



# THE SCHOOL OF PUBLIC POLICY

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## NEGOTIATED SETTLEMENTS: LONG-TERM PROFITS AND COSTS

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### SUMMARY

Over the last 20 years, utility regulators have relaxed their oversight of cost-of-service regulation and this holds true for Alberta, where such regulation determines the fees associated with oil and gas pipeline usage. The traditional method has been for regulators to issue binding decisions on a firm's cost of service after taking evidence at a formal hearing. Many regulators now prefer to encourage parties to settle a cost-of-service agreement through a negotiated settlement, which the regulator then approves. This process not only saves the cost of a hearing, it also permits firms and consumers to trade costs and benefits, settling on a final price more favourable to both. The author details how this arrangement can negatively impact future consumers by allowing the firm to defer the true burden of its depreciation expenses in return for inflated capital costs. Such a settlement lowers prices for the present but saddles future consumers with higher prices.

**Keywords:** negotiated settlements, regulation, depreciation

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## INTRODUCTION

The use of negotiated settlements as an alternative to strict cost-of-service-based regulatory mechanisms has become increasingly prevalent over the last 20 years. Regulatory authorities including the Florida Public Service Commission (FPSC), the Federal Energy Regulatory Commission (FERC) in the United States and the National Energy Board (NEB) in Canada, have all facilitated settlements as an alternative to classic cost-of-service-based litigation. While motivations vary by jurisdiction, in general these regulatory authorities believe that settlement outcomes are associated with cost savings and increased freedoms unavailable under strict cost-of-service litigation.<sup>1</sup>

Cost-of-service regulation (historically the standard for price-setting in regulated industries) operates on a simple and intuitive theory: a firm's revenue is restricted to a level equal to its incurred costs. Prices set consistent with this constraint ensure the firm's continued operation (costs are covered) while providing the relevant good or service to consumers at a price equal to cost (rather than allowing a monopoly-style mark up). In practice, a cost-of-service outcome involves a toll hearing where cost inclusions are determined via formal litigation. In the course of a hearing, firms and other interested parties present evidence on elements of the cost of service ranging from the cost of input goods to the allowed rate of return on capital.

In a cost-of-service hearing, the firms are generally allowed to earn what is deemed a "fair" rate of return on the capital assets employed by the firm. A fair rate of return can be loosely defined as one that allows investors to earn a return on capital equal to the expected earnings of comparable assets in the financial market. This implies a positive accounting profit (revenues greater than costs in any accounting period) but zero economic profit since the return on capital is equal to the opportunity cost of capital.

Negotiated settlement procedures differ between jurisdictions, but in general a settlement outcome dispenses with the formal hearing altogether. The regulated firm and interested parties negotiate the various elements of a cost of service without direct regulatory oversight and present a completed toll application to the regulator indicating which parties (firms, consumers and other interveners) support it. The application may include some details on the specific elements included in the cost of service (although this varies) but it is not required to share details on the negotiating process or in-depth evidence to support any of the claims made. From this abbreviated summary it may not be apparent why regulators display a preference for settlement outcomes over full cost-of-service hearings; however, negotiated settlements have proven effective in mitigating some of the central problems associated with formal cost-of-service toll hearings.<sup>2</sup>

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<sup>1</sup> Doucet and Littlechild, "Negotiated Settlements: The development of economic and legal thinking" *Utilities Policy* 14, (Dec 2006), P.266-277

Doucet and Littlechild "Negotiated Settlements and the National Energy Board in Canada" *Energy Policy* 37 (2009), P.4633-4644

Morgan, "Toward a Revised Strategy for Ratemaking", *Law Forum*, University of Illinois 1 (1978), 27-78 Schultz., *Light-Handed Regulation*, *Alberta Law Review*, 37;2 (1999), P.387-418

<sup>2</sup> Doucet and Littlechild, "Negotiated Settlements: The development of economic and legal thinking" Doucet and Littlechild "Negotiated Settlements and the National Energy Board in Canada"

## PROBLEMS AND SOLUTIONS: SETTLEMENTS AS AN ALTERNATIVE TO HEARINGS

Regardless of the intuitive simplicity of the cost-of-service model, substantial problems persist in its practical application. First, while cost-of-service prices may be optimal for any given year introduced, over time the lack of a profit motive eliminates the regulated companies' incentive to reduce costs. This has potential to lead to reduced productivity and poor product quality.<sup>3</sup> Additionally, the mechanism is difficult to implement without error since the regulator is likely unable to directly identify the relevant costs incurred by the regulated firm. This means that calculating a price consistent with the cost-of-service methodology is impossible without a significant margin of error.

The formal litigation required to set a price based on cost-of-service calculations also presents its own inefficiencies distinct from the aforementioned problems. Lawyers, expert witnesses and the staff required to participate in a regulatory hearing all represent significant costs to both the regulated firm and any consumers/intervenors involved in the hearing.

Negotiated settlements were devised in part as a solution to these faults in the cost-of-service model. Given the freedom to negotiate without direct regulatory oversight, the regulated firm and its consumers are able to devise incentive schemes and make trade-offs between each party's costs and benefits that are not possible under the jurisdiction of a regulatory hearing. Allowing for trade-offs between the interests of regulated firms and consumers has the potential to reintroduce an incentive to reduce costs since the negotiating consumers may be able to offer gains to a regulated firm that a regulatory authority would not have authority to bestow. The costs associated with formal litigation (legal fees and expert witnesses) are also avoided.<sup>4</sup>

These benefits are clearly reflected in the preferences of regulated firms and their consumers. Regulatory boards and commissions often cite the positive response and preference of both the regulated firms and the associated consumers as an indication of the achieved benefits of settlements over a more constrictive cost-of-service model.<sup>5</sup>

## WINNERS AND LOSERS: WHO MAKES IT TO THE NEGOTIATING TABLE?

While negotiated settlements have proven to be a capable vessel for incentive agreements and cost reductions, the relative detachment of regulatory authorities from the toll-setting process remains a deficiency. In most jurisdictions, the regulatory authority has a duty to represent the interest of current and future consumers. In a settlement outcome, the lack of input from future consumers (or an agent representing their interests), combined with the added freedom inherent in settlement outcomes, can potentially produce an outcome that leaves future generations with a higher share of costs.

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<sup>3</sup> Sappington, "Regulating Service Quality: A Survey", *Journal of Regulatory Economics*; 27:2 (2005) P.123-154

<sup>4</sup> Doucet and Littlechild, "Negotiated Settlements: The development of economic and legal thinking" Morgan, "Toward a Revised Strategy for Ratemaking"

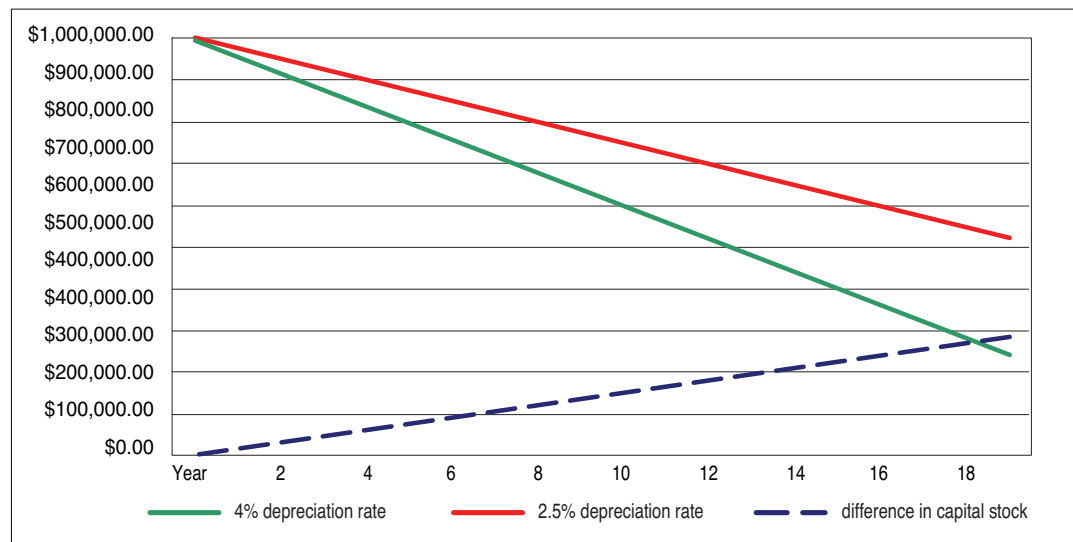
<sup>5</sup> Vollman, *Toward incentive regulation of Canadian pipelines*, Fifth Annual DOE-NARUC Natural Gas Conference, St Louis, Missouri, April 28 – May 1 (1996), available at NEB website.

As already mentioned, the cost-of-service model limits regulated firms to a “fair” rate of return. In a settlement outcome, this restriction is often relaxed either explicitly (by a direct guideline from the regulator) or implicitly (since evidentiary support is not required to substantiate the rate of return specified in a settlement application). We might expect that inflating the cost of service by introducing an increase in the rate of return would imply higher prices. Since allowing higher prices is inconsistent with the expected motives of rational consumers, we might not expect consumers to support a settlement outcome with an inflated cost of capital; however, the scope for trade-offs between the rate of return and the depreciation expense can lead to increased profit for the regulated firm and a lower price for its current consumers.<sup>6</sup>

The trade-off takes the following form: the regulated firm reduces the book value of its depreciation expense by lowering the depreciation rate employed. This lowers the recorded book value of the regulated firm's costs and therefore (under cost-of-service regulation) reduces the price paid by each consumer. The reduction in regulated price occurs since the price is set to provide the regulated firm with revenues equal to its recorded book value costs.

To complete the trade-off, the reduction in depreciation expense is accompanied by the introduction of a positive margin on the cost of capital. This means that the firm is allowed to inflate the book value of its capital costs, earning a rate of return in excess of the “fair” rate of return described above. The end result is that current tolls are decreased by an amount equal to the reduction in depreciation less the increase in return on capital. In effect, this serves to shift the burden of depreciation further into the future. It should be noted that the book value of depreciation represents a significant abstraction from the path of physical depreciation, but it is the book value that determines the firm’s outstanding capital stock. Thus, the path of physical depreciation is largely irrelevant to this trade-off.<sup>7</sup>

**FIGURE 1: Remaining Capital under Deferred Depreciation**



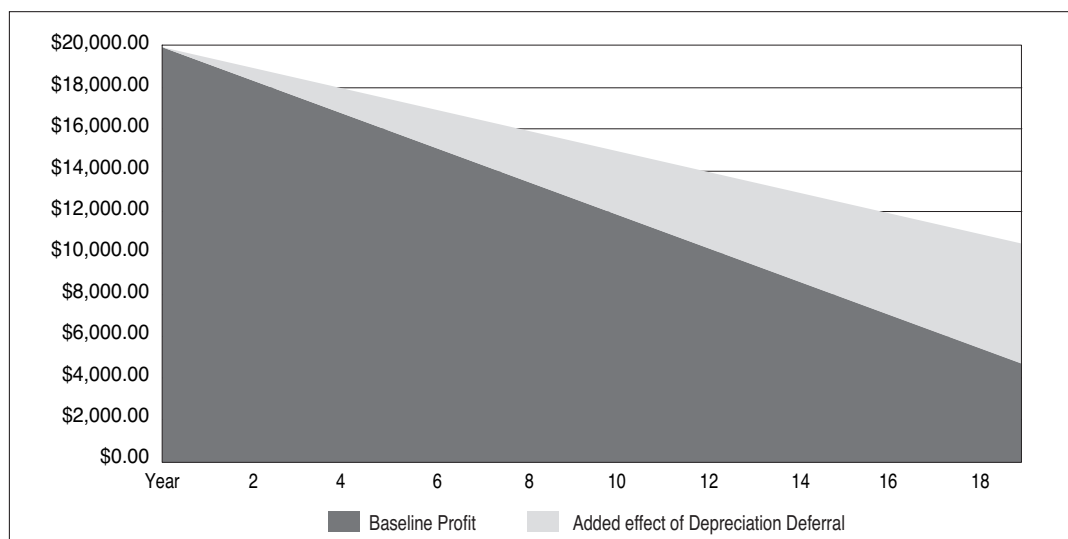
<sup>6</sup> Fellows, G.K. “Negotiated settlements with a cost of service backstop: The consequences for depreciation” *Energy Policy*; 39:3 (March 2011), P.1505-1513

<sup>7</sup> As an example, a pipeline will effectively retain its productive value until its market disappears and normal wear is covered by maintenance costs. This would imply a path of physical depreciation where all depreciation occurs in the final period of operation. However, the book value of depreciation spreads out the cost over the pipeline’s entire life.

Figure 1 shows the book value of depreciation on a hypothetical million-dollar asset, given a change from a 4 percent straight-line depreciation rate to one at 2.5 percent.<sup>8</sup> The figure illustrates how a small change in depreciation expense can allow a firm to retain a significant portion of the book value of capital longer. While the initial capital level is hypothetical, the change from 4 percent to 2.5 percent is not without precedent. TransCanada Pipelines (TCPL), regulated by the NEB, increased its composite depreciation rate by more than 1 percent between 2001 and 2003 following a breakdown in their negotiations with shippers and a return to traditional tolls set via a formal hearing.

Figure 2 shows how this retained capital can add to earnings given a small margin on the rate of return.

**FIGURE 2: Profit from a 2% increase in ROR**



The dark grey area shows the profit earned from a positive two percent margin on the rate of return above the “fair” level on the standard book value of the same million-dollar asset assumed in Figure 1. The light grey area indicates the added profits from deferring depreciation by depreciating at 2.5 percent rather than the base 4 percent.

The incentive to reduce depreciation expense is self-reinforcing. As long as the regulated firm is assured that lifetime depreciation will be sufficient to cover its fixed costs, it will elect to retain capital for longer if it can earn a return in excess of the “fair” rate of return granted under cost of service.

The implication of all this is that regulated firms under negotiated settlement outcomes are able to borrow from the future (by deferring depreciation expense) while simultaneously inflating the book value of their rate base without actually employing more capital. A notable observation here is that due to the deferral of depreciation, consumers will also find it preferable to allow for the inflated cost of capital (as an alternative to status quo depreciation and cost of capital) since the increase in current prices from the change in included capital costs is more than offset by the reduction resulting from deferred depreciation.

<sup>8</sup> A “straight-line” depreciation schedule apportions the depreciation expense out equally across each period. A popular alternative is the “declining balance” depreciation schedule, which sets a depreciation expense as a fixed proportion of the remaining capital stock in each period.

The increase in capital return need not be greater than the reduction in depreciation expense in order to be beneficial to the pipeline. A mutually beneficial relationship between deferred depreciation and an increased rate of return always exists given a small set of conditions involving the relative cost of capital (or discount rate) of regulated firms and consumers.<sup>9</sup>

Absent from the simple figures above is the inevitable increase in depreciation expense required to ensure full depreciation. From the consumer perspective, even anticipating an increase in future depreciation, there are two cases under which it would be rational to allow the regulated firm a rate of return above the “fair” rate:

First, if the consumer plans to stop purchasing/contracting with the regulated firm before the firm retires its assets, future consumers will end up paying a portion of the depreciation that the current consumers should have paid. This makes current consumers unambiguously better off.

Second, if the consumer has a higher cost of capital/discount rate compared to the regulated firm’s “fair” rate of return plus the allowed increase, the consumer can profitably defer the depreciation cost into the future. In this case the consumer is essentially borrowing from the firm, and paying an interest rate equal to the regulated firm’s “fair” rate of return plus the allowed increase.

In any case, future shippers unambiguously lose, which is not surprising, as they have had no say in the negotiations leading to a settlement. This issue is not present in a litigated cost-of-service outcome since cost-of-service toll hearings, by their nature, include comments and decisions made directly by a regulatory authority; if a regulator has a preference, stated or not, against placing an undue burden on future consumers, this will be reflected in the outcome. Additionally, a cost-of-service outcome by design will remove the incentive to defer depreciation expense if a “fair” rate of return is identified and stipulated.

## DEPRECIATION DEFERRALS IN PRACTICE

With regards to the firms’ choice of depreciation path, the implication here is not unique in the academic literature. Burness and Patrick (1992) have already argued that a positive margin on the “fair” rate of return can induce a deferral of depreciation.<sup>10</sup> The notable addition made here is that deferred depreciation is shown to be beneficial to the current consumers as well as the regulated firm.

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<sup>9</sup> See: Fellows (2011a) for a formal proof.

<sup>10</sup> Burness and Patrick, “Optimal Depreciation, Payments to Capital, and Natural Monopoly Regulation”, *Journal of Regulatory Economics* 4;1 (1992), P.35-50

The act of deferred depreciation under a settlement outcome has also been somewhat exposed empirically by other research. Littlechild (2009) conducted an empirical investigation of negotiated settlements in the Florida electricity market and identified similar actions in the deferral of depreciation expense relative to the traditional outcome. Littlechild concluded that consumers preferred “jam today in the form of refunds and rate reductions” rather than “lower prices tomorrow.”<sup>11</sup>

Outcomes of this nature are also observable in Canada. Upon adopting tolls based on a negotiated settlement in 1996, TCPL and its stakeholders agreed to freeze depreciation rates at 1996 levels. Rates remained frozen until 2001 despite significant firm-service contract non-renewals in the late 1990s which led to a reduction in the forecast economic life of some of the Pipeline’s assets. Between 2001 (when TCPL defaulted to a litigated outcome) and 2003 (just before the firm returned to a negotiated-settlement procedure) the effective depreciation rate used in its toll setting rose from 2.64 percent to 3.42 percent.<sup>12</sup>

Without the exposition above, it would not be intuitively apparent why TCPL would allow the depreciation expense to remain at 1996 levels when presented with contract non-renewals. Instead, these non-renewals should have prompted an earlier increase in the depreciation rate.

A large proportion of the 2001-2003 increases in depreciation expense were due to TCPL’s amortization of a significant investment in computer software and upgrades over a relatively short five year period.<sup>13</sup> In other years this account had not been as significant. While the timing of the computer upgrades and the relatively short amortization period may not be related to the movement from negotiated settlement back to litigated outcome, the fact remains that the resulting jump in depreciation expense occurred at the same time as the change in effective regulatory mechanism.

As of early December 2010, TCPL tolls heading into 2011 were to have been set by the terms of a negotiated settlement reached in 2007. The planned 2011 tolls (reflecting a significant fixed cost spread over fewer shippers and lower volumes) represented a significant increase over the 2010 tolls (already representing an earlier cost deferral of approximately \$120 million). The TCPL interim toll application dated December 9, 2010 proposed to reduce the pipeline’s cost of service (and by extension its tolls) by reducing the composite mainline depreciation. The application proposes reducing the composite depreciation rate “from approximately 3.0% to approximately 1.9%, which will reduce the depreciation expense by approximately \$150 million in each year during the Term.”<sup>14</sup>

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<sup>11</sup> Littlechild, “The bird in hand: stipulated settlements and electricity regulation in Florida”, *Utilities Policy* 17(2009), P.32-33

<sup>12</sup> NEB., RH-1-2002, TransCanada PipeLines Limited, Tolls application, (July 2003)

<sup>13</sup> For an explanation of the relationship between amortization rates for specific asset classes and the full path of composite depreciation in the context of the above discussion see:

Fellows, G.K. *Negotiated Settlements in the Pipeline Services Market* M.A. thesis, published by LAP LAMBERT Academic Publishing, (2011b); Appendix: A

<sup>14</sup> TCPL interim tolls application dated December 9th 2010. Online at: <https://www.neb-one.gc.ca/ll-eng/livelink.exe?func=ll&objId=656798&objAction=Open> <<https://www.neb-one.gc.ca/ll-eng/livelink.exe?func=ll&objId=656798&objAction=Open>>

This trend towards lower depreciation under negotiated settlements is not confined to TCPL. Aggregate statistics for five of the largest pipeline companies operating in Canada suggest that the average depreciation expense is reduced by anywhere between 2% and 22% under negotiated settlement relative to traditional litigation. The predicted difference between litigated and negotiated settlement depreciation expense is dependent on pipeline characteristics (size, age, region etc.). Interested readers can find these results presented in more detail in Fellows (2011b).

## **POLICY PRESCRIPTIONS**

The above exposition illustrates the dangers associated with cost deferrals in a settlement outcome even when there is a clear benefit to all parties involved. Debating whether past depreciation rates or cost deferrals were appropriate given the circumstances is of little use going forward, but the policy prescription seems clear. Under negotiated settlement outcomes, more attention should be given to depreciation methodologies and cost deferrals to ensure that regulated firms maintain a strong financial position.

In addition to the concerns presented above, the reader should be aware that NEB staff has cited a number of considerations in informal discussions that have not been explicitly addressed here. The reduced risk of uncertainty in toll outcomes from the pipeline's perspective and the more amicable nature of pipeline shipper relations under negotiated settlements are cited as benefits and the analysis here is not meant to contradict any of these claims; however, it should be apparent from this discussion that negotiated settlements do not represent a panacea for the practice of economic regulation. Any negotiated settlement must be accompanied by a strict depreciation methodology or an informed rate-of-return constraint enforced by the regulatory authority in order to protect the interests of future consumers.

### **About the Author**

**G. Kent Fellows** received his B.A. (Honours) and M.A. in economics from the University of Calgary in 2008 and 2010 respectively. Between his undergraduate and graduate studies Mr. Fellows worked as a summer student at the Canadian National Energy Board which has formed the basis for much of his research agenda to this point. He is currently pursuing a PhD in economics at the University of Calgary and works as a research assistant for the Institute for Sustainable Energy, Environment and Economy.



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