



3rd Generation Incentive Regulation for Ontario's Electricity Distributors

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Presentation on behalf of the
Electricity Distributors Association

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Main Issues

1. Productivity Factor
2. Stretch Factor / Diversity Factor
3. Benchmarking
4. Capital Investment
5. Alternative Regulatory Rules
6. Inflation Index
7. Earnings Sharing Mechanisms

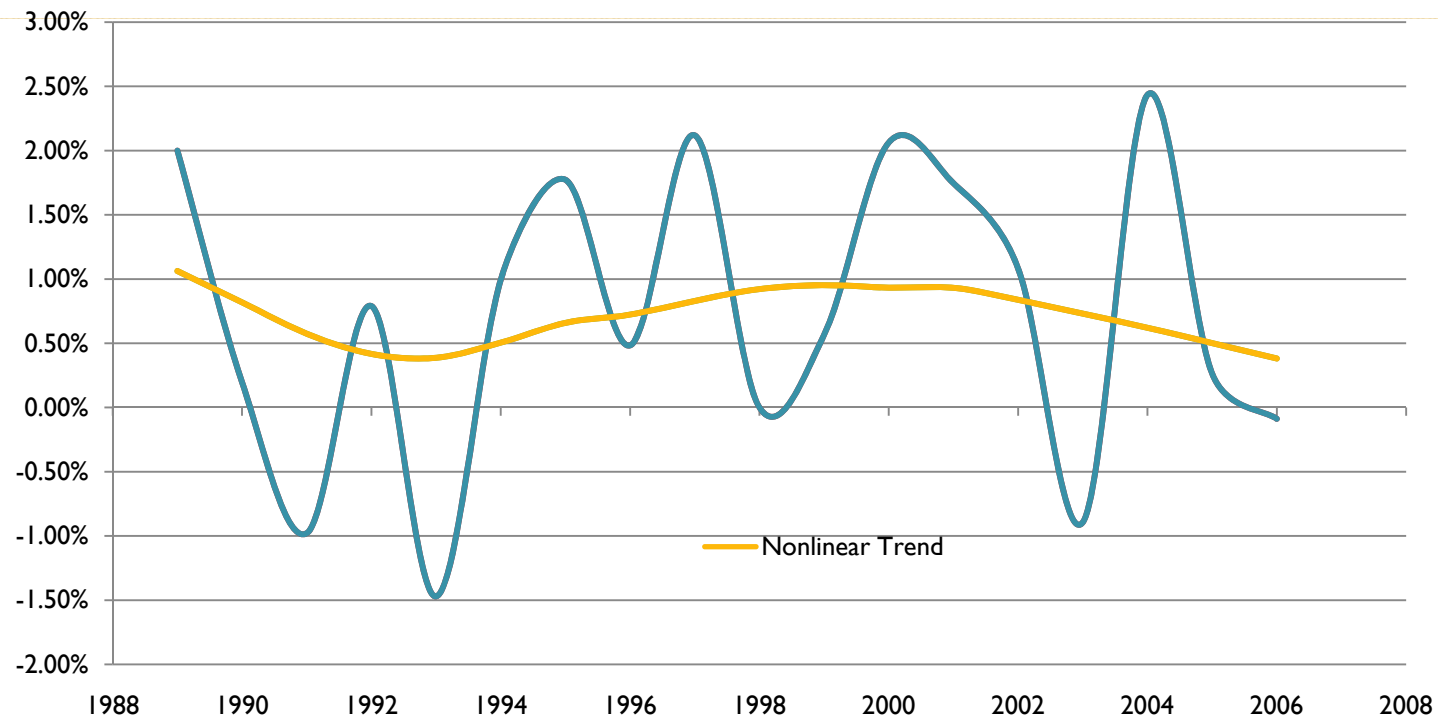
I. Productivity Factor

- PEG is recommending an average productivity factor of 1.16% consisting of:
 - 0.88% base productivity factor
 - 0.28% average stretch factor

“Source: Calibrating Rate Indexing Mechanisms for Third Generation Incentive Regulation in Ontario”, PEG, February 2008, Table 20, page 83.

I. Productivity Factor

Annual Growth in TFP -- U.S. Data





I. Productivity Factor

1. Average annual productivity growth in the U.S. data is 0.72%.
2. There is no statistical evidence of systematic acceleration in productivity growth over the sample period.
3. Estimation of a nonlinear trend effect suggests variation in average productivity growth between 0.4% and just over 1% over the sample period.
4. The most recent years of data suggest a period of deceleration. Recessionary effects in the U.S. are likely to have an adverse impact on productivity trends.



I. Productivity Factor

- PEG's recommended 1.16% productivity factor is outside the range of average productivity growth rates observed in the U.S. during the entire 1988-2006 period.



I. Productivity Factor

- A reasonable target for the base productivity factor is in the range of 0.5% to 0.6%.

- Ontario data for the 2002-2006 period also indicate a slowdown in productivity growth.
- Increasing emphasis on conservation and demand management and aging infrastructure are likely contributory factors.

I. Productivity Factor

- Following the approach used by the Board in 1st GIRM:

- $0.49\% = \frac{2}{3} 0.72\% + \frac{1}{3} 0.01\%$.

- $0.62\% = \frac{2}{3} 0.72\% + \frac{1}{3} 0.41\%$.



I. Productivity Factor

- PEG's proposed base productivity factor of 0.88% is based on a "start date analysis".
- The purpose of the "start date analysis" is to estimate long-run TFP trends.
- However, that analysis fails to capture the period of relatively high unemployment during the early 1990's and therefore overestimates long-run TFP growth.
- Nor is it a good estimate of forthcoming TFP growth rates because it fails to give greater weight to the most recent experience.

2. Stretch Factor / Diversity Factor

- A stretch factor should not be included.
 - “Stretch factors” are rationalized on the basis that a utility should experience “accelerated productivity growth” as one transitions from cost-of-service to incentive regulation.
 - Ontario distributors have been under a form of price-cap regulation for an extended period of time.



2. Stretch Factor / Diversity Factor

- Although the evidence does not support inclusion of a stretch factor, a “diversity factor” which reflects relative efficiencies of distributors is an appropriate part of the long-term vision for incentive regulation in Ontario.
- The diversity factor should be centered at the base productivity factor.

2. Stretch Factor / Diversity Factor

- Serious concerns about the validity of the benchmarking analysis which focuses on OM&A costs rather than total costs.
 - Step 1: exclude “diversity factor” until significantly better benchmarking data become available;
 - Step 2: after estimates of relative efficiencies of distributors are found to be sufficiently reliable, the inclusion of “diversity factors” ranging from say -0.3% to +0.3%.

3. Benchmarking Analysis

- To assess possible errors of focusing on OM&A rather than total costs, the following analysis was performed:
 - The PEG total cost model for U.S. data was re-estimated. Utilities were ranked into efficiency quartiles.
 - An analogue of PEG's OM&A cost benchmarking model was estimated and utilities were again ranked into efficiency quartiles.
 - The two rankings were compared.
- Result: approximately half of utilities were misclassified using the OM&A model.

3. Benchmarking Analysis

Table 1: Classification Frequencies				
	Total Costs			
OM&A Costs	Bottom Quartile	Third Quartile	Second Quartile	Top Quartile
Top Quartile			5	11
Second Quartile		7	5	4
Third Quartile	5	5	5	1
Bottom Quartile	10	4	1	

Source: Commentary on “Benchmarking the Costs of Ontario Power Distributors”, Pacific Economics Group, March 20, 2008. Prepared for the Electricity Distributors Association, by Adonis Yatchew, and submitted to the Ontario Energy Board, April 28, 2008.

3. Benchmarking Analysis

- Regulatory focus on OM&A costs rather than total costs distorts incentives and can lead to:
 - over-capitalization by utilities seeking to reduce OM&A expenditures;
 - under-spending on OM&A;
 - sub-optimal decisions with respect to own vs. lease alternatives.

3. Benchmarking Analysis

- Hypothesis tests of efficiency are not technically sound.
- The procedure is likely to result in the classification of too many firms as “significantly inferior” or “significantly superior” performers and too few as “average cost performers”.

Source: Commentary on “Benchmarking the Costs of Ontario Power Distributors”, Pacific Economics Group, March 20, 2008, pages 5-6 Prepared for the Electricity Distributors Association, by Adonis Yatchew, and submitted to the Ontario Energy Board, April 28, 2008.



4. Capital Costs

- Utilities should be able to submit multi-year capital expenditure plans
- The most appropriate approach would seem to be the direct inclusion of a utility-specific “K-factor” within the price-cap formula.

4. Capital Costs

- Evaluation of a “comprehensive price-cap index with a K-factor” using the four criteria set out in the Staff Discussion Paper indicates that this approach is superior to the others that were considered.



4. Capital Costs

- *Sustainability*: The approach is more sustainable in that it can better handle varied circumstances and it achieves greater consistency among distributors.

- *Predictability*: Conventional price-caps set the price trajectory during the course of the plan. However, between plans there could be substantial variation as a result of rebasing which would need to reflect capital program and other changes. A K-factor is likely to reduce “between-plan” variability as forecast capital program changes would be incorporated on an ongoing basis. Reduced reliance on intra-term capital approval processes should also enhance predictability.

4. Capital Costs

- *Effectiveness:* The approach improves incentives for matching actual capital expenditures to the optimal time profile. For example, the incentives to delay expenditures until the next rebasing and to increase proposed test year outlays are reduced.
- *Practicality:* The degree of complexity in establishing the K-factor path is comparable to that involved in rebasing. Additional administrative costs should be modest relative to a conventional price-cap.



5. Alternative Regulatory Rules

- A few utilities, particularly those expecting significant declines in sales volumes or those with large industrial loads may be disadvantaged under a price cap approach.
- Utilities should be able to apply to the Board to have their rates set according to an alternative plan such as a revenue-cap.

6. Inflation Index

- The general approach to the development of an industry-specific input price index is appropriate.
 - Further refinements are desirable that would reduce the volatility of the index and ensure that the index tracks utility cost pressures.
 - It would be useful to gather utility-specific wage data for Ontario distributors rather than relying exclusively on external databases.



7. Earnings Sharing Mechanisms

- Earnings sharing mechanisms have the undesirable feature that they reduce the power of incentives for efficiency improvements.
- In considering them, one should be mindful that consumers capture the benefits in perpetuity upon rebasing.

7. Earnings Sharing Mechanisms

- If implemented, the earnings sharing formula should be symmetrical.
- There are fundamental differences between privately owned and publicly owned utilities which would suggest differential treatment.
- Publicly owned utilities are more susceptible to uncompensated government policy directives which can in turn contribute to low returns.

8. Concluding Comments

- The determination of a productivity factor should not be prejudiced by those that have been imposed elsewhere, but rather informed by productivity factors that have been actually observed.

8. Concluding Comments

- Present circumstances do not justify the superimposition of stretch factors onto the base productivity factor:
 - The sustainability objective: The resulting X-factors (averaging 1.16 for the industry) do not meet the criterion of sustainability, a criterion which has been widely agreed upon.
 - Arguments based on “precedents”:
 - The existence of precedents in other jurisdictions does not constitute a justification.
 - Nor does the existence of precedents in Ontario. For example, there are important differences between the Ontario electricity distribution and natural gas distribution.
 - Equitable treatment of both sectors neither requires nor implies identical treatment.