



2021 GLOBAL RETIREMENT INDEX

It'll take a miracle

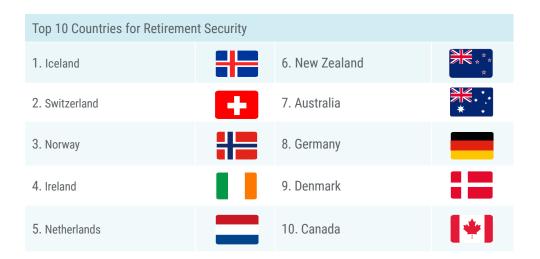
The search for retirement security in an insecure world

by Dave Goodsell

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Executive Summary



Key concerns about retirement security

1 Inflation

Recovery has brought the first real inflation in 13 years. Economists may see it as transitory, but investors have been reminded that the past decade could look more like the exception than the rule.

2 Interest rates

Interest rates have been low since 2009. But they went even lower last year as policy makers moved to shore up local economies. Low rates may have been good for growth and good for consumers, but the environment has made it difficult for retirees who need to generate income.

3 Public debt

Massive stimulus spending was a critical policy tool that helped keep the public health crisis from becoming a global economic crisis. But record spending in 2020 and 2021 is the topper on debt pressures that have been building for decades. Investors are worried about what it means for their public retirement benefits.

4 A world of worry

Beyond the economic pressures, individuals share a broad range of worries about retirement. From employment to health to income inequality, they have much on their minds.

It'll take a miracle

The search for retirement security in an insecure world

Stepping into the light after 18 months of pandemic-driven uncertainty and anxiety, investors are hopeful about their financial and investment prospects. One clear reason for the optimism may be the double-digit returns markets have delivered since the March 2020 Covid downturn. But even as they experience these short-term wins, sentiment shows they are far less optimistic about achieving the long-term goal of retirement security.

On the surface, the 8,550 people included in the 2021 Natixis Global Survey of Individual Investors are optimistic about retirement. Seven in ten say they are confident they will be financially secure in retirement.

Even affluent individuals worry about retirement

They should be more confident than most individuals. The survey panel is composed of individuals with at least \$100,000 in investable assets. Overall, they report a median asset level of \$450,000, which includes \$250,000 in retirement savings, suggesting they have worked to address their personal retirement security. But dig deeper, and many will tell you that a secure retirement is no sure thing.

In fact, 40% of investors say "it will take a miracle" to retire securely. Having saved only \$250,000 toward their goal to date, 42% worry retirement won't even be an option. When it comes down to it, 45% are so concerned about retirement they avoid thinking about it altogether.

The sentiment is surprising because these individuals are active savers. They put away an average of 16.6% of their annual income for retirement. As investors, they report investment returns of 12.5% above inflation in 2020 and expect to earn 14.5% above inflation over the long term.

Yet despite the financial success, they are concerned about retirement security, a clear sentiment across the 24 countries in Asia, Europe, Latin America, and North America included in the survey group.

Why are they insecure about retirement? It could be part of the pandemic mindset. After seeing the world locked down for a year and hearing daily reports on hospitalizations and fatalities, it's easy to be pessimistic.

But 54% of those surveyed say they experienced none of the health or financial effects of the pandemic. About 6% caught Covid themselves, while 9% said the same for a member of their household. Less than one in ten said they lost their job or business – although 25% lost household income – and less than one in five (17%) said they experienced a serious setback to their financial security because of Covid.

Retirement concerns driven by economic anxieties

Instead, survey sentiment suggests anxieties are driven by socioeconomic trends that have threatened retirement security for decades. At the heart of the challenge is a rapidly aging population and a widening gap between the number of people taking retirement benefits and the number paying into retirement systems around the world.

More directly, the bigge	est concerns come from the bread-and-butter economic issues that have been amplified by the pandemic:
Inflation	Recovery has brought the first real inflation in 13 years. Economists may see it as transitory, but investors have been reminded that the past decade could look more like the exception than the rule.
Interest rates	Interest rates have been low since 2009. But they went even lower last year as policy makers moved to shore up local economies. Low rates may have been good for growth and good for consumers, but the environment has made it difficult for retirees who need to generate income.
Public debt	Massive stimulus spending was a critical policy tool that helped keep the public health crisis from becoming a global economic crisis. But record spending in 2020 and 2021 is the topper on debt pressures that have been building for decades. Investors are worried about what it means for their public retirement benefits.
A world of worry	Beyond the economic pressures, individuals share a broad range of worries about retirement. From employment to health to income inequality, they have much on their minds.

Of all these concerns, inflation has been front and center in the recovery as growth runs into supply chain disruptions, shortages, and consumers coming back to the mall with cash in hand.

How individuals feel about retirement security

At what age do you plan to retire?

According to our survey, the younger investors are, the younger they think they'll retire.

Global	Generation Y	Generation X	Baby Boomers
62	60	62	65
How long do you belie	ve you'll live in retirement?	?	

With an average lifespan of nearly 79 years,* individuals believe they'll live 22+ years in retirement. Since this is just the average, many people will, in fact, live longer.

Global	Generation Y	Generation X	Baby Boomers
22 years	23 years	22 years	22 years
I accept I'll have to wo	rk longer than I anticipate	d	

Many individuals say they may need to work longer than planned, but circumstances may prevent them from being able to.

Global	Generation Y	Generation X	Baby Boomers
60%	66%	61%	51%

Given certain challenges, I think it's going to take a miracle to retire securely

40% of individuals say it'll take a miracle for them to be able to retire securely.

Global	Generation Y	Generation X	Baby Boomers
40%	46%	41%	33%

Source: Natixis Investment Managers, Global Survey of Individual Investors conducted by CoreData Research, March-April 2021. Survey included 8,550 investors in 24 countries.

^{*}UN DESA & Gapminder (August 31, 2019). Life expectancy (from birth) in the United States, from 1860 to 2020 [Graph]. In Statista. Retrieved September 2, 2021, from https://www.statista.com/statistics/1040079/life-expectancy-united-states-all-time/

Inflation: A real-world lesson in purchasing power

Economic recovery in the US has been faster and stronger than many expected. But the sudden burst of growth, coupled with shortages of everything from semiconductors to shipping containers to truck drivers, delivered a vivid reminder of what inflation feels like. In June alone, US inflation increased by 0.9% (5.4% over June 2020),² taking it to its highest level since 2008.

In more tangible terms, the average price of used automobiles in the US increased by nearly 30% from May 2020 to May 2021,³ thanks to a global shortage of semiconductors that has led to short supplies of both new and used vehicles.

After experiencing sudden price increases for everything from cars to gasoline to groceries, it's no wonder that 72% of individuals surveyed globally say inflation presents a threat to their financial security in retirement.

Many economists believe the current spike in prices is transitory – a function of pent-up consumer demand and short supplies. But inflation is always a cornerstone for retirement savings. Knowing it's likely that the cost of living will be higher in the future gives good reason to invest and grow assets with the goal of maintaining purchasing power in retirement.

Since the Global Financial Crisis, inflation has not been a day-to-day concern in the US, as it has generally run between 1.5% and 2.25%.⁴ In Europe, inflation has been at even lower levels during this period, averaging well below 2%.⁵

Given that inflation has been below historic averages, it may seem that retirees have had little to worry about. In reality, even the low level of inflation experienced over the past decade adds up – particularly for individuals living on a fixed income.

Low inflation still adds up over time

Inflation below 2% may seem manageable on a one-year basis, but over the course of a 20-year retirement the cumulative effect is substantial. For example, average inflation of 1.5% over two decades would result in a 34.7% increase in costs. In simplest terms, for every dollar spent in 2020, retirees will need \$1.35 in 2040 to maintain purchasing power.

In Latin America and Asia, where inflation has run significantly higher, sentiment runs even stronger. Eight in ten (79%) investors in Asia (ex Japan) see it as a threat to their retirement security. Three-quarters of investors in Latin America, where inflation has run between 4.5% and 7.5% since 2011,⁶ feel the same way. Pressures are so great that investors in the region say inflation is their top investment concern instead of market volatility. These well-placed inflation concerns are tied closely to another issue facing investors: low interest rates.



^{*}National Automobile Dealers Association. "New Vehicle Average Selling Price in the United States from 2016 to 2020 (in 1,000 U.S. Dollars)." Statista Inc., 11 May 2021, https://www.statista.com/statistics/274927/new-vehicle-average-selling-price-in-the-united-states/

Low rates: Boon to consumers. Bust for retirees.

Faced with prospects of the pandemic rapidly becoming a financial crisis when the global economy effectively shut down in March 2020, policy makers quickly implemented interest rate cuts to help ease the economic impact. Rates had been low since the Global Financial Crisis. But the pandemic delivered a new twist as yields entered negative territory in 16 countries.

Cuts were an effective tool for mitigating the economic impact of the pandemic and have helped spur recovery and growth (in the US in particular). But they represent a significant long-term risk to those faced with the challenge of generating a sustainable income in retirement. In fact, 63% of those surveyed say low interest rates make them worried about their ability to generate income during retirement.

Retirees are particularly vulnerable to low rates. For many, fixed income investments are a linchpin in their retirement income strategy. Bonds are supposed to provide modest growth, stability, and cash flow. Each is a critical concern for retirees who need to generate income from their investments.

How do low rates affect retirement income?



As investors near retirement, they generally have more conservative portfolios, which often hold more bonds than stocks.

Balance



When interest rates are low, the bonds will generate less income.



As a result, investors often turn to riskier assets, like stocks, to make up the difference.



But stocks give them greater risk exposure including market drawdown and sequence of returns risk.

When you earn your returns matters

With sequence of returns risk, it's not simply about gains and losses as the market moves. Timing is critical. When those gains and losses happen can have a big impact on your ability to preserve capital. For example, if you take a loss early on, it's harder to make up the difference. And if you generate returns early on, you're starting out ahead. Here's one example of what that could look like over 3 years for a portfolio of \$450,000 (the median portfolio value for those surveyed).

Beginning portfolio value: \$450,000

Starting out with a gain Year 1 Year 2 Year 3 -10% Returns 10% \$495,000 Balance \$500,500 \$414,450 Income \$40,000 \$40,000 \$40,000 Withdrawal* Ending \$455,000 \$460,500 \$374,450

Starting out with a loss

	Year 1	Year 2	Year 3
Returns	-10%	10%	10%
Balance	\$405,000	\$401,500	\$397,650
Income Withdrawal*	\$40,000	\$40,000	\$40,000
Ending Balance	\$365,000	\$361,500	\$357,650

Both these scenarios result in an average 8.9% annual rate of return after 3 years. However, the sequence of returns makes a big difference in how much money you've actually earned. In this example, when you start out with a gain, you end up with \$374,450 after 3 years. But when you start with a loss, you wind up with \$357,650 - a difference of \$16,800.

^{*}Withdrawals occur at the end of each year.

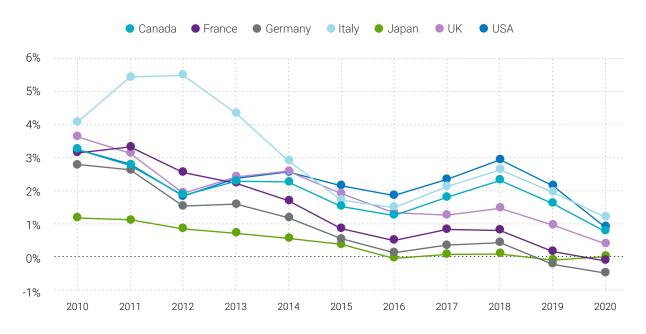
Low rates can add to retirement risks

The challenge is compounded as retirees look to maintain their principal. Often it requires investments in riskier assets, like stocks, to generate the returns needed to preserve their savings. The risk is a double-edged sword: While the investments may help generate higher returns, they come with greater risks. And it all comes at an age when individuals may not have the needed time to recoup any potential losses.

In the simplest terms, a 30% market selloff looks much more frightening to a 65-year-old than it does to a 35-year-old.

Low rates are nothing new. They'd already been on a long downward slide for close to 30 years prior to the Global Financial Crisis. But in the past decade they've come closer and closer to zero, and in many cases, rates dipped into negative territory – particularly during the pandemic.⁷

Interest rates were low. And moved lower.



Source: OECD (2021), Long-term interest rates (indicator). doi: 10.1787/662d712c-en (Accessed on 2 August 2021)

But even the promise of full, global economic recovery, which our market strategists within the Natixis Investment Managers family don't forecast until the first half of 2022,8 few predict rates will rise significantly in the short term. Long-term forecasts are for rates to stay low for even longer.

Globally, OECD projects rates of only 0.63% across the 17 countries that compose its Euro area by Q4 2022 and 0.88% for the UK. In Japan, long hampered by low rates and a deflationary economy, rates are expected to reach only 0.07%. Projections for interest rates in Latin America run higher at 7% for Colombia and 5.6% in Mexico.⁹ It's likely that any boost retirees get from higher rates could easily be offset by a higher rate of inflation.

Given that reality, retirees are wise to be wary of the impact low rates can have on their ability to generate income off personal savings. Their efforts will be particularly important given their concerns about the viability of public retirement benefits.

Public debt: Will retirees have to foot the bill?

Looking to stem the economic impact of the pandemic, policy makers had another tool in their quiver to complement interest rate cuts – stimulus spending. The sudden emergency spending came as debt levels were already at record highs in many developed countries, presenting significant long-term challenges for policy makers.

According to the OECD's 2021 Sovereign Borrowing Outlook, pandemic-driven debt increases are not over yet. They write:

The upsurge in government spending and reduced revenue collection in the wake of the COVID-19 crisis mean that the gross borrowing needs of governments have risen significantly. OECD governments borrowed USD 18 trillion from the markets in 2020, equal to almost 29% of GDP. Compared to 2019, this was 60% more in absolute terms, and 12 percentage points higher relative to GDP. This year's survey results forecast a continuation of this upward movement in 2021, albeit at a slower pace. However, 2021 projections are subject to a high degree of uncertainty largely due to the pace of the pandemic, the global economic outlook and changes in government fiscal policy responses.

The level of outstanding central government marketable debt for the OECD area is expected to increase from USD 47 trillion in 2019 to almost USD 56 trillion in 2020, and to USD 61 trillion by the end of 2021." ¹⁰

Top 25 countries with the most public debt





OECD (2021), General government debt (indicator), doi: 10.1787/a0528cc2-en (Accessed on 2 August 2021)

This increased spending has many individuals worried about the implications for their retirement benefits. In fact, three-quarters of individuals said they believe the increased levels of public debt they see today will result in reduced public retirement benefits down the road.

In the US alone, the General Accountability Office reports that, thanks in large part to the fiscal response to the global pandemic, the country's public debt jumped from 79% of GDP in 2019 to 100% of GDP in 2020. But increased debt is not limited to the pandemic. In fact, Covid appears to be the starting point of a run-up in debt that the GAO projects will grow faster than GDP and not reach its highest point until 2028. Left unchecked, GAO estimates the US debt-to-GDP ratio could reach 200% by 2048.¹¹

Today's public debt. Tomorrow's tough choices.

Fortunately for today's policy makers, interest rates are low, making the debt more manageable. But the real risk is further down the road when rates may not be as favorable. Tomorrow's policy makers could be forced into tough decisions about spending on government programs including public retirement benefits.

In many cases, they could be left with three choices, none of which bode well for retirees: 1) Increase taxes: Taking a bigger bite out of retirees' fixed income reduces their purchasing power. 2) Raise the retirement age: Individuals already say they want to retire early; nobody wants to be told they have to work longer. 3) Cut benefit payments: A move which resets income planning assumptions for millions of retirees and pre-retirees.



Each scenario has a clear impact on retirees. Public benefits are one of three income sources individuals have been told to factor into their retirement plans. This, along with income generated from employer-sponsored retirement benefits and personal savings, is generally thought to provide a stable base for retirees to live on.

Recognizing that weight is on their shoulders, individuals are concerned about their public retirement benefits. Even among those survey respondents who have accumulated an average of \$425,000 in retirement savings, almost half (48%) say it will be difficult to make ends meet without income from public retirement benefits.

This sentiment runs consistently across age and wealth brackets. Although the number of individuals reporting their concerns over the challenges of making ends meet in retirement with \$1 million or more in assets is smaller at 38%, it does show that hitting the million-dollar mark is not necessarily a guarantee that investors are secure in the belief that they can generate a sustainable income over two decades of retirement or longer.

A world of worry: Into the great unknown of retirement

As much as they plan and save for retirement, the affluent investors we spoke with are concerned their efforts just may not be enough. Despite generating retirement savings of more than \$400,000, four in ten (38%) say they accept they will never have enough to retire. Doubts run highest among younger investors, with almost half (47%) of Millennials worried they won't attain this goal.

Human nature provides a simple solution to not having enough to retire – working longer. In fact, six in ten say they've accepted they will have to work longer than they anticipated. And again, Millennials share the biggest concerns. Even as this generation sets its sights on retiring at the young age of 60 on average, their optimism is counterbalanced by a more subdued view of a future in which two-thirds of Millennials believe they will need to work longer than they expected. But that may be easier said than done.

The idea of a delayed retirement may be easy to rationalize, but those we surveyed recognize that employment later in life is no sure thing. In fact, half of those surveyed (49%) are worried that they won't be employed as long as they'd like. And while sentiment again runs highest among Millennials (55%), half of Generation X and 42% of Boomers see the reality of this challenge.

Retirement isn't always a choice

Many times retirement is not a choice. Unforeseen events like a late career layoff, health problems, or family care needs can take people out of the workforce and disrupt their retirement plans. Healthcare is a particular concern, as seven in ten say they are worried that the costs of healthcare and long-term care will severely impact their financial security in retirement. Individuals also see the direct impact that another global concern can have on retirement security: income inequality. Disparity in wealth and income is also shaping individuals' views on retirement security.

Seven in ten investors believe income inequality has a detrimental effect on retirement security. The math that backs up this view is simple: If you earn less while working, you have less to save, and less to draw from in retirement. Given that women have earned 82 cents for every dollar earned by their male counterparts in 2021, 12 it's no surprise that three-quarters of the women in our survey see the threat it presents to retirement security. The fact that seven out of ten men also see the problem may suggest that the dialogue is getting through to the public.

Beyond finances, what are individuals worried about around retirement security?



Source: Natixis Investment Managers, Global Survey of Individual Investors conducted by CoreData Research, March-April 2021. Survey included 8,550 investors in 24 countries.

If not a miracle, what's needed to achieve retirement security?

The risks presented by inflation, interest rates, and public debt, and the financial challenges of employment and healthcare are great. And they come at a time when many retirement systems are shifting from traditional pensions to defined contribution solutions. As a result, eight in ten individuals know it is increasingly their responsibility to fund retirement.

If the responsibility is theirs, they know they need help to achieve the goal of a secure retirement and they know what kind of help is needed. Individuals surveyed believe their employer is a first line of defense in the process, and 80% of individuals (including 77% of business owners in our survey) say they believe companies should be responsible for helping them achieve a secure retirement.

It's not just about employers providing access to a retirement savings plan; individuals see the need for companies to take a financial role in savings. In a tight labor market, employers may want to look closely at what they have to offer employees.

The vast majority of individuals surveyed (80%) say they would be more inclined to work for a company that offered matching contributions. They also believe the investments offered in their plan can play a role in spurring retirement savings, as seven in ten say having access to investments that reflect their personal values would motivate them to save more for retirement.

Access to a plan and incentives to save are critical for individuals, and there's a lot riding on their rising to the responsibility and their decisions along the way. This is likely why 62% of individuals surveyed globally say they need professional advice selecting investments in their retirement plan. And this is from a group in which 54% rate their investment knowledge as strong and 62% say they understand the investments available in their retirement plan.

When it comes down to it, society is shifting the responsibility for a more secure retirement to individuals. It's important to help them make smart decisions to fulfill that responsibility. Maybe it won't take a miracle, but for many individuals it will take human intervention to achieve retirement security.

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- 12 PayScale. (March 24, 2021). Global gender pay gap from 2015 to 2020 (in U.S. dollars) [Graph]. In Statista. Retrieved August 31, 2021, from https://www.statista.com/statistics/1212140/global-gender-pay-gap/

Global Retirement Index 2021



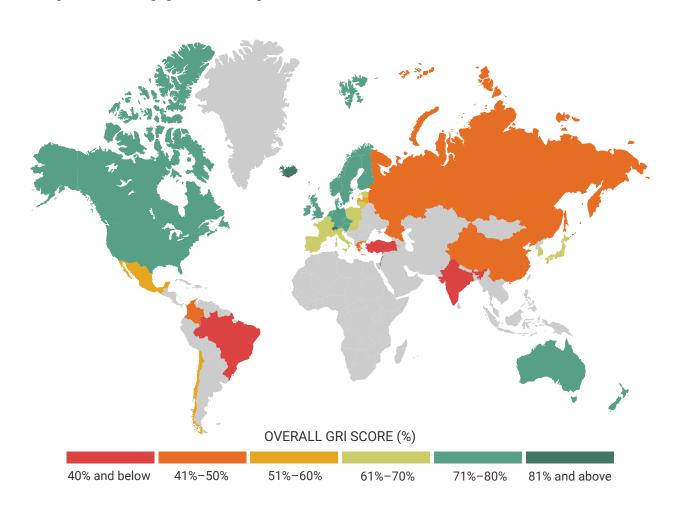
The Global Retirement Index (GRI) is a multi-dimensional index developed by Natixis Investment Managers and CoreData Research to examine the factors that drive retirement security and to provide a comparison tool for best practices in retirement policy.

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.

This is the ninth 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.

The index includes International Monetary Fund (IMF) advanced economies, members of the Organization for Economic Cooperation 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 44 nations studied.

See page 77: Appendix B for the full list of countries.



Framework



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.

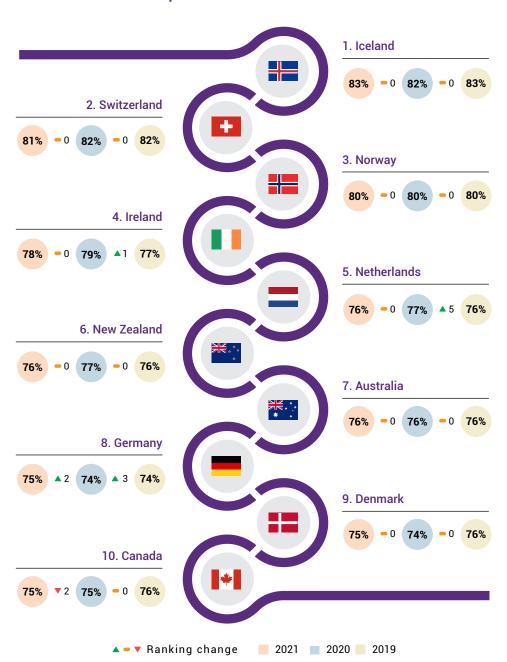
The sub-indices provide insight into which particular characteristics are driving an improvement or worsening each country's position. Data has been tracked consistently to provide a basis for year-over-year comparison.



The Best Performers



Top 10 Countries in 2021 GRI



Iceland remains in first place overall in this year's GRI with a higher score of 83% compared to 82% last year. The next six countries Switzerland, Norway, Ireland, Netherlands, New Zealand and Australia have the same rankings as last year, albeit with lower scores compared to last year. Germany at eighth and Denmark at ninth both have higher scores compared to last year while Canada at tenth moves down two spots with a lower score compared to last year.

The top ten countries overall perform well across all subindices, although no country has the distinction of placing in the top ten for all four sub-indices. Five countries are in the top ten in three sub-indices, four countries place in the top ten for two sub-indices and one country (Canada) has one sub-index placing in the top ten. The top ten countries overall all perform well in the Health and Quality of Life subindices, with none of them ranking lower than 16th.

The Material Wellbeing and Finances sub-indices see much greater dispersion among the countries in the overall top ten, with some much lower rankings compared to the Health and Quality of Life sub-indices. For example, Germany and Denmark rank 31st and 34th respectively for Finances while Australia and New Zealand are in the middle of the pack for Material Wellbeing by ranking 23rd and 24th respectively. However, these countries make up for a slightly lower ranking in these sub-indices by leading the pack in other areas. Competing in the top ten overall therefore requires compensating for a lower score in one subindex with higher scores in the other sub-indices.

Norway is another perfect illustration of this phenomenon. It has superb rankings for three out of the four sub-indices, ranking second for Health, Material Wellbeing and Quality of Life. However, it ranks 25th for the Finances sub-index, thereby holding it back from topping the charts. If its Finances rank matched its placement in the other sub-indices, it would easily rank first overall among all GRI countries. However, within the Finance sub-index, Norway performs poorly on the indices for inflation, interest rates and tax pressure, dragging down its overall position.

Joining Norway in the top four are Iceland and Switzerland, ranking first and second respectively. Both countries placed in the top ten for all four sub-indices last year, but this is no longer the case as Iceland drops three spots in Health to 12th and Switzerland drops five spots in Material Wellbeing to 14th.

Ireland remains at fourth place overall this year. It has experienced significant improvement over the years, moving from 14th in 2017 to competing for the top rankings currently. Like Norway and Switzerland, it places in the top ten for three of the four sub-indices by ranking seventh for Health, eighth for Finances and tenth for Material Wellbeing and narrowly misses the top ten for Quality of Life by ranking 11th.

Netherlands at fifth overall is similar to Norway in that it ranks quite competitively in the other sub-indices - ranking third for Material Wellbeing and eighth for Health - but lands somewhat in the middle of the pack for Finances at 28th. Still, it is able to maintain the same top five placement in the overall rankings after jumping five spots from tenth in 2019.

New Zealand and Australia rank sixth and seventh overall respectively. As mentioned previously, both countries rank in the middle of the pack for Material Wellbeing but are able to make up for it in the other sub-indices with neither country ranking lower than 15th. Both countries perform particularly well in the Finances sub-index, with New Zealand ranking third and Australia ranking fourth. Their high sub-index scores are



driven by good indicator performances in governance, bank non-performing loans and government indebtedness for New Zealand and the interest rate indicator for Australia. Other top ten finishes include New Zealand ranking ninth for Quality of Life and Australia ranking tenth for Health.

Germany and Denmark at eighth and ninth overall respectively are able to make up for relatively low scores in the Finances sub-index by superb performances in the rest of the subindices. Germany ranks in the top ten for three of the four subindices – fifth for Material Wellbeing, ninth for Health and tenth for Quality of Life - while Denmark finishes third for Quality of Life and eighth for Material Wellbeing.

Canada rounds out the top ten countries overall. It ranks tenth in Finances and barely misses another top ten finishing by ranking 11th in Health. It swaps places in the overall rankings with Germany this year after ranking eighth last year.

The countries in the top ten overall rankings are characterized by either balanced performances across all four sub-indices or particularly superb performances in the rest of the sub-indices to make up for a lagging performance in one. However, as a country moves further to the back end of the top 25, it is more likely they have one sub-index performing particularly well to balance out low or average scores for the rest of the subindices or average sub-index performances across the board.

Between the 11th and 25th ranked countries overall, ten countries finish in the top ten for only one sub-index while three countries do not have any top ten finishes. The remaining two countries, Austria and Sweden, rank 12th and 13th respectively overall and finish in the top ten for two sub-indices. Austria ranks eighth and ninth respectively for Quality of Life and Material Wellbeing while Sweden ranks fifth and sixth respectively for Quality of Life and Health. However, low rankings in Finances at 35th for Austria and 30th for Sweden without a corresponding top ten placement in their respective remaining sub-index means they are not able to break into the top ten for the overall rankings.

The UK, Japan and France are among the countries finishing in the top ten for one sub-index. Both Japan and France finish in the top ten for Health, ranking first and fourth respectively, while the UK's sole top ten finish is Quality of Life at seventh. Both Japan and France finish in the bottom ten for Finances by ranking 42nd and 41st respectively for this sub-index.

The United States, meanwhile, has no sub-indices placing in the top ten. Its closest placement is Finances at 11th, where it ranks relatively well for tax pressure but is held back by a relatively low performance in the government indebtedness indicator. Its next highest ranked sub-index, Health at 17th, features very good performances in two of the three indicators with health expenditure per capita ranking first and insured health expenditure ranking fourth. But its relatively low placement in life expectancy at 34th pulls down the sub-index score as a whole.

The lessons from the highest-ranked countries demonstrate there need to be consistent and balanced performances across all four sub-indices. A country could get away with a bad performance in one sub-index, but it needs to have a strong placement in the rest of the sub-indices to have a shot at competing with the best. Once a country starts to lag in two or more sub-indices, it tends to creep toward the back of the overall rankings.

The Top 25: Year-on-Year Trends

The theme for the top 25 this year is consistency. The top seven countries overall have maintained the same placement for two years in a row, with the top three holding on to their rankings for the third year in a row. Furthermore, 15 of the top 25 countries have the same overall ranking as last year and there are no new countries entering or exiting the top 25.

Iceland, Switzerland and Norway are the top three countries, followed by Ireland, the Netherlands, New Zealand and Australia. Meanwhile, Germany and Canada swap spots with the former moving to eighth and the latter moving to tenth. Denmark remains at ninth overall.

Across the rest of the top 25, movements compared to last year are mainly limited to changes of two spots or fewer. Slovenia is the only country to move three places after improving to 16th



overall. Luxembourg moves up two spots to 11th while Sweden moves down two places to 13th. The US, UK, Israel, and South Korea all slip down one spot to 17th, 18th, 19th and 23rd respectively while Japan moves up one place in the rankings to 22nd overall.

Larger changes can be seen over a three-year horizon. Germany ranked 13th overall in 2019 but moved into the top ten last year and now ranks eighth overall. In contrast, Sweden ranked fourth two years ago but dropped out of the top ten last year to 11th and now ranks 13th overall.

		Country 2021 2020 2019			Trend in		Score	
	Country			2019	Ranking (2021 – 2019)	2021	2020	2019
	Iceland	1	1	1	•—•	83%	82%	83%
D	Switzerland	2	2		•—•	81%	82%	82%
	Norway	3	3		•	80%	80%	80%
)	Ireland	4	4	5		78%	79%	77%
	Netherlands	5	5	10		76%	77%	769
€.;	New Zealand	6	6			76%	77%	769
•	Australia	7	7		•	76%	76%	769
	Germany	8 4	10	13		75%	74%	749
	Denmark	9	9	9		75%	74%	769
*)	Canada	10	7 8			75%	75%	76%
	Luxembourg	11 4	13			74%	73%	75%
	Austria	12	12	14	-	74%	73%	73%
	Sweden	13	7 11			73%	74%	77%
	Czech Republic	14	14	15		73%	73%	72%
-	Finland	15	15	12		72%	73%	759
	Slovenia	16 4	19	21		72%	71%	699
	United States	17	7 16	18		72%	72%	70%
ļ.	United Kingdom	18	7 17	16		72%	72%	72%
*	Israel	19	7 18			71%	71%	719
	Malta	20	20	19		70%	71%	699
	Belgium	21	21	20		69%	70%	699
•	Japan	22	23	23	•	68%	68%	699
•;	Korea, Rep.	23		24		67%	68%	699
	Estonia	24	24	26		67%	67%	65%
)	France		25	22		67%	67%	699

Regional Perspective



For the third year in a row, North America has the highest score among all regions at 72%. Western Europe places second with an overall score of 69%, followed by Eastern Europe and Central Asia (50%) and Latin America (42%) with Asia Pacific (32%)

Health

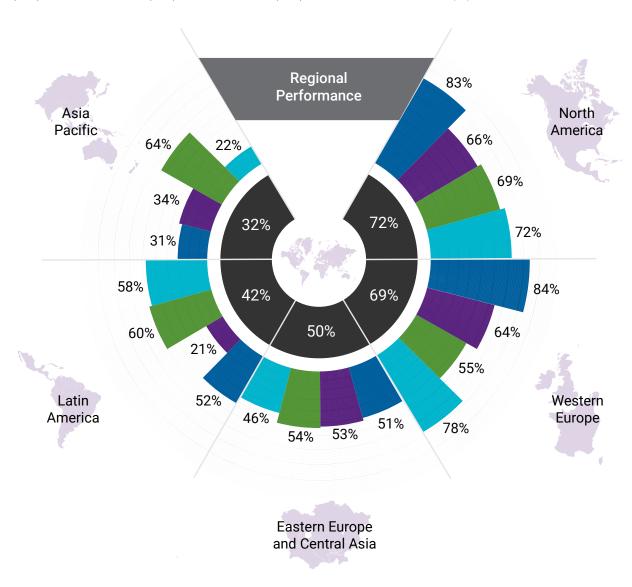
Index

Material

Index

Wellbeing

finishing last. The regional scores are population-weighted so the scores of countries with larger populations have a larger proportional effect on the regional score than the scores of countries with smaller populations.



Finances in

Retirement

Index

Global

Index

Retirement

Quality

of Life

Index

North America dominates the overall rankings as a result of having the highest regional score for both the Finances and Material Wellbeing sub-indices and the second-highest score for the Health and Quality of Life sub-indices. Individual countries in other regions have higher scores than Canada and the US For example, Canada and the US rank tenth and 11th respectively for Finances and 19th and 26th respectively for Material Wellbeing. However, Canada and the US rise to the top due to some countries in other regions having significantly lower scores which drag down the regional scores for those regions.

Western Europe and North America trade off for first and second place in most of the sub-indices with one notable exception. Whereas Western Europe finishes second to North America for the Material Wellbeing sub-index, it has the highest scores for both the Health and Quality of Life sub-indices. Individual country performances are superb in these two sub-indices, with Western European countries making up eight of the top ten for Health and nine of the top ten for Quality of Life.

However, Western Europe comparatively lags in the Finances sub-index where it ranks fourth, behind North America, Asia Pacific and Latin America. Western Europe does have a couple of strong performances in the sub-index with Switzerland finishing second and Ireland finishing eighth. However, most of its countries finish either in the middle of the pack or the back end for the sub-index, such as Greece at second-to-last, France at fourth-to-last and Belgium at sixth-to-last. Western Europe's position of second place overall is thus sealed since it is not able to keep pace with the United States for the sub-index.

Eastern Europe and Central Asia finishes third overall as a region. Like Western Europe, it struggles in Finances where it finishes last for the sub-index. Four of the bottom ten countries in Finances belong to this region, namely Turkey, Hungary, Slovak Republic and Latvia. The region also ranks second-tolast for both Health and Quality of Life and third for Material Wellbeing. This mediocre sub-index performance results in the middle of the pack performance at third overall.

Latin America finishes fourth overall as a region. The region actually has a higher score in three of the four sub-indices than Eastern Europe and Central Asia, which ranks third overall. However, Latin America's performance in Material Wellbeing, where it scores 21%, significantly holds back its overall performance. Four Latin American countries, namely Brazil,



Colombia, Chile and Mexico, make the bottom ten for Material Wellbeing with scores of less than 50%, with Brazil in particular scoring very low at 8%. While some countries perform relatively better in other sub-indices, such as Chile ranking sixth for Finances, it is not enough to compensate for the significantly low score in Material Wellbeing.

Asia Pacific has the lowest overall regional score due to having either the last or second-to-last score in three of the four subindices. In particular, the low scores for the Health and Quality of Life sub-index are driven by India's extremely low scores in these two sub-indices. However, a notable exception is Finances, where the region has the second-highest sub-index score. Four of the top five countries in the sub-index are Asia Pacific countries with Singapore ranking first, New Zealand ranking third, Australia ranking fourth and South Korea ranking fifth. Still, this bright spot in one sub-index is not enough to outweigh the comparatively lower scores in the other subindices.

Spotlight:

Can South Korea avert a looming demographic crisis?

South Korea remains just inside the top 25 with an overall finish of 23rd in this year's GRI. Its strongest relative performance is in the Finances in Retirement sub-index, where it ranks fifth overall. South Korea is undergoing a demographic shift to an older average population at a much faster rate than its OECD counterparts. This will undoubtedly affect its oldage dependency ratio, a key component of the Finances in Retirement sub-index, unless significant changes are made. Looking to the future, how could this demographic shift play out and what needs to be done to slow its progression?

South Korea is projected to have the fastest growing oldage dependency ratio among OECD members between 2025 and 2050 at approximately 128.4% — a growth rate which will see its ratio increase from 31.7 to 72.4. And by 2075, the country is projected to overtake Japan and have the highest old-age dependency ratio among OECD members at 78.8. The demographic old-age dependency ratio is defined as the number of individuals aged 65 and over per 100 people of working age. The ratio is a function of both an aging population and the size of the labor force.

Demographic old-age dependency ratios 80 Old-age dependency ratio 70 43.1% 60 128.4% 50 51.1% 34.1% 40 2025 2050 2075 Australia New Zealand OFCD members 2025-2050 growth (%) Japan Korea, Rep

Source: United Nations, World Population Prospects - 2017 Revision. CoreData calculations.

These population projections could trigger significant economic repercussions. While a shrinking labor force would depress economic growth, a rise in the elderly population could increase social welfare transfers. Approximately 43% of those over the age of 65 live below the poverty line in South Korea, compared to just 12% of those aged 18 to 65.1 A smaller labor force would also decrease tax revenues that could support transfer payments.

To address this demographic imbalance, South Korea will need to both increase the size of its labor force and lower the average age of its population. One way to achieve this is through increasing fertility and migration rates. The IMF 2016 World Economic Outlook reports that migration can boost aggregate income over the long term through expanding the labor force, increasing the employment-to-population ratio and fostering labor productivity.² Yet both fertility and migration

¹ OECD (2021), Poverty rate (indicator). doi: 10.1787/0fe1315d-en (Accessed on 23 June 2021)

² International Monetary Fund. 2016. World Economic Outlook: Subdued Demand: Symptoms and Remedies. Washington, October.

rates are lower in South Korea than the average OECD member. Approximately 2.6% of the total South Korean population was born in another country in 2015, compared to an OECD average of 9.7%. Looking at fertility, there were approximately 0.9 births per woman in 2019, compared to 1.4 in Japan and an OECD average of approximately 1.7.

Fertility rate, total (births per woman)	2019	International migrant stock (% of population)	2015
Australia	1.7	Australia	28.2
Japan	1.4	Japan	1.6
Korea, Rep.	0.9	Korea, Rep.	2.6
New Zealand	1.7	New Zealand	23.0
OECD members	1.7	OECD members	9.7

Source: WDI

However, having fewer children has not translated into a higher female labor force participation rate. South Korea hovers just below the average for an OECD member (42.6% vs 44.4%) despite having a fertility rate that is almost half the OECD average. Furthermore, its overall labor force participation rate as a percentage of those aged 15-64 (69.1%) is lower than the average for OECD members (72.6%). The country will find it much harder to support an aging population without a large working labor force.

Labor force participation rate, total (% of total population ages 15-64)	2019	Labor force, female (% of total labor force)	2019
Australia	78.5	Australia	46.6
Japan	79.8	Japan	44.3
Korea, Rep.	69.1	Korea, Rep.	42.6
New Zealand	80.9	New Zealand	47.9
OECD members	72.6	OECD members	44.4

Source: WDI

With increased longevity, a willingness to work beyond the age of 65 could help avert a looming demographic crisis. Encouragingly, labor force participation among those aged 65+ in South Korea (35.2%) is higher than Japan (25.3%) or the G20 (18.1%). Enacting policy changes that support a growing labor force could help the country reconfigure its long-term demographic dynamics.

In this year's GRI, South Korea's old-age dependency score has dropped from 60% in 2019 to 54%. This measure will likely see a slow and continual decline unless transformative policies are implemented.

Labor force participation rate, 65+	2019
Australia	14.7
Japan	25.3
Korea, Rep.	35.2
New Zealand	24.1
G20	18.1

Source: ILOSTAT

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.











Finances in Retirement Index

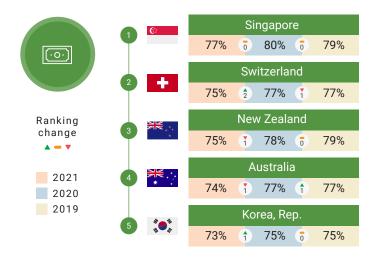


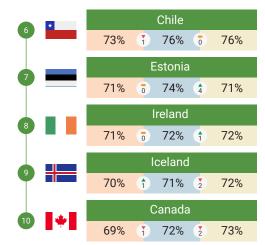
Singapore, 28th in the GRI overall, maintains its first-place rank in the Finances in Retirement Sub-index. The Finances in Retirement Sub-index is based on performance across seven indicators: old-age dependency, bank nonperforming loans, inflation, interest rates, tax pressure, government indebtedness and governance. Singapore's ranking can be attributed to its positive performance in inflation (tied for first), tax pressure (fourth), old-age dependency (seventh), interest rates (eighth), governance (ninth), moderate performance in bank nonperforming loans (16th) and its only poorly performing category being government indebtedness (40th). Switzerland takes second place and rises two spots from 2020. It improves its rank one spot in interest rates (ninth) and government indebtedness (13th). New Zealand is third and Australia fourth, each dropping one spot in rank from 2020. Notably, New Zealand drops eight spots in interest rates to 17th and three spots in tax pressure to 20th. Australia falls five spots in bank nonperforming loans to 15th, three spots to 15th in tax pressure and two spots in government indebtedness to 17th. South Korea moves into the top five from sixth in 2020.

The next five countries in the Finances in Retirement Subindex are Chile, Estonia, Ireland, Iceland and Canada. The Retirement Sub-index is a bright spot for Chile and Estonia who did not perform as strongly in other sub-indices. Chile is sixth in Finances in Retirement and its second highest rank in any sub-index is 30th in the Health Sub-index. Similarly, Estonia is seventh in Finances in Retirement but its second highest rank is 24th in the Quality of Life Sub-index. Rounding out the top 15 are the United States, China, Israel, Czech Republic and Malta. Countries in 11th to 15th share one thing in common: average to below average performance in governance, ranging from 21st in the United States to 41st in China. China makes up for its governance ranking partly by its first-place rank in tax pressure (from fourth in 2020).

The next five countries are Mexico, Poland, India, Colombia and Spain. Mexico rises two spots to 16th, India increases one spot to 18th and Colombia declines three spots to 19th. This group is marked by below average bank nonperforming loan ranks (24th to 41st) and even worse governance ranks (30th to 42nd). Despite this, there are positives as well. India retains the top spot in old-age dependency, while Mexico is second and Colombia is third. India also places second in tax pressure, while Colombia places second in interest rates. In the bottom five of the top 25 in the Finances in Retirement Sub-index are Slovenia, Portugal, Cyprus, Luxembourg and Norway. Cyprus increases two spots to 23rd and Luxembourg and Norway

Top 10 Countries in Finances in Retirement Sub-Index





decline one rank each to 24th and 25th respectively. Norway, third in the GRI overall, is second in governance but is marred by below optimal performance in inflation (37th), tax pressure (36th) and interest rates (25th).

Brazil remains just out of the top 25 in the sub-index at 26th, despite its first-place rank in interest rates. The Russian Federation increases six spots to 27th this year, the largest increase in the Finances in Retirement Sub-index. Tax pressure is the biggest contributor to this increase, which increases five spots to third rank in 2021. Despite being in the top 10 of the GRI overall in rank, the Netherlands (28th), Germany (31st) and Denmark (34th) do not make it into the top 25 in the Finances in Retirement Sub-index. All three can attribute this in part to having poor performance in old-age dependency, interest rates and tax pressure. Germany decreases three spots from 2020, while the Netherlands decreases one spot and Denmark increases two spots. Hungary, France, Japan, Greece and Turkey are the worst performing countries in the sub-index overall.

(-0-) Top 25 Countries in Finances in Retirement Sub-Index

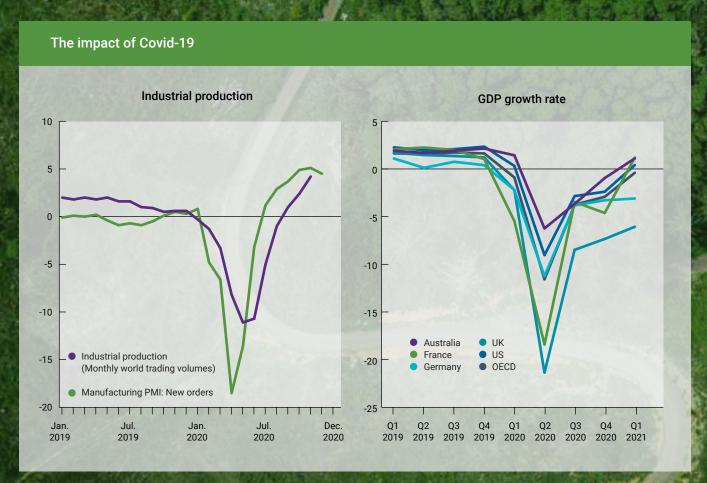
Country					Ranking		Score		
Col	untry			2021	2020	2020 2019	2021	2020	2019
@	Singapore			1	1	1	77%	80%	79%
0	Switzerland			2	4	3	75%	77%	77%
**.	New Zealand			3	2	2	75%	78%	79%
	Australia			4	3	4	74%	77%	77%
(•)	Korea, Rep.			5	6	6	73%	75%	75%
4	Chile			6	5	5	73%	76%	76%
	Estonia			7	7	11	71%	74%	71%
0	Ireland			8	8	9	71%	72%	72%
+	Iceland			9	10	8	70%	71%	72%
*)	Canada			10	9	7	69%	72%	73%
	United States			11	11	10	69%	71%	71%
	China			12	13	14	67%	68%	69%
*	Israel			13	12	12	67%	68%	70%
>	Czech Republi	С		14	14	13	65%	67%	69%
+	Malta			15	15	18	65%	66%	66%
(a)	Mexico			16	18	23	63%	64%	64%
	Poland			17	17	17	63%	65%	66%
• • • • • • • • • • • • • • • • • • •	India			18	19	27	63%	64%	60%
	Colombia			19	16	20	62%	65%	65%
	Spain			20	20	24	61%	62%	63%
<u> </u>	Slovenia			21	21	21	61%	62%	65%
<u> </u>	Portugal			22	22	26	60%	61%	61%
<u>-</u>	Cyprus			23	25	32	59%	59%	59%
	Luxembourg			24	23	28	59%	60%	60%
	Norway			25	24	31	58%	59%	59%
	1	51%-60%	61%-7	Λ%	71%-80%	81%-9	00%	91%-100%	

Spotlight:

The macroeconomics of Covid-19

While the health implications of the novel Covid-19 virus were deadly, the economic challenges that came with it were just as bad. As governments fought to contain the virus with stringent lockdowns, most economies plunged into the deepest recession since World War II. With many people unable to work, governments around the world rolled out some of the largest

fiscal stimulus packages dwarfing even the 2008 relief, raising serious questions around debt sustainability and concerns around inflation. Meanwhile central banks have flushed the financial markets with unprecedented amounts of money to stave off a collapse in markets.

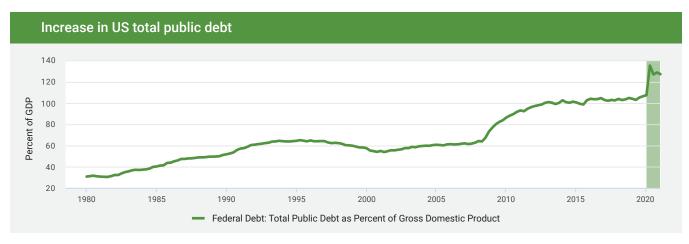


Source: WEO, IMF

Debt expansion and sustainability

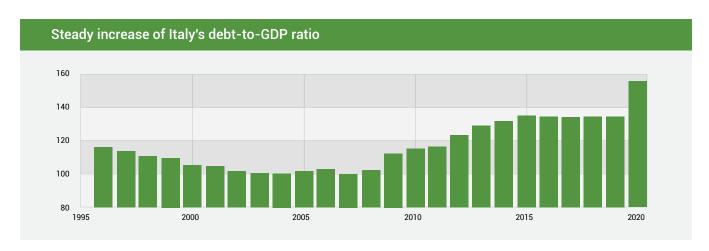
For retirees, sharp increases in government debt could have an adverse impact on their finances. Beyond a certain point, higher levels of public debt will almost certainly reduce economic growth. In addition, if interest rates rise from their present very low levels, then governments could face crippling interest payments. And as some emerging market countries have found in the past, governments that rely on overseas investors to purchase their debt could also face a sovereign debt crisis if investors become reluctant to invest, usually when investors start to question a government's commitment to repaying its debts.

For countries in the top ten of the Global Retirement Index in 2021, there are wide variations in debt-to-GDP percentages, from 30.2% for New Zealand (sixth) to 88.6% for Canada (tenth). Other countries have even higher debt-to-GDP ratios: 109% for the US, 134.8% for Italy and 237.4% for Japan.



Source: FRED

Some countries, such as Italy and Japan, have managed to live with high debt-to-GDP levels for many years. Italy's debtto-GDP has been over 100% for many years, while Japan has seen its debt-to-GDP ratio rise inexorably since the end of the 1990s. Despite having a debt-to-GDP ratio which could exceed 250% by the end of the pandemic, Japan's public debt is seen as manageable. It has a large domestic investor base, prepared to hold Japanese government bonds paying very low interest rates. Italy's debt situation is seen as more precarious.

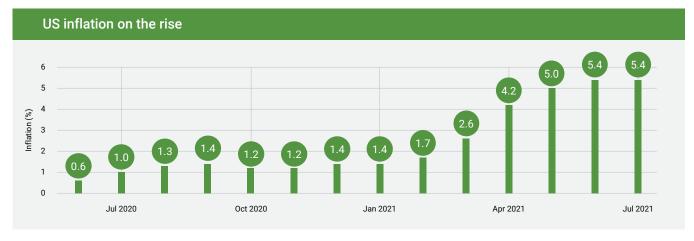


Source: National Institute of Statistics, Italy

One result of the pandemic could be that investors and governments learn to live with higher levels of public debt in the future, as Japan and Italy do. In the past, when debt rose past 60% of GDP, it was regarded as dangerous, and the market expected action to be taken. Now, after a decade of quantitative easing and ultra-low interest rates, markets are more accepting of higher debt, or so it seems.

Inflationary pressures

For the first time since the 1980s, there are now concerns that inflation could return to the world's advanced economies. It may not be the hyper-inflation of Germany in the 1930s, or inflation peaking at 25% as it did in the UK in the 1970s, but some economic observers think that the chances of inflation well above the 2% target set by many central banks have risen significantly in the past year.



Source: US Bureau of Labor Statistics

For retirees, inflation in most forms is a worrying prospect. Most pensions are not inflation-linked, so if high inflation raises the prices of food, heating and other essentials, then retirees on fixed pension incomes will quickly face hardship, as a comfortable retirement income quickly becomes inadequate. Retirees using annuities to convert their wealth into an income are more likely to be worse hit by inflation since an annuity income may be set at a fixed amount, whereas some assets can hedge against inflation. Inflation will also erode the spending power of retirees, reducing the amount of goods and services they can purchase.

Inflation can also hit investors as it affects different asset classes in different ways. Bonds and cash are two of the asset classes worst affected by inflation. The fixed interest payments from conventional bonds become less valuable as inflation rises and the purchasing power of cash is also reduced. Another source of uncertainty is how markets react to both higher inflation and how governments treat it. Markets tend to overreact, so there is a risk that we could see a repeat of the 'taper tantrum' in 2013, when markets collectively panicked when the Federal Reserve signaled that it planned to halt its QE program.

Compared to the last time the advanced economies saw high inflation in the 1970s and 1980s, demographic changes mean that there are now more retirees and their life expectancy has risen. So prolonged inflation would cause more damage to the financial position and quality of life of retirees than it did in earlier decades. For this reason, among others, most governments have striven to avoid inflation since the 1980s. But faced by weak growth and inequality, some may decide that inflation has become a lesser evil. Indeed, the US government has made it clear it will delay rate rises and let the economy run 'hot' if inflation rises above its 2% target in the short term.

Health Index



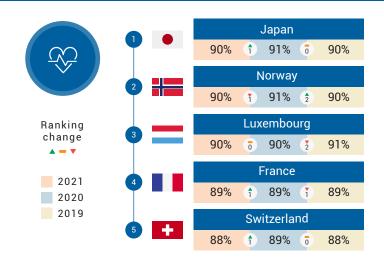
The top three countries in the Health Sub-index are Japan, Norway and Luxembourg, with the top two switching places from 2020. The Health Sub-index is based on performance across three indicators: insured health expenditure, life expectancy and health expenditure per capita. Japan retains its first-place rank in the life expectancy indicator at 84.26 years. Norway falls three spots in life expectancy to 9th while Luxembourg rises three spots in life expectancy to 12th. In the top five, France and Switzerland increase one spot each, to 4th and 5th respectively. France retains its first-place rank in insured health expenditure from 2020. Switzerland is second in life expectancy and health expenditure per capita but is 31st in insured health expenditure. Its insured health expenditure rises one spot from 2020.

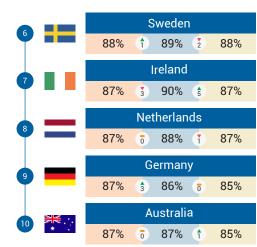
Rounding out the top ten are Sweden, Ireland, the Netherlands, Germany and Australia. Sweden increases from seventh to sixth, and the indicator that sees the most improvement is the insured health expenditure which increases from 14th to 11th. Ireland is tied for the largest decrease in the top 25 from fourth in 2020 to seventh in 2021. It appears to be retracing its 2019 performance where it was ninth. Ireland decreases seven spots in life expectancy to 18th, decreases one spot in insured health expenditure to sixth and rises two spots in health expenditure per capita to sixth. The Netherlands and Australia retain the same Health Sub-index rank from 2020 at eighth and 10th, respectively. Germany rises three spots into the top ten at 9th. It improves seven spots in life expectancy to 20th, is fourth in health expenditure per capita (rising one spot from 2020) and seventh in insured health expenditure.

Canada, Iceland, Denmark, Austria and New Zealand make up the countries 11th to 15th in the Health Sub-index, Canada, Denmark and Austria remain in the same spot as last year at 11th, 13th and 14th. Canada declines two spots in insured health expenditure to 14th. Denmark falls two spots in life expectancy to 26th but gains a spot in health expenditure to ninth and is 10th in insured health expenditure. Austria rises two spots in the insured health expenditure indicator to 20th. Iceland falls three spots to 12th in the Health Sub-index. This is mostly because its life expectancy rank declines from 9th in 2020 to 14th this year. New Zealand rises two spots to 15th in the Health Sub-index, rising one rank each in life expectancy and health expenditure per capita.

Next in spots 16th to 20th are Belgium, the United States, the United Kingdom, Spain and Finland. Belgium falls one spot to 16th, most notably due to declining four spots in insured health expenditure to 23rd. The United States also falls one spot to 17th, dropping two spots in life expectancy to 34th and one spot in insured health expenditure to fourth. It is first in health expenditure per capita. The United Kingdom stays in 18th. Its life expectancy drops two spots to 25th and its insured health expenditure drops two spots as well to 17th. Health expenditure per capita in the United Kingdom increases one spot to 16th. Spain and Finland switch ranks, with Spain rising to 19th and

Top 10 Countries in Health Sub-Index





Finland declining to 20th. Spain falls one spot to fourth in life expectancy and rises one spot to 26th in insured health expenditure. Finland declines four spots in life expectancy to 22nd but increases one spot in health expenditure per capita (18th) and two spots in insured health expenditure (21st).

The bottom five countries in the top 25 Health Sub-index, Italy, Singapore, Israel, Slovenia and South Korea, are ranked the

same as in the sub-index in 2020 besides South Korea which rises two spots to 25th. In the indicators, the most notable changes are in life expectancy, where South Korea rises seven spots to third, Italy drops three spots to eighth and Israel drops two spots to ninth. Israel also decreases two spots in health expenditure per capita to 26th. The bottom five countries in the Health Sub-index overall remain the same at the same rank -Latvia, China, Mexico, the Russian Federation and India.

Country			Ranking		Score		
		2021	2020	2019	2021	2020	201
	Japan	1	2	2	90%	91%	90
•	Norway	2	1	3	90%	91%	90
	Luxembourg	3	3	1	90%	90%	9.
)	France	4	5	4	89%	89%	89
)	Switzerland	5	6	6	88%	89%	88
	Sweden	6	7	5	88%	89%	88
)	Ireland	7	4	9	87%	90%	87
,	Netherlands	8	8	7	87%	88%	87
	Germany	9	12	12	87%	86%	8
)	Australia	10	10	11	87%	87%	8
)	Canada	11	11	8	86%	86%	87
	Iceland	12	9	13	86%	87%	8
•	Denmark	13	13	14	85%	86%	8
,	Austria	14	14	15	85%	85%	84
)	New Zealand	15	17	16	84%	84%	83
	Belgium	16	15	17	83%	85%	83
•	United States	17	16	10	83%	85%	86
	United Kingdom	18	18	18	82%	83%	83
	Spain	19	20	21	82%	82%	8
•	Finland	20	19	19	82%	83%	83
)	Italy	21	21	20	81%	82%	8
	Singapore	22	22	24	81%	81%	77
	Israel	23	23	23	80%	80%	79
	Slovenia	24	24	22	80%	80%	79
;	Korea, Rep.	25	27	27	77%	76%	72

Spotlight:

Healthcare's 'swimming naked' moment

Warren Buffett's famous quote 'Only when the tide goes out do you discover who's been swimming naked' applies to many countries who have been caught unaware as the Covid-19 pandemic hit last year. The Covid-19 pandemic has been one of the greatest global health challenges in many years. It has shone an unforgiving light on the ability of virtually every country to cope with a highly contagious and potentially fatal disease. It has tested healthcare systems to the limit, not just in terms of their medical capabilities but also in how they manage public health and if they had robust pandemic responses ready. It also tested the ability of various parts of government and a wide range of health and medical organizations to work together in an efficient and co-ordinated way.

Health is an important issue for retirees and the health index looks at life expectancy, health expenditure per capita and insured health expenditure. These three measures give indications on healthcare standards and the health of retirees. Looking at impact of the pandemic on the top ten countries in the health index, as measured by the number of Covid-19 deaths per 100,000 people, shows a very mixed picture. Three of the top ten in health – the top two, Japan and Norway, and the tenth, Australia – have seen far fewer deaths than the global average of 76 per 100,000 of population (all data is as of August 10, 2021). In contrast, the other seven countries, all in Western Europe, have much higher deaths per 100,000 people, from 102 per 100,000 in Ireland to 168 per 100,000 in France, showing how these countries have at times struggled to control the pandemic.

One obvious difference here is that the three countries with low death tolls are more geographically isolated than most countries and this was used to control the arrival of travelers carrying the virus. Through being able to stop the virus at their borders, and by using lockdowns and contact tracing, these countries have been able to aim to eliminate, rather than just suppress, the virus. This has been critical as the six European countries in the top ten with a higher death toll have not been able to control the virus as successfully. These countries have closer links to neighboring countries, or looser rules on lockdowns, as in Sweden. As a result of these and other factors, many countries in Europe and elsewhere which did not largely eliminate the virus have experienced second and third waves of rising Covid-19 infection.

Country	Total Covid-19 Deaths (August)
United States	617,321
India	428,682
Brazil	563,562
France	112,430
Turkey	52,313
Russia	162,860
United Kingdom	130,667
Italy	128,242
Argentina	107,961
Germany	91,810
Spain	82,125

Source: Johns Hopkins University Coronavirus Resource Center, August 2021

Other factors which affect retirees and their quality of life have also played a role in how countries have coped with Covid-19. It is also noticeable that the four countries in the top ten with lower Covid-19 death rates score relatively highly on life expectancy. Covid-19 is usually worse for older citizens, so countries with a higher population of retirees are seeing life expectancy rates decreasing. The current edition of the GRI considers life expectancy data from 2019, so the effects of the pandemic have not been accounted for.

Eurostat, the EU statistics agency, has announced that following the Covid-19 outbreak life expectancy has fallen in most EU member states, based on available 2020 data. For example, life expectancy in Sweden fell by 0.8 years in 2020 compared to 2019, while for France and the Netherlands, life expectancy fell by 0.7 years in both countries. Before the pandemic, life expectancy was rising across the EU at a rate of around two years every decade, due to healthier lifestyles and better medical care. But the pandemic could reverse this trend for a time, as many expect to see a big backlog of treatment needed for other conditions, as medical services have been diverted to the pandemic. Retirees will be among those affected by this; particularly they could be more likely to be affected by conditions such as certain cancers or Parkinson's disease.



Source: Furostat: CDC

Looking at how other countries outside the top ten on the health index have dealt with Covid-19 shows how a wide range of factors have influenced a country's success in dealing with the pandemic.

Retirees in Asian countries, such as Singapore (22nd on the health index), have seen very low rates of Covid-19 so far. Like China, these countries were quick to take firm action and they also learned lessons from previous pandemics in the region, such as SARS in 2003. As a result, Singapore was able to react swiftly to Covid-19 through the use of a multi-ministry taskforce; it had already set up systems for surveillance, testing and tracing and quarantining, and it had prepared primary healthcare facilities for pandemic outbreaks.

In contrast to countries such as Singapore, which were clearly prepared for a pandemic and reacted quickly, many other countries and their retirees have suffered from a slow or disjointed response. The USA falls into this category. Despite ranking very highly on the two measures for healthcare expenditure, the US has suffered the largest total death toll so far, with over half a million deaths due to the pandemic. While the USA has an impressive healthcare and medical infrastructure in many ways, it failed to take coordinated, nationwide actions such as testing and tracing Covid-19 cases in the initial stages. This has been exacerbated by the lack of universal health coverage in the US compared to other advanced nations.

Countries such as Australia, Japan and Norway all have universal healthcare, reducing the chances of citizens not seeking treatment for Covid-19 when this is needed. In Norway, for example, Covid-19 was added to the list of infectious diseases seen as threats to public health, so individuals are exempt from cost-sharing for tests and treatments, encouraging them to seek early diagnosis and quarantine at home if they test positive.

At the other end of the spectrum from countries like Norway, developing nations like Brazil show what can go wrong with responses to Covid-19. Brazil is 39th in the health index and its Covid-19 cases are rising rapidly, with an accompanying risk of new variation in the virus appearing. Many have blamed Brazil's populist leader, President Bolsonaro, who has played down the risks of Covid-19. Developing countries are also more likely to have underfunded healthcare, which may not be available to all. And workers paid on a daily basis may not be able to afford to self-isolate if they have the virus.

In the future, retirees lucky enough to live in countries which have successfully controlled the virus are likely to continue to enjoy a good quality of life. Retirees in advanced economies with higher rates of infection can console themselves by the fact they should have access to good medical care. But for retirees in developing countries, or for those with conditions which affect their health in advanced countries, Covid-19 has reaped a high toll. It must be hoped that countries learn from it and improve their healthcare systems and put other measures in place to cope with any future pandemics.

There have been various warnings that Covid-19 could be the first of a number of pandemics, given that a rise in the global populations has led to more possible cases of a virus mutating and moving between different species. If this is the case, it will be important for countries to learn the important lessons for healthcare from this pandemic. Faced by a disease which affects older people far more than younger people, many retirees might be willing to see strong action taken to eliminate a virus, if this helps them and others then return to normality sooner.

Material Wellbeing Index

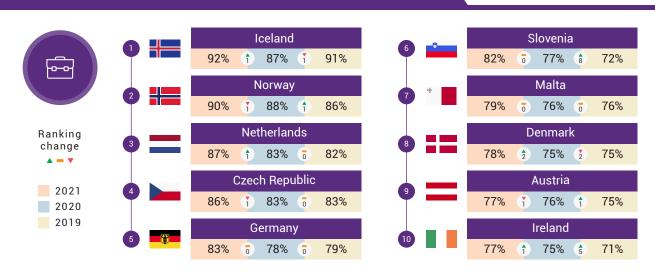


Iceland and Norway switch places in the Material Wellbeing Sub-index with Iceland now first and Norway second this year. The Material Wellbeing Sub-index is based on performance across three indicators: income equality index, income per capita and unemployment index. Iceland increases in income equality from fifth to second and the score increases from 80% to 98%. Iceland's income per capita rank also increases three spots to eighth while its unemployment rank decreases five spots to sixth. Norway decreases two spots in both income equality and income per capita to sixth and fifth respectively and falls one spot to seventh in unemployment. The Netherlands and the Czech Republic also switch places this year, with the Netherlands now third and the Czech Republic fourth. Notably, the Netherlands increases four spots to be tied in first for the unemployment index.

Germany, Slovenia and Malta remain in fifth, sixth and seventh, respectively, in the Material Wellbeing Sub-index. In the indicators, Germany increases four spots in income equality to 17th and Slovenia increases five spots to 12th in unemployment. To round out the top 10 in the sub-index are Demark at eighth, Austria at ninth and Ireland at 10th. Denmark rises two ranks. Austria falls a rank and Ireland increases one rank. All three countries are in the top 10 for income per capita and the top 15 for income equality but perform in the middle of the path in the unemployment index where the rank ranges from 20th to 24th. Poland (11th), Belgium (12th), Hungary (13th), Switzerland (14th) and the Slovak Republic (15th) complete the top 15 in the Material Wellbeing Sub-index. Poland rises in rank four spots in the sub-index, most notably by rising five places to fifth in the unemployment indicator. Poland's four spot increase is the largest positive move in the Material Wellbeing Subindex overall. Switzerland declines five spots in the sub-index from ninth in 2020. Switzerland falls to 22nd from 19th in unemployment, from 18th to 20th in income equality and rises from fourth to third in income per capita. Switzerland's five spot drop is the largest negative move in the Material Wellbeing Subindex overall.

In the bottom 10 of the top 25 of this sub-index, Luxembourg increases three spots to 17th and Sweden drops four spots to 21st. Luxembourg increases one rank in income equality to 24th and increases two ranks in unemployment to 25th. Sweden decreases to 21st from 17th in the Material Wellbeing Sub-index. It falls out of the top 10 in income equality to 11th from eighth and declines two spots to 35th in unemployment. Outside of the top 25, Singapore remains 34th despite the best indicator score and rank in income per capita. Singapore's 42nd





rank in income equality is largely to blame. Its unemployment rank is in the top 50 percent at 17th. The bottom 10 countries in the Material Wellbeing Sub-index overall remain the same in rank and are Italy, China, Mexico, Chile, Spain, Turkey, Colombia, Greece, India and Brazil. Mexico has the 10th best rank in unemployment but is 40th in income per capita and 41st in income equality.

-**Top 25 Countries in Material Wellbeing Sub-Index** Ranking Score Country 2021 2019 2020 2019 2021 # Iceland 1 2 1 92% 87% 91% # Norway 2 1 2 90% 88% 86% Netherlands 3 4 4 82% 87% 83% Czech Republic 4 3 3 86% 83% 83% Germany 5 5 5 83% 78% 79% Slovenia 14 82% 77% 72% 6 6 7 Malta 7 7 79% 76% 76% Denmark 8 10 78% 75% 75% 8 Austria 9 9 77% 8 76% 75% Ireland 10 11 16 77% 75% 71% Poland 11 15 22 76% 71% 68% Belgium 12 12 12 76% 73% 73% Hungary 13 14 17 75% 72% 70% Switzerland 14 9 6 75% 75% 78% 0 Slovak Republic 15 19 74% 73% 68% 13 Japan 73% 70% 72% 16 16 13 17 11 72% 68% 74% Luxembourg 20 United Kingdom 19 18 69% 68% 69% 18 Canada (+) 19 21 21 69% 66% 68% Finland + 20 69% 68% 68% 18 20 Sweden **(** 21 17 15 69% 72% 69% Israel * 22 23 23 67% 65% 66% Australia 23 22 24 67% 65% 66% New Zealand 24 25 26 66% 64% 62% Estonia 25 24 25 65% 64% 62% 51%-60% 61%-70% 71%-80% 81%-90% 91%-100% Color Scale

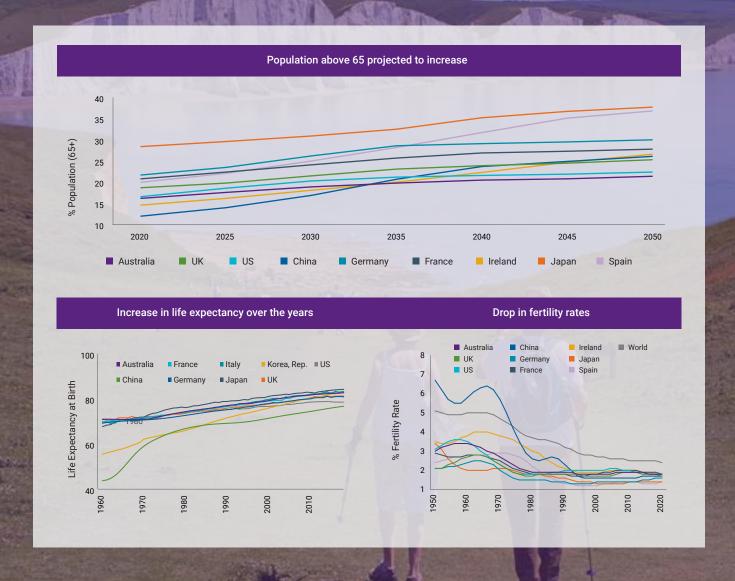
Spotlight:

Time to rethink the 'Learn, Earn, and Retire' life cycle

The world is growing older at a rapid pace – by 2050, a quarter of the population in all regions except Africa will be above 60 years old.¹ The world is also living longer – a quarter of the population above 65 today are expected to live past 90.² Combine this with lower fertility rates and you have the makings of the oft-cited 'demographic time bomb', the economic consequences of which are crippling. Besides imposing a drag on the economy, a shrinking labor force means supporting the elderly becomes

increasingly difficult and adds considerable fiscal strain on governments. Indeed, governments across the world have raised retirement ages to cope with this trend.

As much as governments are flustered with this phenomenon, individuals are even more so. Many are wildly unprepared for retirement. All of this demands a reexamination of how we think about retirement and aging.



¹ United Nations . 2017. United Nations world population prospects, 2017 revision. New York: DESA.
² Donner, E. M., Sze, G., Bluth, E. I. 2015. Retirement issues for radiologists: Consensus statement on successful planning by the commission on human resources of the ACR. Journal of the American College of Radiology, 12: 235-238.

Reexamining retirement age

As societies grapple with the unintended consequences of longer lives and decreased mortality rates, essentially positive developments, a reexamination of the relation between retirement age and longevity is in order. After all, 65 as the retirement age was initially set by Otto von Bismarck in 1865 and implemented as law in the US in 1935 when the life expectancy was a bare 61.5.

With life expectancy increasing dramatically since then, it should stand to reason that the average person could contribute more years to their work. In the US, life expectancy at 65 has increased dramatically from 11.9 years for men and 13.4 for women in 1940 to 18.2 for men and 20.7 for women in 2020.5 Therefore, just looking at chronological age or age according to calendar years is perhaps a poor way of going about this. Instead, we should be looking at physical health and cognitive abilities to determine when a person is 'old'. We should also account for regional differences - a man from Burkina Faso and say, Japan would be very different in their old-age characteristics.3

The economic benefits of this are undeniable. Research by the National Institute of Economic and Social Research (NIESR) suggests that if people worked an extra 3 years this would add up to 3.25% in real Gross Domestic Product (GDP) per year by 2033.

And there seem to be health benefits as well, with recent studies showing that early retirement may be a risk factor for mortality and prolonged working life may provide survival benefits.4

Indeed, many countries are gradually raising retirement ages. In Australia, retirement age increased to 66 in July of this year and will increase again to 67 by 2023.6 UK is exploring options to increase the state pension age as well.7

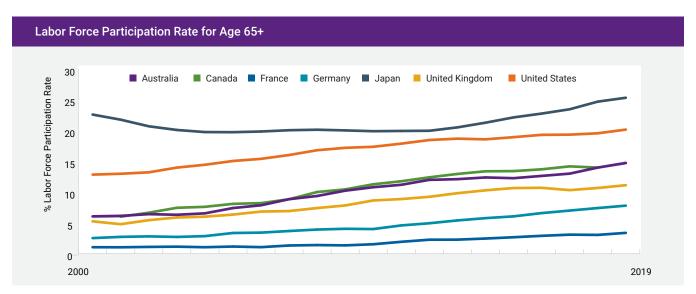
Preparing for an older workforce

The three-box lifecycle of 'learn, earn and retire' referring to study in the initial phase of life, work after that and finally retiring in the final phase of life is in dire need of some upgrades to fit the needs of this generation.

Based on the facts laid out above, it is almost inevitable that individuals will have to extend their second phase of work as longevity keeps increasing. In fact, the labor force participation rate for those above 65 has steadily increased over the years. Many are also opting for bridge employment – essentially paid work after retirement from an individual's main job but before exiting the labor force completely and going into retirement.

Similarly, the learning phase should not be restricted to the first part of their life - for older workers to reenter the work force, they may need to learn new skills or brush up on their knowledge to keep up with the times.

Governments should have programs to help integrate older workers into the workforce. For example, Germany's 'Perspective 50 Plus' that aimed 'to increase older workers' labor market participation through individual support to the long-term unemployed and mobilization of the local institutional networks to promote recruitment of older workers.'



³ Scherbov S., Sanderson W.C. (2020) New Approaches to the Conceptualization and Measurement of Age and Ageing. In: Mazzuco S., Keilman N. (eds) Developments in Demographic Forecasting. The Springer Series on Demographic Methods and Population Analysis, vol 49. Springer, Cham.

⁴ Wu C, Odden MC, Fisher GG, Stawski RS. Association of retirement age with mortality: a population-based longitudinal study among older adults in the USA. J Epidemiol Community Health. 2016.

²⁰¹⁹ Social Security Trustees Report

⁶ https://www.dss.gov.au/seniors/benefits-payments/age-pension

⁷https://www.gov.uk/government/news/proposed-new-timetable-for-state-pension-age-increases

Quality of Life Index



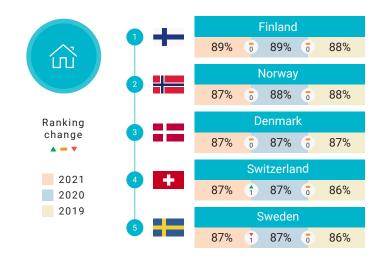
Finland remains at the top of the Quality of Life Sub-index for the third year running. The Quality of Life Sub-index is based on performance across five indicators: air quality, biodiversity and habitat, environmental factors, happiness, and water and sanitation. Finland ranks first in happiness, third in air quality and fourth in water and sanitation. However, it falls five places in environmental factors to 17th. Four of the top five countries in the sub-index are Nordic countries — Finland, Norway, Denmark and Sweden. Switzerland, which switches places with Sweden this year to rank fourth, completes the top five. Switzerland is second in water and sanitation, third in happiness, fourth in environmental factors, eighth in air quality but 35th in biodiversity and habitat. Sweden falls three places in environmental factors to fifth.

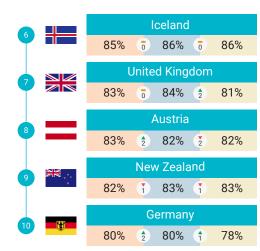
Iceland, the United Kingdom, Austria, New Zealand and Germany complete the top 10 in the Quality of Life Sub-index. Austria and Germany improve two spots to eighth and 10th, respectively, while New Zealand falls one place in the rankings to ninth. Austria climbs to seventh from ninth in environmental factors but slides one spot in happiness to 10th. Germany rises three places in happiness to 13th. New Zealand falls two places to rank 10th in environmental factors and slips down one spot to finish ninth in happiness. Iceland falls five places (to 12th) in environmental factors, as does the United Kingdom (to 15th). The United Kingdom also drops three places in happiness to 16th.

A total of 20 countries in the top 25 are in EMEA. The other regions are represented by New Zealand (ninth), Australia (15th), Canada (16th), the United States (21st) and Japan (25th). Other notable movements in the top 25 include the Netherlands falling three places to 12th and out of the top 10. The Netherlands falls seven places in environmental factors to 36th and increases one spot to 5th in happiness. Estonia climbs two spots to 24th while Japan declines two places to 25th in the sub-index. Estonia improves its ranking to 11th from 13th in environmental factors and to 31st from 34th in happiness. Japan falls six spots to 28th in environmental factors but rises two places to 37th in happiness.

Outside of the top 25, big gainers include Greece (31st) and Latvia (33rd) who both move up three places. Colombia slides four places to 35th and sees its happiness score decline three spots to 35th. Malta is 28th, representing its worst sub-index placement and below its overall GRI ranking of 20th. The same is true of South Korea which is 23rd in the GRI overall but languishes at 37th in Quality of Life where it performs







most poorly. Elsewhere, Lithuania remains at 30th but sees its environmental factors rank climb 10 spots to 23rd. Similarly, Turkey stays at 42nd but manages to improve its environmental factors rank by eight spots to 20th. Poor showings elsewhere account for its lowly ranking. The worst performing countries are the same as last year: Singapore, the Russian Federation, Turkey, China and India. India is last in every indicator with the exceptions of biodiversity and habitat (41st) and environmental factors (22nd).

Top 25 Countries in Quality of Life Sub-Index -0-

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ance			14	14	16	78%	78%	76
ustralia			15	15	14	77%	77%	77
anada			16	16	15	75%	77%	76
pain			17	18	18	74%	74%	71
elgium			18	17	17	74%	76%	74
aly			19	20	21	72%	72%	68
rael			20	19	19	72%	72%	71
nited States			21	21	20	71%	72%	70
zech Republic			22	22	22	68%	68%	67
lovenia			23	24	24	67%	67%	63
stonia			24	26	28	66%	65%	61
apan			25	23	23	66%	67%	64
	51%-60%	61%-7	′0%	71%-80%	81%-9	90%	91%-100%	
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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 analysis is to obtain an adequate proxy for changes in retirement conditions in a particular country by comparing year-on-year performance and movements in ranking.



1. Iceland

Iceland remains in first place overall this year with a score of 83%. It has a higher score compared to last year because of higher score in Material Wellbeing (1st).

Iceland's higher score in the Material Wellbeing subindex is due to higher scores in the income equality and income per capita indicators. It finishes in the top ten for all three indicators with income equality ranking second, employment ranking sixth and income per capita ranking eighth.

Iceland decreases slightly in the Health sub-index but has higher scores in health expenditure and insured health expenditure.

Iceland ranks in the top ten for Quality of Life (6th) despite registering a lower score compared to last year. The lower sub-index score is mainly due to a lower score in environmental factors while the happiness indicator also drops slightly compared to last year. Iceland has multiple top ten finishes in the sub-index with air quality ranking second, happiness ranking fourth and water and sanitation ranking sixth.

Finances (9th) is Iceland's other sub-index to register a lower score compared to last year. It has lower scores in the bank nonperforming loans, old-age dependency, tax pressure and interest rate indicators. It has multiple top ten finishes with interest rates ranking sixth and government indebtedness ranking ninth.

#			CELAND	2000000		
RANKING			SCORE			
2021	2020	2019	2021	2020	2019	
1	1	1	83%	82%	83%	
SUB-INDEX AND INDICATOR SCORES			SCORES		HANGE 🛦 🖛 🔻	
INDICAT	UN SCURE		2021	2020	2019	
HEALTH			86%	▼ 87%(85%	
QUALITY OF LIFE			85%	86%	86%	
MATERIAL WELLBEING			92% (87%	91%	
FINANCE	FINANCES IN RETIREMENT			71%	72%	
Old-Age	Dependenc	у	47%	4 9%	51%	
Bank Nor	n-Performir	ng Loans	46%	> 54%	• 61%	
Inflation			96%	96%	93%	
Interest F	Interest Rates			v 81%	81%	
Tax Pressure			14%	17%	▼ 19%	
Governm	ent Indebte	dness	58%	56%	53%	
Governar	nce		90%	90%	90%	

2. Switzerland

Switzerland remains at second overall in this year's GRI. It has a lower overall score due to lower scores in all four sub-indices.

Switzerland's largest slide is the Finances (2nd) sub-index. It has lower scores in the tax pressure, bank nonperforming loans, interest rate, old-age dependency and governance indicators. Despite these drops in indicator scores, the sub-index is still highly ranked with multiple top ten indicator placements. It ranks fourth in governance, sixth in bank nonperforming loans and ninth in interest rates.

Switzerland's lower score in the Health (5th) sub-index is due to lower scores in both life expectancy and health expenditure per capita. It has the second highest score among all GRI countries for both the life expectancy and health expenditure per capita indicators.

Switzerland also has a lower score in the Material Wellbeing (14th) sub-index. The lower score in the employment indicator offsets improvements in the other two indicators in the sub-index. It has the third highest score for income per capita among all GRI countries.

Quality of Life (4th) is Switzerland's last sub-index to register a lower score compared to last year. It has a lower score in the happiness indicator but maintains its third place finish. In addition to the happiness indicator, Switzerland also ranks in the top ten for water and sanitation (2nd), environmental factors (4th), happiness (3rd) and air quality (8th).

+		SW	TZERLAND			
	RANKING			SCORE		
2021	2020	2019	2021	2020	2019	
2	2	2	81%	82%	82%	
	SUB-INDEX AND INDICATOR SCORES				HANGE A - V	
INDICAT	UN SCONE		2021	2020	2019	
HEALTH			88%	89%	88%	
QUALITY	QUALITY OF LIFE			87%	86%	
MATERIA	MATERIAL WELLBEING			75%	78%	
FINANCE	S IN RETIRI	EMENT	75%	77%	77%	
Old-Age	Dependenc	у	35%	36%	37 %	
Bank Nor	n-Performir	ng Loans	79%	▼ 86%	90%	
Inflation			100%	100%	100%	
Interest F	Interest Rates			76%	76%	
Tax Pres	Tax Pressure			4 1%	41%	
Governm	ent Indebte	dness	54%	52%	52%	
Governar	nce		92%	93 %	93%	

3. Norway

Norway remains at third overall in this year's GRI. It has a slightly lower overall score because of lower scores in the Quality of Life (2nd), Finances (25th) and Health (2nd) sub-indices.

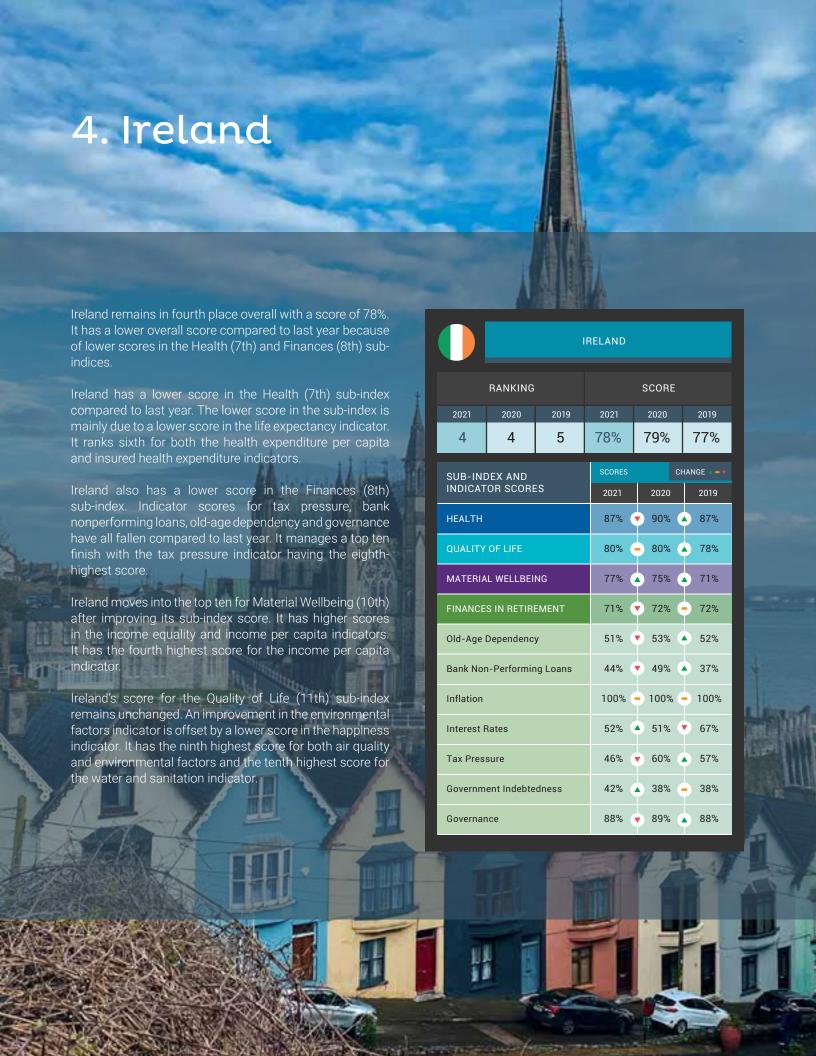
Norway maintains its second-place finish in the Quality of Life sub-index despite having a lower score compared to last year. The main reason for its lower sub-index score is a lower score for the happiness indicator. Still, it has multiple top ten placements in the sub-index with environmental factors ranking third, air quality ranking fourth, water and sanitation ranking fifth and happiness ranking sixth.

Norway's lower score in the Finances sub-index is due to lower scores in the bank nonperforming loans, government indebtedness, tax pressure, and old-age dependency indicators. It finishes second in governance and seventh in bank nonperforming loans but also has the ninth-lowest score for the tax pressure indicator.

Norway has the second highest score among all countries for the Health sub-index. It has a lower score compared to last year because of lower scores in both the life expectancy and insured health expenditure indicators. It finishes in the top ten for both life expectancy (9th) and health expenditure per capita (3rd).

Norway improves in the Material Wellbeing (2nd) subindex. It has higher scores in the income equality and employment indicators and finishes in the top ten for all three indicators in the sub-index.

#				IORWAY			
	RANKING			SCORE			
2021		2020	2019	2021	2020	2019	
3		3	3	80%	80%	80%	
	SUB-INDEX AND			SCORES	С	HANGE V	
INDIC	CATOR	SCORE	ES	2021	2020	2019	
HEAL	HEALTH			90%	91% (90%	
QUAL	QUALITY OF LIFE			87%	88%	88%	
MATE	MATERIAL WELLBEING			90%	88% (86%	
FINAN	FINANCES IN RETIREMENT			58%	59% (59%	
Old-A	ge Dep	endenc	у	40%	40%	41%	
Bank	Non-Pe	erformir	ng Loans	77%	82%	▼ 87%	
Inflati	on			87%	87%	▼ 89%	
Intere	Interest Rates			1%	1%	- 1%	
Tax P	Tax Pressure			10%	v 16% (16%	
Gover	Government Indebtedness			52%	v 55%	57%	
Gover	nance			93%	93%	93%	



5. Netherlands

Netherlands remains in fifth place this year. It has a slightly lower overall score compared to last year because of lower scores in the Quality of Life (12th), Finances (28th) and Health (8th) sub-indices.

Netherlands has a lower score in the Quality of Life subindex because of lower scores in both the environmental factors and happiness indicators. It has the third highest score for water and sanitation and the fifth highest score for happiness but also has the ninth lowest score for the environmental factors indicator.

Netherlands also has a lower score in the Finances subindex. Its sub-index score has gone down because of lower scores in the bank nonperforming loans, tax pressure, oldage dependency and governance indicators. It has the eighth highest score for governance but the tenth lowest score for the tax pressure indicator.

Netherlands' last sub-index with a lower score compared to last year is the Health (8th) sub-index. It has lower scores for both the life expectancy and health expenditure per capita indicators. It has the third highest score for the insured health expenditure indicator and the tenth highest score for the health expenditure per capita indicator.

Material Wellbeing (3rd), Netherland's highest-ranked sub-index, registers a higher score compared to last year. It has higher scores for all three indicators. It ranks first in employment, eighth in income equality and ninth in income per capita.

		NET	HERLAND)S		
RANKING				SCORE		
2021	2020	2019	2021	2020	2019	
5	5	10	76%	77%	76%	
	SUB-INDEX AND			С	HANGE A - V	
INDICATOR SCORES			2021	2020	2019	
HEALTH			87%	▼ 88% (87%	
QUALITY OF LIFE			80%	83%	80%	
MATERIAL WELLBEING			87%	83%	82%	
FINANCE	S IN RETIRI	EMENT	56%	57%	57%	
Old-Age I	Dependenc	у	31%	32%	3 4%	
Bank Nor	n-Performir	ng Loans	57%	V 64%	• 67%	
Inflation			100%	100%	100%	
Interest Rates			1%	1%	1%	
Tax Pressure			11%	15%	14%	
Governm	ent Indebte	dness	48%	43%	43%	
Governar	ice		91%	92%	92%	

6. New Zealand

New Zealand remains at sixth place overall. It has a slightly lower overall score because of lower scores in the Finances (3rd) and Quality of Life (9th) sub-indices.

New Zealand has a lower score in Finances because of lower scores in the tax pressure, interest rates, bank nonperforming loans, old-age dependency and governance indicators. However, it still has some of the best sub-index performances among all GRI countries. It has the highest score for the governance indicator, the third highest score for bank nonperforming loans and the fifth highest score for the government indebtedness indicator among all GRI countries.

Within Quality of Life, New Zealand has lower scores in both the happiness and environmental factors indicators. It ranks fifth for air quality, ninth for happiness and tenth for environmental factors.

New Zealand's improvement in the Material Wellbeing (24th) sub-index is due to higher scores in the income equality and income per capita indicators. None of its indicators make the top or bottom ten.

New Zealand has the same score for the Health (15th) sub-index as last year. A lower score in the life expectancy indicator offsets improvements in the insured health expenditure and health expenditure per capita indicators. It has the ninth highest score for the insured health expenditure among all GRI countries.

4 **		NEV	V ZEALAN	D			
RANKING			SCORE				
2021	2020	2019	2021	2020	2019		
6	6	6	76%	77%	76%		
SUB-INDEX AND			SCORES 2021		HANGE 🛦 🗕 🔻		
INDICAT	INDICATOR SCORES			2020	2019		
HEALTH			84%	84% (83%		
QUALITY OF LIFE			82%	83% (83%		
MATERIAL WELLBEING			66% (64% (62%		
FINANCES IN RETIREMENT			75%	78%	79%		
Old-Age	Dependenc	у	44%	45%	47 %		
Bank Nor	n-Performir	ng Loans	85%	92%	96%		
Inflation			100%	- 100%	100%		
Interest Rates			67%	76%	76%		
Tax Pressure			22%	v 31%	30%		
Governm	ent Indebte	dness	62%	62 %	▼ 67%		
Governar	nce		93%	93%	▼ 94%		

7. Australia

Australia remains at seventh place overall this year. It has a lower score compared to last year because of lower scores in the Finances (4th) and Quality of Life (15th) sub-indices.

Australia has a lower score in the Finances sub-index compared to last year because of lower scores in most of the indicators. Its scores for the tax pressure, bank nonperforming loans, government indebtedness, interest rate, old-age dependency and governance indicators are all lower compared to last year. It manages a top ten finish in the interest rate indicator with a ranking of seventh.

Australia's other sub-index with a lower score compared to last year is Quality of Life. Its lower sub-index score is mainly due to a lower score in the happiness indicator. It has the sixth highest score for the air quality indicator but the eighth lowest score for the environmental factors indicator.

Australia has a higher score in the Material Wellbeing (23rd) sub-index. Its sub-index movement is driven by higher scores in the income equality and income per capita indicators. None of the indicators in the sub-index make the top or bottom ten.

Australia also has a higher score for the Health (10th) sub-index compared to last year. Higher scores in the life expectancy and insured health expenditure indicators drive the higher sub-index score. It has the seventh highest score for the life expectancy indicator among all GRI countries.





Germany moves up two spots this year to eighth overall. It has a higher overall score because of higher scores in the Material Wellbeing (5th), Health (9th) and Quality of Life (10th) sub-indices.

Germany's score for Material Wellbeing, its highest-ranked sub-index, has increased compared to last year because of higher scores in all three indicators. It has the fourth highest score for the employment indicator among all GRI countries.

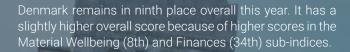
Germany also improves in the Health sub-index. The higher sub-index score is due to a higher score in the life expectancy indicator. It finishes in the top ten for both the health expenditure per capita and insured health expenditure indicators, ranking fourth and seventh respectively.

Quality of Life is Germany's last sub-index with a higher score compared to last year. The movement in the sub-index is due to a higher score in the environmental factors indicator. It has the third highest score for the biodiversity indicator and the ninth highest score for the water and sanitation indicator.

Germany's lowest ranked sub-index, Finances (31st), has a lower score compared to last year. It has lower scores in the tax pressure, bank nonperforming loans, old-age dependency and governance indicators. It has the sixth lowest score for the old-age dependency indicator among all GRI countries.

		C	SERMANY				
RANKING				SCORE			
2021	2020	2019	2021	2020	2019		
8	10	13	75%	74%	74%		
SUB-INDEX AND			SCORES	CI	HANGE V		
	OR SCORE	ES	2021	2020	2019		
HEALTH			87%	86%	85%		
QUALITY OF LIFE			80%	80%	78%		
MATERIAL WELLBEING			83%	78%	79%		
FINANCE	S IN RETIRI	EMENT	55%	56%	56%		
Old-Age I	Dependenc	у	25%	2 6%	26%		
Bank Nor	n-Performir	ng Loans	69%	73%	72%		
Inflation			100%	- 100% (100%		
Interest Rates			1%	1%	1%		
Tax Pressure			12%	▼ 18%	17%		
Government Indebtedness			41%	41%	40%		
Governar	nce		89%	90%	90%		

9. Denmark



Denmark has a lower score in the Health sub-index because of lower scores in the life expectancy and insured health expenditure indicators. It has the ninth highest score for the health expenditure per capita indicator and the tenth highest score for the insured health expenditure indicator.

Quality of Life, Denmark's highest rated sub-index, also has a lower score compared to last year. Denmark's lower score in the sub-index is due to a lower score in the happiness indicator. It has the second highest score for the happiness indicator and the sixth highest score for the environmental factors indicator.

Denmark has a higher score in the Material Wellbeing (8th) sub-index. The higher score in the sub-index is due to higher scores in the income equality and income per capita indicators. It also finishes in the top ten for these two indicators, ranking seventh for income per capita and eighth for income equality.

Denmark's other sub-index improvement is Finances (34th). It has higher scores in the government indebtedness and tax pressure indicators. It has the sixth highest score for government indebtedness and the seventh highest score for governance but the second lowest score for the tax pressure indicator.

+			D	ENMARK		
	RANKING			SCORE		
202	21	2020	2019	2021	2020	2019
9		9	9	75%	74%	76%
	SUB-INDEX AND			SCORES	С	HANGE A - V
וטטו	ICAI	OR SCORE		2021	2020	2019
HEA	HEALTH				86%	85%
QUA	QUALITY OF LIFE				87%	87%
MAT	MATERIAL WELLBEING			78%	75%	75%
FINA	NCE	S IN RETIRI	EMENT	54%	53%	▼ 60%
Old-	Age	Dependenc	у	29%	30%	30%
Banl	k Nor	n-Performir	ng Loans	58%	▼ 66%	65%
Infla	tion			100%	100%	100%
Inter	Interest Rates			1%	1%	44%
Tax	Tax Pressure			2%	1%	- 1%
Gove	Government Indebtedness			62%	57%	57 %
Gove	ernar	nce		92%	92%	91%

10. Canada

Canada moves down two spots to tenth overall this year. It has a lower overall score compared to last year because of lower scores in the Finances (10th) and Quality of Life (16th) sub-indices.

Canada's lower score in the Finances sub-index is due to lower scores in multiple indicators. It has lower scores in the bank nonperforming loans, tax pressure, old-age dependency, interest rate and governance indicators. It has the fifth highest score for the bank nonperforming loans indicator and the tenth highest score for the governance indicator.

Canada also has a lower score in the Quality of Life subindex. The lower sub-index score is due to lower scores in both the happiness and environmental factors indicators. It has the seventh highest score for the air quality indicator but the eighth lowest score for the biodiversity indicator.

Canada has a higher score in the Material Wellbeing (19th) sub-index compared to last year. It has higher scores in both the income equality and income per capita indicators. None of its indicators make the top or bottom ten.

Canada has the same score as last year for the Health (11th) sub-index. Higher scores in both the life expectancy and health expenditure per capita indicators are offset by a lower score in the insured health expenditure indicator. None of its indicators make the top or bottom ten.

*			CANADA			
	RANKING		SCORE			
2021	2020	2019	2021	2020	2019	
10	8	8	75%	75%	76%	
	SUB-INDEX AND			С	HANGE 🗸 🗕 🔻	
INDICA	INDICATOR SCORES			2020	2019	
HEALTH	HEALTH			86%	87 %	
QUALIT	QUALITY OF LIFE			77%	76%	
MATERI	MATERIAL WELLBEING			66%	68%	
FINANC	FINANCES IN RETIREMENT			72%	73%	
Old-Age	Dependenc	у	39%	41%	42%	
Bank No	n-Performir	ng Loans	81%	97%	100%	
Inflation	ı		100%	100%	100%	
Interest	Interest Rates			65%	67%	
Tax Pres	Tax Pressure			▼ 30%	▼ 31%	
Governn	nent Indebte	dness	29%	28%	▼ 29%	
Governa	nce		91%	91%	92%	

11. Luxembourg

Luxembourg moves up two spots to 11th overall this year. It has a higher overall score compared to last year because of higher scores in the Material Wellbeing (17th) and Quality of Life (13th) sub-indices.

Luxembourg moves up three spots to finish 17th in the Material Wellbeing sub-index. It has higher scores in both the income per capita and income equality indicators. It has the second highest income per capita score among all GRI countries.

Luxembourg's score in the Quality of Life sub-index also improves compared to last year. It has higher scores in both the environmental factors and happiness indicators. It places eighth in both the happiness and biodiversity indicators.

Luxembourg maintains the same score and rank in the Health (3rd) sub-index. It has higher scores in both the life expectancy and insured health expenditure indicators but a lower score in the health expenditure per capita indicator.

Luxembourg has a lower score in the Finances (24th) subindex compared to last year. Its lower sub-index score is due to lower scores in the bank nonperforming loans, tax pressure, governance and old-age dependency indicators. It has multiple top ten indicator finishes with government indebtedness ranking third, governance ranking sixth and bank nonperforming loans ranking eighth.

				No. of Street, or other teams, and the street,			
		LU	KEMBOUR	G			
RANKING				SCORE			
2021	2020	2019	2021	2020	2019		
11	13	11	74%	73%	75%		
	SUB-INDEX AND			C	CHANGE A - V		
INDICAT	INDICATOR SCORES			2020	2019		
HEALTH			90%	90%	91%		
QUALITY OF LIFE			80%	79%	78%		
MATERIAL WELLBEING			72%	68% (74%		
FINANCE	FINANCES IN RETIREMENT			60%	60%		
Old-Age	Dependenc	у	56%	56%	55%		
Bank Nor	n-Performir	ng Loans	72%	▼ 84%	83%		
Inflation			100%	100%	- 100%		
Interest Rates			1%	- 1%	1%		
Tax Pressure			9%	v 15%	v 18%		
Governm	Government Indebtedness			- 71%	- 71%		
Governar	nce		92%	92%	92%		

12. Austria

Austria remains at 12th overall this year. It has a higher overall score compared to last year because of higher scores in the Material Wellbeing (9th) and Quality of Life (8th) sub-indices.

Austria has a higher score in the Material Wellbeing subindex because of higher scores in the income equality and income per capita indicators. Austria finishes in the top ten for both of these indicators by ranking eighth in income equality and tenth in income per capita.

Austria moves up two spots to eighth in the Quality of Life sub-index. It has a higher sub-index score compared to last year because of a higher score in the environmental factors indicator. It ranks seventh for environmental factors and tenth for happiness.

Austria has a lower score in the Finances (35th) sub-index compared to last year. It has lower scores in the bank nonperforming loans, tax pressure, old-age dependency and governance indicators. It has the sixth lowest score for the tax pressure indicator and none of its indicators make the top ten.

Austria also has a lower score in the Health (14th) subindex. It has a lower score compared to last year for the life expectancy indicator. It has the seventh highest score for the health expenditure per capita indicator.

	A					
	RANKING			SCORE		
2021	2020	2019	2021	2020	2019	
12	12	14	74%	73%	73%	
	SUB-INDEX AND			С	HANGE 🛦 🗕 🔻	
INDICAT	OR SCORE	ES	2021	2020	2019	
HEALTH	HEALTH			85%	84%	
QUALITY	QUALITY OF LIFE			82%	82%	
MATERIA	MATERIAL WELLBEING			76%	75%	
FINANCE	FINANCES IN RETIREMENT			55%	54%	
Old-Age	Dependenc	у	35%	35%	34 %	
Bank No	n-Performir	ng Loans	61%	• 67%	65 %	
Inflation			100%	100%	- 100%	
Interest I	Interest Rates			1%	1%	
Tax Pres	Tax Pressure			▼ 8%	6%	
Governm	Government Indebtedness			34%	33%	
Governar	nce		89%	89%	89%	

13. Sweden

Sweden moves down two spots to 13th overall this year. It has a lower overall score because of lower scores in all four sub-indices.

Sweden moves down one spot to fifth in the Quality of Life sub-index. It has a lower sub-index score compared to last year because of lower scores in the environmental factors and happiness indicators. It has multiple top ten placements with air quality ranking first, environmental factors ranking fifth and happiness ranking seventh.

Sweden's lower score in the Health (6th) sub-index is due to lower scores in both the life expectancy and health expenditure per capita indicators. It has the eighth highest score for the health expenditure per capita indicator among all GRI countries.

Finances (30th), Sweden's lowest ranking sub-index, also registers a lower score compared to last year. It has lower scores in the bank nonperforming loans, tax pressure and old-age dependency indicators. It has multiple top ten finishes with bank nonperforming loans ranking fourth, governance ranking fifth and government indebtedness ranking tenth. However, it also has the fourth lowest score for the tax pressure indicator among all GRI countries.

Material Wellbeing (21st) is Sweden's last sub-index with a lower score compared to last year. Sweden has a lower score in the sub-index because of a lower score in the employment indicator, where it ranks tenth-to-last.

+			SWEDEN			
RANKING			SCORE			
2021	2020	2019	2021	2020	2019	
13	11	4	73%	74%	77%	
	SUB-INDEX AND			С	HANGE 🗸 🗕 🔻	
INDICAT	INDICATOR SCORES			2020	2019	
HEALTH			88%	89% (88%	
QUALITY OF LIFE			87%	87%	86%	
MATERIA	MATERIAL WELLBEING			69%	72 %	
FINANCE	FINANCES IN RETIREMENT			56%	65%	
Old-Age I	Dependenc	у	27%	27%	28%	
Bank Nor	n-Performir	ng Loans	83%	▼ 89%	96%	
Inflation			100%	- 100%	100%	
Interest Rates			1%	1%	55%	
Tax Pressure			3%	▼ 4%	3%	
Governm	ent Indebte	dness	57%	53%	53%	
Governan	ice		92%	92%	92%	

14. Czech Republic

Czech Republic remains at 14th overall with the same score as last year. An improvement in the Material Wellbeing (4th) sub-index is balanced out by lower scores in the Finances (14th) and Health (28th) sub-indices.

Material Wellbeing at fourth is Czech Republic's highest ranked sub-index. It has a higher sub-index score compared to last year because of higher scores in the income equality and income per capita indicator. It has the highest score among all GRI countries for the employment indicator and the fourth highest score for the income equality indicator.

Czech Republic's lower score in the Finances sub-index is due to lower scores in the tax pressure, bank nonperforming loans, interest rate, old-age dependency and governance indicators. It places in the top ten for the government indebtedness indicator with a ranking of seventh.

Czech Republic also has a lower score in the Health subindex. It has a lower sub-index score due to a lower score in the life expectancy indicator. None of its indicators make the top or bottom ten.

Czech Republic has the same score in the Quality of Life (22nd) sub-index as last year. It has a higher score in the environmental factors indicator but a lower score in the happiness indicator. It has the tenth-lowest score for the environmental factors indicator among all GRI countries.

		CZEC	CH REPUBI	LIC	
	RANKING			SCORE	
2021	2020	2019	2021	2020	2019
14	14	15	73%	73%	72%
	DEX AND		SCORES	С	HANGE 🛦 🗕 🔻
INDICAT	OR SCORE	ES	2021	2020	2019
HEALTH			73%	73%	72%
QUALITY	OF LIFE		68%	68%	67%
MATERIA	L WELLBEI	NG	86% (83%	83%
FINANCE	S IN RETIRI	EMENT	65%	67%	69%
Old-Age	Dependenc	у	30%	32%	▼ 34%
Bank Nor	n-Performir	ng Loans	50%	v 56%	• 67%
Inflation			100%	- 100% (- 100%
Interest Rates			68%	71%	74%
Tax Pressure			17%	▼ 24%	▼ 25%
Government Indebtedness			61%	\$ 58%	58%
Governar	nce		83%	83%	84 %

15. Finland

Finland maintains its placement of 15th overall. It has a lower overall score compared to last year because of lower scores in the Health (20th) and Finances (32nd) sub-indices.

Finland has a lower score in the Health (20th) sub-index due to a lower score in the life expectancy indicator. None of its indicators make the top or bottom ten.

Finland also has a lower score in Finances, its lowest-ranked sub-index. It has lower scores compared to last year for the bank nonperforming loans, old-age dependency, tax pressure and governance indicators. It has the third highest score for the governance indicator but the third lowest score for old-age dependency and the fifth lowest score for the tax pressure indicator.

Finland has a higher score in the Material Wellbeing (20th) sub-index. It has a higher score in both the income equality and income per capita indicators. It has the seventh highest score for the income equality indicator.

Finland has the same score in the Quality of Life (1st) subindex as it did last year. It has a slightly lower score in the environmental factors indicator but no other movements in other sub-indices. It has the highest score for the happiness indicator, the third highest score for air quality and the fourth highest score for water and sanitation.

+	FINLAND						
	RANKING			SCORE			
2021	2020	2019	2021	2020	2019		
15	15	12	72%	73%	75%		
SUB-IND	EX AND OR SCORE	-0	SCORES		HANGE A - Y		
INDICAT	UR SCURE		2021	2020	2019		
HEALTH			82%	83%	83%		
QUALITY	OF LIFE		89%	89%	88%		
MATERIA	L WELLBEII	NG	69%	68%	68%		
FINANCE	S IN RETIRE	EMENT	55%	55%	62%		
Old-Age I	Dependency	у	21%	22%	24%		
Bank Nor	ı-Performin	ng Loans	62%	70%	74%		
Inflation			100%	- 100% (100%		
Interest Rates			1%	1%	45%		
Tax Pressure			5%	5%	3%		
Government Indebtedness			41%	40%	4 1%		
Governan	ice		92%	93%	93%		

16. Slovenia

Slovenia moves up three spots to 16th overall. It has a higher overall score compared to last year because of higher scores in the Material Wellbeing (6th), Quality of Life (23rd) and Health (24th) sub-indices.

Slovenia has a higher score in the Material Wellbeing subindex because of higher scores in all three indicators. It has the third highest score in the income equality indicator among all GRI countries.

Slovenia also improves in the Quality of Life sub-index. It has a higher sub-index score because of a higher score in the environmental factors indicator. It has the second highest score for the biodiversity indicator.

Slovenia's last sub-index improvement is Health. It has higher scores in both the health expenditure per capita and insured health expenditure indicators. It has the fifth highest score for insured health expenditure among all GRI countries.

Slovenia has a lower score in the Finances (21st) subindex. It has lower scores in the tax pressure, bank nonperforming loans and old-age dependency indicators. None of its indicators make the top or bottom ten.

1 4							
	SLOVENIA						
	RANKING			SCORE			
2021	2020	2019	2021	2020	2019		
16	19	21	72%	71%	69%		
SUB-INI	DEX AND		SCORES	С	HANGE 4 - V		
	OR SCORE	ES	2021	2020	2019		
HEALTH			80%	80%	79%		
QUALITY	OF LIFE		67%	67%	63%		
MATERIA	L WELLBEI	NG	82%	77%	72%		
FINANCE	S IN RETIRI	EMENT	61%	62%	• 65%		
Old-Age	Dependenc	у	29%	32%	▼ 34%		
Bank Nor	n-Performir	ng Loans	47%	51%	▼ 68%		
Inflation			100%	- 100%	- 100%		
Interest Rates			37%	37%	70%		
Tax Pressure			15%	v 21%	18%		
Government Indebtedness			38%	37%	35%		
Governar	nce		84%	83 %	83%		

17. United States

The United States moves down one spot to 17th overall. It has a lower overall score because of lower scores in three of the four sub-indices.

The US has a lower score in the Health (17th) sub-index because of a lower score in the life expectancy indicator. It has the highest score for the health expenditure per capita indicator and the fourth highest score for the insured health expenditure among all GRI countries.

Finances (11th), the US's highest ranked sub-index, also has a lower score compared to last year. It has lower scores in the bank nonperforming loans, tax pressure, old-age dependency, governance and government indebtedness indicators. It makes the top ten for both the tax pressure and interest rate indicator, ranking ninth and tenth respectively. However, the US also has the sixth lowest score for the government indebtedness indicator.

The US's last sub-index with a lower score compared to last year is the Quality of Life (21st) sub-index. It has lower scores in both the happiness and environmental factors indicators. It has the seventh lowest score for the environmental factors indicator among all GRI countries.

The US has a higher Material Wellbeing (26th) sub-index score compared to last year because of higher scores in the income equality and income per capita indicators. It has the sixth highest score for the income per capita indicator among all GRI countries.

	MA ME		MACHINE			
	UNITED STATES					
	RANKING			SCORE		
2021	2020	2019	2021	2020	2019	
17	16	18	72%	72%	70%	
SUB-IND	EX AND OR SCORE		SCORES	С	HANGE 🗚 🗕 🔻	
INDICAT	UN SCUNI		2021	2020	2019	
HEALTH			83% (▼ 85%(▼ 86%	
QUALITY	OF LIFE		71%	72%	70%	
MATERIA	L WELLBEI	NG	65%	64%	58%	
FINANCE	S IN RETIRI	EMENT	69%	71%	71%	
Old-Age I	Dependenc	у	43%	45%	4 7%	
Bank Nor	n-Performir	ng Loans	69%	v 81% (v 82%	
Inflation			100%	- 100% (100%	
Interest F	Interest Rates			70%	69%	
Tax Pressure			40%	45 %	47 %	
Governm	Government Indebtedness			24 %	24%	
Governan	ice		86%	87%	87%	

18. United Kingdom

The United Kingdom ranks 18th overall after dropping one spot compared to last year. It has a lower overall score because of lower scores in the Quality of Life (7th), Health (18th) and Finances (29th) sub-indices.

The UK has a lower score in the Quality of Life (7th) subindex because of a lower score in the happiness indicator. It has multiple top ten indicator placements with water and sanitation ranking first, biodiversity ranking fourth and air quality ranking tenth.

The UK's next largest drop is in the Health sub-index. It has a lower sub-index score because of lower scores in the life expectancy and insured health expenditure indicators. None of its indicators make the top or bottom ten.

The UK's last sub-index with a lower score is Finances. It has lower scores in tax pressure, bank nonperforming loan and old-age dependency indicators. It has the tenth highest score for the bank nonperforming loans indicator.

The UK has a higher score in the Material Wellbeing (18th) sub-index. It improves in both the income equality and income per capita indicators. None of its indicators make the top or bottom ten.

	UNITED KINGDOM						
	RANKING			SCORE			
2021	2020	2019	2021	2020	2019		
18	17	16	72%	72%	72%		
	DEX AND OR SCORE	ES	SCORES 2021	2020	HANGE △ - ▼ 2019		
HEALTH			82%	× 83% (83%		
QUALITY	OF LIFE		83%	v 84% (81%		
MATERIA	L WELLBEI	NG	69%	68%	▼ 69%		
FINANCE	S IN RETIRI	EMENT	56%	56%	56%		
Old-Age	Dependenc	у	34%	34%	- 34%		
Bank Nor	n-Performir	ng Loans	70%	76%	77%		
Inflation			100%	100%	100%		
Interest Rates			1%	- 1%	- 1%		
Tax Pressure			20%	▼ 28%	27 %		
Governm	ent Indebte	dness	31%	30%	30%		
Governar	ice		88%	88%	88%		

19. Israel

Israel ranks 19th overall this year. It has a slightly higher overall score because of a higher score in the Material Wellbeing (22nd) sub-index.

Israel has a higher score in the Material Wellbeing subindex because of higher scores in all three indicators. None of the indicators in the sub-index make the top or bottom ten.

Finances (13th), Israel's highest ranked sub-index, has a lower score compared to last year. It has lower scores in the bank nonperforming loans, tax pressure, interest rate, old-age dependency and government indebtedness indicators.

Israel also has a lower score in the Quality of Life (20th) sub-index. Its lower sub-index score is due to lower scores in both the environmental factors and happiness indicators. None of its indicators make the top ten and it has the fifth lowest score for the biodiversity indicator among all GRI countries.

Israel's last sub-index with a lower score is Health (23rd). The lower sub-index score is because of a lower score in the life expectancy indicator. However, it still manages a top ten finish in this indicator by ranking ninth among all GRI countries.

*	ISRAEL						
	RANKING			SCORE			
2021	2020	2019	2021	2020	2019		
19	18	17	71%	71%	71%		
	DEX AND	-0	SCORES	С	HANGE A = V		
INDICAT	OR SCORE		2021	2020	2019		
HEALTH			80%	80%	79%		
QUALITY	OF LIFE		72%	72%	71%		
MATERIA	L WELLBEI	NG	67%	65%	66%		
FINANCE	S IN RETIRI	EMENT	67%	68%	70%		
Old-Age	Dependenc	у	56%	57%	▼ 59%		
Bank Nor	n-Performir	ng Loans	63%	73%	76%		
Inflation			100%	- 100% (100%		
Interest Rates			69%	71%	72%		
Tax Pressure			25%	29%	▼ 32%		
Government Indebtedness			40%	41%	41%		
Governar	nce		80%	80%	80%		



Malta ranks 20th overall in this year's GRI. It has a lower overall score compared to last year because of lower scores in the Health (26th), Quality of Life (28th) and Finances (15th) sub-indices.

Malta has a lower score in the Health sub-index because of lower scores in the life expectancy and health expenditure per capita indicators. It has the eighth lowest score for the insured health expenditure indicator among all GRI countries.

Malta also has a lower score in the Quality of Life (28th) sub-index. Its lower sub-index score is due to a lower score in the happiness indicator. It has the seventh highest score for water and sanitation but also the second lowest score for the environmental factors indicator.

Malta's last sub-index with a lower score compared to last year is Finances. It has lower scores in the bank nonperforming loans, governance and old-age dependency indicators. It has the tenth lowest score for the old-age dependency indicator among all GRI countries.

Malta manages a higher score in the Material Wellbeing (7th) sub-index. It has higher scores in all three indicators and has the eighth highest score for the employment indicator.

	MALTA					
	RANKING			SCORE		
2021	2020	2019	2021	2020	2019	
20	20	19	70%	71%	69%	
SUB-IND			SCORES	CI	HANGE ▲ • ▼	
INDICAT	OR SCORE	ES	2021	2020	2019	
HEALTH			76%	78%	75%	
QUALITY	OF LIFE		63%	65%	63%	
MATERIA	L WELLBEI	NG	79%	76%	76%	
FINANCE	S IN RETIRI	EMENT	65%	66%	66%	
Old-Age [Dependenc	у	28%	2 9%	▼ 33%	
Bank Non	ı-Performir	ng Loans	45%	52 %	55%	
Inflation			100%	100%	100%	
Interest F	Interest Rates			N/A	N/A	
Tax Pressure			36%	29%	26%	
Governme	Government Indebtedness			49%	46%	
Governan	ce		82%	▼ 85%	85%	

21. Belgium

Belgium ranks 21st overall in this year's GRI. It has a lower score compared to last year because of lower scores in the Quality of Life (18th), Health (16th) and Finances (39th) sub-indices.

Belgium's largest drop in score is the Quality of Life subindex. The lower sub-index score is due to a lower score in happiness and environmental factors indicators. It has the ninth highest score for the biodiversity indicator.

Belgium also has a lower score in the Health sub-index. It has lower scores in both the life expectancy and insured health expenditure indicators. None of its indicators make the top or bottom ten.

Finances is the last sub-index with a lower score compared to last year. It has a lower score compared to last year because of lower scores in the bank nonperforming loans, tax pressure and old-age dependency indicators. It has the third lowest score for the tax pressure indicator and the seventh lowest score for the government indebtedness indicator.

Belgium has a higher score in the Material Wellbeing (12th) sub-index compared to last year. The higher sub-index score is due to higher scores in the income equality and income per capita indicators. It has the fifth highest score for the income equality indicator among all GRI countries.

1	BELGIUM						
	RANKING			SCORE			
2021	2020	2019	2021	2020	2019		
21	21	20	69%	70%	69%		
	DEX AND OR SCORE	-0	SCORES	d	HANGE 🛦 🗕 🔻		
INDICAT	UR SCURE	-5	2021	2020	2019		
HEALTH			83%	85 % (83%		
QUALITY	OF LIFE		74%	76%	74%		
MATERIA	L WELLBEI	NG	76%	73%	73%		
FINANCE	S IN RETIRI	EMENT	50%	51% (51%		
Old-Age I	Dependenc	у	32%	33%	3 4%		
Bank Nor	n-Performir	ng Loans	55%	62 %	V 64%		
Inflation			100%	100%	- 100%		
Interest Rates			1%	1%	1%		
Tax Pressure			2%	3 %	- 3%		
Government Indebtedness			26%	25%	25%		
Governar	ice		86%	86%	86%		



23. South Korea

South Korea moves down one spot to 23rd overall in this year's GRI. It has a lower overall score because of lower scores in the Quality of Life (37th) and Finances (5th) sub-indices.

South Korea's largest drop in sub-index score is Quality of Life. Its lower sub-index score is due to lower scores in both the environmental factors and happiness indicators. It has the fourth lowest score for the environmental factors indicator, the sixth lowest score for the happiness indicator and the ninth lowest score for the biodiversity indicator.

Finances, South Korea's highest ranked sub-index, also has a lower score compared to last year. The lower sub-index score is due to lower scores in the tax pressure, oldage dependency and interest rate indicators.

South Korea has a higher score in the Material Wellbeing sub-index because of higher scores in both the income equality and income per capita indicators. None of its indicators make the top or bottom ten.

South Korea manages a higher score in the Health (25th) sub-index. The higher sub-index score is due to higher scores in the life expectancy, insured health expenditure and health expenditure per capita indicators.

	KOREA, REP.						
	RANKING			SCORE			
2021	2020	2019	2021	2020	2019		
23	22	24	67%	68%	69%		
SUB-IND	DEX AND OR SCORE	ES	SCORES		HANGE 4 = ¥		
MUIOAI			2021	2020	2019		
HEALTH			77%	76%	^ 72%		
QUALITY OF LIFE			56%	▼ 60%	56%		
MATERIAL WELLBEING			65%	62%	74%		
FINANCE	S IN RETIR	EMENT	73%	75%	75%		
Old-Age I	Dependenc	у	54%	57%	60%		
Bank Nor	n-Performir	ng Loans	100%	100%	97%		
Inflation			100%	100%	100%		
Interest Rates			70%	71%	71%		
Tax Pressure			30%	▼ 46%	46%		
Government Indebtedness			53%	52%	v 54%		
Governan	ice		83%	83%	82%		

24. Estonia

Estonia remains at 24th overall this year. It has a lower overall score because of lower scores in the Finances (7th) and Health (32nd) sub-indices.

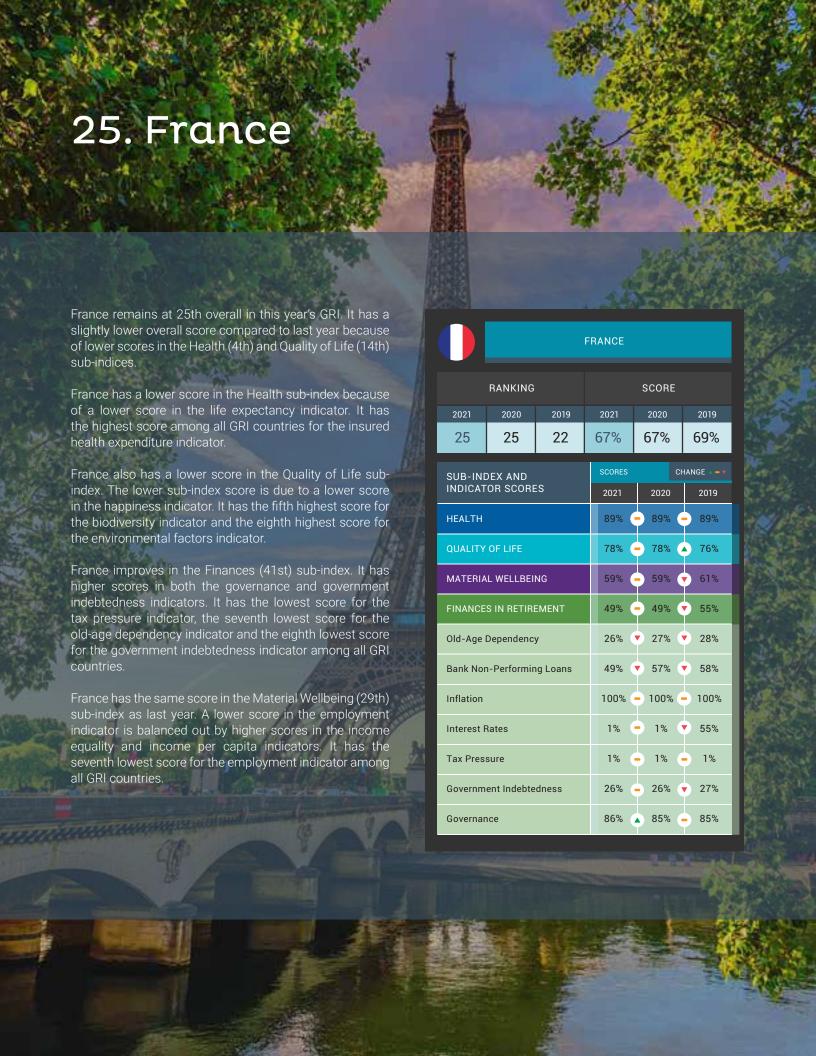
Finances, Estonia's highest ranked sub-index, registers a lower score compared to last year. It has a lower score because of lower scores in the bank nonperforming loans, tax pressure and old-age dependency indicators. It has the highest score for the government indebtedness indicator and the second highest score for the bank nonperforming loans indicator among all GRI countries.

Estonia also has a lower score in the Health sub-index. The lower sub-index score is due to lower scores in the life expectancy and insured health expenditure indicators. None of its indicators make the top or bottom ten.

Estonia has a higher score in the Material Wellbeing (25th) sub-index compared to last year. It has a higher sub-index score because of higher scores in the income equality and income per capita indicators. None of its indicators make the top or bottom ten.

Estonia also has a higher score in the Quality of Life (24th) sub-index. It improves in both the environmental factors and happiness indicators. It has the tenth highest score for the biodiversity indicator among all GRI countries.

		ESTONIA						
		RANKING			SCORE			
	2021	2020	2019	2021	2020	2019		
	24	24	26	67%	67%	65%		
i		DEX AND		SCORES	С	HANGE A - Y		
	INDICAT	OR SCORE	:S	2021	2020	2019		
ı	HEALTH			67%	67%	65%		
ı	QUALITY	OF LIFE		66%	65%	61%		
ı	MATERIA	L WELLBEI	NG	65%	64%	62%		
ı	FINANCE	S IN RETIRI	EMENT	71%	74%	71%		
ı	Old-Age	Dependenc	у	29%	30%	3 1%		
ı	Bank Nor	n-Performir	ng Loans	90%	99%	74%		
ı	Inflation			100%	100%	100%		
ı	Interest F	Rates		N/A	N/A	N/A		
	Tax Pressure			21%	v 28%	23 %		
	Government Indebtedness			100%	- 100%	100%		
	Governar	nce		87%	87%	86%		



Retirement demographics of BRICs

The four BRIC countries - Brazil, Russia, India and China - hold a unique place among the countries in the Global Retirement Index. While most of the rest of the countries have older populations and relatively late stages of economic growth, the BRICs typically have a younger population and are in the earlier stages of economic development.

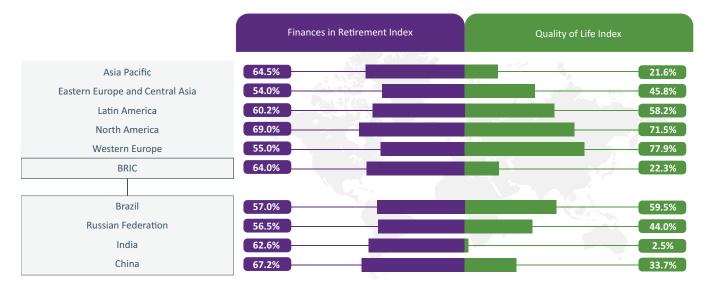
As of 2019, the BRIC countries are home to approximately 40.7% percent of the world's population, and those 65 years or older in these nations account for approximately 3.8% of the world's total population. The BRIC countries also account for about 21.9% of GDP globally.

The old-age dependency ratio measures the number of those aged above 65 years as a share of those between 15 and 64 years. In the BRIC countries those 65+ make up a smaller portion of the overall population compared to developed economies. Brazil, China and India have a much lower old-age dependency ratio than most developed countries at 13.3%, 16.2% and 9.5% respectively. Russia has a higher elderly population at 22.6%, but still below the average of an OECD member (26.3%) or of a high-income country (28.0%).

The BRICs' favorable old-age dependency ratios, however, highlight their less than stellar performance in the Health index. In particular, India is last and Russia is second to last in life expectancy at birth (71 years and 73 years, respectively). Brazil (76 years) and China (77 years) perform better but still reside in the bottom ten countries studied.

While rising old-age dependency ratios could suggest people are living longer due to improvements in health and healthcare, it also highlights the need for the BRIC economies to continue to grow in order to support those in retirement. Poverty of those aged over 65 in the BRIC countries proves to be a real problem, especially in India and China. In China, 37.7% of those aged 66-75 have incomes less than 50% of the median equivalized household disposable income. This grows to 41.5% of those over age 75.6 In comparison, this is just 11.6% and 16.2% for OECD members. Brazil, which has a strong social safety net system, has less poverty among their retirees than OECD members.

As a group, the BRICs continue to outperform in the Finances in Retirement index. Their population-weighted regional average Finances in Retirement Index score is higher than Latin America, Western Europe, and Eastern Europe and Central Asia. Russia rises six spots to 27th, China and India rise one spot to 12th and 18th respectively and Brazil remains at 26th. Notably, China performs well in tax pressure (1st) and old-age dependency (6th) but is 41st in governance.



⁶ Source: OECD Income Distribution Database

38. Russian Federation

Russia remains at 38th overall this year. It has a lower score compared to last year because of lower scores in the Quality of Life (41st) and Health (43rd) sub-indices.

Russia has a lower score in the Quality of Life subindex because of lower scores in the happiness and environmental factors indicators. All of its sub-indicators finish in the bottom ten with environmental factors ranking third lowest, happiness ranking fourth lowest, biodiversity and water and sanitation ranking sixth lowest and air quality ranking ninth lowest.

Russia also has a lower score in the Health sub-index. Its lower sub-index score is due to lower scores in the life expectancy and health expenditure per capita indicators. It ranks in the bottom ten for all indicators with life expectancy ranking second lowest, insured health expenditure ranking fifth lowest and health expenditure per capita ranking sixth lowest

Russia has the largest score increase in the Material Wellbeing (32nd) sub-index. It improves its score because of better performances compared to last year in the income equality and employment indicators. Two of its indicators make the bottom ten with income per capita ranking eighth lowest and income equality ranking ninth lowest.

Russia also has a higher score in the Finances (27th) subindex compared to last year. It has higher scores in the tax pressure, governance and government indebtedness indicators. It has multiple top ten finishes with government indebtedness ranking second, tax pressure ranking third and interest rates ranking fifth but also finishes in the bottom ten for governance (lowest among all GRI countries) and bank nonperforming loans (third lowest).

		RUSSIA	N FEDERA	ATION				
	RANKING			SCORE				
2021	2020	2019	2021	2020	2019			
38	38	38	48%	49%	46%			
	DEX AND		SCORES	С	HANGE 🗸 🕶 🔻			
INDICAT	OR SCORE	ES	2021	2020	2019			
HEALTH			38%	41%	40%			
QUALITY	OF LIFE		44%	47%	45%			
MATERIA	L WELLBEI	NG	56%	54%	52%			
FINANCE	S IN RETIRI	EMENT	56%	55%	47%			
Old-Age	Dependenc	у	49%	52%	55%			
Bank Nor	n-Performir	ng Loans	24%	29%	30%	ı		
Inflation			31%	31%	3%			
Interest Rates			82%	81%	83%	ı		
Tax Pressure			88%	54%	▼ 60%			
Governm	ent Indebte	dness	85%	84%	79%			
Governar	nce		60%	59%	58%			

39. China

China remains at 39th overall in this year's GRI. It has a higher score compared to last year because of higher scores in the Material Wellbeing (36th), Health (41st) and Quality of Life (43rd) sub-indices.

China has a higher score in the Material Wellbeing subindex because of higher scores in the income equality and income per capita indicators. These two indicators also make the bottom ten, with income per capita finishing fourth lowest and income equality ranking eighth lowest.

China also improves in the Health sub-index. It has higher scores in both the health expenditure per capita and insured health expenditure indicators. It ranks in the bottom ten for all three indicators with health expenditure per capita ranking second lowest, insured health expenditure ranking seventh lowest and life expectancy ranking eighth lowest.

China's last sub-index improvement is Quality of Life. Its improvement is mainly due to a higher score in the happiness and environmental factors indicators. All of its indicators finish in the bottom ten with biodiversity and air quality both ranking second lowest, happiness ranking third lowest, environmental factors ranking fifth lowest and water and sanitation ranking ninth lowest.

China has a lower score in the Finances (12th) sub-index this year. The lower sub-index score is due to lower scores in the bank nonperforming loans, old-age dependency, interest rates, government indebtedness and governance indicators. It has the highest score for the tax pressure indicator among all GRI countries and the sixth highest score for old-age dependency but also has the fourth lowest score for the governance indicator.

*;	CHINA					
	RANKING			SCORE		
2021	2020	2019	2021	2020	2019	
39	39	39	48%	47%	42%	
SUB-IND	DEX AND OR SCORE	ES	SCORES 2021	2020	HANGE 4 - V	
HEALTH					49%	
QUALITY	OF LIFE		34%	- 34% (30%	
MATERIA	L WELLBEI	NG	47% (45%	32%	
FINANCE	S IN RETIRI	EMENT	67%	68%	69%	
Old-Age I	Dependenc	у	70%	73%	75%	
Bank Nor	n-Performir	ng Loans	56%	64%	67%	
Inflation	Inflation			- 100%	100%	
Interest F	Interest Rates			74%	76%	
Tax Press	Tax Pressure			82%	80%	
Governm	Government Indebtedness			4 6%	4 9%	
Governan	ice		64%	65%	64%	

43. Brazil

Brazil remains at 43rd overall in this year's GRI. It has a lower score compared to last year because of lower scores in all four sub-indices.

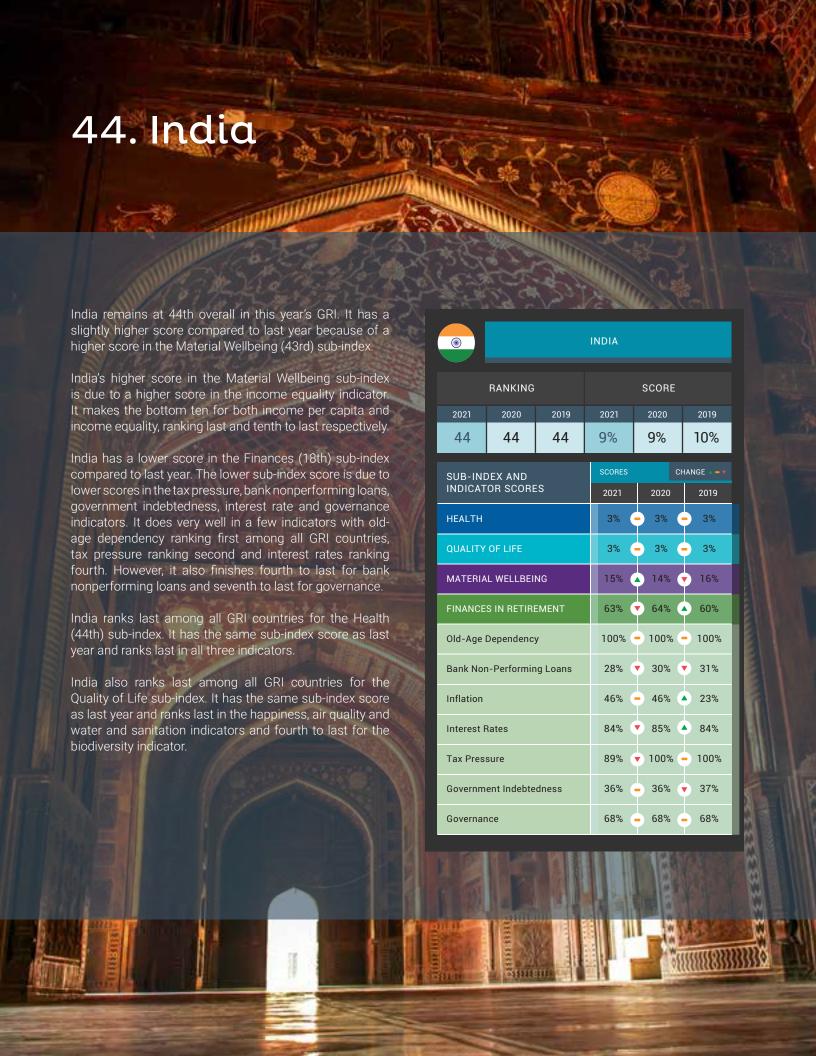
Brazil has a lower score in the Health (39th) sub-index because of lower scores in all three indicators. It finishes in the bottom 15 for all indicators with life expectancy ranking fourth lowest, health expenditure per capita ranking seventh lowest and insured health expenditure ranking 15th lowest.

Brazil's lower score in the Quality of Life (34th) sub-index is due to a lower score in the happiness indicator. It ranks second for the environmental factors indicator but also has the second lowest score in water and sanitation and ranks seventh lowest for air quality indicator.

The sub-index with the next largest drop in score is Finances (26th). It has a lower sub-index score compared to last year because of lower scores in the tax pressure, old-age dependency, bank nonperforming loans and government indebtedness indicators. It has the highest score for the interest rate indicator and the fifth highest score for old-age dependency but has the fifth lowest score for the governance indicator.

Brazil has a lower score in the Material Wellbeing (44th) sub-index due to lower scores in the employment and income per capita indicators. It makes the bottom five in all indicators with income equality ranking last, income per capita ranking second to last and employment ranking fourth to last.

6	BRAZIL						
	RANKING			SCORE			
2021	2020	2019	2021	2020	2019		
43	43	43	34%	36%	36%		
	SUB-INDEX AND				HANGE A - V		
INDICAT	INDICATOR SCORES			2020	2019		
HEALTH	HEALTH			54%	▼ 55%		
QUALITY	OF LIFE		59%	61%	57%		
MATERIA	L WELLBEI	NG	8%	8%	10%		
FINANCE	S IN RETIRI	EMENT	57%	58%	56%		
Old-Age	Dependenc	у	82%	85%	87%		
Bank No	n-Performir	ng Loans	52%	53%	57%		
Inflation			40%	40%	17%		
Interest I	Interest Rates			100%	100%		
Tax Pres	sure		21%	30%	29%		
Governm	ent Indebte	dness	29%	29%	31%		
Governar	nce		67%	66%	67%		



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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 Expe	Life Expectancy Index	GEOMEAN	Life expectancy at birth	1	Wold Health Organization	2019	Sample Maximum (84.26 years, Japan)	Sample Minimum (70.79 years, India)	None
	Health Expenditure Per Capita Index	GEOMEAN	Current health expenditure per capita, PPP (current international \$)	1	World Bank WDI 2021	2018	Sample Maximum (\$10,623.85, USA)	Sample Minimum (\$275.13, India)	Natural Logarithm
Health Index	Non-Insured Health Expenditure Index	GEOMEAN	Out-of-pocket expenditure (% of current health expenditure)	1	World Bank WDI 2021	2018	Sample Minimum (9.25%, France)	100%	None
Material Wellbeing Index	Income Equality Index	GEOMEAN	GINI Index	1	Eurostat, OECD, World Bank WDI 2021, CIA World Factbook	Between 2011 and 2019 depending on Country	Sample Minimum (22.80, Slovak Republic)	Sample Maximum (53.90, Brazil)	Natural Logarithm
	Income per Capita Index	GEOMEAN	GNI per capita, PPP (current international \$)	1	World Bank WDI 2021	2019	Sample Maximum (\$92,270, Singapore)	Sample Minimum (\$6,920, India)	Natural Logarithm
	Unemployment Index	GEOMEAN	Unemployment (% of total labor force) (modeled ILO estimate)	1	World Bank WDI 2021	2020	3% Unemployment	Sample Maximum (15.50%, Greece)	Natural Logarithm
[:::	Institutional Strength Index	0.5	Average of World Bank Governance Indicators	1	World Bank Worldwide Governance Indicators 2020	2019	Maximum on Scale (2.5)	Minimum on Scale (-2.5)	Natural Logarithm
		05	Age dependency ratio, old (% of working age population)	GEOMEAN	World Bank WDI 2021	2019	10%	50%	Natural Logarithm
Finances in			Bank nonperforming loans to total gross loans (%)	GEOMEAN	IMF Financial Soundness Indicators	2018, 2019, 2020	Sample Minimum (0.24%, South Korea)	Sample Maximum (29.80%, Greece)	Natural Logarithm
Retirement	Investment Environment		Inflation, consumer prices (% annual)	GEOMEAN	World Bank WDI 2021	2015 to 2019	2%	Sample Maximum (11.62%, Turkey)	Natural Logarithm
Index	Index		Real interest rate (%)	GEOMEAN	World Bank WDI 2021, OECD	2015 to 2019	20%	0%	Natural Logarithm
			Public Debt (% of GDP)	GEOMEAN	CIA World Factbook	2020	Sample Minimum (8.40%, Estonia)	Sample Maximum (237.40%, Japan)	Natural Logarithm
			Tax Burden (% of GDP)	GEOMEAN	Country statistical agencies, central banks, and ministries of finance economy	2020	Sample Minimum (9.42%, China)	Sample Maximum (46.09%, France)	Natural Logarithm
	Air Quality Index	0.125 GEOMEAN	PM2.5 Exposure	0.55	Environmental Performance Index 2020	2019	Sample Minimum (71.68, Iceland)	Sample Maximum (2,706.53, India)	Natural Logarithm
			Household Solid Fuels	0.40	Environmental Performance Index 2020	2019	Sample Minimum (0.22, Switzerland)	Sample Maximum (1,837.97, India)	Natural Logarithm
			Ozone Exposure	0.05	Environmental Performance Index 2020	2019	Sample Minimum (2.66, Ireland)	Sample Maximum (293.93, India)	Natural Logarithm
	Water and Sanitation	0.125 GEOMEAN	Unsafe Drinking Water	0.6	Environmental Performance Index 2020	2019	Sample Minimum (1.68, Greece)	Sample Maximum (1,425.45, India)	Natural Algorithm
	Index		Unsafe Sanitation	0.4	Environmental Performance Index 2020	2019	Sample Minimum (0.41, United Kingdom)	Sample Maximum (815.66, India)	Natural Algorithm
	Biodiversity and Habitat Index	0.125 GEOMEAN	Marine Protected Areas	0.2	Environmental Performance Index 2020	2020	10% of country's exclusive economic zone (EEZ) designated as a marine protected area	0%	None
Quality of Life Index			Terrestrial Protected Areas (National Biome Weights)	0.2	Environmental Performance Index 2020	2020	17% protection for all biomes within its borders	0%	None
			Terrestial Protected Areas (Global Biome Weights)	0.2	Environmental Performance Index 2020	2020	17% global protection goal	0%	None
			Species Protection Index	0.1	Environmental Performance Index 2020	2019	100%	0%	None
			Protected Areas Representativeness Index	0.1	Environmental Performance Index 2020	2016	0.31	Sample Minimum (0.04, Singapore)	None
			Biodiversity Habitat Index	0.1	Environmental Performance Index 2020	2015	1.0	0.0	None
			Species Habitat Index	0.1	Environmental Performance Index 2020	2014	100.0	Sample Minimum (96.4, Brazil)	None
	Environmental Factors Index	0.125 GEOMEAN	CO2 emissions per capita	0.33	US Energy Information Administration (EIA), World Bank WDI 2021	2017	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 2021	2017	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 2021	2017	0 grams CO2 per KWh	8.453269722	Natural Logarithm
			Renewable electricity	0.165	US Energy Information Administration (EIA), World Bank WDI 2021	2018	100% electricity from renewable sources	0%	None
	Happiness Index	0.5 GEOMEAN	Happiness (0-10)	1	World Happiness Report 2021	2020	Sample Maximum (7.84, Finland)	Sample Minimum (3.82, 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 **Finances in Retirement Index Quality of Life 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 or lower than the lower performance benchmark and 1 equal or higher than the target.

The general formula to normalize the indicators is then given

Observed value - lower performance benchmark Indicator = Target - 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), most indicators are transformed into logarithms² 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 mean³ 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

t = target or sample maximum

m = lower performance benchmark or sample minimum

x = value of the variable

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

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

³ Geometric mean is a representation of the typical value or central tendency of a series of numbers calculated as the nth root of the product of n numbers. Geometric mean = $\sqrt[4]{x_1} \times x_2 \times ... \times x_n$

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 =

⁵ See Constructing the Global Retirement Index on page 65.

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

- The Health in Retirement Index: this sub-index is obtained by taking the geometric mean of the following indicators:
 - Life expectancy Index: obtained using data from the World Health Organization. The target for this indicator is the sample maximum which is equal to 84.26 years, and the low performance benchmark is equal to 70.79 years, a figure observed as the sample minimum.
 - Health expenditure per capita Index: obtained using data on current health expenditure per capita, PPP (current international \$) from WB's WDI 2021. The target set for this indicator is the sample maximum, egual to \$10,623.85 USD, and the low performance benchmark is equal to the sample minimum of \$275.13. The indicator is transformed into logarithms, as the marginal returns to extra expenditure are decreasing.
 - Non-insured health expenditure Index: 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 expenditure (percentage of current health expenditure), included in the WB's WDI 2021. The target for this indicator is equal to the sample minimum of 9.25% and the low performance benchmark is equal to 100%, which means that none of the population is covered by health insurance.
- 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:
 - 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 2021. 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 \$92,270 USD, and the low performance benchmark is equal to the sample minimum of \$6,920 USD. Logarithmic transformation is applied to calculate the indicator.
 - 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 Eurostat, the Organization for Economic Co-operation and Development (OECD), the WB's WDI 2021 and the CIA World Factbook. The target is set at 22.80, which is the sample minimum. The low performance benchmark is set at 53.90, which is the sample maximum. The index is presented in a logarithmic form.
- Unemployment Index: a measure of unemployment is 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 15.50%, 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 2021.
- 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.
 - Institutional Strength Index: 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 (2020 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.

- Investment Environment Index: this is calculated as the geometric mean of the following indicators:
 - 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 2021. The target value is equal to 10%, which reflects healthy demographics, where for every old-age dependent there are 10 people in the working force. The low performance benchmark is equal to 50%, as it is potentially unsustainable to have less 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 2021. The value for each country is the five-year average from 2015 to 2019. 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 11.62%. 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, and in turn increase 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 2021 and is completed from the OECD.^{6,7} The value for each country is the five-year average from 2015 to 2019. 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 is set at the sample minimum of 9.42% of GDP while the low performance benchmark is the sample maximum of 46.09% of GDP. This indicator is calculated in logarithmic form.
- 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 IMF Financial Soundness Indicators database. The target for this index is set equal to the sample minimum of 0.24% and the low performance benchmark is the sample maximum of 29.80%.
- VI. Government indebtedness Index: 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 8.40% and the low performance benchmark is the sample maximum of 237.40%.
- 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.

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, Latvia, Lithuania, Luxembourg, Netherlands, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, and Sweden. Real interest rates are calculated by subtracting inflation from the long-term interest rate.

- 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 2018-2020. The indicator is presented in the logarithmic form. The target is set at the sample maximum, which is an average score of 7.84, and the low performance benchmark is set at the sample minimum of 3.82.
- 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.
 - I. Air quality Index: this index is calculated as the weighted average of PM2.5 exposure (55% weight), household solid fuels (40% weight), and ozone exposure (5% weight). The data is obtained from EPI 2020.
 - II. Water and sanitation Index: captures the level of infrastructure providing people with safe drinking water and safe sanitation. This index is calculated as the weighted average of the two indicators with water weighing 60% and sanitation weighting 40% (after logarithms transformation). Targets are the sample minimums of 1.68 for unsafe drinking water and 0.41 for unsafe sanitation, and the low performance benchmarks are the sample maximums of 1,425.45 for unsafe drinking water and 815.66 for unsafe sanitation. The data used is obtained from EPI 2020.

- III. Biodiversity and habitat Index: 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 is calculated as the weighted average of marine protected areas (20% weight), national terrestrial protected areas (20% weight), global terrestrial protected areas (20% weight), the species protection index (10% weight), the protected areas representativeness index (10% weight), the biodiversity habitat index (10% weight) and the species habitat index (10% weight). The data is obtained from EPI 2020.
- 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. The index is calculated as the 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 US. Energy Information Administration (EIA) and the WB's WDI 2021.

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)⁸ 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 on 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.

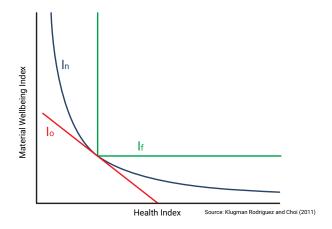
In the end, each of the 44 countries is awarded a score between 0% and 100% for their suitability and convenience for retirees. A score of 100% would present the ideal country to retire to, with a great healthcare system and an outstanding health record, a very high quality of life and a well-preserved 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:

 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 (i.e., 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): this is 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.

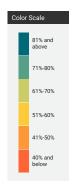
The geometric mean also offers an advantage over the arithmetic mean and other aggregation methods in that the results do not vary due to differences in the scales in which the variables are measured.



⁸ Klugman, Rodriguez and Choi (2011), "The HDI 2010: New Controversies, Old Critiques", Human Development Research Paper 2011/1, UNDP, New York

Appendix B: Full Rankings

Full Rankings: Global Retirement Index 2021							
Rank	Country	Health Index	Finances in Retirement Index	Quality of Life Index	Material Wellbeing Index	Global Retirement Index	
1	Iceland	86%	70%	85%	92%	83%	
2	Switzerland	88%	75%	87%	75%	81%	
3	Norway	90%	58%	87%	90%	80%	
4	Ireland	87%	71%	80%	77%	78%	
5	Netherlands	87%	56%	80%	87%	76%	
6	New Zealand	84%	75%	82%	66%	76%	
7	Australia	87%	74%	77%	67%	76%	
8	Germany	87%	55%	80%	83%	75%	
9	Denmark	85%	54%	87%	78%	75%	
10	Canada	86%	69%	75%	69%	75%	
11	Luxembourg	90%	59%	80%	72%	74%	
12	Austria	85%	54%	83%	77%	74%	
13	Sweden	88%	55%	87%	69%	73%	
14	Czech Republic	73%	65%	68%	86%	73%	
15	Finland	82%	55%	89%	69%	72%	
16	Slovenia	80%	61%	67%	82%	72%	
17	United States	83%	69%	71%	65%	72%	
18	United Kingdom	82%	56%	83%	69%	72%	
19	Israel	80%	67%	72%	67%	71%	
20	Malta	76%	65%	63%	79%	70%	
21	Belgium	83%	50%	74%	76%	69%	
22	Japan	90%	49%	66%	73%	68%	
23	Korea, Rep.	77%	73%		65%	67%	
24	Estonia	67%	71%	66%	65%	67%	
25	France	89%	49%	78%		67%	
26	Portugal	75%	60%	65%	61%	65%	
27	Poland	64%	63%		76%	65%	
28	Singapore	81%	77%	50%	52%	64%	
29	Slovak Republic	65%	53%	63%	74%	63%	
30	Cyprus			64%	58%	63%	
31	Italy	81%	53%	72%	49%	62%	
32	Spain	82%	61%	74%	35%	60%	
33	Hungary	57%	49%	55%	75%	58%	
34	Chile	68%	73%		37%	58%	
35	Lithuania		55%	62%	56%	57%	
36	Latvia	49%				54%	
37	Mexico	45%	63%		42%	51%	
38	Russian Federation	38%		44%	56%	48%	
39	China	49%	67%	34%	47%	48%	
40	Colombia		62%	59%	19%	45%	
41	Greece	68%	46%		15%	41%	
42	Turkey		43%	34%	26%	39%	
43	Brazil		57%	59%	8%	34%	
44	India	3%	63%	3%	15%	9%	



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