

Stephen Harper: A James Dean for the 21st Century

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1 Introduction: Steele's Game

In his June 16th article, Andrew Steele likens the Canadian election scare in the spring of 2009 to a game of chicken. Chicken¹ is a well studied game theory model where each player prefers not to yield to the other, the outcome where neither player yields is the worst possible one for both players [4]. Steele depicts a scenario on parliament hill in the spring of 2009 that could have easily toppled the house and triggered an election. He claims that the four major parties are playing brinkmanship and daring each other into an election. Each party is a rational actor and seeks to maximize their payout.

Steele discusses the potential for miscommunication between parties because of all of the different simultaneous games. Unfortunately, this clashes with an assumption in the above game: that each actor is fully aware of the benefits and costs of the other actor(s) and expects them to play so as to maximize their payout. Miscommunication won't be analyzed in this paper but it will be mentioned in the conclusions.

All of the opposition parties must unite in order to bring down the government. We can thus simplify the game by summing the the opposition party's payouts as long as we check back to ensure each party's individual benefits outweigh their costs of an election.

In its generalized normal form Chicken should look as follows:

¹Also called the Hawk-Dove game in evolutionary models

Opposition			
		No Election	Election
Conservatives	No Election	a, w	b, x
	Election	c, y	d, z

where $c > a \geq b > d$ and $x > w \geq y > z$ [3]. If Steele is correct in comparing the situation to Chicken then we should see the same relationships after evaluating his assumptions.

2 Analysis of Steele's Model

In analyzing Steele's model there are two important questions that must be asked: will Harper support an election and will any of the opposition parties *not* support an election. If Harper's strategy is 'Election' then the house will almost certainly fall as only one other party needs to want an election. If he stands against an election then it the election decision is forced onto the opposition who must unite to topple the Conservatives.

2.1 Will Harper Swerve?

In his article, Steele remarks that the Conservatives stand to lose the most of all the parties if an election were to be forced. However, there is an appeal to an election for Harper. Although the Conservatives would probably lose seats in an election, they will likely retain their minority government. If things are, as Steele predicts, going to get worse for Harper before they get better than calling an election and reaffirming his mandate may be a better option than delaying a larger loss.

Steele also states that 'Stephen Harper has to ignore Michael Ignatieff's demands to partially trigger his loss of confidence' [2]. If Harper doesn't topple himself then the opposition parties must have an 'all for one, one for all' mentality when approaching the question. As soon as one of them steps away from an election, they all must reevaluate their stances *knowing* that the government won't fall. Harper is daring the opposition parties to bring him down, allowing them to blame one another when it doesn't happen (calling each other "chicken"). If Harper causes his own fall, not only does he give into Ignatieff's desires, he loses the advantage of opposition in-fighting that he is the direct beneficiary of. It is a safe assumption that Harper won't bring his own government down.

Given the assumptions laid out in Steele's article, we can examine the payouts for the Conservatives (a, b, c, d) to see if they adhere to the Chicken model. While the Chicken model demands a relationship where $c > a \geq b > d$, the assumptions made by Steele describe a relationship where $a > b > d > c$. For the Conservatives, an 'Election' strategy is strictly dominated by 'No Election'.

It is as if Harper has locked his steering wheel towards a collision. The question then turns to the opposition parties and their solidarity.

2.2 Will An Opposition Party Swerve?

As outlined by Steele, each party has both good reasons to support and oppose an election. The Liberals stand to gain significant seats in an election, but (based on political environment of the time) they stand to win more the longer they wait. The NDP will lose a lot of credibility if they don't try to take the Conservatives down, but they stand to lose a lot of seats if an election is called. The Bloq Quebecois will also likely lose seats in an election, but if they prop up Harper's government then they will have to continue working with a PM who can't be seen making deals with separatists, especially after the coalition threats only a few months prior.

Most parties are relatively ambivalent in regards to an election so we will assume that the payouts of either option are equal. The probability of a party picking either strategy is then 50% ($P_p(E)$). If they don't form a unified front then they will suffer costs as a result. These costs could either come from other opposition parties who will accuse them of cow-towing to the Conservatives or from the Conservatives claiming that the dissenting party has no spine (a strategy that has worked very well against Ignatieff of late). When a party is considering it's options they will calculate the odds of them uniting, either for or against an election, as $P_{Lib}(E) \times P_{NDP}(E) \times P_{BQ}(E) = 0.125$.

It is doubtful that an opposition party will gamble on a 12.5% win. It is more likely that they will submit to the status quo and wait until the costs of dissenting are better or it is clearer that the opposition parties are more supportive of an election (a strategy of delay [1]). It is likely then that at least one party will swerve, encouraging other opposition parties to do the same, averting an election.

3 Conclusions

Chicken is an interesting model because the only thing that stops each player from swerving immediately is the knowledge that the other player also suffers by swerving. The marginal cost of swerving compared to disaster is enough to drive the players onward, hoping their opponent will give in. If the game is modified by knowing that one player will not swerve then it immediately becomes favourable for the other player to swerve. As is the case in Steele's model. As the government and opposition careen towards an election it becomes clear that the Conservatives are not going to swerve, forcing the decision to the opposition.

However, Steele's model contradicts his final prediction. He predicts that an election will occur when, upon inspection, the opposition will actually move towards the (c, y) payout (a Nash Equilibrium), averting an election. Instead, Steele suggests that an election is likely, suggesting that Chicken isn't the model that is drawn out of his assumptions, or that the miscommunication he discusses causes enough confusion that not a single opposition party can see that the Conservatives are not going to swerve.

As with any anti-cooperation model, a model Chicken game contains 3 Nash Equilibriums (NE): two pure strategies and one mixed strategy evolutionary stable state (ESS)². The pure solutions occur when the players choose opposite strategies. In Steele's model one of these solutions is dominated. The expected NE that exists when the Conservatives choose 'Election' and the opposition chooses 'No Election' is strictly dominated by the Conservative's strategy of 'No Election', eliminating it. It is very unrealistic to think that the Conservatives will bring down their own government despite opposition support. The only other NE that exists is the 'Election/No Election' combination (c, y) which is the final solution and only Nash Equilibrium in Steele's game.

Harper's decision to strap himself into the car and press forward regardless of risk of an election destroys the balance within a standard Chicken model and forces the decision upon the opposition; a decision that, if they are at all unsure about, will result in them differing to the status quo. Steele is only partially correct. Although the game has some characteristics of a Chicken game it is in fact not, largely because the 'disaster' result is accepted by the

²The ESS can be ignored because this game is not iterated and players cannot 'mix' their strategies probabilistically as an ESS demands

Conservatives as an acceptable outcome ($d > a, b$). If only he had the looks and personality of James Dean to go along with his breakneck strategy.

References

- [1] William H. Riker. *The Strategy of Rhetoric*. Yale University Press, New Haven, CT, 1996.
- [2] Andrew Steele. Parliament without a cause, June 2009.
- [3] Jorgen Weibull. *Evolutionary Game Theory*. MIT Press, Cambridge, MA, 1997.
- [4] Wikipedia. Chicken (Game), Dec, 12 2009. [http://en.wikipedia.org/wiki/Chicken\(game\)](http://en.wikipedia.org/wiki/Chicken(game)).