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Submission on: Default price-quality paths for electricity distribution businesses from 1 April 2020: Issues Paper published 15 November 2018

Introduction

1. This submission is motivated by the inclusion in the latest DPP proposals of provision for accelerated depreciation of network assets (Issues Paper paragraphs X8.2 on page 6, 3.14 on page 25, 4.14 on page 40, 5.1.2 on page 44, 5.10-5.12 on page 46, 3.44 on page 32, G2.2 on page 140, G11-G13 on page 142, and H9-H11 on pages 152-153).

2. As I indicated verbally to Commission staff during the Commission's DPP "knowledge-sharing session" on 5 November this year, the Commission's decision to allow accelerated depreciation (shortened asset lives) effectively breaks the "line in the sand" which has for the past decade been used to block discussion of the initial Electricity Distribution Business (EDB) regulatory asset bases (RABs), formally set in 2012 on the basis of the Commission's crucial decision a decade earlier, in December 2002, to roll over the then-prevailing ODV asset valuations for the purpose of setting thresholds for lines company performance[1].

3. Accelerated depreciation is a device by which the regulated lines business are permitted to increase their charges, at the direct expense of consumers, in order to recover the book value of assets which have become "stranded" by falling demand and the arrival of disruptive new technologies. Those technologies – including distributed generation based upon renewable sources such as solar and wind, backed up by battery storage – now enable at least some consumers to avoid, in whole or in part, the use of distribution lines. This is an example of "competition for the market", the basis for contestability theory.

[1] Commerce Commission, *Regulation of Electricity Lines Businesses Targeted Control Regime Draft Decisions 23 December 2002*, no longer accessible online. A "final" version never appeared (to my knowledge at least); the ODV valuations were simply rolled into the assessment and inquiry guidelines for the threshold regime.

4. It is ironic that having accepted flawed[2] arguments from contestability theory as a basis for holding lines businesses' asset values and prices up over the past decade and a half, at levels that have prematurely made rooftop solar economic (at least for those who can afford the cost of the required investment), the Commission now proposes to force all remaining captive consumers to, in effect, purchase the stranded assets at inflated book values inherited from its 2002 decision.

5. Captive consumers will thereby be forced to compensate the owners of electricity lines networks for losses resulting from competition for the market, while receiving nothing in return – not even shares in the businesses from which consumers will be compulsorily "purchasing" those assets.

6. In my submission this outcome cannot credibly be described as "consistent with outcomes in competitive markets". In a competitive market a supplier faced with a loss of market share, and hence a fall in its ability to secure a return on its assets, takes a write-down on those assets in order to remain in business. Such write-downs are a familiar fact of life in real-world markets. The protection of "regulated" industries' asset valuations against this competitive mechanism is a toxic by-product of the regulatory regime that has flowed from the Commerce Commission's 2002 decision on EDB asset valuation, combined with the subsequent development of its regulatory practice under Part 4 of the Commerce Act.

7. The combination since 2002 of legislative enactments and the evolving practices of the Commission constitute a prime example of the phenomenon of regulatory capture. At each stage along the way consumer interests have been sacrificed to the perceived need to appease the large, aggressively self-promoting, and deep-pocketed business interests on the supply side of the industry by providing them with "certainty" and "incentives to invest", under cover of a doctrine of "financial capital maintenance" which has meant, in practice, protection by the regulator of function-less rents, secured as the fruits of monopolistic price-gouging by the EDBs over the years 1994-2002.

8. The remainder of this submission elaborates on the points made in this introduction.

Effect of accelerated depreciation

9. The way in which accelerated depreciation will affect the prices that electricity distribution businesses are allowed to charge is best illustrated by taking the Commission's financial model[3], entering various values for the "adjustment factor" in line 36 of the "Inputs" sheet, and observing the resulting change in Building Block

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2 See paragraphs 20-25 below.

3 Available online at https://comcom.govt.nz/__data/assets/excel_doc/0023/106079/EDB-DPP-financial-model-for-issues-paper-15-November-2018-.XLSX (accessed 13 December 2018).

Allowable Revenue (BBAR) in lines 23-27 of the Outputs sheet, with all other inputs held constant.

10. According to the "Descriptions" sheet of the financial model, the number of years by which existing assets' life is being notionally shortened can be found by calculating for each EDB the remaining life of its existing assets, multiplying this by various "adjustment factors", and for each adjustment-factor scenario, subtracting the adjusted asset life from the base case (adjustment factor=1.0). My calculations on this basis, using the Input sheet of the model, indicate that across the seventeen EDBs in the model an Adjustment Factor of 0.95 corresponds to a reduction of asset life by roughly one year, a factor of 0.9 implies a reduction of 1.5-2.5 years, and a five-year reduction in expected asset life requires an Adjustment Factor of the order of 0.7.

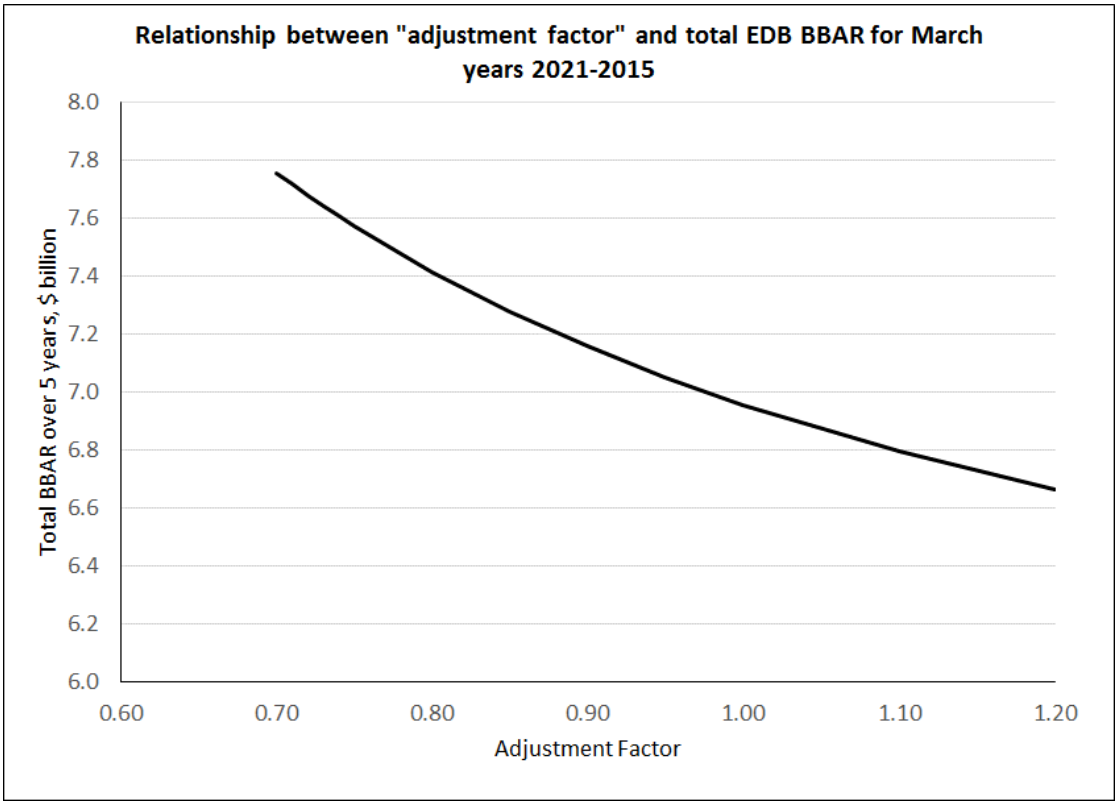
11. If EDBs gain approval to shorten their notional asset lives, they gain a certain increase in allowed revenues now in exchange for the uncertain prospect of lower RAB and revenues in a later DPP round. Viewed from the standpoint of consumers, this means a guaranteed price hike now, offset by an unenforceable and uncertain promise of a possible reduction five years in the future, when market conditions, legislation, and Input Methodologies (IMs) may have changed radically.

12. This tradeoff, which is clearly exposed to time-inconsistency risks, does not look attractive from the standpoint of the "benefit of consumers" in either the long or the short term. It would therefore be useful for the Commission to spell out more clearly its reasons for regarding the accelerated depreciation routine as consistent with the Part 4 purposes of regulation, and with its "line in the sand" defence of the initial RAB values set for EDBs.

13. To estimate the cost to consumers of the Commission's accelerated depreciation routine, I have used the financial model to calculate the effects on allowed revenue if Adjustment Factors less than unity are applied across all the EDBs. My provisional results appear in the table and chart below.

Output from the Commission's financial model showing allowed revenue over five years 2021-2025 under various Adjustment Factors

Adjustment factor	1.0	0.9	0.8	0.7
BBAR before tax 2021 $billion	1.330	1.372	1.424	1.494
BBAR before tax 2022 $billion	1.335	1.376	1.428	1.497
BBAR before tax 2023 $billion	1.376	1.417	1.468	1.537
BBAR before tax 2024 $billion	1.431	1.471	1.521	1.589
BBAR before tax 2025 $billion	1.484	1.523	1.573	1.639
Total over 5 years $billion	6.956	7.157	7.414	7.755
PV at 1 Apr -1 of BBAR	5.814	5.983	6.200	6.486
Change in BBAR from base case, $ million	0	201	458	799
Change in PV from base case, $ million	0	169	385	672



14. My reading of these results is that reducing the "adjustment factor" from 1.0 to 0.9 (a one-to-two-year reduction in asset life) increases the allowable total before-tax revenue by $200 million, while reducing the adjustment factor by 0.3 (roughly a five-year reduction in asset life) adds $800 million to total allowable revenue over the five years. I would be grateful for confirmation that these estimates are a correct reading of the Commission's financial model.

The "line in the sand"

15. The initial Regulatory Asset Base set by the Commission for each Electricity Distribution Business was derived directly from the Optimised Deprival Value valuations reached as of 2002 under the preceding (non)regulatory regime of information disclosure. At the time when the Commission released its Draft Decision on this matter in December 2002 it was not subject to merits appeal, and hence not accountable to consumers and others for its decision to wave through, with no clawback, the conspicuous revaluations of the preceding eight years and the accompanying increases in prices and margins at the expense of consumers.

16. Suggestions from observers - including myself - that that the RABs now used in the Commission's IMs incorporate large uncompensated past revaluations, so that a substantial part of the total revenue being recovered by EDBs from consumers is function-less rent with no basis in past capital spending on real assets to provide the

service, are routinely met with the response that the Commission has drawn a "line in the sand" which places the initial RABs beyond debate.[4]

17. An important consequence of this tactic is to shield the Commission from having to transparently account for that part of EDBs' ongoing allowed revenues that is pure rent, as distinct from justifiable recovery by EDBs of the costs of either past investment in network assets or current operating costs. The relevant calculation is straightforward in principle: subtract the historic cost of the assets at 2002 from their ODV valuations, and then roll forward the resulting tranche of excess asset value, with allowance for depreciation and inflation-linked revaluations, to arrive at the amount within the current RAB to which WACC is being applied to set excess allowed revenue. This would enable consumers and analysts to keep track of the monopoly rents currently accruing to the EDB owners under Part 4 regulation, as reward for their successful "mugging"[5] of consumers two decades ago.

18. Ideally this calculation could have been set out in the Issues Paper. It would certainly be the sort of information that could be valuable for the Electricity Price Review which is still underway.

19. My point in this section of my submission is not to seek to overturn the RABs at this point. That is a matter for Parliament to address. My point here is that having set its "line in the sand", the Commission ought to

    a. acknowledge that a significant part of the sums that consumers are forced to pay to the "regulated" EDBs has no basis in actually-incurred costs of supply past or present, but is simply an arbitrary impost secured by the owners of the various monopoly franchises by virtue of that ownership; and

    b. refrain from introducing devices such as accelerated depreciation that allow EDBs to increase their short term revenues above the level that is warranted by applying standard ratios to the "line in the sand" RABs.

The efficiency defence of ODV

20. The Commission has from time to time over the years since 2002 claimed that the Regulatory Asset Base flowing from its 2002 decision in some way corresponds to the "efficient" level of capital required to provide service to consumers. This is not, and never was, the case.

21. Advocates for the EDBs have similarly promoted the idea that the efficient level of asset values, reflecting outcomes in a competitive (or rather, perfectly-contestable)

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4 See *Wellington International Airport and Ors v Commerce Commission* [2013] NZHC 3289 paragraphs 269-273, 472-473, 637-650, 756-760, 764-765

5 The term has been used in the past by Vector on the basis of comments by Professor Yarrow in 2009; see *Wellington International Airport and Ors v Commerce Commission* [2013] NZHC 3289 paragraph 805.

market, is the optimised replacement cost, reflecting the cost of establishing a new entrant to the market. That, however, can be theoretically defensible only in relation to a long-run equilibrium outcome. Allowing competitive market forces to run their course over the full lifetime of an industry's fixed assets (in the case of electricity networks, roughly half a century) would, in theory, produce convergence to ODRC asset values when final equilibrium is reached at the end of the process – but not necessarily at the beginning, if the process starts from pre-existing asset values below replacement cost. Implementing a replacement-cost asset base for pricing purposes before the evolving competitive process has fully run its course means imposing rate shock and wealth expropriation on consumers of the monopoly service – precisely what was allowed to happen to New Zealand's electricity consumers over the years 1994-2002[6].

22. The point was made clearly by Stephen Gale and Vari McWha in 2000[7]:

> As long as the government's declared regulatory stance is (as it is in the US) that prices can be adjusted to recover prudent investments, be they for replacements or upgrades, private capital will be forthcoming. In this regard, an historic cost value would have been as effective as the ODV in providing sustainability.
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> Consumers would almost certainly prefer low transmission prices rising (even in jumps) over time towards a longer run equilibrium, to high prices from day one.
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> Policy makers have a choice between higher or lower prices in the short to medium term. In the long run, the methods probably converge to some degree. If valued up, providers gain at the expense of customers, and *vice versa*. Given that higher prices have the potential to distort the *use* of the services in question, asset values and prices should be kept as low as is reasonably possible.
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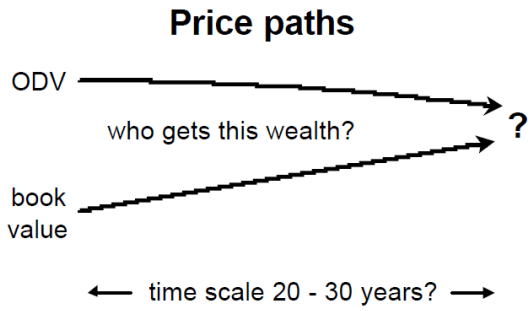
> 
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>
> In other monopoly settings such as airports, the roads and some port traffic, there is similarly no economic justification for increasing prices above the levels consistent with historic costs or book values established at corporatisation or privatisation.

23. Given that in the 1990s the electricity distribution industry was making the transition from a regime of non-profit provision of services by Electric Power Boards and Municipal Electricity Authorities to a profit-oriented corporate governance regime, and given that at the time when the assets were vested in the new corporate entities

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6 The extensive discussion of asset valuation by the High Court in *Wellington International Airport and Ors v Commerce Commission* [2013] NZHC 3289 Part 5 identifies this issue clearly at paragraphs 379-385, and notes at paragraphs 719-720 the Commerce Commission's own understanding of the issue in relation to the post-2002 attempts by EDBs to use the ODV methodology to secure further revaluations.

7 S. Gale and V. McWha, *The Origins of ODV*, NZIER report for Air New Zealand, August 2000, pages iv, v, and 15.

they were valued at historic cost in the published and audited financial statements of those new entities, the appropriate and fully-efficient asset valuation procedure going forward from then would have been Depreciated Historic Cost, providing the new owners with a normal rate of return both on the inherited 1994 asset values and on all new investment - essentially the approach currently used by the Commission to roll forward the RAB under its DPP regime.

24. The appropriate way for the Commission to have protected the long-term benefit of consumers in 2002 would thus have been to reconstruct and apply DHC asset values for all the corporatised businesses. Allowing EDBs a return on any higher asset base meant rubber-stamping the wealth transfers of the late 1990s, and condemning consumers to paying the owners of the EDBs large function-less rents, going forward.

25. Re-establishing the DHC path for EDB asset values in 2002 would, obviously enough, have required radical clawback of the excess profits previously extracted from consumers, and any such clawback would have been met with fierce resistance from the EDBs, whose owners not unnaturally wished to remain secure in their command of the high profit levels, and related high asset values, carried through from their years of unrestricted monopolistic price-gouging. It is understandable that the Commission was reluctant to engage in a head-on conflict with the supply-side interests, given the absence of any well-resourced advocate for small consumers[8], notwithstanding the extreme difficulty of constructing any credible justification for rolling-over the ODV valuations with no clawback.

Other defences for the Initial RABs: 1) alleged cost of calculating DHC

26. If one refers back to the original 2002 and 2003 Commission decisions from which the initial RAB was subsequently set, it is clear that the 2002 decision to roll the ODV valuations over to the targeted control regime was entirely an arbitrary matter of convenience for the Commission, and was based on no credible calculation of the costs and benefits of preparing and implementing a proper DHC calculation of the historic cost of the assets. The two paragraphs reproduced below from the August 2003 Draft Guidelines set the situation out with stark clarity[9]:

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8 Large industrial consumers have had such an advocate, the Major Energy Users Group (MEUG), which has successfully protected their position at the expense of the remaining, unprotected, consumers.

9 Commerce Commission, *Regulation of electricity lines businesses targeted control regime: Draft assessment and inquiry guidelines (process and analytical framework)* 7 August 2003, https://comcom.govt.nz/s/redirect?collection=comcom-www&url=https%3A%2F%2Fcomcom.govt.nz%2F__data%2Fassets%2Fpdf_file%2F0034%2F88369%2Fdraftassessment7aug2003.pdf&index_url=https%3A%2F%2Fcomcom.govt.nz%2F__data%2Fassets%2Fpdf_file%2F0034%2F88369%2Fdraftassessment7aug2003.pdf&auth=KbMbelCDQd12ovcc4TDAJQ&profile=_default&rank=1&query=regulation+of+electricity+lines+businesses+targeted+control+regime+draft+decisions+23+december+2002 accessed 13 December 2018, pages 35-36. .

156 The Commission's draft decision on the opening regulatory asset valuation of system fixed assets does not mean it considers ODV to be the optimal asset valuation methodology for these or other specialised assets. Nor does it mean the Commission considers the MED's current ODV Handbook to be the optimal specification of the ODV methodology.

157 Among the reasons supporting its draft decision, the Commission noted that:

- the use of ODV as the opening valuation for a profit threshold would be consistent with the profit monitoring mechanisms in the electricity information disclosure regime, which have applied since 1995; and
- reconstructing opening values based on reconstructed original costs would (at best) require specific analysis of each lines business, incurring considerable cost, and necessarily involving approximations and arbitrary judgements (and, at worst, may not be possible with any reasonable degree of accuracy).

27. The statement in paragraph 157 reproduced above that "reconstructing values based on reconstructed original costs would … require specific analysis of each lines business, incurring considerable cost" was obviously true, but not a compelling justification for failing (or more accurately, refusing) to undertake that work. Detailed calculations of the historic-cost valuation of fixed assets, company by company, based on disclosed information published in the *New Zealand Gazette*, were available in the public record[10], and had been placed before the Commission in the course of its 2002 conference on asset valuation[11]. "Approximations and arbitrary judgments" were not required.

28. The implied view of the Commission that the cost (to the Commission) of checking and replicating those calculations exceeded the cost to consumers of the Commission's failing to do so was never spelled out, but would not have passed even a casual sniff test had the calculation been attempted[12].

29. Systematic analysis of the profits revealed by the disclosed financial information was undertaken first in Bertram and Terry (2000) and subsequently in work by Bertram

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10 Geoff Bertram and Simon Terry, L*ining up the charges: electricity line charges and ODV*, Wellington: Simon Terry Associates, 2000.

11 Geoff Bertram and Simon Terry, Submission to Commerce Commission with Respect to "Review of Asset Valuation Methodologies: Electricity Lines Businesses' System Fixed Assets". November 2002, http://www.geoffbertram.com/fileadmin/publications/Submission_on_lines_valuation.pdf .

12 Simon Terry and I laid out our version of that regulatory cost-benefit calculation on page 6 of our November 2002 submission.

and Twaddle which was published in a peer-reviewed international journal in 2005[13]. That paper, the calculations in which have never been refuted, estimated that monopolistic profit-taking by the lines businesses in the period 1994-2002 had resulted in a wealth transfer from consumers to the companies of $2.6 billion.

30. Justifying the decision to roll this capitalised excess profit into the Regulatory Asset Base on the grounds that it would be too "costly" to calculate the true historic cost numbers, was never a credible position. The long-term benefit of consumers was, to put the matter plainly, dumped overboard to avoid a bruising confrontation with the large vested interests on the supply side of the industry.

Other defences for the Initial RABs: 2) alleged lack of historic cost data

31. The Commission's decisions were not, in 2002, subject to merits appeal. In 2013, however, in *Wellington International Airport and Ors v Commerce Commission* [2013] NZHC 3289 the issue of setting the initial RAB values was canvassed in a case where a range of network owners sought to have their RAB values increased above the levels set by the Commission. (As usual in New Zealand's current regulatory environment, no counsel representing the interests of the mass of consumers was party to the proceedings, which meant that the case for radically reducing the RAB was never made out before the Court[14].)

32. None of the parties in that case directly addressed the $2.6 billion of wealth transfers that had been embedded in the RAB in 2002. The Court was, however, clearly aware of the issue, stating (at paragraph 385) "What is controversial here (and not at all straight forward) is whether, and if so how, to take account of the possibility that an ODV upon which the initial RAB valuation is based might incorporate revaluation gains that had not in the past been, and would not in the future be, treated as income".

33. When it came to the evidence placed before the Court, a new reason was offered by the Commission for adopting the 2002 ODV valuations. The earlier argument that calculating the true historic-cost numbers would have cost too much was dropped. The new defence consisted of two propositions, set out as follows[15]:

> "the [Ministry of Economic Development, formerly the Ministry of Commerce] and subsequently the Commission took an ODV approach for two basic reasons:
>
> (a) because of a lack of reliable historic cost information; and
> (b) because they considered that an ODV approach mimics outcomes in competitive markets"

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13 'Price-cost margins and profit rates in New Zealand electricity distribution networks since 1994: the cost of light handed regulation', *Journal of Regulatory Economics*, 27, 3 (2005), pp. 281-307.

14 MEUG, representing large Industrial consumers, appealed only against the cost-of-capital element of the Commission's Input Methodologies (paragraph 83 of the judgment).

15 *Wellington International Airport and Ors v Commerce Commission* paragraph 428.

34. The second of these claims has been dealt with above. The first was untrue. Audited historic-cost asset valuations were, and are, available on the public record for all electricity distribution businesses up to the mid 1990s, and those historic cost valuations could readily be rolled forward using the financial data disclosed by EDBs in company annual reports and in the *New Zealand Gazette* from 1995 to 2002.

35. It appears from the record, therefore, that in 2013 the Commerce Commission (whether wittingly or inadvertently) may have misled the High Court by asserting the impossibility of establishing historic-cost asset values as an alternative to the 2002 ODV valuations.

Conclusion

36. The long term benefit of consumers has not been well served by the regulator or the legislature. Two decades on from the monopolistic excesses of the 1990s, electricity consumers continue to be charged prices for electricity network services that are substantially higher than would have resulted from a proper regulatory process applied from the date of corporatisation. The introduction of accelerated depreciation will further increase the price pressure on consumers.

37. Rather than allowing accelerated depreciation, the Commission ought to require lines companies to mimic outcomes in competitive markets by taking write-downs on their assets. It may be noted that the now-abandoned ODV methodology included a provision for such write-downs to occur when market conditions rendered high prices unsustainable. Mis-application of the otherwise respectable notion of "financial capital maintenance" to an asset base that remains inflated by the unilateral revaluations of the 1990s cannot justify a new round of opportunistic early profit-taking by the EDBs.

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