STAFF PAPER

October 2021

IASB® Meeting

Project	Pension Benefits that Depend on Asset Returns	
Paper topic	Additional research findings and future direction of the project	
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Background

1. Following the 2015 Agenda Consultation, the International Accounting Standards Board (Board) added to its research pipeline a project to consider whether to develop proposals to make a narrow-scope amendment to IAS 19 *Employee Benefits* for pension benefits that depend on the return on a specified pool of assets (the reference assets).

2. Applying IAS 19 an entity:

   (a) uses assumptions about the expected rate of return on the reference assets to estimate the amount of the pension benefits to be paid to employees; and

   (b) applies a discount rate in determining the present value of the estimated pension benefits.

3. The expected rate of return on the reference assets used to estimate the amount of the pension benefits to be paid to employees reflects the variability inherent in the reference assets. Paragraph 83 of IAS 19 requires a discount rate determined by reference to market yields at the end of the reporting period on high-quality corporate bonds (the IAS 19 discount rate). When the employees can only share in the realised returns of the reference assets, applying the IAS 19 discount rate can overstate the

pension liability. This arguably produces information that is not relevant to users of financial statements.

4. The objective of the research project is to assess whether it is feasible to eliminate the overstatement of the pension liability by capping the expected rate of return on the reference assets used to estimate the cost of pension benefits that vary with asset returns (a capped approach), without changing other aspects of IAS 19. The expected rate of return on the reference assets used would not exceed the IAS 19 discount rate used to determine the present value of those benefits.

5. In January 2020, the Board received an update on the project including its background and a description of the capped approach.

6. In December 2020, the Board considered illustrative examples comparing outcomes applying the capped approach with outcomes applying the requirements in IAS 19.

Objective of the meeting

7. The objective of this session is to complete the presentation of the research findings and to ask the Board to decide the direction for the project.

Summary of staff recommendation

8. The staff recommends the Board develop a narrow-scope amendment to IAS 19 proposing that an entity estimates the ultimate cost of providing pension benefits that vary with asset returns applying the IAS 19 discount rate, when the IAS 19 discount rate is lower than the expected rate of return on the reference assets.[1]

9. In the staff's view, the capped approach:

[1] The title of this project is Pension Benefits that Depend on Asset Returns. In the light of the Board's discussion, the staff now thinks a clearer description would be Pension Benefits that Vary with Asset Returns. The remainder of this paper uses this phrase.

(a) would improve the relevance and faithful representation of the entity's obligation in relation to pensions benefits that vary with asset returns (paragraph 31);

(b) would have an application scope sufficiently pervasive to justify standard setting (paragraph 53); and

(c) would not involve significant costs for entities that are already applying the requirements in IAS 19 for defined benefit plans (paragraphs 57–59).

10. If the Board decides not to develop a narrow-scope amendment, the staff recommends the Board stop this project and consider any further work as part of the Third Agenda Consultation.

Structure of this paper

11. This paper is structured as follows:

(a) description of the problem (paragraphs 12–17);

(b) description of the solution:

(i) the capped approach and its outcome (paragraphs 18–31);

(ii) issues not considered in the project (paragraphs 32–38);

(iii) is the issue pervasive (paragraphs 39–53)?

(iv) does the approach involve significant costs (paragraphs 54–59)?

(v) are there unintended consequences (paragraphs 60–62)?

(c) staff recommendation and questions to the Board (paragraphs 63–65);

(d) Appendix A—Illustrative example; and

(e) Appendix B—History of the project.

Description of the problem

12. An entity classifies post-employment benefit plans as either defined contribution (DC) plans, or defined benefit (DB) plans applying paragraphs 26–31 of IAS 19. IAS 19 defines a DC plan as a post-employment benefit plan under which an entity pays fixed contributions into a separate entity (a fund) and will have no legal or constructive obligation to pay further contributions if the fund does not hold sufficient assets to pay all employee benefits relating to service in the current and prior periods.

13. IAS 19 defines a DB plan as a post-employment plan other than a DC plan. An entity measures a DB plan by:

    (a) using an actuarial technique, the projected unit credit method, to make a reliable estimate of the ultimate cost to the entity of the benefits that employees have earned in return for their services in the current and prior periods;

    (b) discounting these benefits in order to determine the present value of the defined benefit obligation (DBO) and the current service cost; and

    (c) deducting the fair value of any plan assets from the present value of the DBO, after considering the asset ceiling described in paragraphs 64–65 of IAS 19.

14. The DB plans being considered in this project grant pension benefits that vary with the return on reference assets. IAS 19 does not provide specific requirements for these types of pension benefit and the general provisions of IAS 19 apply. Therefore, an entity makes a reliable estimate of the ultimate costs of these pension benefits by estimating the return on the reference assets and discounting the benefits using the IAS 19 discount rate.

15. A simple example of this type of DB is a pension benefit payable in one year at an amount equal to the fair value of the reference assets at that date. Assume:

    (a) the reference assets have a current fair value of CU100;

    (b) an expected rate of return on the reference assets is 5%; and

(c) the IAS 19 discount rate required is 3%.

16. IAS 19 requires an entity to measure the present value of the DBO by:

(a) estimating the ultimate cost to the entity of the pension benefit by projecting forward the cash outflows at the expected rate of return of 5%; and

(b) discounting the cash flows back at 3%.

This would result in a present value of the DBO of CU102.

17. In this simple example the outcome of applying the requirements in IAS 19 is subject to two criticisms:

(a) applying IAS 19 does not depict faithfully the obligation to pay the pension benefit because the cost to provide the pension benefit depends on the returns on the reference assets. The measurement of the present value of the DBO results from combining cash flows determined on different basis; the expected rate of return on reference assets (including an expected risk premium of 2% in the example in paragraph 16 of this paper) with a discount rate that is determined on a different basis (not including a risk premium).

(b) a plan may hold the reference assets that determine the pension benefit payable to employees. IAS 19 requires an entity to measure plan assets at fair value. The fair value implicitly incorporates the risk inherent in future cash flows of the plan assets. In contrast, the present value of the DBO does not incorporate such a risk reduction. This difference in measurement basis can result in the entity recognising a net pension liability even if the entity's obligation to pay pensions cannot result in it being required to pay additional contributions for services received in past and present periods.

Description of the solution

Description of the capped approach

18. The capped approach would cap the expected rate of return on the reference assets used to estimate the cost of the benefits that vary with asset returns. The capped approach would require an entity to estimate the ultimate cost of the pension benefits that vary with asset returns by applying the IAS 19 discount rate, when the IAS 19 discount rate is lower than the expected rate of return on the reference assets. Therefore:

    (a) if the expected rate of return on the reference assets is higher than the IAS 19 discount rate, the capped approach limits (caps) the rate used to determine the pension benefit. The pension benefit is projected forward at the IAS 19 discount rate and then discounted back at the same rate.

    (b) if the expected rate of return on the reference assets is lower than the IAS 19 discount rate, the cap does not apply. The pension benefit is projected forward at the expected rate of return on the reference assets and then discounted back at the (higher) IAS 19 discount rate.

19. The entity would recognise a lower service cost for benefits that vary with asset returns compared to applying the requirements in IAS 19, because the expected rate of return on the reference assets is capped at the IAS 19 discount rate.

20. Since the ultimate cost of the pension benefits must include the actual returns on the reference assets, an entity needs to adjust the DBO to reflect the difference between the pension benefit projected using the capped rate and the accrued benefit based on the actual return for the period. This adjustment arises from the fact that applying the capped approach, the entity used the capped rate (and not the expected return rate); it is different from the remeasurement required in paragraph 127 of IAS 19, which arises when the actual return differs from the expected return.

21. Agenda Paper 6 for the December 2020 Board meeting discussed whether to present the adjustment for the difference between the pension benefit projected using the capped rate and the accrued pension benefit based on the actual return for the period

in profit or loss or in other comprehensive income.[2] If the Board proceeds with a narrow-scope amendment to IAS 19, it will need to decide where to present the adjustment in the primary financial statements.

22. The objective of the capped approach is to target the inconsistency in the measurement of the DBO described in paragraph 17(a) of this paper. This inconsistency is more visible when the plan is funded, and the entity holds the reference assets, but the objective of the amendment is not to align the measurement of the plan assets with the measurement of the DBO. The staff's view is that the application should not require the entity to hold the reference assets.

Outcome of the capped approach

23. The capped approach changes the recognition pattern of the total expense for pension benefits that vary with asset returns; it does not change the cumulated amount of the expense ultimately recognised for the pension benefits.

24. In simple fact patterns, the capped approach would measure the service cost at the amount of the entity's cash contribution[3] to the plan because (if the expected rate of return is higher than the IAS 19 discount rate) the amount of the cash contribution would be projected forward at the IAS 19 discount rate to determine the ultimate cost of the pension benefit earned in the period; and then discounted back using the same rate.

25. The capped approach results in the entity reporting a net pension liability/(asset) of nil if all the following conditions are met:

    (a) the contributions are invested in plan assets that match exactly the reference assets;

[2] Access here: December 2020 Agenda Paper 6.

[3] For simplicity, the description in the remainder of this paper refers to a contribution. The term 'contribution' is appropriate for a funded plan if contributions are the base that is increased by the returns on the reference assets. For an unfunded plan, a different term would be needed for that base.

(b) the returns on the reference assets exceed the minimum guarantee, if the terms of the plan include a minimum guarantee;

(c) there are no vesting conditions (or the vesting conditions are fully met); and

(d) the entity is not required to straight-line the pension benefits applying paragraph 73 of IAS 19.

26. The capped approach does not change other IAS 19 requirements that affect the measurement of the DBO. For example, paragraph 73 of IAS 19 requires that, if the plan's benefit formula attributes a materially higher benefit to later years, an entity attributes the benefits using a straight-line basis.

27. When an entity is required to apply paragraph 73 of IAS 19, applying the capped approach would reduce the DBO (and therefore the net pension liability) compared to applying IAS 19 but would be unlikely to result in the entity reporting a net pension liability of nil.

28. The capped approach has the following advantages:

(a) it applies to pension benefits that vary depending on returns on the reference assets therefore does not require identifying a sub-population of post-employment plans. The IFRS Interpretations Committee and the Board have had several attempts to develop approaches that would adjust the discount rate for a group of DB plans but have not been successful.

(b) unlike approaches that would adjust the discount rate:

(i) it would not be necessary to determine the discount rate most appropriate for post-employment benefits. The feedback on the Exposure Draft *Discount Rates for Employee Benefits* (Proposed amendments to IAS 19), published in 2009, demonstrated it could be difficult to achieve a consensus on the discount rate to apply.

(ii) it could be applied to plans that provide a combination of benefits that vary with asset returns and other benefits that do not vary with asset returns.

(iii) it is consistent with the approach required in IAS 19 to determine the net interest on the net defined benefit liability (asset).

29. The capped approach could be seen as conflicting with the requirements to use 'best estimates' as assumptions to determine the DBO in paragraph 76 of IAS 19, or the requirement to measure the DBO on a basis that reflects the benefits set out in the terms of the plan in paragraph 87 of IAS 19.

30. The capped approach does not change the general requirements in paragraph 57 of IAS 19 but provides guidance for pension benefits with specific features. Other requirements in IAS 19 provide guidance for specific features in DB plans, for example contributions from employees or third parties, or limits on contributions.

31. Defined benefit plans can affect the leverage (debt ratios) of an entity in two ways – financial when the defined benefit plan is in a net deficit; and asset allocation if pension assets are not matched with pension liabilities. The staff considers that the outcome of the capped approach improves the information to users as it eliminates the inconsistency in the measurement of the DBO and, when the conditions in paragraph 25 of this paper are met, results in a net pension liability/(asset) of nil which reflects that the entity is not expected to pay additional out flows in relation to the benefits earned in the current and past periods.

Issues not considered in the project

Discount rate

32. It has been suggested that an entity should *always* use the IAS 19 discount rate when making the estimate of the ultimate cost of the pension benefits that vary with asset returns; regardless of whether the IAS 19 discount rate is higher or lower than the expected rate of return on the reference assets. In other words, the entity should *set* the projection of these benefits at the IAS 19 discount rate, rather than *cap* it.

33. Requiring to always use the IAS 19 discount rate would extend the scope of the research project, which was to consider if the capped approach could be a practical solution to the inconsistency discussed in paragraph 17(a) of this paper. Extending the scope of the approach to other circumstances would require investigating, for

example, how changing the capped approach into a required approach would interact with the asset ceiling in paragraph 64 of IAS 19.

Minimum guarantees lower than expected returns

34. The capped approach applies only to the measurement of a subgroup of DB plans. To qualify as a DB plan, a plan needs other characteristics beyond paying benefits that vary with asset returns. The most likely characteristic of such a plan is a minimum guarantee of return on contributions, for example the benefit accruing on the contributions cannot be negative.

35. When a plan pays the higher of the returns on the reference assets and a minimum guarantee, the entity would estimate the ultimate cost of the pension benefit using the higher of the expected rate of return on the reference assets and the minimum guaranteed. IAS 19 is silent on whether the entity should recognise and measure the minimum guarantee when it does not exceed the expected rate of return.

36. The capped approach would eliminate an inconsistency that increases the DBO, while not recognising and measuring the minimum guarantee that is out of the money decreases it.

37. The capped approach does not consider the measurement of the minimum guarantee that is out of the money. The staff does not recommend extending the scope of the project to include the measurement of the guarantee, because selecting a measurement basis would have implications for other IFRS Standards and therefore significantly extend the scope of the project.

38. Measurements that attempt to capture the full economic value of an obligation—for example fair value, or the fulfilment value required by IFRS 17 *Insurance Contracts*—generally do attribute value to such guarantees, even when they are out of the money.

Is the issue pervasive?

39. To determine if the issue is pervasive the staff has reviewed trends on pension provision, including:

(a) global trends;

(b) the date from the Organisation for Economic Cooperation and Development (OECD); and

(c) input from International Actuarial Association (IAA).

40. In the discussion that follows, the paper refers to defined contribution and defined benefit where external sources use those or similar terms. The definitions may not match the definitions in IAS 19.

41. At the November 2015 Board meeting, the staff presented a paper on global trends in pensions.[4] The main findings in the staff paper were:

(a) hybrid plans are as common as DB plans and DC plans in Europe. These hybrid plans are particularly common in Germany, the Netherlands and Switzerland.

(b) similar plans could be found in Canada, Mexico and South Africa.

(c) in the United States, the United Kingdom and Japan there is a trend to transition to hybrid plans or DC plans.

(d) in jurisdictions such as China, India, Indonesia, Singapore and Spain defined contribution plans are predominant.

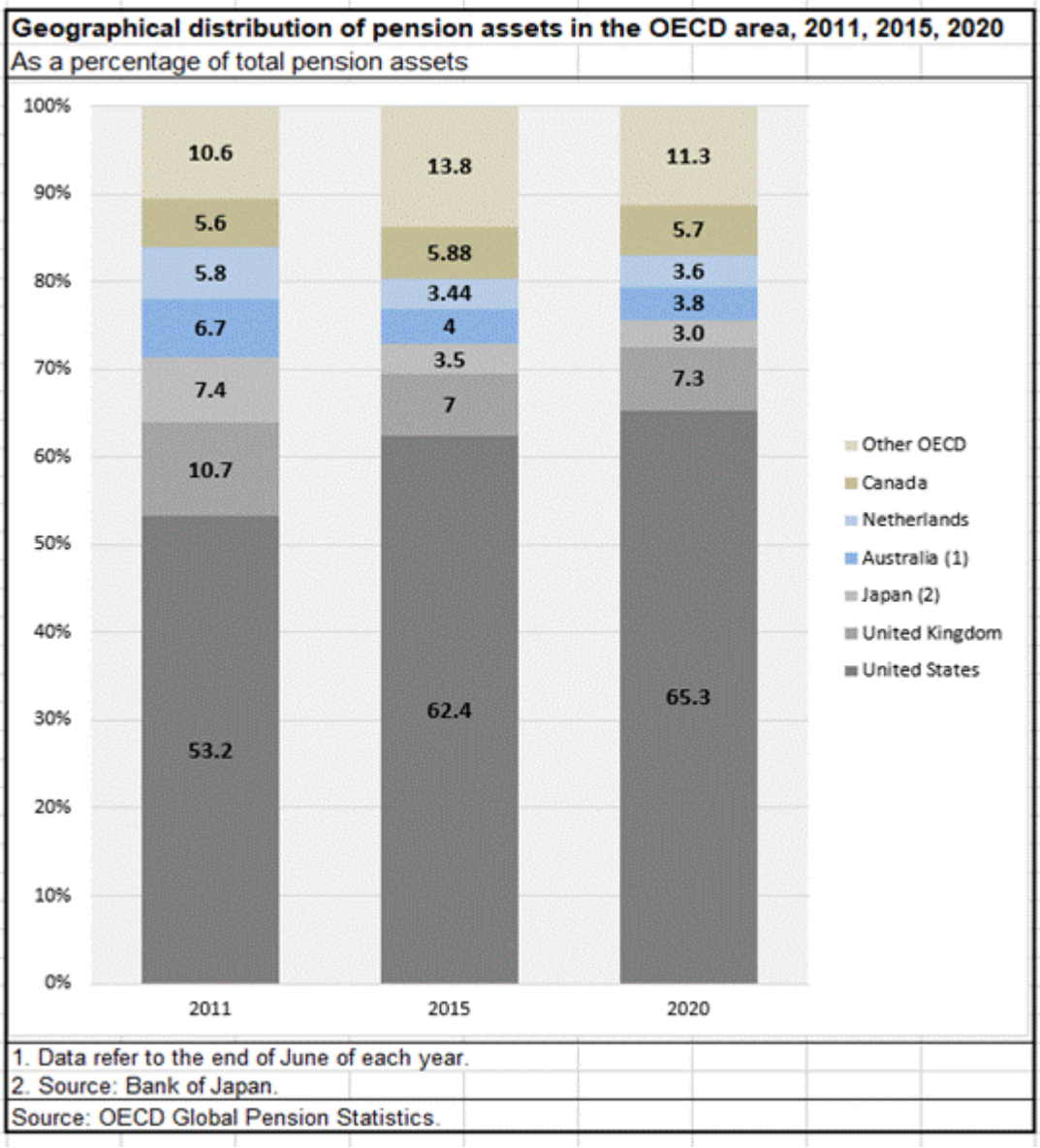
42. In this paper, the staff presents an update of the analysis of global trends in pensions. The OECD provides information about private pension plans in OECD and some non-OECD countries, covering Asia-Oceania, Africa, Americas and Europe. The European Insurance and Occupational Pensions Authority (EIOPA) provides a database about private pensions for 31 countries in the European Economic Area (EEA).

43. The OECD data on the geographical distribution of pension assets suggest that pension plans are relevant in the United State, the United Kingdom, Canada, Australia, Netherlands, Japan, and Switzerland, but also that the ratio of pension

[4] Access here: November 2015 Agenda Paper 15a

assets in other countries to global pension assets increased slightly from 2012 to 2020.[5]

44. The following chart presents the geographical distribution of pension assets in the OECD for the years 2011, 2015 and 2020.



[5] Source: OECD Global Pension Statistics http://www.oecd.org/finance/pensionmarketsinfocus.htm

45. The following table presents the relative size of sector per type of scheme in EIOPA countries for 2018. The table uses the ISO country codes.

RELATIVE SIZE OF SECTOR PER TYPE OF SCHEME

	#by total assets (2018 data)			#by Total membership (2018 data)		
Country	Defined Benefit schemes (DB)	Defined Contributions schemes (DC)	Hybrid schemes (HY)	Defined Benefit schemes (DB)	Defined Contributions schemes (DC)	Hybrid schemes (HY)
AT	NA	NA		NA	NA	
BE	86%	0%	14%	98%	0%	2%
BG		100%			100%	
DE	100%			100%		
DK	100%			100%		
ES	0%	28%	72%	0%	76%	24%
FI	100%			100%		
GR		100%			100%	
HR	8%	92%		6%	94%	
IE	63%	37%		64%	36%	
IS	9%	91%		32%	68%	
IT	4%	96%		2%	98%	
LI	10%	80%	10%	3%	90%	7%
LU	56%	36%	8%	56%	32%	12%
LV		100%			100%	
MT		100%			100%	
NL	99.5%	0.5%		99.5%	0.5%	
NO	100%			100%		
PL		100%			100%	
PT	92%	8%		68%	32%	
RO*		100%			100%	
SE	100%			100%		
SI	98%	2%		93%	7%	
SK		100%			100%	
UK**	NA	NA		34%	66%	

Notes: The breakdown for DB, DC and HY in AT is not available.
*The Romanian private pension system does not include pure occupational pension schemes and is structured as First pillar bis (privately administrated pension funds under Law no. 411/2004) and Third pillar (voluntary pension funds under Law no. 204/2006). Both are DC.
**For the UK, the DB figure includes both DB and HY. No breakdown between DB/HY and DC is available for total assets.

46. EIOPA classify pensions as follows:

(a) defined benefit schemes are retirement benefit plans under which amounts to be paid as retirement benefits are determined by reference to a formula usually based on employees' earnings and/or years of service. This category also includes inflation or index linked pensions.

(b) defined contributions schemes are pension plans where the only obligation of the plan sponsor is to pay a specified contribution (normally expressed as a percentage of the employee's salary) to the plan on the employee behalf. There are no further promises or 'guarantees' made by the sponsor.

(c) hybrid schemes (HY) are plans with two components that are treated as part of the same scheme.

(d) defined contributions schemes with guarantees include:

(i) plans that operate like a defined contribution scheme but target a specified level of benefits at retirement;

(ii) plans that operate like a defined contribution scheme but guarantee a minimum rate of investment return on contributions paid;

(iii) plans that operate like a defined contribution scheme but guarantee a certain annuity purchase price (annuity conversion factor); and

(iv) plans guaranteeing at least the sum of contributions paid is returned.

(e) defined benefit contribution-based schemes are plans in which benefits are mostly determined by the contributions paid and the results of their investment, but that offer minimum guarantees for which the employer has the final responsibility for the minimum guarantees. In the EIOPA data, these plans are included in the defined benefit category.

47. The EIOPA database includes 89 occupational plans classified as follows:

(a) 30 plans as (traditional) defined benefit plans;

(b) 26 plans as pure defined contribution plans with no guarantees;

(c) 16 plans as defined benefit plans in which benefits are mostly determined by the contributions paid and the returns on their investments, but the employers have the responsibility for minimum guarantees;

(d) 5 plans operated like defined contribution plans but providing guarantees;

(e) 6 plans that can be both; and

(f) 6 plans as 'Others'

48. This indicates that 33 out of 89 occupational plans included in the database are neither typical defined benefit plans nor pure defined contribution plans.

49. According to the EIOPA database, defined benefit plans in which benefits are mostly determined by the contributions paid and the returns on their investments are particularly common in Slovenia, Germany and Belgium and defined contribution plans with guarantees are common in Portugal and Liechtenstein.

50. The staff also reached out informally to the IAA. The IAA members reported that in some jurisdictions, pensions benefits that vary with asset returns are observed, particularly in Germany and Switzerland. This type of benefit can be found but is not common in Australia, Canada, Netherlands and the United States. In contrast, these benefits are rare in Spain and Finland.

51. Settlement options for these plans vary. In Switzerland and the United States there is an option to choose between a lump sum and an annuity payment. In Australia, Belgium and Germany, the benefits are typically paid as a lump sum, and there may be an option to convert to an annuity. Benefits are paid as an annuity in Finland.

52. Informal outreach with members of the IAA confirmed that plans with benefits that vary with asset returns are present in some jurisdictions and absent in others. The staff considers that it would be difficult to obtain additional data on the prevalence of these plans.

53. The data reviewed provides evidence that the issue is sufficiently pervasive to justify developing a narrow-scope amendment.

Does the approach involve significant costs?

Changes to IAS 19 required to introduce the capped approach

54. To introduce the capped approach, it would be necessary to add new requirements following paragraph 87 of IAS 19 to explain how to apply the capped approach when estimating the ultimate cost of benefits that vary with asset returns.

55. As noted in paragraph 20 of this paper, an entity would need to adjust the present value of the DBO to reflect the difference between the pension benefit projected using the capped rate and the accrued benefit based on the actual return on the reference assets for the period. The Board would need to decide whether the

adjustment should be presented in profit or loss or in other comprehensive income and add requirements to IAS 19.

56. Other matters that would need to be considered in developing an amendment to IAS 19 include:

    (a) whether the adjustment in paragraph 20 in this paper should be disclosed separately in the reconciliation of the net defined benefit liability/(asset);

    (b) any disclosure requirements relating to applying the capped approach, taking into consideration the Exposure Draft *Disclosure Requirements in IFRS Standards – A Pilot Approach;*

    (c) transition requirements; and

    (d) whether to include an illustrative example to explain the application of the capped approach.

Cost for preparers and users

57. An entity applying the capped approach:

    (a) would replace the expected rate of return on the reference assets with the IAS 19 discount rate, when the IAS 19 discount rate is lower than expected rate of return on the reference assets. This should not involve additional costs because the entity already determines the IAS 19 discount rate to measure the present value of the DBO.

    (b) determine the adjustment discussed in paragraph 20 in this paper. This will involve some additional costs, but they are not expected to be significant.

58. Applying the requirements IAS 19, a revision of the expected rate of return or the IAS 19 discount rate gives rise to a remeasurement; this is not the case when applying the capped approach, to the extent that the IAS 19 discount rate continues being lower than the expected rate of return. Remeasurements may become less frequent when applying the capped approach.

59. Entities will incur some costs to change their systems to implement the change but there should be no significant ongoing costs. There may be additional cost for

preparers depending on whether the Board concludes additional disclosures are needed.

Are there unintended consequences?

60. The Board asked the staff to consider whether the capped approach could lead to unintended consequences. To do so, the staff applied the capped approach to different fact patterns and prepared a number of illustrative examples.

61. The Board considered these examples at its meeting in December 2020. At that meeting the Board asked the staff to develop an example with a fact pattern, in which the entity expects that, for some periods, the expected rate of return falls short of the minimum guarantee. For these periods, the entity would calculate the cost of the benefit by applying the minimum guaranteed rate. In this fact pattern, the amount of the benefits can ultimately exceed the value of the reference assets. Appendix A to this paper includes an example to illustrate how the capped approach applies in this fact pattern.

62. The staff did not identify cases when applying the capped approach would create conflicts with other requirements in IAS 19.

Staff recommendation

63. Based on the analysis in the paper, the staff recommends the Board develop a narrow-scope amendment to IAS 19 proposing that an entity estimates the ultimate cost of providing pension benefits that vary with asset returns applying the IAS 19 discount rate, when the IAS 19 discount rate is lower than the expected rate of return on the reference assets

64. If the Board supports the staff recommendation, at a future meeting the staff will ask the Board to decide:

    (a) where the adjustment in paragraph 20 in this paper should be presented in the primary financial statements;

(b) whether the adjustment in paper 20 of this paper should be disclosed separately in the reconciliation of the net defined benefit liability/(asset);

(c) any disclosure requirements relating to applying the capped approach, taking into consideration the Exposure Draft *Disclosure Requirements in IFRS Standards – A Pilot Approach;*

(d) transition requirements; and

(e) whether to include an illustrative example to explain the application of the capped approach.

65. If the Board decides not to develop a narrow-scope amendment, the staff recommends the Board stop the project and considers any further work as part of the Third Agenda Consultation.

Questions to the Board

Question to the Board
1. Does the Board agree with the staff recommendation to develop a narrow-scope amendment to IAS 19 as described in this paper? 2. If the Board does not support to develop a narrow-scope amendment to IAS 19, does the Board agree to stop the research project and consider any further work matter as part of the Third Agenda Consultation?

Appendix A—Illustrative example

A1. To illustrate the outcome of the capped approach in different fact patterns, the staff presented illustrative examples at the December 2020 Board meeting. This Appendix presents an additional example.

Terms of the benefit and assumptions

A2. The main terms of the pension benefit in the example are:

(a) the plan is funded by contributions from the employer only. Contributions are made to the DB plan at the end of each year.

(b) the contributions are equal to a fixed percentage of the salary in the current year of service.

(c) there are no service or other vesting conditions. For simplicity, the staff has ignored what happens if an employee leave before the end of Year 8.

(d) the cumulative undiscounted pension benefit is adjusted each year by:

(i) the cash contributions paid by the employer; and

(ii) the higher of:

1. the return on the reference assets; or

2. the guaranteed return.

(e) the entity invests in the reference assets.

(f) the entity is required to cover any shortfall between the minimum guaranteed return and the actual return on the reference assets because the plan does not limit the contributions that the entity is required to pay.

(g) the employees receive a lump sum at the end of Year 8.

A3. Table 1 illustrates the contributions paid to the DB plan. Contributions are 8% of the salary for the year.

Table 1 - Expected contributions

Year	Current salary	Contribution
1	75,000	6,000
2	76,613	6,129
3	82,856	6,629
4	84,638	6,771
5	91,536	7,323
6	93,504	7,480
7	101,124	8,090
8	103,299	8,264

A4. Table 2 illustrates the expected rate of return on the reference assets in each period, the guaranteed rate and the IAS 19 discount rate. Because the guaranteed rate exceeds the expected rate of return in Years 6–8, the plan is expected to be in a deficit position at the end of Year 8.

Table 2 - Expected returns on reference assets

Year	Expected return rate	Guarantee	Discount rate
1	-	-	-
2	3.0%	2.5%	2.0%
3	3.0%	2.5%	2.0%
4	3.0%	2.5%	2.0%
5	3.0%	2.5%	2.0%
6	1.5%	2.5%	2.0%
7	1.5%	2.5%	2.0%
8	1.5%	2.5%	2.0%

A5. Table 3 illustrates how the cumulative undiscounted pension benefit, and the fair value of the plan assets are expected to change over the period of service. The return (second column of Table 3) is calculated by multiplying the opening balance of the cumulative undiscounted benefit by the higher of the expected rate of return and the guaranteed rate in each year; for Years 2–5, the rate is 3%; for Years 6–8, it is 2.5%.

A6. The closing balance of the plan assets (sixth column in Table 3) is equal to the opening balance plus the expected return plus the cash contribution for the period (third column in Table 1).

Table 3 - Expected changes in cumulative undiscounted benefit and plan assets

Cumulative undiscounted benefit				Plan assets	
Opening	Return	Contribution	Closing	Opening	Closing
		6,000	6,000		6,000
6,000	180	6,129	12,309	6,000	12,309
12,309	369	6,629	19,307	12,309	19,307
19,307	579	6,771	26,657	19,307	26,657
26,657	800	7,323	34,780	26,657	34,780
34,780	869	7,480	43,129	34,780	42,782
43,129	1,078	8,090	52,298	42,782	51,513
52,298	1,307	8,264	61,869	51,513	60,550

Defined benefit obligation and net pension liability applying IAS 19

A7. Tables 4 and 5 illustrate how the entity would measure the defined benefit obligation (DBO) and the plan assets applying the requirements in IAS 19.

Table 4 - Expected changes in the DBO applying IAS 19

Year	Opening balance	Service cost	Interest expense	Actuarial difference	Closing balance
1	-	6,331	-	-	6,331
2	6,331	6,404	127	-	12,862
3	12,862	6,859	257	-	19,978
4	19,978	6,938	400	-	27,316
5	27,316	7,431	546	-	35,294
6	35,294	7,554	706	-	43,553
7	43,553	8,130	871	-	52,554
8	52,554	8,264	1,051	-	61,869

Table 5 - Expected changes in plan assets applying IAS 19

Year	Opening balance	Interest income	Excess (deficit) returns	Investment from contributions	Closing balance
1	-	-		6,000	6,000
2	6,000	120	60	6,129	12,309
3	12,309	246	123	6,629	19,307
4	19,307	386	193	6,771	26,657
5	26,657	533	267	7,323	34,780
6	34,780	696	(174)	7,480	42,782
7	42,782	856	(214)	8,090	51,513
8	51,513	1,030	(258)	8,264	60,550

A8. The service cost for each year (third column of Table 4) is calculated as follows:

(a) the entity estimates the ultimate cost of providing the pension benefit. The entity projects the cash contribution for the year to the end of the period of service (end of Year 8) by applying the higher of the expected return rate or the guaranteed rate.

(b) then the entity discounts the amount in (a) by applying the IAS 19 discount rate.

A9. For example, the service cost of CU6,331 for Year 1 is estimated as follows:

(a) the cash contribution of CU6,000 is projected by applying the expected return rate of 3% in Years 2–5, and the guaranteed rate of 2.5% for Years 6–8;

(b) the amount in (a) is discounted back to Year 1 by applying the discount rate of 2%.

A10. Table 6 illustrates the net pension liability/(asset) over the period of service the entity would recognise applying the requirements in IAS 19.

Table 6 - Expected changes in the net pension liability/(asset) applying IAS 19

Year	Opening balance	Service cost	Net interest	Deficit (excess) returns	Actuarial loss/(gain)	Contribution paid	Closing balance
1	0	6,331				(6,000)	331
2	331	6,404	7	(60)		(6,129)	553
3	553	6,859	11	(123)		(6,629)	671
4	671	6,938	13	(193)		(6,771)	659
5	659	7,431	13	(267)		(7,323)	514
6	514	7,554	10	174		(7,480)	772
7	772	8,130	15	214		(8,090)	1,041
8	1,041	8,264	21	258		(8,264)	1,319

A11. The closing balance of the net pension liability is the difference between the closing balance of the DBO and the closing balance of the plan assets.

A12. The net interest (fourth column in Table 6) is calculated by applying the discount rate of 2% to the opening balance of the net pension liability. Excess/(deficit) returns are calculated as the difference between the total change in the fair value of the plan assets and the interest income.

DBO and net pension liability applying the capped approach

A13. When applying the capped approach, the entity would estimate the ultimate cost of providing the pension benefit as follows:

(a) the entity would compare the expected rate of return and the guaranteed rate and project the cash contributions by applying the guaranteed rate for the periods in which the guaranteed rate exceeds the expected rate of return on the reference assets. This part of the calculation is the same as applying IAS 19.

(b) for the remaining periods, the entity would compare the expected rate of return and the IAS 19 discount rate and project the cash contributions by applying the lower of the expected rate of return or the IAS 19 discount rate.

(c) the entity would then discount back the amount of the ultimate cost of the pension benefit by applying the IAS 19 discount rate.

A14. In the example, when the entity is estimating of the ultimate cost of the pension benefit earned in Year 1, it would apply the cap of 2% for Years 2–5; and the guaranteed rate of 2.5% for Years 6–8.

A15. Table 7 illustrates how the entity would measure the DBO over the period of service applying the capped approach:

Table 7 - Expected changes in the DBO applying capped approach

Year	Opening balance	Service cost	Interest expense	Adjustment	Closing balance
1	-	6,089	-		6,089
2	6,089	6,220	122	61	12,491
3	12,491	6,726	250	125	19,592
4	19,592	6,871	392	196	27,051
5	27,051	7,431	541	271	35,294
6	35,294	7,554	706	-	43,553
7	43,553	8,130	871	-	52,554
8	52,554	8,264	1,051	-	61,869

A16. The entity would measure the plan assets in the same way as applying the requirements in IAS 19, as illustrated in Table 5 of this appendix.

A17. Table 8 illustrates the net pension liability/(asset) over the period of service the entity would recognise applying the capped approach. The closing balance of the net liability is the difference between the closing balance of the DBO in Table 7 and the closing balance of the plan assets in Table 5.

Table 8 - Expected changes in the net pension liability/(asset) applying the capped approach

Year	Opening balance	Service cost	Net interest	Deficit (excess) returns	Adjustment	Contribution paid	Closing balance
1	-	6,089				(6,000)	89
2	89	6,220	2	(60)	61	(6,129)	182
3	182	6,726	4	(123)	125	(6,629)	285
4	285	6,871	6	(193)	196	(6,771)	394
5	394	7,431	8	(267)	271	(7,323)	514
6	514	7,554	10	174	-	(7,480)	772
7	772	8,130	15	214	-	(8,090)	1,041
8	1,041	8,264	21	258	-	(8,264)	1,319

A18. In this fact pattern, the staff notes that:

(a) the entity recognises the adjustment described in paragraph 20 of this paper (sixth column of Table 8) for the Years 2–5, because in these years the actual returns affect the benefits earned by the beneficiaries, and therefore the ultimate amount of the benefits. In Years 6–8, the benefits are based on the guaranteed rate and are not affected by the actual returns.

(b) the entity does not need the adjustment described in paragraph 20 of this paper in Years 6–8, because the projection for those periods is based on the guaranteed rate and therefore not affected by the cap.

(c) from Year 1 onward, the service cost is not equal to the contribution in the plan formula, because the contribution is projected using the discount rate of 2% only for Years 2–5, and the guaranteed rate of 2.5% for Years 6–8, and then is discounted back for the full period at the discount rate of 2%.

A19. Consequently, in later years the DBO is higher than the plan assets. This reflects that the plan is expected to be in a deficit position. Since the amount of the adjustment is determined based on the DBO, and the excess returns are determined based on the plan assets, the two amounts do not exactly offset each other.

A20. Table 9 compares the service cost that the entity would recognise applying the requirements in IAS 19 and the capped approach.

Table 9 – Comparison of service cost

Year	Service cost	
	IAS 19	Capped approach
1	6,331	6,089
2	6,404	6,220
3	6,859	6,726
4	6,938	6,871
5	7,431	7,431
6	7,554	7,554
7	8,130	8,130
8	8,264	8,264

Appendix B—History of the project

B1. In 2004, the IFRS Interpretations Committee (Committee) published a Draft Interpretation D9 *Employee Benefit Plans with a Promised Return on Contributions or Notional Contributions*, to address the treatment of pension benefit plans with a promise depending on asset returns. In November 2006, the Committee referred the issue to the Board to be included in the Board's project on post-employment benefits.

B2. The Board initially included this issue in its project on post-employment benefits and included proposals to address contribution-based promises in the 2008 Discussion Paper *Preliminary Views on Amendments to IAS 19 Employee Benefits*. However, the Board decided in 2009 to defer consideration of pension benefit plans with a promise depending on asset returns to a future broad-scope project.

B3. In 2012, the Committee received a request asking for clarification of the accounting for pension benefits with a promise varying with asset returns. In May 2014 the Committee decided to remove the project from its agenda, because it was difficult to find an appropriate scope for any exemption from IAS 19.

B4. Following the 2015 Agenda Consultation, the Board added to its research pipeline a project to consider whether it should develop proposals to make a narrow-scope amendment to IAS 19 for pension benefits that depend on asset returns.

B5. In January 2020, the Board received an update on the project including its background and a description of the capped approach. In December 2020, the Board considered illustrative examples comparing accounting outcomes applying the capped approach with the accounting outcome of applying IAS 19.