Efficiency impacts of Starting Price Adjustments – Stylised Example

19 December 2011

CONTENTS

INTRODUCTION

1. This report sets out a stylised model which demonstrates the impact different approaches to SPAs can have on incentives of regulated suppliers to improve efficiency (subsection 52A(1)(b) of the Commerce Act).

2. The report aims to demonstrate that the Commerce Commission (Commission) would best meet the purpose in section 52A(1) of the Commerce Act by adopting a Starting Price Adjustment (SPA) input methodology (IM)[1] in which:

    a. Current and projected supranormal profits are not removed in full at the start of each regulatory period (by adopting a "stagger");

    b. An Incremental Rolling Incentive Scheme (IRIS) is adopted;

    c. Regulated suppliers are permitted to recover transaction costs related to mergers and acquisitions, and other costs incurred to improve efficiency;

    d. Claw-back is not adopted to remove supranormal profits; and

    e. Mid-period regulatory resets are not adopted.

[1] Refer to the "Submission to the Commerce Commission on the Setting of Starting Pricings for Gas Pipeline Businesses under the Initial Default Price-Quality Path", 28 September 2011.

IMMEDIATE REMOVAL OF SUPRANORMAL PROFITS V A STAGGERED SPA

3. The Commission has previously proposed to adopt an SPA methodology under which all current and projected supranormal profits are removed at the beginning of each regulatory period.[2]

4. The Commission, in effect, tightly linked the limitation of excessive profits (section 52A(1)(d) of the Commerce Act) with SPAs "based on the current and projected profitability of each supplier" (section 52P(3)(b) of the Commerce Act), with the result being that the SPA would be set to ensure regulated suppliers are "projected to earn a normal return during the regulatory period".

5. This approach would dampen the extent to which the operation of Part 4 of the Commerce Act would incentivise regulated suppliers to improve efficiency. Regulated suppliers would receive a maximum of five years benefit from any efficiency gain.

6. The Commission placed too much emphasis on limiting rates of return, going beyond, section 52A(1)(d) of the Commerce Act, to the detriment of the overarching purpose of section 52A(1) and the other subparts (a) – (c).

7. A more gradual removal of profits would better meet the Part 4 purpose of benefiting consumers in the long-term. Under a staggered SPA methodology:

    a. The regulated supplier would get the full benefit of any efficiency gain it makes for the remainder of the regulatory period, plus keep some, but not all, of the efficiency gain in the next regulatory period.

    b. Using the Commission's approach in the EDB DPP consultation, by way of example, if the Commission considers Vector's EDB needs an SPA of -8.5%, as previously proposed, to eliminate current and projected supranormal profits, the Commission could make a -4.25% adjustment initially, and then add the remaining -4.25%, required to get prices down to that required for a normal rate of return for the first regulatory period, to the next regulatory period's SPA.

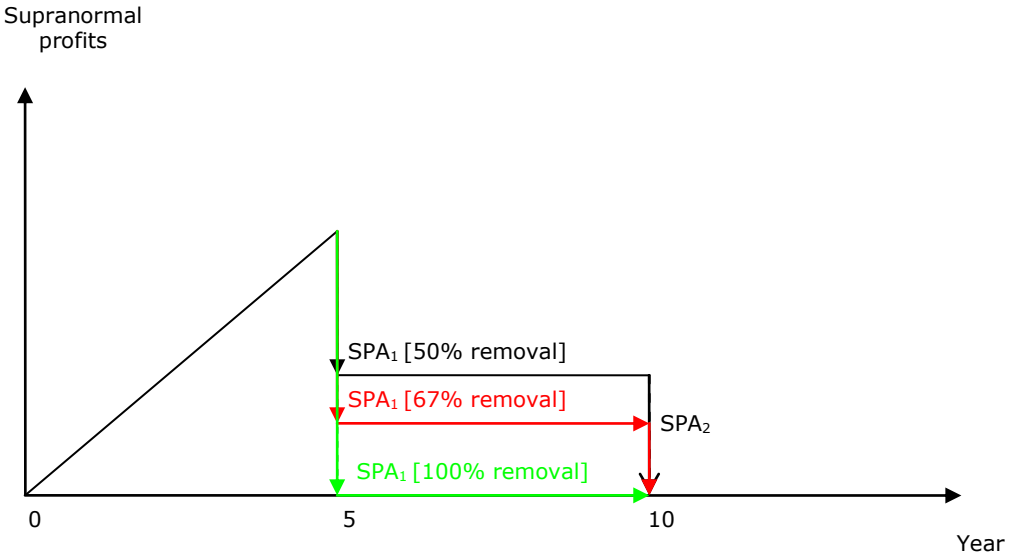
    c. The regulated supplier would consequently receive a greater reward for efficiency gains, which would commensurately increase its incentives to improve efficiency.

    d. This approach would entail an initial cost to consumers. Prices would not be as low as they otherwise would have been at the first regulatory price reset. Consumers would benefit over-time though from incentives on regulated suppliers to deliver greater efficiency gains, which would be shared.

8. Different degrees of stagger, and how they compare with the Commission's previous proposal to invoke an SPA under which supranormal profits are removed in full are illustrated in Figure 1 below.

[2] Vector understands the Commission intends to revisit the approach it has previously proposed to take to SPAs as part of the development of an SPA IM [Commerce Commission, Additional Input Methodologies for Default Price-Quality Paths, Process and Issues Paper, 9 December 2011.

Figure 1: Different degrees of "staggering"



STYLISED EXAMPLE

9. Vector has adopted an example used by IPART[3,4] in which a regulated supplier makes a permanent opex saving of $1 million per annum. IPART used this example to show that the greater the period a regulated supplier is able to benefit from efficiency gains the greater the incentives they would have to improve efficiency:[5]

> A key determinant of the shape and strength of the incentive created is the time period over which the delinking occurs.

10. The IPART report then points out, consistent with Vector's stagger arguments, that "The regulator can adjust the strength of the efficiency incentive, that is, alter the incentive rate, by choosing a longer retention period."[6]

11. In this stylised example Vector assumes:

    a. Efficiency gains are made at the beginning of the regulatory year.

    b. The efficiency gains equate to a permanent opex saving of $1 million per annum.

    c. There is no cost to making the efficiency gain.

    d. The regulatory period is five years.

    e. The WACC is 8%.

12. The results of different SPAs, including the Commission's previous proposal to remove all current and projected supranormal profits at the beginning of each regulatory period and different staggered SPAs, is provided in figures 2 to 4 below.

[3] IPART Working Paper "Incentives for cost saving in CPI-X regimes", July 2011, available at: http://www.ipart.nsw.gov.au/files/Working%20Paper%20-%20Incentives%20for%20cost-saving%20in%20CPI-X%20regimes%20-%20July%202011%20-%20Website.PDF

[4] A similar example is used by Frontier Economics in Appendix 5 of the National Audit Office report "Pipes and Wires", 10 April 2002 http://www.frontier-economics.com/_library/publications/frontier%20paper%20-%20incentives%20-.pdf

[5] Page 4 of IPART Working Paper "Incentives for cost saving in CPI-X regimes", July 2011.

[6] Page 9 of IPART Working Paper "Incentives for cost saving in CPI-X regimes", July 2011.

Figure 2: NPV of Benefit to regulated supplier from efficiency gain

Year of efficiency gain	P_0 (full removal)[7]	P_0 (2/3 removal)[8]	P_0 (1/2 removal)[9]	P_0 (1/3 removal)[10]	Glide-path/P_0 (0 removal)
1	$3,992,710	$4,898,500	$5,351,396	$6,420,757	$5,163,097
2	$3,066,784	$3,972,575	$4,425,470	$5,494,831	$4,237,171
3	$2,209,445	$3,115,236	$3,568,131	$4,637,492	$3,379,833
4	$1,415,613	$2,321,404	$2,774,299	$3,843,660	$2,586,000
5	$680,583	$1,586,374	$2,039,269	$3,108,630	$1,850,970

13. Figure 3 shows the percentage of the net present value (NPV) of efficiency gains regulated suppliers would obtain under different SPAs. Frontier Economics describes this measure of efficiency sharing as "incentive power", with the incentive power under rate of return regulation being 0 and the incentive power of a perfectly competitive market being 100 percent:[11]

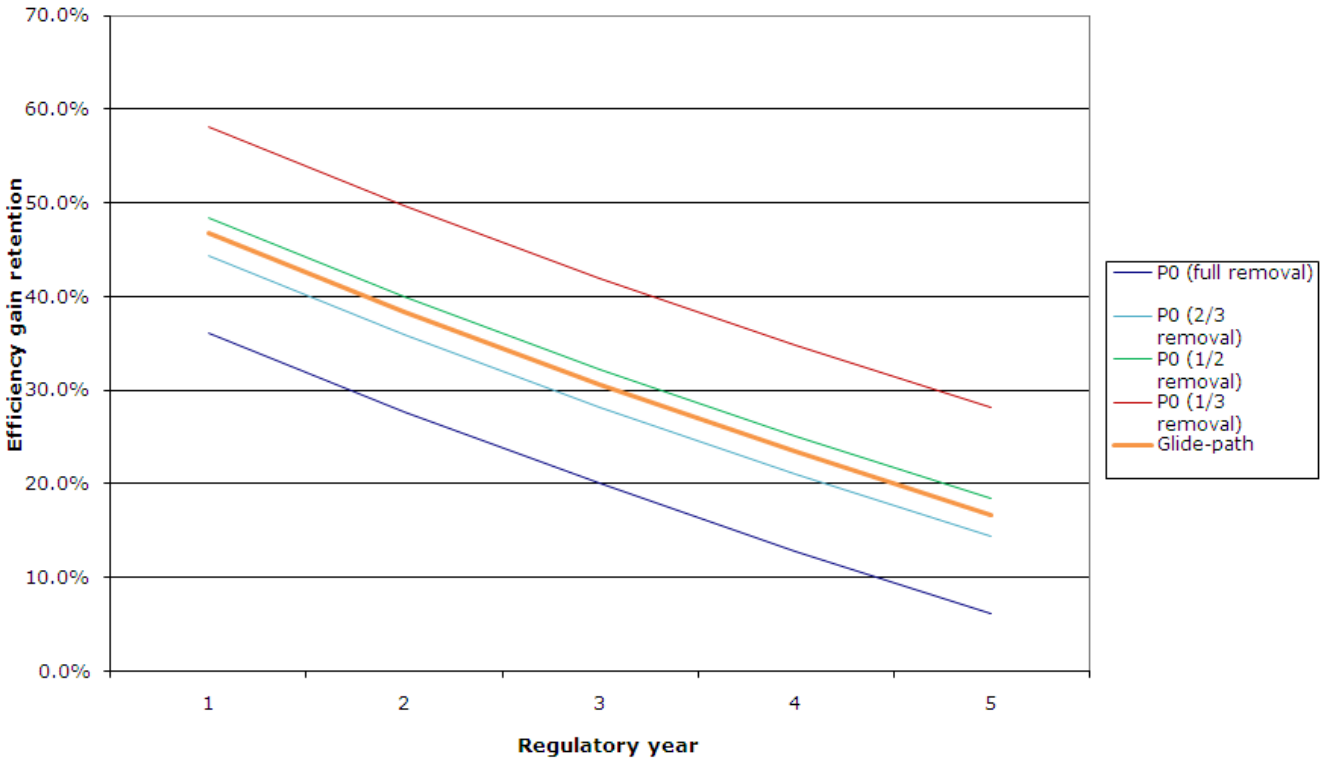
> … the incentive power of a perfectly competitive market is 100 per cent, but the implications
>
> for prices are quite different. The profits of a firm making a £1m annual cost saving will be £1m higher than they would otherwise have been, forever. However, this does not imply that that firm will make high profits forever because its competitors can be expected to match its cost reductions and competition will result in a general price fall to the point that "normal" profits are restored.

Figure 3: Incentive power of different SPAs

Year of efficiency gain	P_0 (full removal)	P_0 (2/3 removal)	P_0 (1/2 removal)	P_0 (1/3 removal)	Glide-path/P_0 (0 removal)
1	36.1%	44.3%	48.4%	58.1%	46.7%
2	27.8%	35.9%	40.0%	49.7%	38.3%
3	20.0%	28.2%	32.3%	42.0%	30.6%
4	12.8%	21.0%	25.1%	34.8%	23.4%
5	6.2%	14.4%	18.5%	28.1%	16.7%

[7] Commerce Commission's present proposal where all current and projected supranormal profits are removed at the start of each regulatory period.
[8] Staggered SPA in which two-thirds of current and projected supranormal profits are removed at the beginning of the regulatory period, with the remainder removed at the beginning of the next regulatory period.
[9] Staggered SPA in which half of current and projected supranormal profits are removed at the beginning of the regulatory period, with the remainder removed at the beginning of the next regulatory period.
[10] Staggered SPA in which one-third of current and projected supranormal profits are removed at the beginning of the regulatory period, another one-third removed at the beginning of the next regulatory period, and the remainder at the beginning of the regulatory period thereafter.
[11] Paragraph 18 of Frontier Economics in Appendix 5 of the National Audit Office report "Pipes and Wires", 10 April 2002 http://www.frontier-economics.com/_library/publications/frontier%20paper%20-%20incentives%20-.pdf

Figure 4: Incentives to improve efficiency



14. What this stylised example shows is:

    a. The Commission's previously proposed approach to sharing of efficiency gains is heavily tilted towards consumers and means regulated suppliers would receive a maximum of 36.1% of the efficiency gain they create.[12]

    b. Incentives to improve efficiency fall dramatically as the regulatory period progresses. Under the Commission's proposed approach the share of the benefits to regulated suppliers falls from 36.1% at the starting of the regulatory period to 6.2% in the final year of the regulatory period.

    c. Use of a stagger in the SPA would result in superior incentives to improve efficiency than the Commission's previously proposed SPA approach.

15. While the Commission should aim to replicate or mimic the outcomes of a competitive market, in the way it operates Part 4 of the Commerce Act, it does not follow from this observation that the Commission should aim for a 100% incentive power.

16. Telecom's Kiwi Share Obligation imposes a permanent CPI-0%, for Telecom's fixed line residential services, which is equivalent to a 100% incentive power. This means Telecom receives all the benefits from any

[12] This figure depends on the WACC that is applied. A higher WACC would equate to a higher percentage kept by the regulated supplier and vice versa. This is because the regulated supplier gets the initial benefit of the efficiency gain. For example, the regulated supplier's share of the efficiency gain would be 40.7% of the WACC is 10% and 31.4% of the WACC is 6%. The closer the efficiency share (otherwise known as incentive power) is to zero the closer the operation of price control resembles rate of return regulation.

efficiency gains it makes or cost savings from technological changes in the telecommunications sector. The National Audit Office in the United Kingdom note that:[13]

> Were price controls to be set to last indefinitely, companies would have a very strong incentive to make efficiency savings, because they would keep all the benefit of further savings they make. But in this case customers would not share in these benefits.

17. The Commission should balance the provision of long-term profit incentives to improve efficiency against the shorter-term desire to allow consumers to benefit from those efficiency gains through lower prices.

18. Vector does not believe the level of sharing the Commission proposes, with a cap of 36.1% incentive power (at the beginning of the regulatory period), or the dramatic fall in the incentive power over the regulatory period, equates to "outcomes that are consistent with outcomes produced in competitive markets" or ensuring regulated suppliers "have incentives to improve efficiency"; in accordance with the purpose s 52A(1) and s 52A(1)(b) of the Commerce Act respectively.

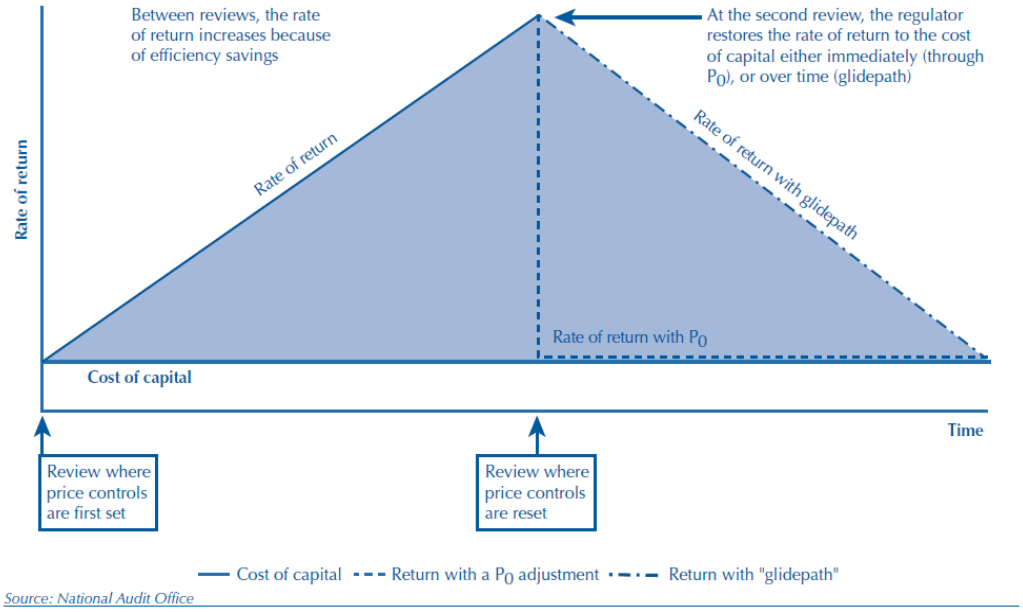
19. This highlights that it would be desirable to introduce an IRIS, or equivalent, as part of the Commission's Default Price Path (DPP). If the Commission (as it implicitly does) believes regulated suppliers should receive a 36.1% share of efficiency gains made at the beginning of each regulatory period, it should also make sure this level of sharing/incentive is maintained throughout the regulatory period.

[13] Paragraph 2.8 of National Audit Office report "Pipes and Wires", 10 April 2002.

APPLICATION OF A GUIDEPATH

20. The example also highlights that the introduction of a glide-path (higher X in place of an SPA) can have similar characteristics to a staggered SPA.

Figure 5: The differences between and P_0 (full removal) and the glide-path approach[14]



Source: National Audit Office

21. Part 4 of the Commerce Act, however, restricts the extent to which the Commission can use X to remove excessive profits as, unlike under the previous Part 4A, the Commission cannot set an individually tailored X for regulated suppliers, under a DPP. (Under Part 4A the Commission was able to use X to remove excess returns gradually overtime such that regulated suppliers were rewarded for efficiency gains.)

22. Part 4 (s 53P) requires that X be based (6) on a generic measure of long-run productivity improvement with (7) adjustments for the effects of inflation on the inputs of regulated suppliers. The Commission can now only set different X factors for regulated suppliers, in relation to a DPP, under section 43P(8) to (a) avoid undue financial hardship to a supplier, minimise price shocks to consumers or (b) as an incentive for the supplier to improve quality of supply.

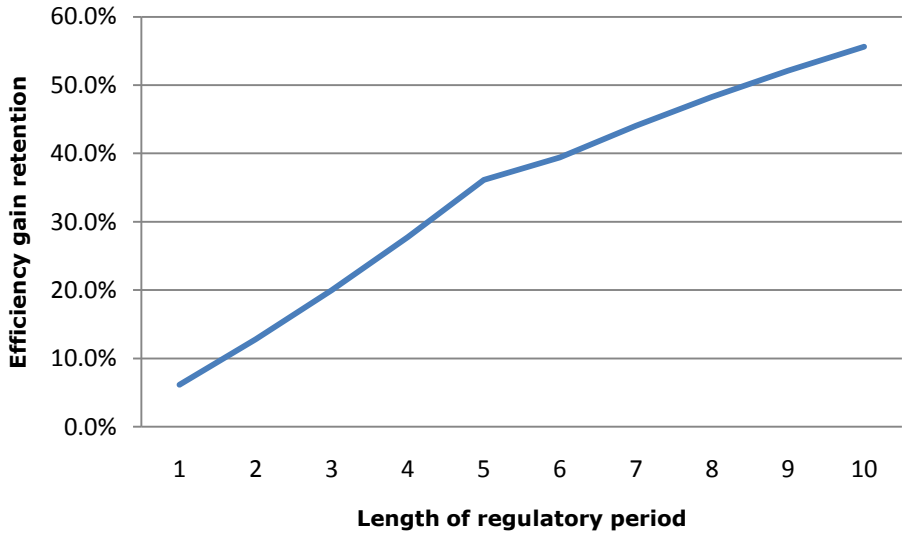
23. This means the Commission is not able to set an X for individual regulated suppliers to limit or remove excess returns over-time. The Commission instead is limited to the use of SPAs. The use of a "stagger" in the SPA could achieve the same thing as a higher X, by allowing regulated suppliers to keep savings for longer periods. The introduction of a stagger would increase the incentives on regulated suppliers to improve efficiency.

[14] Figure 16 of Frontier Economics in Appendix 5 of the National Audit Office report "Pipes and Wires", 10 April 2002 http://www.frontier-economics.com/_library/publications/frontier%20paper%20-%20incentives%20-.pdf

PERIOD OVER WHICH EFFICIENCY GAINS ARE KEPT

24. Simply allowing regulated suppliers to hold on to the efficiency gain for six (seven) years rather than five increases the incentive power from 36.1% to 41.8% (47.1%) which amounts to a materially better incentive to improve efficiency. This is illustrated in Figure 6 which shows the longer the regulatory period before a price reset the greater the incentives to improve efficiency.

Figure 6: Length of the regulatory periods and incentives to improve efficiency



25. A 50% stagger, where half of current and forecast supranormal profits are removed at the beginning of the subsequent regulatory period, would have a similar affect as a seven year regulatory period, with the incentive power at 48.4% (still a minority of the efficiency gain).[15]

26. The longer the period of time the stagger takes to remove current and projected supranormal profits the greater the reward and incentive for regulated suppliers to improve efficiency. A stagger over three regulatory periods, rather than two (third of current and forecast supranormal profits being removed at the start of each regulatory period) would raise the reward to 58.1%.

27. The trade-off between limiting supranormal profits and encouraging greater efficiency gains (and greater future price reductions) is illustrated in Figures 7 and 8 below. A lower immediate sharing of efficiency gains would enable regulated suppliers to earn greater supranormal profits, but this in turn would result in greater future efficiency gains available to be shared with consumers.

[15] Use of a 5 year regulatory period with a stagger rather than a longer regulatory period has the advantage of reducing the risk that prices deviate too far away from costs, and reducing reliance on uncertain projections of future costs and demand growth.

Figure 7: Profit and efficiency trade-off with different "staggering"

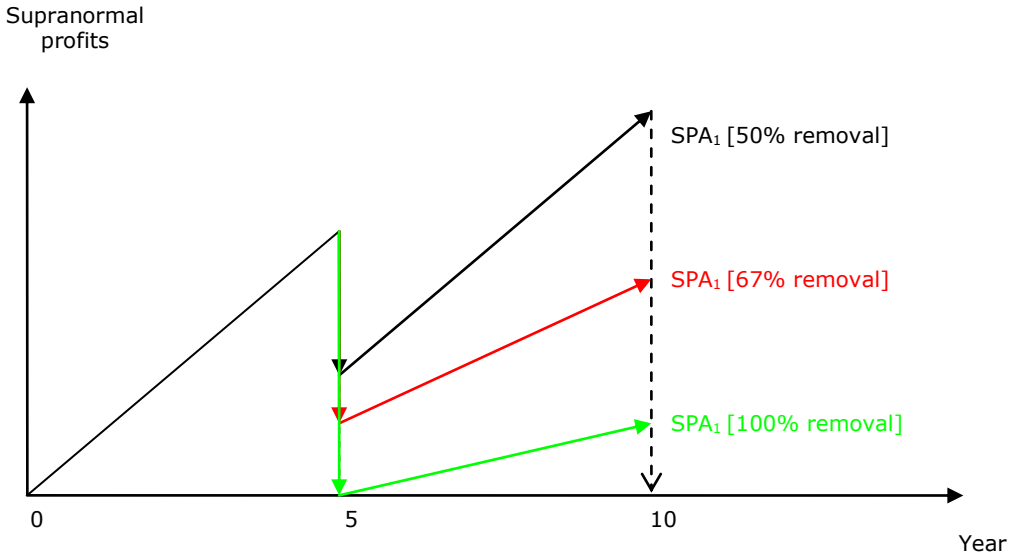
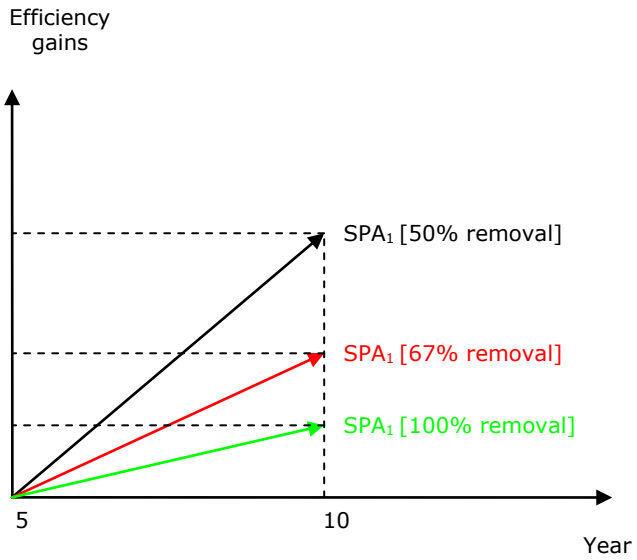


Figure 8: Impact on efficiency from removal of supranormal profits



STYLISED EXAMPLE WITH MID-PERIOD PRICE RESET

28. The stylised example also demonstrates why a mid-period price reset would have detrimental impacts on the incentives of regulated suppliers to improve efficiency.

29. The shorter the period for which regulated suppliers are able to benefit from efficiency gains the closer the application of Part 4 will be to de facto rate of return regulation. The National Audit Office in the United Kingdom note that:[16]

> … were price controls to be reset every year, companies would have little incentive to make efficiency savings, because unanticipated savings would be immediately taken away by regulators (as price reductions to customers).

30. In a similar vein, the Commission has noted that "the faster the rate of sharing efficiency gains with consumers, the weaker the incentive for businesses to make efficiency gains".[17]

31. Adoption of a mid-period regulatory reset would mean regulated suppliers have a very short period of time to benefit from any efficiency gains they make. This should be expected to result in regulated suppliers: (i) not making any efforts to improve efficiency during this period; and/or (ii) delaying any efficiency initiatives to the first full regulatory period that does not include a mid-regulatory period reset.

32. Figure 9 shows that the impact of mid-period price resets. If the five year regulatory period was split into subparts of three and two years it would result in a maximum incentive power of 20% for the three year sub-part and 12.8% for the two year sub-part.

Figure 9: Incentive power with mid-regulatory period price reset and P_0 (full removal)

Year of efficiency gain	1	2	3	4	5
NPV of Benefit to regulated supplier from efficiency gain (000)	$3,993	$3,067	$2,209	$1,416	$680
Incentive Power/share of efficiency gains	36.1%	27.8%	20.0%	12.8%	6.2%

33. Vector does not believe such shares are "consistent with outcomes produced in competitive markets", as required by the principle component of the purpose statement in s 52A(1) of the Commerce Act. Nor are they adequate for ensuring regulated suppliers have incentives to innovate (s 52A(1)(a) of the Commerce Act) or improve efficiency (s 52A(1)(b)).

34. The fundamental problem is that a price reset part way through a regulatory period compounds the limited extent to which the Commission's previously proposed approach to Part 4 of the Commerce Act is likely to limit incentives to innovate and improve efficiency. Even in the best case scenario with no mid-period price reset, no cost to making the efficiency gain, and the efficiency gain being made at the start of a 5 year regulatory period, the regulated supplier would only receive a 36.1% share of the efficiency gain.

[16] Paragraph 2.8 of National Audit Office report "Pipes and Wires", 10 April 2002.
[17] Commerce Commission, *Regulation of Electricity Lines Businesses: Discussion Paper*, 21 March 2002, para 8.63.

35. Application of claw-back under section 52D(1)(a) of the Commerce Act would also have the effect of reducing the incentive power for regulated suppliers. If claw-back was used to remove all supranormal profits it would result in an incentive power of 0% (effectively rate of return regulation), and no incentives to improve efficiency.

STYLISED EXAMPLE WITH UPFRONT COSTS

36. It could fallaciously be argued that so long as regulated suppliers get some benefit from improving efficiency they will, operating as profit maximising firms, seek to make those efficiency gains, even if they only receive a small amount of the gains. This statement is only true if the efficiency gain results in an increase in profits. It should be borne in mind that the above example assumes making the efficiency gain is costless. In reality this will not be the case. There will be financial and resource (effort of employees) costs in making efficiency gains.

37. Jamasb and Pollitt have made the point that improving efficiency can require initial increases in capex and/or opex:[18]

> Achieving long-term efficiency improvements can involve short-term increases in Capex and/or Opex expenditures that may not generate immediate efficiency improvements. Indeed, short-term expenditure increases can deteriorate the firms' short-term relative performance. This can in turn prevent firms from embarking on efficiency improving investments that have long-term gains.

38. If the assumption that there is zero cost to improving efficiency is removed the detrimental impact the Commission's previously proposed SPA approach would have on incentives to improve efficiency become stark. Vector demonstrates this by assuming there is a one-off cost incurred of $5 million, that cannot be directly recovered, to extract a $1 million per annum improvement in efficiency. The initiative would still be efficient as it has an NPV of $6.4 million, and therefore should still go ahead.

39. The results of different SPAs, including the Commission's previous proposal to remove all current and projected supranormal profits at the beginning of each regulatory period and different staggered SPAs, is provided in figures 10 and 11.

Figure 10: NPV of Benefit to regulated supplier from efficiency gain with upfront cost

Year of efficiency gain	P0 (full removal)	P0 (2/3 removal)	P0 (1/2 removal)	P0 (1/3 removal)
1	-$636,920	$268,871	$721,766	$1,791,127
2	-$1,219,910	-$314,120	$138,776	$1,208,137
3	-$1,759,716	-$853,925	-$401,030	$668,331
4	-$2,259,536	-$1,353,746	-$900,851	$168,510
5	-$2,722,333	-$1,816,542	-$1,363,647	-$294,286

Figure 11: Incentive power of different SPAs with upfront cost

Year of efficiency gain	P0 (full removal)	P0 (2/3 removal)	P0 (1/2 removal)	P0 (1/3 removal)
1	-9.9%	4.2%	11.2%	27.9%
2	-19.0%	-4.9%	2.2%	18.8%
3	-27.4%	-13.3%	-6.2%	10.4%
4	-35.2%	-21.1%	-14.0%	2.6%
5	-42.4%	-28.3%	-21.2%	-4.6%

[18] Tooraj Jamasb and Michael Pollitt, University of Cambridge, "Incentive Regulation of Electricity Distribution Networks: Lessons of Experience from Britain", 13 February 2007.

40. If the regulated supplier bears the full cost of making the efficiency gain, but can only hold onto the efficiency gain for a maximum of five years, the above example shows that the Commission's previous SPA proposal could mean the regulated supplier would have limited incentives to improve efficiency. The incentives would be limited to 'low-hanging fruit'. In the above example, the cost would need to be no more than approximately $4.3 million for the regulated supplier to even break-even from making the efficiency gain.

41. Even with a staggered SPA, if the regulated supplier bears the full cost of making the efficiency gain, but can only hold onto the efficiency gain for a maximum of five years, the incentives to improve efficiency would be diminished; albeit to as severely as under the Commission's previously proposed SPA.

42. This highlights the difference between sharing the efficiency gains with consumers and sharing the "benefits of efficiency gains" with consumers.

43. If regulated suppliers incur the full cost of any efficiency initiative, but only receive part of the benefit, their incentives to improve efficiency would be diminished regardless of the SPA that is adopted.

44. This can be addressed by allowing the regulated supplier to recoup any costs of efficiency initiatives through (higher than otherwise) prices. Where there is a trade-off between higher capex and lower opex, this can readily be addressed by allowing the capex into the regulated supplier's rate base.[19]

45. Figures 12 and 13 show the affect if the $5 million is able to be included in the regulated supplier's Regulated Asset Base (resulting in an uplift in allowed prices for the next regulatory period of $5,000,000*WACC).[20]

Figure 12: NPV of Benefit to regulated supplier from efficiency gain with upfront cost included in RAB

Year of efficiency gain	P0 (full removal)	P0 (2/3 removal)	P0 (1/2 removal)	P0 (1/3 removal)
1	$1,189,788	$2,095,578	$2,548,474	$3,617,835
2	$480,701	$1,386,491	$1,839,386	$2,803,667
3	$66,992	$972,782	$1,425,677	$2,495,038
4	-$432,829	$472,962	$925,857	$1,995,218
5	-$895,625	$10,165	$463,060	$1,532,421

[19] There may be issues with a lag between the regulated supplier incurring the cost of the capex and it being reflected in the regulated supplier's allowed revenue. This could incentivise regulated suppliers to weight their capex towards the end of the regulatory period.
[20] Ignoring depreciation for simplicity.

Figure 13: Incentive power of different SPAs from efficiency gain with upfront cost included in RAB

Year of efficiency gain	P0 (full removal)	P0 (2/3 removal)	P0 (1/2 removal)	P0 (1/3 removal)
1	18.5%	32.6%	39.7%	56.3%
2	7.5%	21.6%	28.6%	43.7%
3	1.0%	15.1%	22.2%	38.9%
4	-6.7%	7.4%	14.4%	31.1%
5	-13.9%	0.2%	7.2%	23.9%

46. The incentives to improve efficiency are still weaker compared to in Figures 2 and 3, reflecting that the regulated supplier would incur the cost of the upfront cost (capex*WACC + depreciation) until it is reflected in the next regulatory period's RAB and allowed revenues. Where there is a lag in capex and the opex saving, regulated suppliers would have incentives to incur the capex towards the end of the regulatory period (minimising the amount of time the capex is not in the RAB) while enabling the opex saving to be held for as long as possible (from the beginning of the next regulatory period).

47. Similarly, the Commission's previously stated proposal to allow transaction costs related to mergers and acquisitions to be recovered through an uplift in prices in the subsequent regulatory period would be helpful.[21] The Commission should also allow for recovery of analogous costs in relation to other investments and initiatives that may improve efficiency.[22]

48. The conclusions that can be drawn from this example are:

    a. Sharing efficiency gains is not the same as sharing "the benefits of efficiency gains", which requires any cost or investment required to achieve the efficiency gain to be taken into account.

    b. If there are upfront costs to any efficiency initiative it can have a dramatic impact on the rewards for improving efficiency which should be factored into any SPA/DPP methodology.

[21] It is unclear what the status of this proposal is. The Commerce Commission proposed this approach in its Discussion Paper "Starting Price Adjustments for Default Price-Quality Paths" (5 August 2010), but has not made any reference to it since.

[22] Particularly in electricity to the extent section 54Q of the Commerce Act may be applicable.

CONCLUDING REMARKS

49. The approach the Commission has previously proposed to adopt of an SPA which removes all current and projected supranormal profits at the beginning of each regulatory period would put: (i) undue emphasis on limiting excessive profits (subsection 52A(1)(d)); and (ii) a short-term weighting on sharing efficiency gains with consumers (subsection 52A(1)(b)), to the long-term detriment of ensuring incentives to innovate and to invest, and to improve efficiency (subsections 52A(1)(a) and (b)).

50. Vector believes the perception of a trade-off between sub-sections 52A(1)(b) and (c) falls away when a long-term perspective is taken. The introduction of a staggered SPA would have an initial cost to consumers (prices not as low as they otherwise would have been at the first regulatory price reset), but over time consumers should benefit from greater efficiency gains available to be shared.

51. This should be a win-win for consumers and regulated suppliers. Regulated suppliers that operate efficiently would be rewarded with greater returns, and consumers would have lower prices than otherwise over the medium to long-term.

52. The trade-off then becomes one between subsection 52A(1)(d) (limiting excessive profits) and all other components of section 52A(1). This is because the staggered SPA (and any form of incentive regulation) uses supranormal profits as a reward/carrot to ensure regulated suppliers improve efficiency which then can be passed on to consumers. The Commission would have failed in its application of Part 4 of the Commerce Act if it managed to limit or exclude supranormal profits, effectively rate of return regulation, and regulated suppliers had little or no consequent incentives to improve efficiency.

53. The stylised example Vector has provided explicitly and quantitatively shows:

    a. the level of sharing with consumers of the benefits of efficiency gains; and

    b. the incentives on regulated suppliers to improve efficiency created by different approaches to SPAs.

54. The Commission's previously proposed approach of removing all current and projected supranormal profits at the beginning of each regulatory period will mean that regulated suppliers receive a maximum of 36.1% (with a WACC of 8%) of the benefits of the efficiency gains and, then, only if:

    a. the efficiency gains can be obtained over the entire regulatory period; and

    b. there are no costs incurred in making the efficiency gain or the costs are the transaction costs of mergers and acquisitions (which the Commission is proposing to allow to be recovered).

55. The examples provided in this paper illustrate the risk the Commission faces that its previously proposed SPA methodology could, contrary to the purpose of Part 4 of the Commerce Act, limit efficiency gains to 'low hanging fruit' and result in de facto rate of return regulation, as:

a. At best regulated suppliers have low incentives to improve efficiency (maximum incentive power of 36.1%).

b. The incentives they do have fall away dramatically towards the end of the regulatory period (incentive power of 6.2% in the final year of the regulatory period).

c. Incentives can be zero (incentive power of zero or negative) where upfront costs are required to make the efficiency gains.

d. All of the above is made worse, if the Commission adopts a mid-regulatory period reset as it proposed for EDBs.

e. Similarly, application of claw-back under section 52D(1)(a) of the Commerce Act could also have the effect of reducing the incentive power for regulated suppliers, and if used to remove all supranormal profits would result in an incentive power of 0% (effectively rate of return regulation), and no incentives to improve efficiency.