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Undertakings

1.  (a) Estimate the model under the assumption that households will finance part of the increased cost of hydro through reduced savings, rather than reduced spending on goods and services.

    (b) Replicate the above using the 3.95% scenario.

We have re-estimated the input-output model with an assumption that a portion of the increased spending on hydro is offset by a decline in savings.  Data from the OECD put the Canadian average marginal propensity to consume at approximately 0.96.  In other words, for every dollar increase in household income, consumption increases by $0.96.  Alternatively, individuals save approximately four cents of every increased dollar in income.  (McConnell et al, 2013)  Although the marginal propensity to save increases with income, we are concerned only with the aggregate spending of all households in the province and so the average MPS is relevant for the model.

To bias our results towards a smaller impact, we assume an MPS of 0.10.  The increased spending on hydro constitutes a decline in disposable income available to households to spend on other goods and services, or to save.

Note that this assumption differs drastically from the manner in which savings is incorporated into the analysis by London Economics.  We assume that 10% *of the hydro increase* is financed from savings, whereas the analysis from London Economics present scenarios in which households use 0, 10 and 20% *of their savings* to finance the increased hydro prices.   In our opinion, the London Economics approach greatly overestimates the degree to which households will divest their savings to finance changes in current consumption costs.

Our adjustment was run on the 'lower bound' case, in which we assume a price elasticity of demand of 0.29 on all sectors, as well as on the 3.95% alternative.  Table 1 shows the resulting rates used for the model.

| Fiscal year ending | Nominal Rate Increase | Real Cumulative Increase in Spending, No PED | Real Cumulative Increase in Hydro Spending With PED = 0.29 | Decline in other goods and services to offset (10% financed from savings) | Nominal Rate Increase | Real Cumulative Increase in Spending, No PED | Real Cumulative Increase in Hydro Spending With PED = 0.29 | Decline in other goods and services to offset (10% financed from savings) |
|---|---|---|---|---|---|---|---|---|
| 2019 | 7.9 | 6 | 4.26 | **3.83** | 3.95 | 2.05 | 1.46 | **1.31** |
| 2020 | 7.9 | 12.36 | 8.78 | **7.90** | 3.95 | 4.14 | 2.94 | **2.65** |
| 2021 | 7.9 | 19.1 | 13.56 | **12.20** | 3.95 | 6.28 | 4.46 | **4.01** |
| 2022 | 7.9 | 26.25 | 18.64 | **16.78** | 3.95 | 8.46 | 6.00 | **5.40** |
| 2023 | 7.9 | 33.82 | 24.01 | **21.61** | 3.95 | 10.68 | 7.58 | **6.82** |
| 2024 | 7.9 | 41.85 | 29.71 | **26.74** | 3.95 | 12.95 | 9.19 | **8.27** |
| 2025 | 4.54 | 45.6 | 32.38 | **29.14** | 3.95 | 15.26 | 10.84 | **9.76** |

Table 2 presents the results for the initial scenarios and the results when we allow for 10% of the increased hydro costs to come out of savings.

| | First Year Effect | | | | After Seven Years | | | |
|---|---|---|---|---|---|---|---|---|
| | Output | GDP | Labour Income | Jobs | Output | GDP | Labour Income | Jobs |
| | | | | | | | | |
| Lower Bound Case (Table 7) | -0.05 | -0.07 | -0.07 | -78.88 | -1.62 | -2.16 | -2.19 | -2480.20 |
| Adding Savings | -0.05 | -0.07 | -0.07 | -75.45 | -1.55 | -2.07 | -2.10 | -2374.27 |
| | | | | | | | | |
| Coalition/MH I-34 Alternative (3.95%) | | | | | | | | |
| Alternative | -0.019 | -0.026 | -0.026 | -29 | -0.578 | -0.769 | -0.780 | -884.3 |
| Adding Savings | -0.02 | -0.02 | -0.02 | -27.25 | -0.576 | -0.766 | -0.777 | -882.1 |

The savings adjustment has a very minimal effect on the results. There are a number of reasons why the change is small. First, although we allowed for a larger MPS than is estimated in the literature, the proportion that is financed through savings is still very small at 10%. Second, this change is only affecting the consumption patterns of households, not industry or government agencies, who are still modelled at having a six percent real change in hydro spending (or 2.05%).

It should be noted that the model focuses on the impact of a reduction in demand for goods and services. There is an implicit assumption in the model that the structure of the economy remains constant – growth or decline occurs in a parallel fashion. In particular, the model shows that financing a portion of the hydro spending through savings has a positive (albeit small) overall effect. However, the model is not set up to capture the potentially negative effects of a decline in household savings. Households that sacrifice savings to finance hydro increases are merely delaying the decline in the consumption of goods and services. This

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reduction in savings could also potentially put slight upward pressure on interest rates.

2. We were asked to consider how economic impact differed from economic effect.

Although the precise difference between these terms is not clear, we believe that this referred to the inclusion of EI payments to the unemployed into the model. The I/O model that we used includes the connections between the household, industry and government sectors in Manitoba with respect to purchasing. Transfer payments are not included in this model.

The model used by London Economics (IMPLAN) appears to extend the basic I/O model to include transfer payments, an extension that we cannot perform. It is not clear how these aggregate transfer payments would be adjusted for the job losses. Plausibly, one would make an assumption of the proportion of the lost jobs that would qualify for EI payments, and the wages from these jobs, the length of time the individuals would be unemployed, and adjust total household income by this amount.

We do not believe these payments would be significant amount when considering total household spending. EI payments provide unemployed workers who qualify for Employment Insurance (based on previous hours worked) with no more than 55% of their prior wage for no more than 36 weeks (two-thirds of a year). Since we are considering job losses of up to approximately 4000 over the seven years time horizon, the EI payments would represent a small portion of total household spending and would be unlikely to have a noticeable effect on the aggregate results.

3. We were asked to model what would happen if Manitoba Hydro chose not to use revenue from the rate increase to reduce debt, and it was instead spent in the Manitoba economy.

When asked what percent of the revenue we should consider, this decision was left to us. Having reviewed the documents provided by Manitoba Hydro, we still believe that the only reasonable assumption to model is a full withdrawal from the economy. Modelling any other scenario would be inconsistent with the evidence provided and not informative.