Further consultation on IM Review draft decision on the cost of debt wash-up of EDBs and GTBs

29 September 2023

Purpose and scope of this consultation paper

1. This consultation paper seeks feedback on two changes to a draft decision we made for our 2023 review of the input methodologies for Part 4 of the Commerce Act (IM Review). If we adopt them in our final decision for the IM Review, we would implement the two changes by amending the specification of price input methodologies (IMs) for electricity distribution businesses (EDBs) and gas transmission businesses (GTBs).

2. The two changes relate to the cost of debt wash-up we proposed in our draft decision and the way it interacts with the overall wash-up for over or under forecasts of inflation during the regulatory period.

Scope of this consultation paper

3. We ask that submitters focus their submissions on the scope of the consultation paper, comprising the issues submitters raised with our draft decision at paragraph 22 and our preferred option and alternatives for addressing these issues.

4. We are not inviting views on other aspects of the revenue wash-up, the method of indexing the regulatory asset base (RAB), or other IM Review draft decisions.

How you can provide your views

5. Please send your submissions to the Input Methodologies Review 2023 mailbox (IM.Review@comcom.govt.nz) addressing Charlotte Reed, by 5pm, Tuesday 17 October. We will then invite cross-submissions. Cross submissions will be due by 5pm, Friday 27 October. Cross-submissions should only focus on matters raised in submissions. We strongly discourage stakeholders from raising new matters via cross-submissions.

6. Please clearly indicate in your email subject line and submission that your submission relates to "Further consultation on the cost of debt wash-up of EDBs and GTBs".

7. We request that submitters clearly confirm in their submission and covering email that the submission can be published on our website and does not include confidential information. If your submission does include confidential information we set out our process below.

Confidentiality

8. The protection of confidential information is something the Commission takes seriously. If you need to include commercially sensitive or confidential information in your submission, you must provide us with both a confidential and non-confidential/public version of your submission that are clearly identified. We intend to publish the non-confidential/public version of all submissions we receive on our website.

9. You are responsible for ensuring that commercially sensitive or confidential information is not included in a public version of a submission that you provide to us.

10. All submissions we receive, including any parts of them that we do not publish, can be requested under the Official Information Act 1982. This means we would be required to release material that we do not publish unless good reason existed under the Official Information Act 1982 to withhold it. We would normally consult with the party that provided the information before we disclose it to a requester.

Proposed further amendments

11. We propose two further changes to the EDB and GTB IMs:

    11.1 an amendment to clause 3.1.1(5)(a) to ensure all of the most up-to-date consumer price index (CPI) information (actual and forecast) is used when determining forecast net allowable revenue at the start of each disclosure year; and

    11.2 an amendment to clause 3.1.4(9) and related provisions to smooth the accumulation of the cost of debt wash-up.

12. As discussed below, we consider both of these amendments achieve the overarching objectives of our IM Review decision-making framework (framework) by better promoting the s 52A(1)(a) limb of the Part 4 purpose.[1] The amendments would do so by mitigating cashflow and revenue volatility concerns about the revenue and cost of debt wash-ups, identified by stakeholders in submissions on our draft decision.

[1] Commerce Commission "IM Review 2023 - Decision-making Framework paper" (13 October 2022), para X20.

Background

Problem definition in our draft decision

13. In our draft decision,[2] we said that the way the IMs currently assign inflation risk benefits neither suppliers nor consumers as it:

    13.1 makes prices and revenue unnecessarily uncertain;

    13.2 can result in windfall gains and losses; and

    13.3 may affect incentives to invest.

14. We concluded that the annual revenue wash-up for inflation can cause price-quality-regulated suppliers (other than gas distribution businesses) to earn excess profits when inflation is higher than expected and have a revenue shortfall when inflation is lower than expected. Our view was that these windfall gains and losses are due to the inconsistency between the assumption in the annual revenue wash-up, which is that nominal debt costs are variable, and the assumption in the weighted average cost of capital (WACC), which assumes nominal debt costs are fixed. The current IMs are shown in option 1 in the accompanying demonstration model, which is available on our website.[3]

Draft IM amendments proposed with our draft decision

15. Our draft decision was to amend the IMs to introduce a cost of debt wash-up. Under that proposed amendment, when inflation is higher than expected, the annual revenue wash-up would not increase revenue for the effect of unforecast inflation on all revenue, but rather, a lesser amount that excludes the effect of unforecast inflation on the cost of debt. Conversely, when inflation is lower than expected, the annual revenue wash-up would not decrease revenue for the effect of unforecast inflation on the cost of debt.

16. We also published a demonstration model to show how the proposed cost of debt wash-up would work[4]. The model reflects the draft proposed IM amendment, which subtracts from the annual revenue wash-up the difference between the cost of debt assumed at the reset and the cost of debt adjusted for higher (or lower) inflation.

---

[2] Commerce Commission "Input methodologies review 2023 - Draft decision - Financing and incentivising efficient expenditure during the energy transition topic paper" (14 June 2023), para 5.63.

[3] Part 4 IM Review 2023: Demonstration model: inflation wash-up options to account for the fixed cost of debt - 29 September 2023.

[4] Part 4 IM Review 2023 - Risks and incentives topic paper: Demonstration model: stylised impact of different RAB indexation approaches - June 2023

17. Other inflation-related IM changes proposed in our draft decisions were:

    17.1 a revenue wash-up in year 1 for EDBs and the GTB;

    17.2 a timing change to how the annual revenue wash-up for forecast vs actual inflation is delivered; and

    17.3 a move to a real IRIS calculation for EDBs and Transpower.

18. As with our draft decision to introduce the cost of debt wash-up, the above draft decisions (listed in para 17) were independent from our draft decisions to retain RAB indexation for EDBs and GPBs and introduce RAB indexation for Transpower.

Response in submissions on our draft decision

19. Submitters raised issues with our proposal to introduce the cost of debt wash-up. The main concerns were that, under certain circumstances, the cost of debt adjustment we proposed could create significant volatility in annual revenue and add to cashflow sufficiency concerns (Competition Economists Group (CEG) for the Energy Networks Association (ENA) and CEG for Vector Limited (Vector)).[5]

20. CEG for the ENA proposed two alternative solutions: [6]

    20.1 First proposed option

    > Simply don't escalate the debt portion of the RAB by inflation at all (either within the financial model or the RAB roll-forward model) so there is no forecast error to correct; or

    20.2 Second proposed option

    > Apply the same forecast inflation used in the financial model in the RAB roll-forward model for the debt portion of the RAB

21. We consider these alternatives below, as well as a modified version of the second alternative, alongside our proposed change to our draft decision.

---

[5] Competition Economists Group for the Electricity Networks Association "Response to 2023 IM draft decision on cost of capital" (July 2023), section 6; and Competition Economists Group for Vector "NZCC proposed approach to targeting a nominal return on debt" (August 2023), section 2.

[6] Competition Economists Group for the Electricity Networks Association "Response to 2023 IM draft decision on cost of capital" (July 2023), para 221.

Issues with our draft decision

22. We agree with submissions on the draft decision that changes to the draft wash-up mechanism as a whole could further reduce volatility and mitigate cashflow delays. While we consider the draft decision was a material improvement over the existing IMs (as outlined in paragraphs 13 to 17 above), in our view they can be improved further.

23. Table 1, below, illustrates how the wash-up account would have affected revenues over the DPP3 period if the EDB IMs at the time had included the cost of debt wash-up proposed in the draft IMs (the table uses indicative values for an EDB). This is demonstrated as option 2 in the accompanying model.

Table 1 – Example of wash-up accruals for DPP3 under the draft IMs[7]

Illustrative EDB	DPP3					DPP4	
	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27
Forecast CPI	1.75%	1.95%	2.02%	2.00%	2.00%		
Updated forecast CPI	1.75%	0.97%	3.84%	5.40%	2.82%		
Actual CPI	1.46%	5.30%	7.10%	5.24%	2.79%		
Forecast cost of debt	2.92%	2.92%	2.92%	2.92%	2.92%		
Actual cost of debt	2.63%	6.30%	8.04%	6.19%	3.72%		
DPP forecast revenue path	70,128	71,495	72,943	74,402	75,890		
Actual revenue (A)	70,128	70,808	73,527	77,498	79,683		
Actual allowable revenue (B)	69,930	73,635	79,236	78,991	80,530		
Revenue wash-up (B-A=C)	(197)	2,827	5,709	1,493	846		
Cost of debt wash-up adjustment (D)	540	(6,487)	(10,082)	(6,617)	(1,660)		
Wash-up accrual (C+D=E)	343	(3,660)	(4,373)	(5,124)	(813)		
Wash-up account balance							
Opening balance	0	343	(3,301)	(8,200)	(9,697)	(6,171)	(851)
Wash-up accrual (E)	343	(3,660)	(4,373)	(5,124)	(813)	0	0
Wash-up (draw down)/ draw up (accrual t-2) (F)	0	0	(375)	4,002	4,782	5,603	889
Closing balance (with time value adjustment)	343	(3,301)	(8,200)	(9,697)	(6,171)	(851)	0

24. "Actual revenue" (A in table above) is what the supplier recovered in each year of the regulatory period under the modelled scenario. Suppliers set prices based on Default Price Path (DPP) "forecast net allowable revenue", updated for the latest available CPI forecast.[8]

25. "Actual allowable revenue" (B) represents revenue fully adjusted for actual outturn CPI.

[7] Values other than percentages are in $,000.

[8] Actual revenue differs from "forecast revenue from prices" due to quantity. For this example, we have assumed that forecast and actual quantities are the same.

26. The difference between “actual revenue” and “actual allowable revenue" is washed-up through the “revenue wash-up” (C) to allow for the difference between forecast and actual CPI. Due to the timing of when actual CPI becomes available, there is at least a two-year lag between setting forecast net allowable revenue (for demonstration purposes assumed to be equal to actual revenue in the table) and drawing down the wash-up (F). The draw down is adjusted for the time value off money to account for this lag.

27. In seeking to achieve our framework’s overarching objectives, we consider that:

    27.1 the main criterion for selecting the preferred option is achieving NPV=0, in line with promoting s 52A(1)(a) and (d);[9]

    27.2 in choosing between options that would achieve NPV=0, the next criteria are reducing volatility and avoiding unnecessary delays in cashflow via accruals in the wash-up, consistent with maintaining incentives to invest under s 52A(1)(a);

    27.3 in choosing between options that would achieve NPV=0, reduce cashflow volatility and avoid unnecessary delays in cashflow accruals, we are then guided by our framework overarching objectives of promoting the s 52R IM purpose and reducing complexity and compliance costs, without detrimentally affecting the promotion of the s 52A purpose of Part 4.

28. The approach proposed in the draft decision can result in accruals into the wash-up account that are volatile (as shown in line E in Table 1). The accruals can also be relatively small compared to the revenue wash-up due to the large negative cost of debt adjustment when inflation is much higher than expected (as is shown in the wash-up accrual (E in Table 1).

Proposed amendments

29. To better manage the volatility effect presented above, we are proposing a change to our draft decision via the following two draft IM amendments:

    29.1 an amendment to clause 3.1.1(5) to ensure all of the most up-to-date CPI information (actual and forecast) is used when determining forecast net allowable revenue at the start of each disclosure year; and

[9] The High Court has approved of our application of the FCM and NPV=0 principles and their relationship with the s 52A purpose (see *Wellington International Airport Ltd v Commerce Commission* [2013] NZHC 3289, para 256).

29.2 an amendment to clause 3.1.4(9) and related provisions to smooth the accumulation of the cost of debt wash-up.

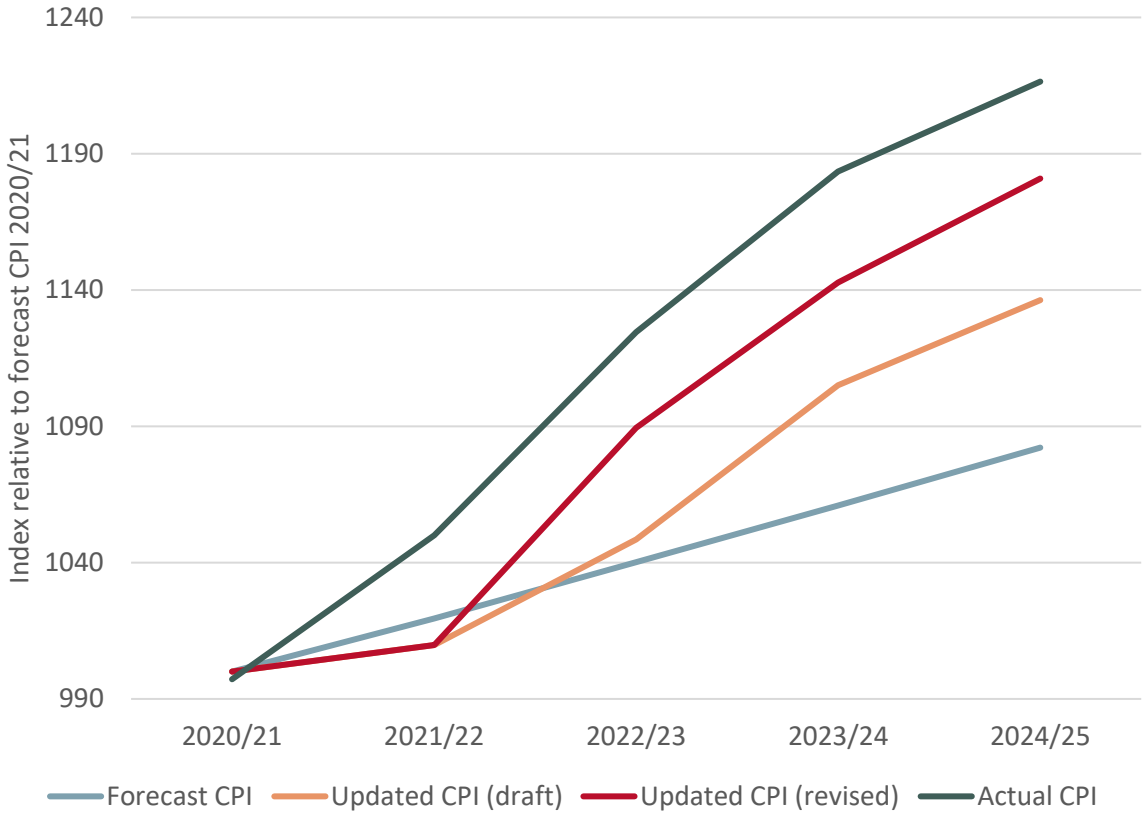
Change to treatment of CPI in calculating Forecast Net Allowable Revenue (FNAR)

30. The current approach of setting revenue using one year of forecast inflation ($FNAR_t = (FNAR_{t-1}) \times \text{forecast } CPI_t$) contributes to the delay in cashflows. This ignores the actual CPI being available for t-1 at the time of setting revenue. The effect of this in the context of a sudden, unforeseen spike in inflation is that the starting point for FNAR for period t (that is $FNAR_{t-1}$) is too low. This in turn means cash compensation is delayed two years by the wash-up account.

31. Changing the general wash-up mechanism to index the revenue path (ex-ante) using two years of inflation ($(\text{Forecast Net Allowable Revenue}_{t-2} \times (1+\text{actual } CPI_{t-1}) \times (1+\text{updated forecast } CPI_t)$) will reduce the delay by making use of as much up-to-date information about inflation as is possible. This change is shown in Table 1 and Table 2 of this paper; it is not shown in the accompanying demonstration model.

32. Figure 1 shows that the updated CPI under the revised approach (the amendment proposed in this technical consultation) would have achieved a closer match to the actual CPI over the DPP3 period.

Figure 1 – Comparison of CPI approaches



Smoothing the cost of debt adjustment (Accompanying demonstration model option 2b)

33. Cashflow volatility can also be reduced by smoothing the cost of debt adjustment before it goes into the revenue wash-up account. As explained above, the negative cost of debt adjustment can be large when there is a spike in inflation and can cause a delay in the receipt of additional revenue. Smoothing the cost of debt adjustment addresses the delay in the receipt of additional revenue.

34. With this change, the IMs would be amended so that the cost of debt wash-up proposed in the draft decision would be spread uniformly over the subsequent five years using a formula that also accounted for the time value of money.[10]

What the two amendments mean for cashflows

35. Table 2 below shows the same information as Table 1, updated to reflect the proposed amendments. It shows a smoother actual allowable revenue path (B) due to:

    35.1 less volatile revenue wash-ups due to the use of more up to date CPI numbers when setting actual revenue (C); and

    35.2 a more gradual increase in the cost of debt wash-up (D).

36. The value of cashflow delayed in terms of (absolute) total accruals in the wash-up balance is also significantly reduced (by approximately half), as is deferral into future periods.

[10] Specifically, in the first year the annual amount of the cost of debt wash-up would equal the amount calculated using the formula proposed in the draft decision divided by 5. The amount in subsequent years would equal the amount in the previous year multiplied by (1+ WACCt).

Table 2 – DPP3 wash-up accruals with a two-year CPI approach and the cost of debt adjustment smoothed over 5 years[11]

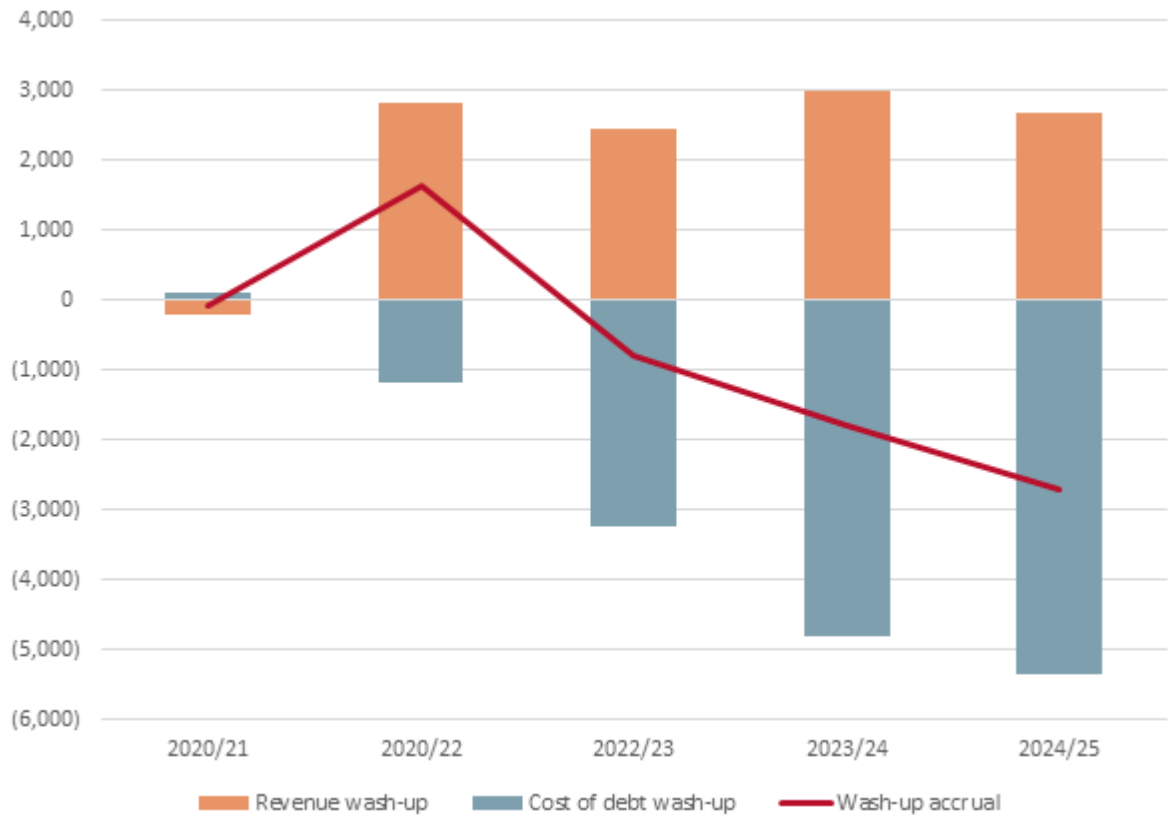
Illustrative EDB	DPP3					DPP4	
	2020/21	2020/22	2022/23	2023/24	2024/25	2025/26	2026/27
Forecast CPI	1.75%	1.95%	2.02%	2.00%	2.00%		
Updated 2-year forecast CPI	1.75%	0.97%	7.90%	4.89%	3.34%		
Actual 2-year CPI	4.72%	4.93%	5.00%	4.98%	4.98%		
Forecast cost of debt	2.92%	2.92%	2.92%	2.92%	2.92%		
Actual cost of debt	4.72%	4.93%	5.00%	4.98%	4.98%		
DPP forecast revenue path	70,128	71,495	72,943	74,402	75,890		
Actual revenue (A)	70,128	70,811	76,305	81,935	81,944		
Actual allowable revenue (B)	69,930	73,635	78,764	84,931	84,609		
Revenue wash-up (B-A=C)	(197)	2,824	2,459	2,996	2,665		
Cost of debt wash-up adjustment - smoothed (D)	108	(1,184)	(3,255)	(4,802)	(5,364)		
Wash-up accrual (C+D=E)	(89)	1,640	(796)	(1,807)	(2,699)		
Wash-up account balance							
Opening balance	0	(89)	1,546	918	(2,639)	(4,588)	(2,822)
Wash-up accrual (E)	(89)	1,640	(796)	(1,807)	(2,699)	0	0
Wash-up (draw down)/ draw up (accrual t-2)	0	0	98	(1,793)	871	1,976	2,951
Closing balance (with time value adjustment)	(89)	1,546	918	(2,639)	(4,588)	(2,822)	0

37. In general, the cost of debt adjustment (D) has an offsetting effect on the revenue wash-up (C) and therefore reduces volatility in the price path.

38. This effect is illustrated in Figure 2. The total value of the wash-up account (shown in red) represents the total amount of revenue delayed by two years via the wash-up.

[11] Values other than percentages are in $,000.

Figure 2 – DPP3 total wash-up accruals with a two-year CPI approach and the cost of debt adjustment smoothed over 5 years ($000s)



How this change would achieve our framework's overarching objectives

39. We consider making these amendments would achieve our framework's overarching objectives by better promoting incentives to invest under s 52A(1)(a) in situations where significant and persistent cashflow constraints hamper suppliers' ability to invest. The amendments would do so by more closely matching the real value of the revenue suppliers receive from consumers with the real value of the costs suppliers incur each year. This would enable the price path better deal with the cashflow consequences of unexpected variations in inflation.

Alternatives considered to address concerns raised about our draft decision

40. We have considered the two alternatives proposed by submitters, as well as a modified version of one of these alternatives. We have assessed these alternatives against our framework, including:

    40.1 the economic principle of ex-ante real FCM in relation to the RAB which gives suppliers the opportunity to earn a normal return on their efficient investments, consistent with s 52A(1)(a) and (d); and

    40.2 achieving NPV=0 in relation to net revenue (related to ex-ante real FCM), which is also consistent with s 52A(1)(a) and (d).

41. In response to submissions, we have reconsidered our draft decision and have concluded that our revised approach is preferable to the alternatives in terms of promoting our framework's overarching objectives, for the reasons explained below.

Hybrid RAB indexation

42. We refer to CEG's first proposed alternative (paragraph 20.1) as hybrid RAB indexation. The hybrid proposal is to index the equity component of the RAB and not index the debt component.[12] In this option, there is no cost of debt adjustment. The hybrid model has the effect of bringing forward cashflows.

43. However, where inflation is higher or lower than expected, this model does not account for the cost of debt being fixed at the reset. The hybrid proposal does not address the problem that we are endeavouring to solve, which is the uncertainty in revenue windfall gains and losses associated with the inconsistency between the annual revenue wash-up for inflation and the assumption that suppliers fix their cost of debt at the reset. For this reason, we consider our revised approach is preferable in giving suppliers the opportunity of achieving ex-ante real FCM and NPV=0, in line with s 52A(1)(a) and (d).

44. This is modelled as option 3 in the accompanying demonstration model.

Indexation based on forecast inflation for the debt portion of the RAB

45. CEG's second proposed alternative (paragraph 20.2), which also does not make a cost of debt adjustment to revenue, is to use forecast inflation when indexing the debt portion of the RAB.[13] This option changes the NPV of net cashflows when inflation differs from expectations. It does not make a sufficient reduction to revenue in situations where inflation is higher than expected, and vice versa when inflation is lower than expected. As our revised approach better accounts for windfall gains and losses, we consider it is preferable in giving suppliers the opportunity of achieving ex-ante real FCM and NPV=0.

46. This is modelled as option 4 in the accompanying demonstration model.

---

[12] Competition Economists Group for Vector "NZCC proposed approach to targeting a nominal return on debt" (August 2023), paras 22a and 26.

[13] Competition Economists Group for Vector "NZCC proposed approach to targeting a nominal return on debt" (August 2023), paras 22b and 27.

Blended CPI approach

47. We have considered a modified version of CEG's second proposed alternative so that it gives suppliers a greater opportunity of achieving NPV=0. This approach also uses forecast inflation when indexing the debt portion of the RAB. However, we have added a cost of debt adjustment which is calculated by washing-up revenue using the concept of a 'blended CPI'. The blended CPI is an index created using a blend of the forecast inflation rate and actual inflation rate. This method distinguishes between costs that can be assumed to depend on actual inflation (such as operating and capital expenditure) and costs that depend on forecast inflation (the cost of debt). This is modelled as option 5 in the accompanying demonstration model.

48. The blended CPI option is more complex than our preferred option of smoothing the cost of debt wash-up. The reason for this is that the approach of smoothing the cost of debt wash-up takes as the starting point the assumption that all costs increase by the full CPI and makes an adjustment for the costs that do not increase by the full CPI. In comparison, the blended CPI option takes as the starting point the assumption that all costs increase by the blended CPI and then makes an adjustment for the costs that increase by the full CPI, which is more complex, as we describe below.

49. The blended CPI is an index calculated using the blended inflation rate, which is the inflation rate underlying the cost of capital calculated using the forecast cost of debt and actual cost of equity.

50. The annual revenue washup for the blended CPI option is the sum of:

    50.1 The difference between (forecast net allowable revenue divided by the forecast CPI and multiplied by the blended CPI) and forecast net allowable revenue;

    50.2 The difference between forecast operating costs divided by forecast CPI multiplied by actual CPI and forecast operating costs; and

    50.3 The difference between forecast capital expenditure divided by forecast CPI multiplied by the actual CPI and forecast capital expenditure;

51. In equation form, this is as follows:

51.1 $$annual\ revenue\ washup = \left(\left(\frac{Forecast\ net\ allowable\ revenue}{Forecast\ CPI} \times blended\ CPI\right) - forecast\ net\ allowable\ revenue\right) + \left(\left(\frac{forecast\ operating\ costs}{forecast\ CPI} \times actual\ CPI\right) - forecast\ operating\ costs\right) + \left(\left(\frac{forecast\ capital\ expenditure}{forecast\ CPI} \times actual\ CPI\right) - forecast\ capital\ expendture\right)$$

51.2 Where: $blended\ CPI =$ $an\ index\ calculated\ using\ the\ blended\ inflation\ rate$;

51.3 $$Blended\ inflation\ rate = \frac{(1 + blended\ nominal\ cost\ of\ capital)}{(1 + forecast\ real\ cost\ of\ capital)} - 1;$$

51.4 $$Blended\ nominal\ cost\ of\ capital = forecast\ cost\ of\ debt \times leverage + actual\ cost\ of\ equity \times (1 - leverage);$$

51.5 $$Actual\ cost\ of\ equity = \frac{(1 + forecast\ nominal\ cost\ of\ equity)}{(1 + forecast\ inflation\ rate)} \times (1 + actual\ inflation\ rate) - 1$$

51.6 $$Forecast\ real\ cost\ of\ capital = \frac{(1 + forecast\ nominal\ cost\ of\ capital)}{(1 + forecast\ inflation\ rate)} - 1$$

52. Importantly, for this option to achieve NPV=0, the RAB is adjusted at each regulatory reset by dividing the closing RAB by the forecast CPI then multiplying by the blended CPI (in effect, this is a similar adjustment as proposed by CEG). As a result, the RAB would grow at a rate different from actual inflation.

53. In addition, we would need to amend our information disclosure (ID) requirements so the RAB for ID purposes is updated each year using the blended CPI.

54. These considerations suggest that, compared to our preferred option of smoothing the cost of debt wash-up, the blended CPI option would entail drawbacks in terms of the other overarching objectives of the framework:[14]

[14] Commerce Commission "IM Review 2023 - Decision-making Framework paper" (13 October 2022), paras X20.2 and X20.3.

54.1 Promoting the s 52R IM purpose more effectively (without detrimentally affecting the promotion of the s 52A purpose): the complexity and challenge of tracking and applying a blended index of the forecast inflation rate and actual inflation rate is less likely to promote certainty for suppliers and consumers in relation to the rules, requirements and processes applying to Part 4 regulation under the s 52R IM purpose; and

54.2 Significantly reducing compliance costs, other regulatory costs, or complexity (without detrimentally affecting the promotion of the s 52A purpose): the nature of the additional IM and ID requirements to implement the blended CPI option would likely materially increase complexity and compliance costs for suppliers in adapting their operating and compliance systems and models.

55. In comparison, our preferred option of smoothing the cost of debt wash-up we proposed in the draft decision is relatively straightforward in terms of implementation and operation, which better aligns with the two framework overarching objectives outlined above.

Proposed IM amendments and demonstration model

56. Alongside this paper, we have published on our website the proposed IM amendments that would implement our preferred option in the EDB and GTB IMs. We have yellow-highlighted these amendments to distinguish them from those that we proposed in the relevant draft IM amendment determinations that accompanied our IM Review draft decisions. For convenience, we have only reproduced the pages from those draft IM amendment determinations that show the proposed IM amendments to implement our preferred option.

57. We have also extended the demonstration model we published with the draft decision to reflect our preferred option and the other options we have considered to smooth the accumulation of the cost of debt wash-up. The demonstration model does not reflect the proposed change to ensure all of the most up-to-date CPI information (actual and forecast) is used when determining forecast net allowable revenue at the start of each disclosure year. Both proposed changes to the IMs are reflected in the tables in this paper.

58. The updated demonstration model "Part 4 IM Review 2023: Demonstration model: inflation wash-up options to account for the fixed cost of debt - 29 September 2023" is available on our website. It includes the following sub-models:

a. The starting point, prior to the draft decision with revenue fully washed up for outturn inflation and no cost of debt wash-up adjustment.

b. Our draft decision which added the cost of debt wash-up adjustment to the status quo.

c. Our draft decision with the cost of debt wash-up spread over 5 years.

d. An alternative where we wash-up the RAB and revenue by a blended CPI, with appropriate adjustments to account for the operating cost and capital cost inflators.

e. The debt forecast approach proposed by CEG.

f. The hybrid RAB approach proposed by CEG.