more than other age groups. Real interest rate is used instead of nominal interest rate to eliminate the effect of inflation. The data for this indicator is sourced from the WB's WDI 2016 and is completed from the OECD[6,7]. The value for each country is the five-year average from 2011 to 2015. The target is 20% and the low performance benchmark is 0%. The data is multiplied by 100 before logarithmic transformation is applied.

IV. **Tax pressure Index**: The importance of this indicator lies in the fact that higher levels of taxation will decrease the level of disposable income of retirees and affect their financial situation. Data used is the tax burden from country statistical agencies, central banks, and ministries of finance, economy, and trade, which measures the total taxes collected as percentage of GDP. The target for this index is set at the sample minimum of 13.4% of GDP while the low performance benchmark is the sample maximum of 50.9% of GDP. This indicator is calculated in logarithmic form.

V. **Bank non-performing loan Index**: This indicator captures the strength of the banking system by looking at the proportion of loans that are defaulted on. This index is transformed into logarithms and is constructed using the data observed from the WB's WDI 2016. The target for this index is set equal to the sample minimum of 0.21% and the low performance benchmark is the sample maximum of 46.95%.

VI. **Government indebtedness Index**: This captures the soundness and sustainability of government finances and serves as a predictor of future levels of taxation. The data used for this index is sourced from the CIA World Factbook and undergoes a logarithmic transformation to construct the index. The target level is set equal to the sample minimum of 10.10% and the low performance benchmark is the sample maximum of 248.10%.

4. **Quality of Life Index**: This sub-index captures the level of happiness and fulfillment in a society as well as the effect of natural environment factors on the Quality of Life of individuals. It is constructed as the geometric mean of the happiness index and the natural environment index.

a. **Happiness Index**: This data is taken from the World Happiness Report, which calculates scores for happiness based on responses by people asked to evaluate the quality of their current lives on a scale of 0 to 10, averaged over the years 2014–2016. The indicator is presented in logarithmic form. The target is set at the sample maximum, which is an average score of 7.5, and the low performance benchmark is set at the sample minimum of 4.3.

b. **Natural Environment Index**: This is calculated as the geometric mean of the following indicators, which measure the natural environment quality of a country and the effects of pollution on humans. The factors selection method follows that in GRI 2015, by reference to the Environmental Performance Index (EPI) 2016.

I. **Air quality Index**: This index is calculated as the weighted average of household air quality (30% weight), population weighted exposure to PM2.5 (30% weight), PM2.5 exceedance (30% weight) and population weighted exposure to nitrogen dioxide (10% weight). The data is obtained from EPI 2016.

[6] Latest data on annual consumer price inflation and 10-year government bond yields are used to calculate the real interest rate (real interest rate = nominal interest rate – inflation) for those countries missing data from the WDI.

[7] Long-term interest rates are obtained from OECD for the following countries: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Luxembourg, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, and Sweden. Real interest rates are calculated by subtracting inflation from the long-term interest rate.

II. **Water and sanitation Index**: This captures the level of infrastructure providing people with access to improved drinking water and access to an improved source of sanitation. This index is calculated as the average of the two indicators (after logarithms transformation). The benchmark selection is based on that in EPI 2012. Target is 100% of population with access for both indicators, and the low performance benchmark is 36% (1st percentile) for access to drinking water index and 11.4% (5th percentile) for access to sanitation index. The data used is obtained from the World Health Organization Global Health Observatory Data Repository and the WB's WDI 2016.

III. **Biodiversity and habitat Index**: This provides an insight into a country's protection of its ecosystem. The higher the score is, the more a country is capable to ensure a wide range of "ecosystem service" like flood control and soil renewal, the production of commodities, and spiritual and aesthetic fulfillment will remain available for current and future generations. This index takes in indicators that measure biome protection, species protection, and marine protection. The data is obtained from EPI 2016.

IV. **Environmental Factors Index**: This index is included due to the fact that the impacts of environmental factors will dramatically affect human health, water resources, agriculture, and ecosystems. Following the methodology of that in EPI 2012, the index is calculated as weighted average of CO2 emissions per capita (1/3 weight), CO2 emissions per GDP (1/3 weight), CO2 emissions per electricity generation (1/6 weight), and renewable electricity (1/6 weight). Logarithmic transformation is applied for all indicators except for renewable energy. The data is sourced from the U.S. Energy Information Administration (EIA).

Constructing the Global Retirement Index

The four sub-indices are then aggregated into the Global Retirement Index by obtaining their geometric mean. The geometric mean was chosen over the arithmetic mean as the functional form of the index in order to address the issues of perfect substitutability between the different indices when using the arithmetic mean.

In this sense, Klugman, Rodriguez and Choi (2011) argue that the use of an arithmetic mean is problematic because it implies that a decrease in the level of one of the sub-indices can be offset by an equal increase in the level of another sub-index without taking into account the level of each variable. This poses problems from a welfare point of view. For example, a fall in the level of health cannot be assumed to be offset by an increase in the level of income of a one-by-one basis and at a constant rate. Thus, perfect substitutability does not apply when analyzing the effects of different factors on welfare.

The opposite alternative, full complementarity, would also be problematic, as it would assume that the only way of increasing wellbeing is by providing two components at the same time (Klugman, Rodriguez and Choi, 2011), and so for example, an increase in the level of health would have no effect on welfare if it is not accompanied by an improvement in the other three sub-indices.

In this light, it makes sense to assume that there is some level of complementarity and some level of substitutability between the different parameters in the index. On one hand, a worsening of one of the indicators can be partially offset by an improvement of another one, but we can also assume that at least a basic level of health, financial services, material provision and quality of life is necessary in order to enjoy a good retirement.

In the end, each of the 43 countries is awarded a score between 0% and 100% for their suitability and convenience for retirees. A score of 100% would present the ideal country to retire to, with a great healthcare system and an outstanding health record, a very high quality of life and a well-preserved environment with low levels of pollution, a sound financial system offering high rates of true return and a very high level of material wealth.

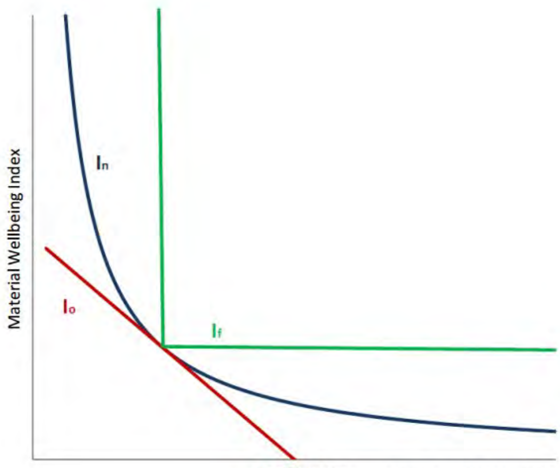
The chart graphically shows the three cases:

1. **Perfect substitutability (Io):** where the effect on the GRI score of a unit decrease in one of the sub-indices can be perfectly offset by a unit increase in another sub-index. For example, the GRI score will not change after a 1% decrease in the Health Index score if accompanied by a 1% decrease in the Material Wellbeing Index. This assumes that welfare remains unchanged if a decrease in the health of the population is matched by a proportional increase in their Material Wellbeing, which is problematic (e.g., if taken to the extreme it means that the welfare of a society with middle levels of income and good health could be equal to that of a very rich society affected by a deadly epidemic.)

2. **Perfect complementarity (If):** where the effect on the GRI score of a unit increase in one of the sub-indices is zero if not accompanied by an equal increase in all the other sub-indices. This means that a 1% increase in the Health Index would not increase the overall GRI score unless accompanied by a 1% increase in the other four sub-indices. (This assumes that an increase in Health is not an increase in overall welfare unless Material Wellbeing, Finances and Quality of Life all increase concurrently.)

3. **Unit-elastic substitution (In):** the assumption made in the construction of the GRI by using the geometric means. It means that the sub-indices become perfect substitutes as their levels approach the high end of the scale (100%) and perfect complements as their levels approach the low end of the scale (0%). As a result, when a country scores very low on one or more sub-indices, an increase to a high score on another sub-index will result in a less than proportional increase in the overall GRI score. This is consistent with the assumption that at least a basic level of health, financial services, material provision and quality of life is necessary in order to enjoy a good retirement.

The geometric mean also offers an advantage over the arithmetic mean and other aggregation methods in that the results do not vary due to differences in the scales in which the variables are measured.



Source: Klugman Rodriguez and Choi (2011)

Appendix B: Full Rankings

Full Rankings: Global Retirement Index 2017

Color Scale
- 91%-100%
- 81%-90%
- 71%-80%
- 61%-70%
- 51%-60%
- 41%-50%
- 31%-40%
- 21%-30%
- 11%-20%
- 0%-10%

Rank	Country	Health Index	Finances in Retirement Index	Quality of Life Index	Material Wellbeing Index	Global Retirement Index
1	Norway	89%	73%	92%	91%	86%
2	Switzerland	87%	77%	92%	81%	84%
3	Iceland	84%	70%	88%	88%	82%
4	Sweden	88%	69%	91%	75%	80%
5	New Zealand	85%	79%	91%	66%	80%
6	Australia	85%	77%	84%	66%	78%
7	Germany	86%	66%	82%	76%	77%
8	Denmark	84%	59%	94%	75%	77%
9	Netherlands	89%	64%	81%	75%	77%
10	Luxembourg	92%	62%	77%	77%	76%
11	Canada	87%	73%	81%	65%	76%
12	Finland	81%	65%	92%	68%	76%
13	Austria	85%	55%	86%	77%	75%
14	Ireland	82%	71%	83%	64%	74%
15	Belgium	82%	62%	78%	70%	73%
16	Czech Republic	70%	68%	75%	76%	72%
17	United States	87%	71%	78%	57%	72%
18	United Kingdom	83%	58%	81%	68%	72%
19	France	90%	61%	79%	61%	71%
20	Israel	76%	70%	79%	61%	71%
21	Malta	77%	65%	68%	72%	70%
22	Japan	88%	56%	65%	74%	70%
23	Korea, Rep.	73%	76%	53%	75%	68%
24	Slovenia	78%	64%	66%	66%	68%
25	Slovak Republic	65%	68%	71%	60%	66%
26	Estonia	63%	74%	64%	58%	65%
27	Singapore	70%	79%	60%	51%	64%
28	Poland	62%	69%	65%	60%	64%
29	Italy	82%	53%	69%	52%	63%
30	Hungary	60%	60%	54%	64%	59%
31	Lithuania	53%	68%	67%	48%	58%
32	Portugal	74%	62%	53%	47%	58%
33	Spain	81%	63%	77%	27%	57%
34	Latvia	46%	68%	69%	48%	57%
35	Cyprus	62%	52%	60%	44%	54%
36	Chile	69%	78%	77%	21%	54%
37	Mexico	51%	64%	74%	30%	52%
38	China	47%	66%	41%	49%	50%
39	Turkey	53%	53%	37%	39%	45%
40	Russian Federation	36%	41%	58%	47%	45%
41	Brazil	52%	57%	82%	12%	41%
42	Greece	70%	49%	52%	14%	40%
43	India	3%	53%	7%	17%	12%

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1826168.3.1
Exp. 07/31/2019
RC18-1217