

Charles Tupper: A Measure of Patience

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1 Introduction

The 1865 debate in Nova Scotia over confederation yields a face-off between two strategies. The confederates, led by Charles Tupper, came back from the Quebec conference to an anti-confederate legislature and public. In response, Tupper adopts a strategy of delay [2, 3]. This strategy faces off against Joseph Howe, a strong, well-respected anti-confederate. Howe becomes editor of the *Halifax Morning Chronicle* and begins a campaign of negative rhetoric against Tupper and Confederation [2]. After engaging in these strategies for more than a year Tupper proves victorious and Nova Scotia moves towards confederation in 1867. The success of Tupper's strategy of delay is based in his being patient enough to outlast Howe's negative rhetoric. The model presented compares the two players strategies and attempts to quantify a measure of Tupper's patience (δ). This factor is key in determining whether or not Tupper will win the game.

2 The Model

Each actor's strategy takes the same form. Tupper's payout, T , is the sum of the benefits of delay and the costs of delay: $T = b(D) - c(D)$. Howe's payout is the sum of the benefits of rhetoric attacks and the associated costs: $H = b(A) - c(D)$. At any time during the debate whoever's payout is higher is predicted to win a confederation debate in the legislature. However, Howe doesn't have the power to force the issue in Halifax and must wait until the end of Tupper's term to call a vote on confederation [2]. The game becomes

whether or not Tupper can gain support for confederation through a strategy of delay before the end of his term.

3 Tupper and his strategy of delay

If Tupper was to pass confederation he would gain a payout, C . Everyday, Tupper must expend some energy to delay the motion. This cost comes in the form of a discount factor (similar to that used to calculate future values). Every day in the future that confederation would pass is expected to be worth slightly less than today. In our model this will be presented as δ^t where δ is a measure of Tupper's patience and t is the amount of days that he delays [1]. His payout is also lessened by his probability of winning, $\frac{1}{k}$ [3]. Tupper's payout is not just a function of the time delayed; Howe's negative rhetoric lessens his payout and makes it harder for Tupper to win. As a result, Tupper's payout suffers by $\frac{1}{\sqrt{A}}$, where A is the number of Howe's attacks and \sqrt{A} is their strength (explained in the next section). When these factors are combined they describe Tupper's total payout:

$$T = \frac{C\delta^t}{k\sqrt{A}} \quad (1)$$

Note that in this game the only factor that Tupper can control is the number of days that he delays, t . t has a maximum that is equal to the length of time left in Tupper's government at the end of which he is forced to face an election. As a rational actor, Tupper will choose to delay until his payouts are higher than Howe's. He can then be confident enough to bring the confederation motion to the legislature.

4 Howe and his strategy of rhetoric

Once Tupper returns from Quebec Howe begins using the media and his good reputation to generate a negative, attack campaign against Tupper [2]. The benefits from these attacks are assumed to take the form of \sqrt{A} , where \sqrt{A} is the number of times Howe attacks Tupper. This is reasonable because benefits quickly approach some sort of maximum (where every citizen has been impacted for example). His attacks, although always producing a slightly higher return, do so at a rapidly diminishing rate.

There is also an assumed cost to Howe's attacks, related to Tupper's choice to delay. This is in fact $-t$. Effectively, every day that Tupper decides to delay (t), Howe must pay a price to be able to attack, even if he doesn't. This could be the cost of keeping his newspaper running, daily time invested, or ensuring he maintains his good reputation with Nova Scotians. Howe's total payout then is:

$$H = \sqrt{A} - t \tag{2}$$

A game is now set up that pits Tupper and Howe in a race. Tupper wins if his payout becomes higher than Howe's ($T > H$) before the end of his term. At this point Tupper can bring the vote to parliament and move Nova Scotia into confederation. Howe will win if his payout remains higher than Tupper's when Tupper is forced to bring the vote to parliament at the end of his term.

5 Analysis

The first useful piece of analysis comes from finding Howe's optimum number of attacks through the derivative of his payout scheme.

$$\begin{aligned} \frac{dA}{dt} \sqrt{A} - t \\ A = \frac{1}{(2t)^2} \end{aligned} \tag{3}$$

This number shows the diminishing returns of Howe's daily attacks on Tupper, as expected. The longer that Tupper can delay, the less frequently Howe will logically attack. In a sense Howe is crying wolf, and being ignored by the public and legislators more and more frequently.

Once we have Howe's optimum number of attacks as a function of Tupper's delay, (3), we can plug it into Tupper's payout scheme to learn more about his strategy.

$$\begin{aligned} T &= \frac{C\delta^t}{k\sqrt{A}} \\ T &= \frac{C\delta^t}{2kt} \end{aligned} \tag{4}$$

This gives us an equation that, other than constants C and k , is expressed exclusively in terms t . We also have an equation of Howe that, when subbed with (3), can be expressed solely term of t , (2). Using both we can create a system of equations to solve for Tupper’s measure of patience, δ .

Howe starts off the game winning only to be caught up by Tupper at some point in time. At this point both of their payouts are equal. For simplicity we can assume that the initial payout from confederation, C , is 1 and the probability of winning the debate, $\frac{1}{k}$ is 0.5. Fair assumptions on the day that Tupper and Howe’s payouts are equal.

$$\begin{aligned}
 H &= T \\
 \sqrt{A} - t &= \frac{C\delta^t}{k\sqrt{A}} \\
 \frac{1}{2t} - t &= \frac{\delta^t}{4t} \\
 \delta^t &= 2 - t \\
 \delta &= \sqrt[t]{2 - t}
 \end{aligned}
 \tag{5}$$

The Quebec conference ended on October 27, 1964. It wasn’t until April of 1866, about 545 days later, that Tupper secured a win for confederation in the Nova Scotian parliament [2]. The estimated 545 becomes our t and yields:

$$\delta \approx \pm 1.012
 \tag{6}$$

6 Conclusions

This value, a measure of Tupper’s patience, is interesting and runs counter to our assumptions¹. The solution is greater than 1. This flies in the face of discount factor that we assumed was a cost in Tupper’s payout scheme [1]. According to the solution, Tupper actually believes that confederation is worth *more* in the future than today.

There are three possible explanations for this. The first is that the model

¹The fact that there is a positive and negative solution should be ignored as it is an unfortunate product of the root in (5). If t is odd then the solution is negative. If t is even it is \pm . As we can only estimate t the signs can be ignored.

is that Tupper's strategy of delay was necessary and sufficient to pass confederation, but the model initially presented doesn't reflect the true costs and benefits of the players strategies; the model is wrong. The second possibility is that the assumptions are fair but the strategy of delay was not sufficient to win the debate. Tupper could have been actually using delay *and* another strategy that provided him benefits (i.e. actively campaigning pro-confederation). These other benefits could have artificially inflated δ as it was the only variable not constrained. If the model was expanded to include another strategy δ might drop below 1 where we expected it be. The final possibility is that the model is correct and Tupper does in fact value confederation more in the future than today. For example, it would be reasonable to assume that bills passed in legislature immediately before elections are worth more than ones immediately after. If Tupper knew that he could outlast Howe, why not wait until the last possible moment to pass the bill, it could be a huge boost in election polls if it was something favoured by the public.

Either way, Tupper held fast to his strategy of delay and outlasted Howe and his rhetoric. As a result Nova Scotia took part of the creation of Canada in 1867.

References

- [1] Robert Frank and Ben Bernanke. *Principles of Macroeconomics*. McGraw-Hill Higher Education, Toronto, ON, 2008.
- [2] Christopher Moore. *1867: How the Fathers Made a Deal*. McClelland and Stewart Ltd., Toronto, Ontario, 1997.
- [3] William H. Riker. *The Strategy of Rhetoric*. Yale University Press, New Haven, CT, 1996.