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A new era for APAC insurers

Infrastructure debt as a capital-efficient tool amid evolving RBC regulations

Author
Melissa Bockelmann

AVIVA INVESTORS

Introduction

As risk-based capital (RBC) frameworks are rolled out across the developed Asia-Pacific (APAC) region, insurers are having to rethink their asset allocations. European infrastructure debt could be an attractive addition to their toolkit.

The insurance sector in the developed APAC region is entering a transformative phase due to the adoption of RBC frameworks. Drawing inspiration from Europe's Solvency II, the new regulations are designed to bolster and enhance the transparency of the insurance industry by matching capital requirements with the risks taken. However, this new system presents notable challenges. Traditional assets, which were once the mainstay of many insurance portfolios, now incur higher capital charges, prompting Chief Investment Officers to reconsider their investment strategies.

At the same time, insurers are navigating a turbulent economic landscape characterized by inflationary pressures and geopolitical uncertainties. These conditions make it difficult to achieve consistent returns while maintaining solvency ratios. Additionally, the expectation for insurers to align their investment approaches with global sustainability objectives adds another layer of complexity.

Infrastructure debt, in particular, provides long-term, steady income streams that can match insurers' liabilities, reduce capital burdens under RBC frameworks, and support sustainability objectives. Infrastructure debt also provides diversification benefits due to its low correlation with other asset classes.

This article explores the role of infrastructure debt as a capital-efficient tool amid evolving RBC regulations in APAC, drawing on lessons from Europe's Solvency II framework and best practices of European insurers allocating to specialist managers of European infrastructure debt.

Infrastructure debt: A strategic component of insurance portfolios

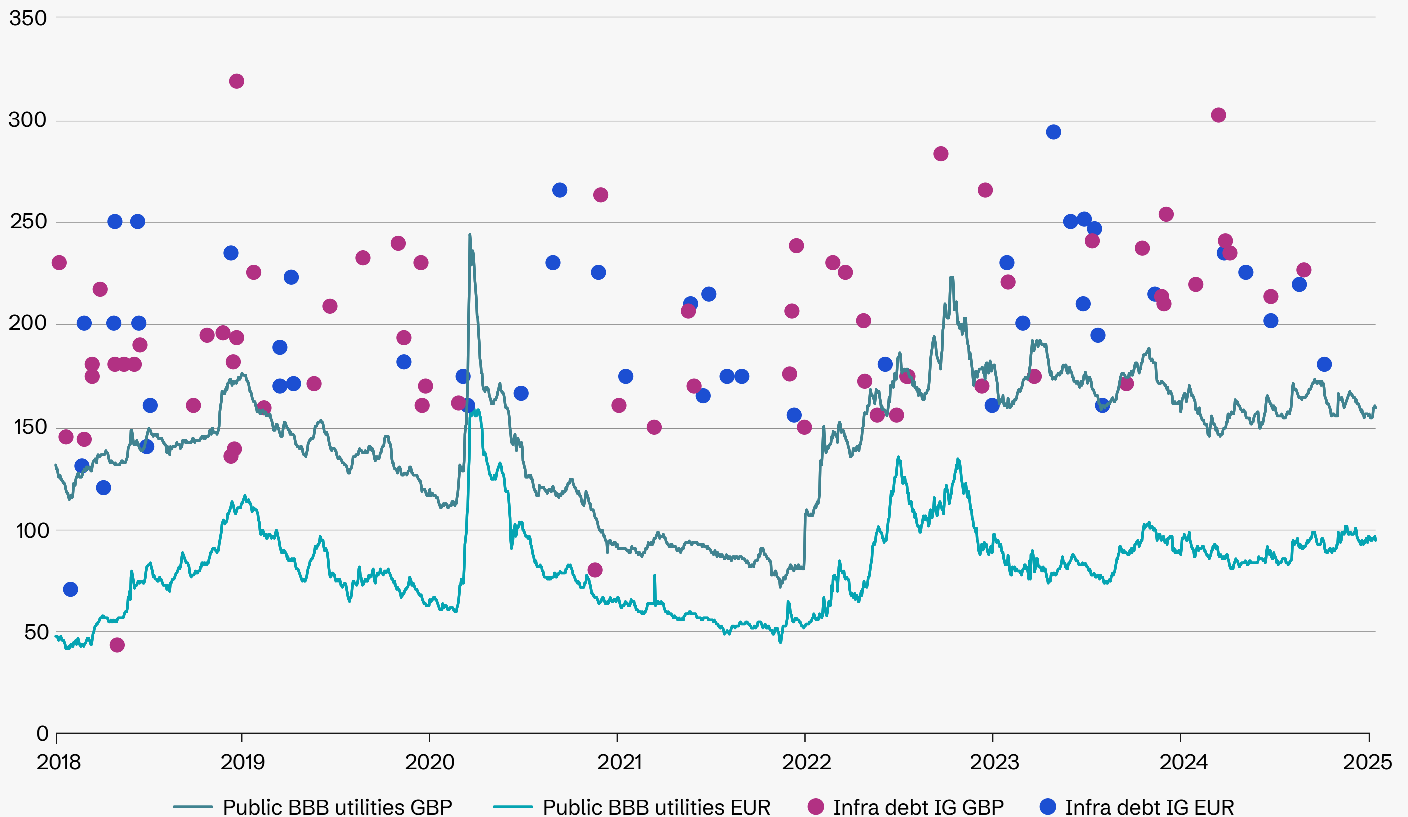
As APAC insurers adapt to evolving RBC frameworks, infrastructure debt is gaining attention as a compelling asset class for achieving a range of objectives. In October 2024, Hong Kong Chief Executive John Lee announced plans to review capital requirements for infrastructure investments to diversify insurance companies' asset allocations and drive investments in projects like the Northern Metropolis. Additionally, Hong Kong aims to attract mainland and overseas enterprises, including large state-owned enterprises, to establish captive insurers in the city. Around the same period, the Monetary Authority of Singapore (MAS) issued a consultation paper to gather opinions on the proposed capital treatment for structured products and infrastructure investments.[1]

This initiative is designed to enhance the RBC framework for insurers, promoting long-term infrastructure investments. These actions highlight the increasing emphasis on infrastructure debt in the APAC region, supported by regulatory measures and the necessity for diversified, long-term investments.[2]

While ten-year government bond yields in developed markets remain relatively high compared to historical averages, infrastructure debt investments can deliver yields of 150-250 basis points higher, depending on the credit quality and sector of the project. Additionally, infrastructure debt is less sensitive to market volatility than other asset classes. Its returns are driven primarily by the underlying cash flows of the projects rather than by broader market movements.

Infrastructure debt illiquidity premia screened attractive in 2024 as public credit spreads have narrowed while infrastructure debt spreads have held firmer (see Figure 1).

Figure 1. **Infrastructure debt versus public credit spreads (over swaps)**



Note: For illustrative purposes only. Spreads over GBP SONIA or EURIBOR swaps. The value of an investment can go down as well as up and there is no guarantee that the forecasted return will be achieved. Based on internal and external (ID only) transaction data, IG only. Public IG credit spreads based on ICE BofAML BBB utility index data.

Source: Aviva Investors, ICE BofAML index data for EUR and GBP deals. Data as of December 2024.

From capital efficiency to diversification and sustainability integration, infrastructure debt enables insurers to balance regulatory requirements with the need for reliable, long-term income.

Capital efficiency

In this environment, infrastructure debt has emerged as an attractive alternative. Its inherently reliable cash flows, coupled with its lower correlation to traditional asset classes, make it an ideal fit for insurers looking to optimise their portfolios under RBC rules. Infrastructure debt often incurs lower capital charges due to its relatively low risk profile, particularly when investments are in high-quality, investment-grade projects backed by strong contractual agreements.

Under RBC frameworks, higher-risk assets demand more capital, which can limit an insurer's ability to allocate resources effectively. Infrastructure debt, however, is inherently capital-efficient. Its lower volatility and high credit quality often translate into lower capital charges, allowing insurers to optimise their solvency ratios while maintaining competitive portfolio returns.

For example, many infrastructure debt investments involve investment-grade projects with secure, contractual cash flows, such as toll roads, regulated utilities, and renewable energy facilities. These projects are often backed by government support, regulated revenue models, or long-term agreements, which reduce their risk profile. This means insurers can hold infrastructure debt without significantly increasing their capital requirements, freeing up resources for other strategic priorities.

In Japan, insurers have already recognised the value of infrastructure debt in enhancing capital efficiency under the J-ICS, the country's insurance solvency regime. They have led the charge in optimising their solvency positions while accessing higher yields than those available from domestic or traditional asset classes.

Long-term liability-matching

Infrastructure projects typically yield stable cash flows due to their essential role and the regulatory frameworks that oversee them. These projects, such as renewable energy developments, transport networks, and utilities, often operate under long-term contracts or regulated revenue streams, with investment horizons ranging from ten to 30 years, which align well with the long-term liabilities of insurers. Long-term infrastructure debt mitigates reinvestment risk by providing a consistent return over an extended period, aligning with the long-term nature of liabilities.

Singapore insurers are increasingly investing in long-term infrastructure projects such as transport and utilities under the RBC2 framework. Likewise, South Korean insurers have been active in public-private partnerships projects, renewable energy developments, utilities, and essential services due to their long-term cash flow streams.

Diversification and low correlation with traditional assets

Diversifying across sectors and regions is essential for maintaining a stable and resilient portfolio amid stricter RBC requirements. Investing in an array of projects such as renewable energy, social infrastructure, and transportation helps mitigate sector risk, allowing access to diverse revenue streams and risk profiles. Expanding geographical scope through global infrastructure investments further reduces localised risks. Additionally, focusing on infrastructure debt projects in essential services can decrease portfolio volatility and enhance long-term stability. This approach enables insurers to optimise their portfolios for sustainability and growth in an increasingly complex operating environment.

Infrastructure debt has historically exhibited low or negative correlation with traditional asset classes such as public equities and corporate bonds. This makes it an effective tool for reducing overall portfolio volatility and enhancing risk-adjusted returns. During the COVID-19 pandemic, infrastructure debt investments in regulated utilities and renewable energy projects continued to deliver stable returns. This performance contrasted sharply with the volatility observed in equity markets, underscoring the diversification benefits of infrastructure debt.

Sustainability integration

With new regulatory frameworks increasingly favouring sustainable investments, infrastructure debt presents a unique opportunity for insurers to align their investments with climate-focused initiatives. Funding projects such as renewable energy, energy-efficient transportation, and sustainable infrastructure, insurers can directly contribute to the global effort to reduce carbon emissions and transition to a low-carbon economy. Insurers are increasingly committing to the UN Sustainable Development Goals (SDGs), making infrastructure debt investments particularly attractive. These investments align especially well with SDG 7 (Affordable and Clean Energy) and SDG 9 (Industry, Innovation, and Infrastructure). Insurers are not only helping to mitigate climate change and reduce carbon emissions but also tapping into new market opportunities within the renewable energy sector.

Beyond climate considerations, infrastructure debt also provides a pathway for insurers to invest in social infrastructure projects, addressing pressing societal needs such as healthcare, education, and affordable housing. These investments not only contribute to social well-being but are also well-suited to the long-term liability profiles of insurance portfolios.

European insurers have used infrastructure debt to achieve their net-zero and decarbonisation objectives while securing attractive yields. Many infrastructure debt investments include robust sustainability reporting requirements, aligning with the increased focus on transparency and accountability under modern RBC frameworks.

European insurers have also been particularly active in financing PPPs for social infrastructure. For instance, Aviva Investors has provided debt financing for hospitals, schools, and community centres across the UK. These projects are backed by long-term government contracts, ensuring recurring cash flows while addressing critical public service gaps.

Aviva Investors has been at the forefront of helping insurance companies meet their sustainability goals, notably by investing in climate transition assets in both the UK and Europe. Since 2019, we have deployed a total of €5.2 billion in green, social, and critical infrastructure asset classes. This includes €2.5 billion in renewables, offshore transmission, electric transportation, and smart metering, and a further €543 million in schools, hospitals, and social infrastructure. The remaining €2.1 billion was deployed into digital infrastructure, telecommunications, ports, and transportation. This includes a renewables deal in Portugal where it financed a solar developer aiming to deliver 600 gigawatt of photovoltaic capacity by 2030, and financing to a rail fleet provider where transportation of fossil fuels was excluded through a green finance framework.

Bridging the gap: Lessons from Europe's Solvency II framework

The evolution of RBC frameworks in developed APAC has been heavily influenced by Europe's Solvency II regime, which came into effect in 2016. Solvency II has proven to be a robust and dynamic framework that ties capital requirements to the risk profile of insurers' investments while promoting sound governance and risk management practices.

APAC regulators, such as those in Japan, South Korea, Hong Kong, and Singapore, have adopted similar principles to modernise their own capital regimes. As APAC insurers adapt to these changes, the European experience offers valuable lessons on how infrastructure debt can be used to optimise portfolios, improve solvency ratios, and align with regulatory requirements.

Risk sensitivity, matching adjustment and governance: The cornerstones of Solvency II

The adoption of an economic balance sheet framework in APAC has the core objective of valuing the insurer's assets and liabilities on a consistent economic risk basis in line with the principles of Solvency II and IFRS17. However, differences between countries' approach exist leading to inconsistencies across the region.

Best-estimate liabilities are discounted using the market 'risk-free' rate plus an adjustment for illiquidity. This allows the insurer to match long-term liabilities with long-term illiquid assets thus capturing the illiquidity premium. This has the benefit of insulating insurers from short-term fluctuations in price and therefore ensuring they do not become forced sellers of assets. These illiquidity adjustments are applied to the discounting of the liabilities and reduce the short-term volatility of the balance sheet. The application of illiquidity/smoothing adjustments are common under RBC frameworks like Solvency II although the application does differ across the region. Figure 2 provides a summary of some of the differences.

Figure 2. **Illiquidity adjustments under regional RBC frameworks**

Capital regime	Risk free discount rate	Illiquidity premium add on
Solvency II	Swaps	Volatility adjustment/matching adjustment
Hong Kong	USD government bond yield swapped to HKD	Matching adjustment
Singapore	Govt bond yield	Illiquidity premium/matching adjustment
Japan	Swap rate/government bond yield	Prescribed illiquidity premium
Taiwan ICS	Swap rate/government bond yield	Prescribed illiquidity premium
South Korea K-ICS	Government bond yield	Prescribed illiquidity premium
Malaysia RBC	Government bond yield	Not currently allowed

Source: Aviva Investors, December 2024.

One of the defining features of the Solvency II directive is its emphasis on risk sensitivity. Unlike prescriptive rules-based approaches, Solvency II ties capital requirements directly to the underlying risks of an insurer's assets and liabilities. This means that insurers must maintain a capital buffer proportionate to the risks they take on, whether in market, credit, operational, or insurance-related exposures. Solvency II also mandates strong governance structures, requiring insurers to implement robust risk management systems, conduct regular stress testing, and ensure transparency in reporting.

Singapore's risk-sensitive framework is like Solvency II in that it requires insurers to assess their capital needs based on specific risks, including market, credit, operational, and underwriting risks. By adopting this approach, Singapore insurers have improved their risk management practices and aligned their capital allocation with their risk exposures.

Hong Kong has also moved towards a risk-sensitive RBC regime, requiring insurers to adopt more sophisticated risk management practices to ensure that they hold adequate capital to cover their risk exposures.

The matching adjustment under the Solvency II framework allows insurers to adjust the risk-free interest rate used to value their liabilities, reflecting the reduced risk of holding assets to maturity. This mechanism can be integrated into RBC standards and IFRS 17, to help insurers manage liabilities more effectively and improve their solvency positions. European infrastructure investments, with their long-term, recurring cash flows, are ideal for matching adjustment portfolios.

Strong governance and transparency are central to the Solvency II framework. The regulation mandates that insurers implement robust internal controls, risk management frameworks, and governance structures to ensure sound decision-making processes. Solvency II also emphasises the importance of transparency, requiring insurers to disclose their risk exposures, capital adequacy, and risk management practices to regulators and stakeholders.

The European experience with Solvency II provides a roadmap for APAC insurers navigating their own RBC frameworks, highlighting the importance of strong governance and risk management practices in unlocking the full potential of private debt. As insurers increasingly adopt these strategies, they position themselves to not only meet regulatory requirements but also deliver sustainable growth in an evolving financial landscape.

The road ahead: Building strategic partnerships

As RBC frameworks evolve and sustainability objectives gain prominence, partnering with experienced managers is not just a tactical choice – for many investors it is a strategic priority.

To maximise the benefits of these partnerships, APAC insurers should take several strategic steps. Firstly, it is crucial to select the right partners, focussing on asset managers who have a proven track record in infrastructure debt, possess strong sustainability credentials, and have a deep understanding of regulatory frameworks. They should also consider geographic diversification. Lastly, prioritising alignment of interest, knowledge sharing and transparency is essential. Insurers should work closely with their partners to build expertise in optimising their portfolios under RBC frameworks.

Overcoming operational and hedging challenges

Investing in infrastructure debt often involves navigating complex operational and administrative challenges, such as structuring financing agreements, managing multi-party contracts, and ensuring regulatory compliance. These challenges can be particularly daunting when investing in international projects, where local regulations and market dynamics may be unfamiliar.

Partnering with experienced managers can alleviate these burdens. Asset managers with the right resources in place can handle the operational complexities of infrastructure debt investments, allowing insurers to focus on strategic objectives. For instance, they manage the legal and regulatory requirements of cross-border transactions, ensuring that projects comply with local laws and international standards. This support is invaluable for insurers seeking to expand their geographical reach without overburdening internal resources.

Managers should provide customised reporting and analytics tailored to insurers' specific needs. This includes detailed reports on project performance, sustainability, and risk exposures, enabling insurers to meet the stringent reporting requirements of evolving RBC frameworks.

APAC insurers investing in EUR-denominated infrastructure debt must navigate foreign currency risk, interest rate risk, and regulatory differences between Europe and APAC. Robust interest rate and FX risk hedging strategies are essential to mitigate these complexities and optimise investment outcomes.

European investors have a long track record of investing in infrastructure projects and have developed sophisticated risk management and due diligence processes. Aviva Investors has extensive experience in managing European infrastructure debt on behalf of insurance clients in the APAC region and can offer insurers access to a diversified portfolio of high-quality infrastructure assets.

Our parent company, the insurance group Aviva plc, has used infrastructure debt in its portfolios since 1999 and Aviva Investors has not had a single payment default across the portfolio it originated, which includes more than 270 transactions since inception of the activity.

By partnering with Aviva Investors, Aviva has lowered the overall risk profile of its investments, reduced capital charges, and demonstrated prudent risk management practices to regulators. This approach is particularly relevant for APAC insurers under similar RBC frameworks where demonstrating robust governance is as critical as optimising capital allocation.

Insurance partners can benefit from alignment of interests whenever the Aviva group companies co-invest. Aviva plc has invested several billion euro-equivalent across various currencies into long-term infrastructure debt (with maturities of up to 30-35 years) with the intention to hold these assets until maturity. A seasoned investment team has the requisite skills and experience to manage and monitor infrastructure assets over the very long-term.

Conclusion

European infrastructure debt has become an increasingly attractive investment option for insurance companies in the APAC region. This asset class offers several advantages that align well with the investment needs and regulatory requirements of APAC insurers. The key benefits of European infrastructure debt include stable income, higher yields compared to traditional fixed-income securities, and long-term investment horizons.

Infrastructure debt represents a capital-efficient tool for insurance CIOs in the APAC region navigating the complexities of evolving RBC regulations. By leveraging lessons from Europe's Solvency II framework and the expertise of Aviva Investors in European infrastructure debt, insurance companies can enhance their risk management practices, optimise their capital efficiency, and meet their sustainability objectives.

References

1. "Consultation paper on proposed capital treatment for structured products and infrastructure investments for insurers", Monetary Authority of Singapore, October 18, 2024.
2. "MAS issues consultation paper on capital treatment for structured products and infrastructure investments for insurers", Allen & Gledhill, November 28, 2024.

Key risks

Investment risk

The value of an investment and any income from it can go down as well as up. Investors may not get back the original amount invested.

Derivatives risk

Investments can be made in derivatives, which can be complex and highly volatile. Derivatives may not perform as expected, meaning significant losses may be incurred. Derivatives are instruments that can be complex and highly volatile, have some degree of unpredictability (especially in unusual market conditions), and can create losses significantly greater than the cost of the derivative itself.

Illiquid securities risk

Some investments could be hard to value or to sell at a desired time, or at a price considered to be fair (especially in large quantities), and as a result their prices can be volatile.

Contact us

80 Fenchurch Street, London EC3M 4AE

+44 (0)20 7809 6000

avivainvestors.com

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