



THE FUTURE IS TODAY

WHY TRULY LONG-TERM SOVEREIGN RATINGS
ARE NEEDED NOW



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Abstract

Credit rating agencies' 'long-term' sovereign ratings supposedly reflect credit risk up to ten years. That time horizon is designed to assess fundamental risks through an economic cycle. But the biggest risks on the horizon to sovereign solvency, such as climate and demographic change, are not cyclical. They are structural. And they are long-term. The risks are plainly more elevated as we move out the yield curve.

The time has come to make long-term ratings truly long-term. Investors deserve a more reliable measure of sovereign credit risks beyond the next few years. One solution would be a regulatory requirement for agencies to issue 'truly-long-term' sovereign ratings, distinct from their current so-called 'long-term ratings'. Failing to do so would bar them from rating government bonds above a certain initial maturity, e.g., 10 years.

The Financial Stability Board (FSB) should provide the required leadership to bring about this change. Through its prior work on climate-related financial disclosure, the FSB has the competency and the credibility to shift the debate. Changes like the introduction of truly-long-term ratings could take years until full implementation. In the meantime, the unmeasured credit risks will mount inexorably.

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1. Long-term credit challenges are edging closer

Our century is characterised by two separate challenges. Both are without precedent in recent history, and both will take decades to fully unfold. What's more, our societies are progressively running out of time to effectively and comprehensively deal with these challenges. They are the megatrends of demographic change and climate change.

First, the populations of many societies, especially in Europe and Asia, are inexorably growing older. Working age populations will shrink and have done so already in a rising number of countries, with Italy and Japan being two prominent examples. In short, the cohorts of the elderly will swell. This will not only reduce ageing economies' growth potential. It will also put mounting pressure on public finances. Budgets will have to play a pivotal role in the financing of healthcare, pensions, and long-term care to arrest rising poverty and inequality and, more broadly, to keep the post-war social contract intact. The Covid-19 crisis made abundantly clear that the buck stops with governments. When the social fabric is under strain, the state will be called in to the rescue. Given the dimension of the various challenges associated with greying societies, sovereign creditworthiness and ratings will feel the pain. Reneging or otherwise extricating oneself from the implicit or explicit promises made to an ageing citizenry may be next to impossible. Especially in democracies, where the median age of voters is relentlessly on the rise. This will exacerbate the weight of senior citizens in the national vote cycle beyond their higher voter participation rates.¹

Estimates by S&P Global Ratings of 2016 indicate that the average sovereign rating of the 58 sovereigns analysed will decline significantly between 2020 and 2050. Those changes are driven by a decline in the economy's growth potential as the workforce shrinks and ages, exacerbating the rise in government debt and deficits. Unless policies are changed, the share of sovereigns with a rating at least in the 'A'-category will be cut by more than half from over 60% to 30%.² If demographic change were to lead to an intergenerational distribution battle, institutional stability and governance standards could weaken, adding to downgrade pressure. Contrary to common perceptions, demographic change can inflict fiscal stresses on rich and poor countries alike. S&P concluded "that the need to alter demographically driven budget trajectories is as pressing for some emerging market sovereigns as it is for sovereigns with advanced economies." More recently, [Moody's](#) arrived at similar conclusions: population ageing will lead to new or wider government financing gaps and may challenge debt affordability.

Secondly, climate change will also place additional pressure on sovereign ratings. For some countries, significantly so. Contrary to what some in the rich world may want to believe, the strain will also be felt by advanced economies and will go beyond isolated freak weather events (floods, heatwaves, forest fires), as experienced recently by several European countries. Climate change is much harder to integrate into sovereign risk models than demographic

¹ For national examples see: [Statistics Sweden](#), "Analysis of voter turnout in the 2019 European Parliament election", 26 June 2020; [The Federal Returning Officer](#) ("Bundeswahlleiter"), "2019 European Election: 60-plus generation has gained influence", 2 October 2019.

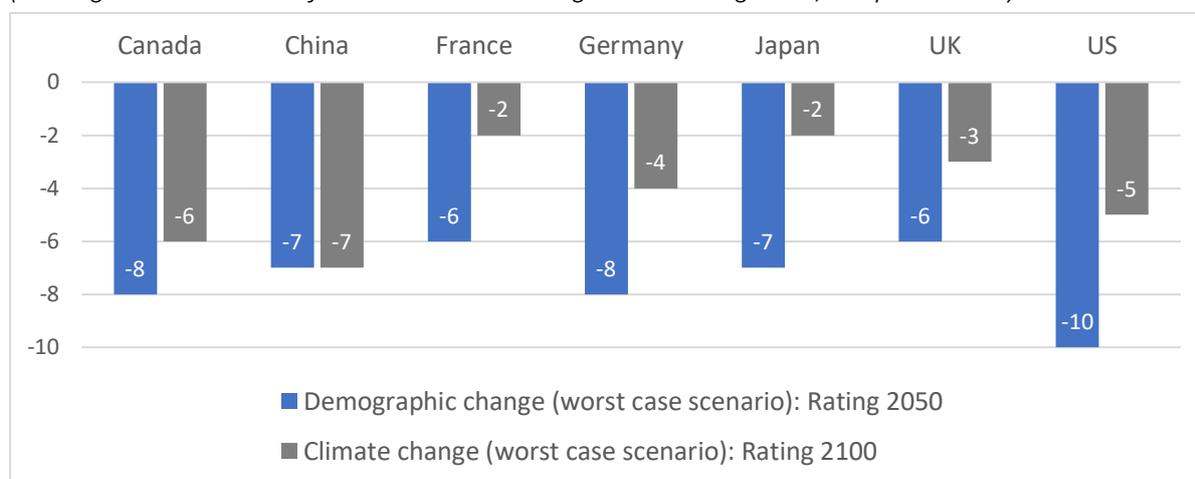
² M. Mrsnik and M. Kraemer (2016), "Global Aging 2016: 58 Shades of Gray", S&P Global Ratings, 28 April.

change. After all, we are able to have a firm grasp of what the population structure will look like a couple of decades down the line. We can reliably predict the fiscal and economic implications of certain reforms aimed, for example, at containing public health or pension outlays. Predicting how the warming of the planet will impact individual countries, their economies and public finances is much, much harder. Compared to climate science, making accurate population projections are a walk in the park.

Estimating the impact of climate change on creditworthiness is hard, but it is not impossible: a recent study by the University of Cambridge has pioneered the ratings implications of global heating under different scenarios for over 100 sovereigns.³ In a nutshell, the Cambridge results show that undiminished planetary heating would cause very sizeable implications for the ratings of the world's leading economies over the longer term. The estimated hit to sovereign ratings due to climate change may be lower than for demographic change, but it is substantial, nonetheless (See Figure 1 for details). What's more, some of the ratings impact could become visible as early as this decade.

Figure 1 displays what should be considered the worst-case scenario for large, highly rated sovereigns. Under this scenario policymakers do not take any effective steps to mitigate either of the twin challenges of demographic and climate change.

Figure 1. Worst case sovereign ratings impact of demographic and climate change (downgrade in notches from current sovereign S&P-rating level, G7 plus China)



This may draw an unduly pessimistic picture, especially if one were to add up the two downgrades. But it charts the potential size of the challenge for sovereign creditworthiness. And while hope springs eternal, until now many governments have shied away from taking the drastic steps to arrest the two looming megatrends. Therefore, sounding out the maximum depth of the potential sovereign ratings slide is a useful exercise: preparing for the worst should not stop us from hoping for the best. But hope alone is not a strategy.

³ P. Klusak, M. Agarwala, M. Burke, M. Kraemer and K. Mohaddes (2021), "[Rising temperatures, melting ratings](#)", *VoxEU*, 25 March.

It is important to acknowledge that all ratings can slide simultaneously. Some might argue that since the megatrends hit all countries to various degrees, their ratings should remain on average unchanged, as ratings are a concept of relative risk. If all sovereigns' default risk were to change to the same degree, the relativities would remain unchanged and so should ratings. While elegant, this argument misinterprets how ratings operate. Ratings are relative measures of risk in the sense that they rank order default probabilities. They express that the likelihood of the default of sovereign A is higher relative to sovereign B. The rating does not opine ex-ante by how much the likelihood differs. The relativities are indirectly encoded in the methodologies applied. And standard sovereign (as well as corporate) methodology includes credit variables with quantitative thresholds. If all governments rip through those thresholds, all governments' ratings will change. There is observable evidence which confirms that rating agencies indeed operate in this way. The gradual weakening trend of average ratings is testament to this⁴, as is the demise of AAA rated sovereigns.⁵ Ratings performance during the pandemic also shows that ratings can and do collectively go down when their credit metrics weaken.⁶

2. The current ratings architecture is too short-term

Even with a more robust policy reaction than we have seen so far, the challenges stemming from climate and demographic change are of a magnitude that the already observable trend of declining sovereign credit quality will persist. For example, the unweighted average S&P-rating of the G7 countries dropped by an average of two notches since 2000, with only Germany and Canada being able to hold on to their ratings. As these rating changes occurred during periods without the added stresses of climate change and ageing, it is plausible to assume that the drop in ratings will continue, if not accelerate, over the coming decades (note that the exceptional crisis of the pandemic in 2020 and 2021 did not lead to any G7-rating changes, the reported decline in G7-ratings was therefore not driven by exceptional circumstances such as Covid-19).⁷

Unfortunately, there is currently no signal that could alert investors (or governments) of the growing sovereign downgrade risk caused by the two megatrends. Rating agencies issue two sorts of ratings: short-term ratings and long-term ratings. The short-term ratings are applied to securities with an original maturity of up to 365 days. The long-term ratings are applied to any

⁴ For example, the average sovereign rating at S&P Global fell during the past decade by one notch to 'BBB-' (see: S&P Global (2021), "[Global Sovereign Rating Trends 2021: Mounting Debt And Uncertainty Underpin A Negative Outlook Bias](#)", 27 January 2021, Figure 1. During most of the decade there was a significant overhang of negative rating outlooks (Figure 3).

⁵ M. Jones (2020), "[Falling AA Angels: The shrinking 'triple A' world](#)", Reuters, 26 June 2020.

⁶ For an overview of sovereign ratings since the Covid-19 outbreak see M. Kraemer (2021), "[Taking the pulse: sovereign ratings during the pandemic](#)", 16 March, CountryRisk.io.

⁷ M. Kraemer (2021), "[Sovereign review, second quarter 2021: rating activity hits an all-time low](#)", 31 July, CountryRisk.io.

maturity of as little as one year all the way to the outer bounds of the yield curve, which in some cases can be as long as a century.⁸

The long-term credit rating issued by the agencies are supposedly calibrated to reflect credit risk three to five years into the future for noninvestment grade issuers and up to ten years for investment grade. The thus defined time horizon was designed to assess fundamental risks through “one full economic cycle”.⁹ The through-the-cycle approach implicitly assumes that there are no structural trends that will impact credit risk beyond a cycle. But this assumption is becoming less and less plausible. Climate and demographic change are patently not cyclical. They are structural and they extend well beyond the agencies’ myopic time horizon. In fact, that time horizon may be fictitious, anyway. The aspirational forecast period postulated by the agencies simply does not chime with observable reality. In the field of sovereign ratings, the economic and financial forecasts applied for this forward-looking long-term rating rarely extends beyond three years. Published rating agency reports on corporates and banks typically contain no forecasts at all.

But whether the actual time horizon is three years or ten does not matter much. Either way, it is far too short to meaningfully incorporate longer term trends, such as demographic and climate change, that will progressively become more binding credit risks for sovereigns.

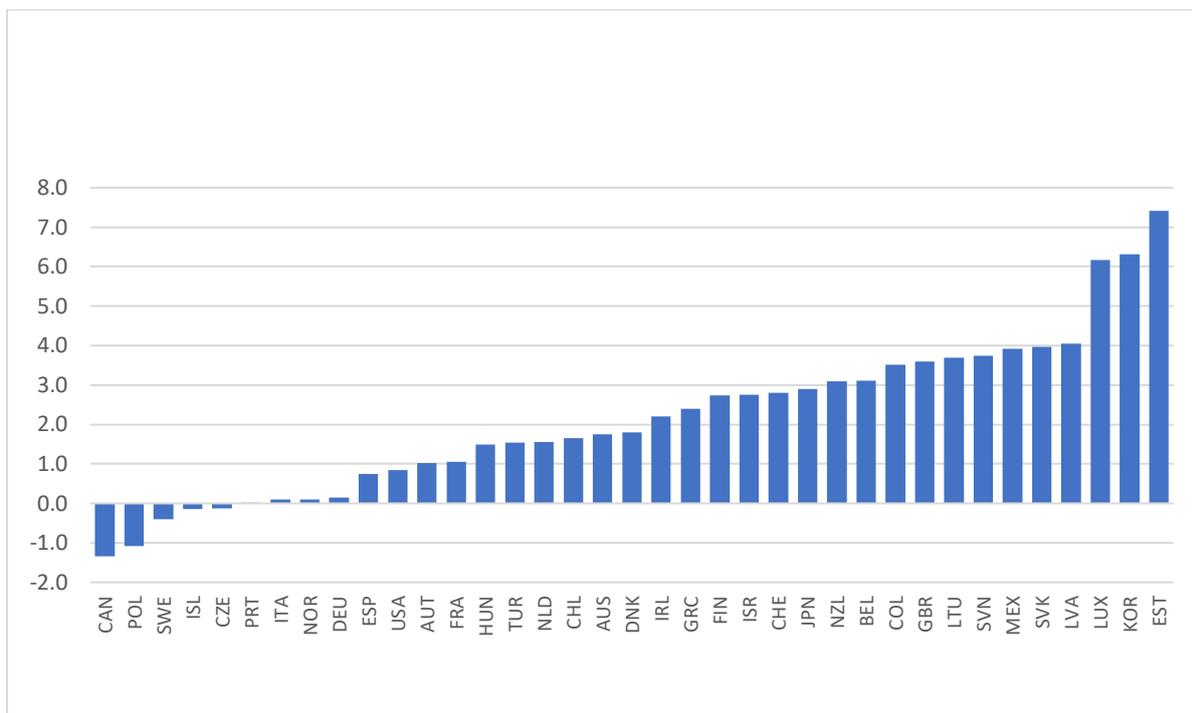
The de-facto short-term focus of sovereign ratings becomes even more problematic when considering that since the onset of the 2007-09 financial crisis, governments have significantly extended the average maturity of the debt they sell to investors. As interest rates have plummeted, sovereign issuers have taken recourse to ever longer tenors in their bond issuance, pushing the yield curve in some cases out to 50 or even 100 years. Among OECD members, the average term to maturity has increased by over two years (from 5.9 to eight years) between 2007 and 2020 (unweighted average). Over 85% of governments lengthened their maturity profile, more than one third of them by more than three years (see Figure 2).¹⁰ This may not sound like much, but in the glacial world of government debt, this is a significant leap into the future. While the generalised lengthening of maturities may have been briefly interrupted by the pandemic, which led to a moderate shortening of the OECD average maturity of government debt (to 7.7 years in 2020 from 7.9 years in 2019), most governments will again push out towards the far end of the yield curve as long as attractive long-term funding rates persist. Figure 3 shows that the lengthening of maturities is also a phenomenon in emerging markets, where Mexico and Indonesia have issued 50-year bonds. Serial defaulter Argentina even managed to sell a maiden emerging market century-bond.

⁸ See Moody’s (2011), “[Rating Symbols and Definitions](#)”, January; and S&P Global (2021), “[S&P Global Ratings Definitions](#)” 5 January.

⁹ See for example Moody’s “[Understanding Risk: In a World of Short-Term Outlooks, Long-Term Opinions are Vital](#)”, undated.

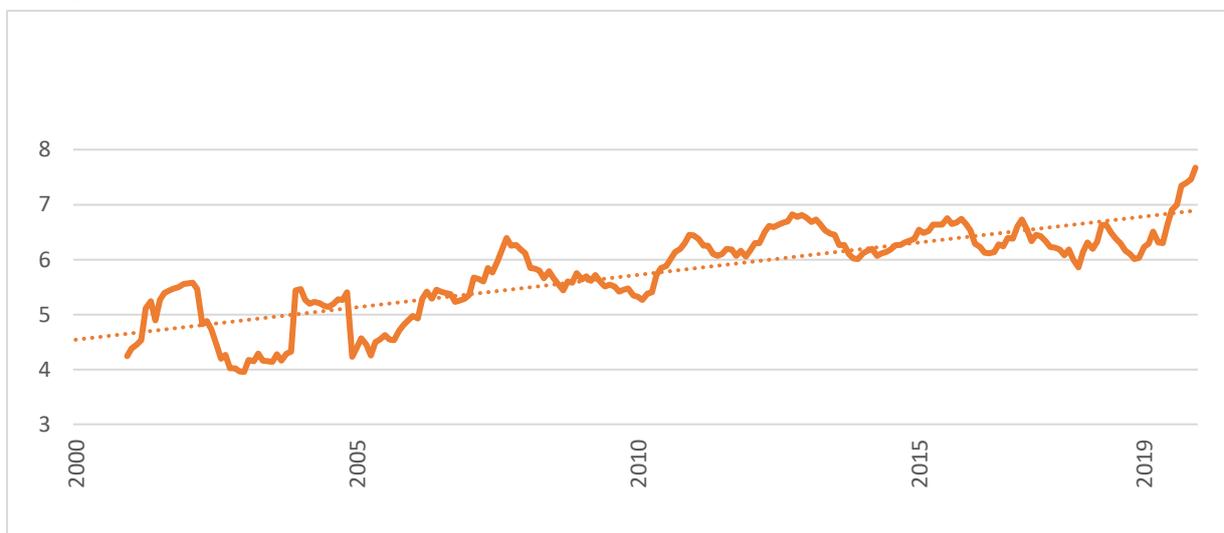
¹⁰ OECD (2021), “[Sovereign Borrowing Outlook 2021](#)”, Figure 1.14.

Figure 2. Increase in years of government debt average term to maturity (2020 versus 2007)



Source: OECD Sovereign Borrowing Outlook 2021, Figure 1.14.

Figure 3. Average value weighted maturity investment grade emerging markets governments, rolling 12 months (in years)



Source: OECD (Sovereign Borrowing Outlook 2020 Special Covid-19 edition, Fig. 2.5).

The combination of rising relevance of longer-term credit issues with the longer-term structure of sovereign marketable debt makes a rethink of sovereign credit ratings inescapable. It is simply not credible to assign an identical default risk to a five-year bond as to a fifty-year bond. The risks become clearly more elevated as we move out the yield curve, because the non-cyclical risks related to climate and demography become more prominent as time passes.

The relative short-term perspective of the ratings can be misleading when ratings are applied to rate payment streams decades into the future. Now the gap between the long-term risks and the short-term risk assessment by the agencies has gotten uncomfortably wide and must be filled. Pension funds and insurance companies, among others, hold very long-dated sovereign debt as assets in an attempt to hedge their equally long-term liabilities. The current so-called long-term ratings give them a misleading view of the credit risk embedded on their balance sheets. This is not only a problem for policyholders and pensioners – it is also a threat to financial stability.

3. A reform of the ratings definitions is needed

The current practice of the ratings industry is simply too crude. The time has come to make long-term ratings truly long-term. Market participants need a more reliable measure to gauge sovereign credit risks beyond the next couple of years. A first best solution would be a regulatory requirement for agencies to issue separate 'truly-long-term' sovereign ratings, or stop rating bonds above a certain initial maturity, e.g., 10 years.

The agencies may assert that they consider it too difficult to make truly long-term solvency assessments as the uncertainty increases when looking further into the future. But this would ignore the fact that some agencies actually have already undertaken a look into the more distant future (see above), but without including the findings into their rating methodologies.

In any case, the 'it's too hard'-defence needs to be rejected for the simple reason that agencies currently rate very long dated debt, some maturing in the 22nd century, without as much as whimper. And they rate them the same, and equally automatically, as instruments maturing in two years' time. Assigning ratings to such long dated instruments (and charging issuers for the service) implies that agencies feel comfortable to opine on risks decades ahead. It is not publicly known whether any agency ever refused to rate a long-dated debt instrument for lack of visibility. Considering current market practices, such a refusal appears improbable, however. Therefore, if agencies routinely assign ratings to 30-year bonds and beyond, they cannot argue that it's too difficult to have a long-term view. They have already expressed one through the rating assigned. And that (implausible) view is that risks remain unchanged as you move along the yield curve. Investors also constantly opine on very long-term risks through the pricing of securities maturing several decades in the future. The yield curve is typically not flat but upward sloping. In short, investors are one step ahead of the rating agencies.

An explicit differentiation in the rating time horizon would mirror the bifurcated approach the IMF (in conjunction with the World Bank) is taking in its debt sustainability analysis: one analysis for the medium term (up to five years) and a long-term projection (10 years and more).¹¹ The

¹¹ International Monetary Fund (2021), [“Review of the debt sustainability framework for market access countries”](#), IMF Policy Paper, January.

European Commission also applies differing time horizons, including an ‘infinite’ horizon.¹² If the IMF and the Commission can do it, so can the rating agencies.

Expectations by policymakers and regulators that agencies rise up to the challenge are on the rise. In releasing the conclusions of its strategy review earlier this year the ECB announced that the “ECB will assess whether the credit rating agencies accepted by the Eurosystem Credit Assessment Framework have disclosed the necessary information to understand how they incorporate climate change risks into their credit ratings.”¹³

An important side-effect of introducing truly long-term ratings would consist in incentivising governments to engage in less myopic policies: a robust climate mitigation policy, for example, could improve a sovereign’s long-term rating relative to its peers and thus reduce borrowing costs. Right now, no such incentive exists.

It is hard to imagine that the rating agencies are not aware of their relative short-sightedness. Why have they not sought to fix the problem and extend their time horizon? Two reasons come to mind immediately.

- The first is inertia and path dependency. The industry has applied the current ratings approach for many decades. Introducing a truly-long-term rating would be risky and costly. Investment in analytical resources with new and scarce skills would be required. At the same time, the agencies could not expect to generate additional revenues from the issuers that pay them. For a profit seeking firm, introducing a truly-long-term rating has no obvious commercial upside.
- Secondly, agencies may be concerned that introducing truly-long-term ratings could disrupt their existing client relationships. As Figure 1 shows, the truly-long-term ratings would for most sovereigns be lower than current ratings. This is unsurprising as for most countries climate and demographic change will lead to additional solvency risks compared to today. Downgrading long-term bond ratings is not an attractive message to convey to paying clients. All the less so if your competitors refrain from doing likewise. Why be a pioneer and attract the wrath of your clients? In the sovereign space an annoyed issuer might opt for a so-called ‘unsolicited rating’, effectively a standard rating. It is undistinguishable for the rating user from ‘normal’ ratings, but without a fee obligation from the sovereign issuer. As most sovereign ratings are solicited and thus fee-paying, the commercial downside for an agency pressing ahead alone could be material. If we want agencies to show their hand how they view longer-term default risks a purposeful regulatory push appears unavoidable.

¹² C. Alcidi and D. Gros (2018), [“Debt Sustainability Assessments: The state of the art”](#), European Parliament, Economic Governance Support Unit (EGOV), Directorate-General for Internal Policies, PE 624.426 – November.

¹³ European Central Bank (2021), [“ECB presents action plan to include climate change considerations in its monetary policy strategy”](#), Press Release, 8 July.

4. The Financial Stability Board to take the lead

Since truly-long-term ratings will not spring into being spontaneously, an institutional champion is necessary to push for the needed reforms. The ratings business is a global industry. A purely regional requirement, for example though an EU directive, will probably not suffice to bring about the change needed.

Credit risks stemming from climate and demographic change are also a threat to financial stability. Some global actors from regulators and official bodies have already recognised this and launched initiatives to enhance the visibility of those hitherto hidden financial risks. For example, the G20 asked the Financial Stability Board (FSB) to address how the financial sector can take climate risks systematically into account. The FSB then convened the Task Force on Climate-Related Financial Disclosure (TCFD) after the COP21 Paris summit, developing a set of reporting tools and principles.¹⁴ The Network for Greening the Financial System (NGFS), a global group of major central banks and supervisors, has also begun to take a keener interest in issues concerning climate change and biodiversity loss on financial stability.¹⁵

But it is not only policymakers and regulators that are increasingly concerned about economic and financial risks related to climate change. In a survey conducted annually by the World Economic Forum, business leaders in 2020 ranked only environmental and natural risks in the top five overall risks in terms of likelihood and as three of the top five in terms of potential impact.¹⁶ With such stark warnings coming from the business community, it is time that rating agencies are induced to heed their call for a greater emphasis on the risks posed by global heating.

The Financial Stability Board (FSB) would be the ideal forum to provide the needed impetus leading to change. Through the TCFD initiative the FSB has proven that it is able to meaningfully move the needle on quality financial reporting related to climate risk. It has therefore not only the competency, but also the credibility to prepare the ground for overdue changes and prepare the decision-making required, e.g., within the G20 framework. Changes like the ones proposed here could take many years to fully implement. In the meantime, the risks will mount.

We must not lose any more time and move the agenda of truly-long-term ratings forward.

¹⁴ TCFD (2017), "[Recommendations of the Task Force on Climate-related Financial Disclosures](#)", June.

¹⁵ Joint NGFS-INSPIRE Study Group on Biodiversity and Financial Stability (2021), "Biodiversity and financial stability: exploring the case for action", NGFS Occasional Paper, Paris: Network of Central Banks and Supervisors for Greening the Financial System.

¹⁶ World Economic Forum (2020), "[The Global Risks Report 2020](#)", Geneva.