



Stock-take questionnaire on Infrastructure and Strategic equity

1 Introduction

As part of its work on the Insurance Capital Standard (ICS) over the 2020-2024 Monitoring Period, the IAIS is exploring whether there should be a differentiated capital treatment of certain eligible infrastructure (both equity and debt) as well as strategic equity investments within the ICS.

In a first step, the IAIS is looking for potential data sources that could be used to decide whether there should be a differentiated treatment for infrastructure investments and strategic equity investments, as well as inform a specific calibration, should a differentiated treatment be pursued.

The purpose of this questionnaire is to receive information about investments in infrastructure and strategic equity, regarding quantitative data sources, studies and publications that could be valuable for the IAIS in its work, as well as to provide an opportunity for stakeholders to share their experience in such investments. This questionnaire will be complemented by another one, addressed to IAIS Members and focussed on existing treatments for infrastructure and strategic equity under jurisdictional prudential frameworks.

Annex 1 to this questionnaire contains a strawman proposal that provides a temporary reference point in terms of potential relevant definitions and criteria applicable to investments in infrastructure and strategic equity. It is largely based on the technical specifications from 2017 to 2019 in the context of ICS Field Testing and in 2020 in the context of ICS confidential reporting. The IAIS welcomes any feedback from respondents on that strawman.

2 Data collection

2.1 Infrastructure investments

1. Are there any supporting materials, academic research reports, institutional or professional studies / publications that you think would help in the assessment of suitability of a differentiated treatment for infrastructure investments? Please provide the links below or attach a copy of the documents to your response.

Item name	Description and rationale
<ul style="list-style-type: none">• MSCI 非上場インフラ指数• EDHEC 非上場インフラ指数• 株式 MSCI ACWI Index, Local	<ul style="list-style-type: none">• ドイチェ・アセット・マネジメント株式会社によれば、2009年3月から2019年6月を分析期間とし、以下の各指数の年率ボラティリティを算定した結果は以下のとおり。インフラ投資（株式）のボラティリティは、伝統的資産（株式）よりも低いことが確認できる— MSCI 非上場インフラ指数 : 3.6%— EDHEC 非上場インフラ指数 : 9.7%

Item name	Description and rationale
	<p>－株式 MSCI ACWI Index, Local : 13.1%</p> <p>(出典：ドイチェ・アセット・マネジメント株式会社『2020年4月 DWS レポート「インフラストラクチャー投資_コロナウイルスの影響と長期的な視点」』)</p>
<p>・ MOODY'S "Default and recovery rates for project finance bank loans, 1983-2018"</p> <p>・ MOODY'S "Annual Default Study: Corporate Default and Recovery Rates, 1920 - 2017"</p>	<p>・ 『MOODY'S "Default and recovery rates for project finance bank loans, 1983-2018』によれば、インフラ投資（債券）のデフォルト率・回収率について、一般的な社債とは異なる特性が認められる</p> <p>・ すなわち、経過が進むにつれてデフォルト率が低減し、安定稼働後は A 格社債より低い (7.1.2 Marginal annual default rates)</p> <p>・ また、回収率は Moody' s 定義ベースで平均 75.8%と、一般的な担保付社債の回収率 50-60%程度 を上回ると考えられる (EXIBIT 38A。一般的な担保付社債の回収率については、『MOODY'S "Annual Default Study: Corporate Default and Recovery Rates, 1920 - 2017" Exhibit 7』参照)</p>
CIPR Newsletter "INFRASTRUCTURE INVESTMENT AND THE INSURANCE INDUSTRY"	<p>・ インフラ投資のデフォルト率が低位なことが紹介されている (INFRASTRUCTURE INVESTMENT CHARACTERISTICS 参照)</p>

(Add additional rows as necessary)

2. Are there any data which you think would be suitable to be used for the purpose of calibrating a differentiated treatment for infrastructure investments? Please provide a description of the type of data, whether they are publicly available, the time period for which they are available and the frequency of the data updates.

Data sources	Description of the type of data and rationale	Publicly available [x]	Time period available	Data update frequency
東証株価指数 (33 業種) (source: FactSet Research Systems Inc.)	・ 1993 年 7 月から 2020 年 9 月を分析期間とし、各業種の株価指数の月次変動の標準偏差を算出したところ、「Electric Power & Gas」「Land Transportation」(主に鉄道会社で構成)「Information & Communication」のボラ	No	1993	daily

Data sources	Description of the type of data and rationale	Publicly available [x]	Time period available	Data update frequency
	ティリティが相対的に低いことが確認できる			

(Add additional rows as necessary)

2.2 Strategic equity investments

3. Are there any supporting materials, academic research reports, institutional or professional studies / publications that you think would help in the assessment of suitability of a differentiated treatment for strategic equity investments? Please provide the links below or attach a copy of the documents to your response.

Item name	Description and rationale
Insert text	
	コメントしない

(Add additional rows as necessary)

4. Are there any data which you think would be suitable to be used for the purpose of calibrating a differentiated treatment for strategic equity investments? Please provide a description of the type of data, whether they are publicly available, the time period for which they are available and the frequency of the data updates.

Data sources	Description of the type of data and rationale	Publicly available [x]	Time period available	Data update frequency
Insert text				

(Add additional rows as necessary)

3 General feedback

5. Please provide feedback on the IAIS strawman proposal on definitions and criteria for infrastructure and strategic equity (cf. Annex 1).

Infrastructure	・インフラ投資、戦略株のリスク量について、differentiated capital treatmentを検討するという IAIS の取組みを歓迎する
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	<ul style="list-style-type: none"> ・インフラ投資は社会基盤への投資であり、保険会社の投資は、社会の安定に寄与する。また、一般にインフラ投資は長期的な投資であり、長期の保障を提供し、長期的なリターンを追求する保険会社のビジネスモデルとマッチした投資対象である。したがって、differentiated capital treatmentを導入することは、保険業界の投資を推進することにつながり、適切であると考ええる ・一方で、strawman proposalで示されたインフラ投資、戦略株に該当するための要件が、過度に厳格であると考ええる ・例えば、less volatileであることを quantitative evidenceに基づき証明できるという要件が検討されているが、必ずしもそのようなデータが利用可能とは限らない ・また、すでに 2.1 で言及したとおり、インフラ株式のボラティリティは伝統的資産（株式）よりも低い状況であるが、このような客観的な事実についてまで、保険会社に個別に証明を求めることは過大な負荷となり適切ではないと考える ・このように、要件が厳格に過ぎ、クリフエフェクトが生じることは妥当ではない。引き続き、ステークホルダーとの対話の中で、現実的な要件の設定が検討されるべきである ・また、本意見募集は、インフラ投資、戦略株に関する意見募集であるが、我々は、インフラ投資、戦略株のような、投資先の属性や、投資が戦略的であるか否かという視点に加え、投資の期間に着目したリスク軽減措置が導入されるべきと考えており、この機会に意見表明させていただきたい ・すなわち、我々は、長期投資資産について、政策的な観点から、リスク軽減措置が導入されるべきと考えている ・これは、長期投資の促進は、保険会社の収益の安定化、金融システムの安定化を通じて、経営の安定化を促すと考えられるが、長期投資資産についてのリスク軽減措置の導入は、長期投資を促進すると考えられるためである ・また、2.1 で言及したとおり、インフラ投資（債券）のデフォルト率は、長期保有時に低位となるというデータも存在する ・特に株式の長期保有については、以下のように考える <ul style="list-style-type: none"> 一 売買目的ではない株式、すなわち長期の負債 DUR に対応する形で株式を長期保有している区分についてリスク軽減措置が導入されるべきである。我が国の生損保セクターにおける株式の平均保有年数は約 16 年であり、長期にわたり継続保有されている
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	ープロシクリカリティ効果を緩和するため、株価の変動に応じたシンメトリックな株式リスク係数の調整を検討すべきである
Strategic equity	上記参照

6. Please share any other information you consider relevant, such as lessons learned from your own experience, regarding the treatment and calibration of risks attached to investments in infrastructure and strategic equity. That information may include considerations on investment practices, governance and risk management, internal credit assessments for unrated exposures, internal valuation assessments for private exposures, financing/funding structures, regional differences, etc.

Infrastructure		コメントしない	
Strategic equity			

Annex 1: IAIS strawman proposal on definitions and criteria for Infrastructure and Strategic equity

1 Introduction

1. The purpose of the strawman proposal described in this Annex is to provide a temporary reference point in terms of potential relevant definitions and criteria applicable to investments in infrastructure and strategic equity. The inclusion of the strawman proposal is aimed at enabling comparisons with existing frameworks and fostering input by respondents to this questionnaire; it does not imply or determine whether a differentiated treatment should be developed for the ICS.

2. It is largely based on the technical specifications for the supplementary data collection on investment segmentation run from 2017 to 2019 in the context of ICS Field Testing and in 2020 in the context of ICS confidential reporting.

3. The view of the IAIS on potential relevant definitions and criteria for investments in infrastructure and strategic equity will be formed based on the responses received and further work planned over the next years; therefore, the current strawman proposal should not be considered as a final view of the IAIS regarding definitions and criteria, should a differentiated treatment be developed for the ICS.

4. It is also important to note that whatever definitions and criteria are retained for infrastructure and strategic equity, they should not preclude the global ICS framework (and more generally the ComFrame) from appropriately addressing the risk of concentration of exposures to a certain entity, group, or sector, as is done for other asset classes, amongst other to prevent amplifying the interconnectedness of the insurance sector with other financial sectors. In particular, IAIGs should be required to appropriately monitor concentration risk as part of their risk management processes.

2 Infrastructure

2.1 General definitions

5. Infrastructure (and by extension, infrastructure assets) means the physical structures, facilities, systems and networks that provide or support essential public services, for example:

- Regulated assets, including electricity transmission lines, gas and oil pipelines, water supply and distribution systems, and wastewater collection and treatment systems;
- Transportation assets, including roads, bridges, tunnels, railroads, rapid transit links, seaports, and airports;
- Communications assets, including telecommunication towers, cable systems and satellite networks; and
- Social infrastructure assets, including schools, hospitals, courthouses, and other government buildings.

Table 1 below provides a synoptic view of the different classes of infrastructure assets.

Table 1: Infrastructure assets

General title	What is infrastructure	What is not infrastructure	What typically makes the infrastructure investment safer
Water utilities	Water supply/distribution, Waste water collection/treatment	Fixing water pipe leakages	Regulation relating to long-term concessions or pricing or return-on- assets of profit margin
Waste management utilities	Facilities dedicated to waste management and recycling.	Using spare parts from scrapped vehicles for other vehicles.	Long-term concessions usually with the involvement of a local government or council.
Electricity and gas utilities	Generation / transmission / distribution / storage / district heating	Batteries used in electric cars Insulation of houses.	Regulation relating to long-term concessions, or pricing, or return-on assets or profit margin.
Transportation	Airports / ports / roadways / railway network	Car, aircraft, boat manufacture Spare parts for aircrafts, repairs, etc.	Long-term concessions or agreements usually with the involvement of a local government or council. Demand for such services
Telecom	Core telecom infrastructure such as broadband equipment, optical fibres, telecommunication towers	Production and selling of telephones Internet Service Provider	Long-term contracts, mostly business-to-business.
Social infrastructure	Infrastructure that provides a service for the public that is regulated or governed by a government or a similar authority (eg courts, prisons, juvenile facilities, schools, universities, libraries, refugee camps, subsidised housing, hospitals, etc.).		The infrastructure facility is consistent with the social policies of the relevant government.

6. Infrastructure investments are debt or equity investments in entities that own, finance, develop or operate infrastructure assets.

7. Infrastructure investments can be segmented according to different criteria:

- The type of financial instrument:
 - Equity
 - Debt

- Bonds (rated or unrated)
 - Loans
 - The type of issuer:
 - Corporate: an infrastructure corporate is an entity or a group that derives the substantial majority (at least 90%) of its revenue from owning, financing, developing or operating infrastructure assets, and is typically involved in the operational phase of a project.
 - Project: an infrastructure project entity supports owning, financing, developing, or operating infrastructure assets, and is typically set up for the construction phase of a project.
- N.B.: with regard to debt financing loans to infrastructure corporate are usually unsecured, while loans to infrastructure projects are generally collateralised.
- The involvement of the public sector (for instance through a PPP) or absence thereof
 - The location of the infrastructure:
 - Developed markets
 - Emerging markets and developing economies (EMDEs¹)

2.2 Criteria to identify less risky subsets of infrastructure investments

8. The purpose of the criteria below is to identify subsets of debt and equity infrastructure investments that may be less risky due to their nature and the existence of sufficient investment protection features.

2.2.1 Subset of infrastructure corporate investments

9. Investments in infrastructure corporate are considered less risky when the investor can demonstrate all² of the following:

- a. Revenues generated by the infrastructure assets are predictable, evidenced by:
 - i. Availability-based revenues;
 - ii. Arrangements that are subject to rate-of-return regulations;
 - iii. Arrangements that provide a high degree of contractual or regulatory certainty of payments from future revenues by mitigating demand and/or price risk through concessions;
 - iv. Offtake contracts, such as take-or-pay contracts, or similar;
 - v. Resilient demand; or
 - vi. Low risk of substitution and barriers to entry.
- b. Revenues generated by the infrastructure assets are diversified in terms of activities, location, or payers unless the revenues are subject to rate-of-return regulations;
- c. The debt issue (or, for equity, the equity issuer) is either ICS RC 1-4, or:
 - i. The infrastructure corporate is of strong credit quality;

¹ Identified based on the World Bank classification of countries: all countries not classified as high income should be considered as EMDE.

² All the main bullets a-f must be met, by meeting at least one of the sub-bullets i-vi under (a), and under (c) either (c) itself or all of i, ii and iii.

- ii. The capital structure of the infrastructure corporate allows debt service under conservative assumptions based on an analysis of the relevant financial ratios; and
 - iii. The infrastructure corporate has been active in its lines of business for at least three years, or in the case of an acquired business it has been in operations for at least three years.
- d. Where investments are in bonds or loans, the IAIG is committed to holding the investment to maturity;
- e. Where the revenues of the infrastructure corporate are not funded by payments from a large number of users, the contractual framework includes provisions that effectively protect investors against losses resulting from the termination of the project by the contracted purchaser of the goods or services, and require the contracted purchaser to be of good credit standing or replaceable without a significant loss to debt and equity investors; and
- f. Based on quantitative evidence, the IAIG is able to demonstrate to its GWS, on a regular basis, that the investment is less volatile than equivalent investments in non-infrastructure assets.

2.2.2 Subset of infrastructure project investments

10. Investments in infrastructure projects are considered less risky when the investor can demonstrate all³ of the following:

- a. Revenues generated by the infrastructure assets are predictable, resulting from:
 - i. Availability-based revenues or arrangements that are subject to rate-of-return regulations;
 - ii. Arrangements that provide a high degree of contractual or regulatory certainty of payments from future revenues by mitigating demand and/or price risk through concessions;
 - iii. Offtake contracts, such as take-or-pay contracts, or similar;
 - iv. Resilient demand; or
 - v. A low risk of substitution and barriers to entry.
- b. The infrastructure project can meet its financial obligations under sustained stressed conditions that are relevant for the risk of the project; and
- c. The infrastructure project is governed by a regulatory or contractual framework that provides debt and equity investors with a high degree of protection, including the following:
 - i. Where the revenues of the infrastructure project are not funded by payments from a large number of users, the contractual framework includes provisions that effectively protect investors against losses resulting from the termination of the project by the contracted purchaser of the goods or services, and require

³ All the main bullets a-e must be met, by meeting at least one of the sub-bullets i-v under (a), and all sub-bullets i-iii under (c).

- the contracted purchaser to be of good credit standing or replaceable without a significant loss to debt and equity investors;
- ii. The infrastructure project has sufficient reserve funds or other financial arrangements to cover its contingency funding and working capital requirements; and
 - iii. For debt investments, the contractual framework provides a strong security package, which may include security in project assets and contracts, step-in rights, equity pledges, restrictions on the use of net operating cash flows, restrictions on permitted investments and activities, and on the issuance of new debt.
- d. Where investments are in bonds or loans, the IAIG is committed to holding the investment to maturity; and
 - e. Based on quantitative evidence, the IAIG is able to demonstrate to its GWS, on a regular basis, that the investment is less volatile than equivalent investments in non-infrastructure assets.
11. For investments in infrastructure projects through equity and unrated debt (and debt rated weaker than ICS RC 4) , the following additional criteria apply:
- a. The risks during the construction phase of the project are significantly mitigated, resulting from:
 - i. A good expertise and a track record of the sponsor of successfully overseeing infrastructure projects;
 - ii. Established incentives for the sponsor to protect the interests of other investors;
 - iii. A limited exposure of investors to the default of the sponsor;
 - iv. Established safeguards to ensure completion of the project according to the agreed specifications, budget and completion date; and
 - v. The use of tested technology and design.
 - b. The financial risks faced by the infrastructure project are significantly mitigated, resulting from:
 - i. The capital structure of the infrastructure project allows it to service its debt under conservative assumptions based on an analysis of the relevant financial ratios;
 - ii. The refinancing risk for the infrastructure project is low;
 - iii. The infrastructure project uses derivatives only for risk mitigation purposes; and
 - iv. Debt ranks *pari passu* or senior to all claims other than statutory claims; and
 - c. Where operating risks are material, they are properly managed.

3 Strategic equity

12. The purpose of defining strategic equity is to identify the subset of those specific equity investments whose price volatility is reduced due to their strategic nature and the ability of the

IAIG to influence the strategy of the participation, ie the firm in which the equity investment is made.

13. An investment is strategic equity if it meets the following criteria:
- a. Based on quantitative evidence, the IAIG is able to demonstrate to its GWS, on a regular basis, that the value of the strategic equity investment is less volatile than the value of other equities, as a result of both the nature of the investment and the influence exercised by the IAIG. For that purpose, the IAIG is expected to monitor the value development of the investment over time, and to compare it to the value development of non-strategic investments of a similar category. Dividends, if any, should be continuous in value. The reduced volatility of the equity investment's value is linked to the influence exercised over the investment, and that this link will persist for at least the following 12 months;
 - b. The nature of the investment is strategic, taking into account all relevant factors, including:
 - i. The existence of a clear decisive strategy and ability to continue holding the investment for at least 6 years; the demonstration of the ability to hold the investment over a long period should include, but not be limited to, considerations on the profile of insurance liabilities;
 - ii. The existence of a durable link, which may be established by the existence of a stable relationship between two firms over time which results in a close economic bond, the sharing of risks and benefits between them, or exposure to risks from one to the other. Such a link may be demonstrated in the form of the relationship between the two firms, which may include significant ownership, joint products or distribution lines, cross-selling, the creation of joint ventures or other long-term operational or financial links; and
 - iii. The consistency of such strategy with the main policies guiding or limiting the actions of the participation and the IAIG.