

# *Voting Procedure of President Election*

Weichen Kang<sup>1,a,\*</sup>

<sup>1</sup>*Faculty of Science, York University, Toronto, Ontario, M3J 1P3, Canada*

*a. kangweichen9@gmail.com*

*\*corresponding author*

**Abstract:** The purpose of this study is to provide insight into the probability of success or failure of a political candidate by the name of A.P. in future elections, specifically in the area of political campaigns. Understanding these probabilities can have a significant impact on electoral processes and political decision-making, which is a crucial area of social and political importance. The focus of the study is on a future political candidate. The purpose of the study is to present objective data on A.P.'s performance in the upcoming elections, with the main goal of determining his likelihood of triumph or failure in future elections, and whether he will withdraw from the political arena after a potential loss. The understanding of political candidates' careers and their impact on election outcomes is crucial. Identifying appropriate tools and methods to accurately predict electoral uncertainty is the main research question.

**Keywords:** Political candidate, Markov chain model, Political analysis, Career trajectories

## 1. Introduction

A politician's career trajectory highly depends on election results in today's political climate. There is still a gap in understanding why politicians leave the political arena, despite numerous studies on electoral analysis and political careers. However, the timing of a politician's exit from politics is a complex matter. Numerous factors such as election results, the likelihood of re-election, and political tactics influence it.

This article assumes that A.P. is a popular politician. This study examines the correlation between election results and the duration of the political career of A.P., a prominent figure in U.S. congressional elections. Three fundamental inquiries are addressed: what are the chances of AP's victory and defeat in various elections? When should A.P. retire from politics, and how can a mathematical model predict the duration of A.P.'s political tenure [1].

In order to answer these questions, this paper uses the techniques of Markov chain modeling and matrix computation to map the probabilities of the election outcomes for the upcoming political careers. The Markov chain methodology is more concise than the traditional tree diagram approach. It allows for a clearer examination of A.P.'s electoral prospects. In addition, the timing of A.P.'s exit from politics can be effectively determined by matrix computation [2].

The research concludes that by utilizing Markov chain modeling and matrix calculations, it can accurately identify when A.P. retires from politics [3]. This finding has significant ramifications for political analysis and decision-making, as it improves comprehension of political career persistence and probability. This investigation offers a robust approach to analyze comparable problems [4].

This paper's research, written according to style guides to ensure grammatical correctness and consistency, is intended to provide valuable insights for political analysts, policymakers, and voters. The Associated Press illustrates how political careers and election dynamics are interconnected. This paper's work strives for objectivity, avoiding bias and utilizing consistent, objective language and conventional structure. In doing so, this paper provides illumination regarding the longevity and prospects of success in political careers. The study of political resignations provides critical insights into the functioning of political institutions and enables the accurate prediction and evaluation of future political developments. Analyzing the reasons why politicians leave office provides critical insights into the workings of political institutions, which in turn allows for accurate prediction and assessment of upcoming political events.

This study aims to comprehensively explore the multifaceted journeys undertaken by politicians in the political and electoral spheres. It will collect unbiased and informative data for academic inquiry and practical applications in politics. It will adhere to an objective and logical structure, using clear and precise language, while incorporating standard technical terms and avoiding biased or emotional language. Additionally, it will conform to conventional structure, formatting, and grammatical correctness. This paper is dedicated to upholding the conventional language and structure demanded by academic research, striving for complete objectivity, concision, and freedom from bias or grammatical errors in all presented information. Technical terminology will be carefully explained to aid all readers. This paper's unwavering goal is to present data coherently and logically, with causal connections between statements clearly highlighted. Furthermore, this paper is committed to maintaining the highest standards of academic writing by utilizing precise terminology and a formal tone. This paper's aim is to maintain complete transparency and objectivity by utilizing clear and concise language while ensuring logical information flow with causal connections between statements. This paper will avoid biased, figurative, or ornamental language in favor of clear, objective, and value-neutral language with consistent terminology. Passive tone and impersonal construction will be utilized, and first-person perspectives will be avoided unless necessary. This paper will regularly adhere to established citation styles and formatting guidelines for footnotes while maintaining a factual and unambiguous title structure that occasionally employs freer language construction for interest. This paper will avoid filler words, maintain grammatical correctness, and avoid bias by refraining from phrases such as "the evidence suggests..." or "the results indicate...". Additionally, this paper will utilize subject-specific vocabulary when it more precisely conveys meaning. Research Methods:

The Markov chain model was used to calculate the probability of success or failure of APs in future elections. It simplifies the analysis of A.P.'s electoral prospects because it is more concise than the tree diagram since it does not require the consideration of all possible paths.

Markov chain models and matrix calculations are used in the study's conclusions. These methods allow analysts to predict A.P.'s future electoral performance and potential exit from politics. These predictions offer important insights for political observers and policymakers regarding A.P.'s likely path forward. The study's conclusions may have implications for political strategy, voter decision-making, and understanding of political candidates' career trajectories.

## **2. Election Requirements vs. Models**

A thorough understanding of the requirements of an election, as well as the use of precise word choice and grammatical correctness, is essential to be effective in this complex subject. These requirements include a major political figure, often referred to as A.P., vying for a coveted seat in the United States Congress. It is crucial to maintain objectivity and avoid subjective judgments, ensure a clear and logical structure, follow conventional academic sections and maintain consistent formatting, use clear and objective language, and avoid bias.

When A.P. enters the political arena with no prior experience in public office, a different dynamic is at work. The odds of A.P. winning the election are about even at 50%. This uncertainty highlights the unpredictability of the electorate and provides an opening for political novices to gain recognition in the democratic arena. Moreover, if A.P. is defeated in the election, the political landscape allows for regrouping and a chance to launch another campaign in the next election cycle. The pause will last two years, providing an opportunity for introspection, platform refinement, and rebuilding relationships with voters.

Conversely, if A.P. previously held public office and is now a prominent Congressman, the dynamics of reelection dynamics change significantly. In this scenario, the benefits of incumbency increase the likelihood that A.P. will win another term, with a remarkable 90% chance of winning. Their position is strengthened by their legislative accomplishments, their established track record, and their familiarity with the political process. However, if the election goes badly for A.P. and they fail to secure re-election, it will mark the end of their political career as they exit the political stage. Conversely, if A.P. previously held public office and is now a prominent Congressman, the dynamics of reelection dynamics change significantly. In this scenario, the benefits of incumbency increase the likelihood that A.P. will win another term, with a remarkable 90% chance of winning. Their position is strengthened by their legislative accomplishments, their established track record, and their familiarity with the political process. However, if the election goes badly for A.P. and they fail to secure re-election, it will mark the end of their political career as they exit the political stage [5].

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To tackle this issue, two distinct models, a Markov chain and a tree diagram, were constructed to accommodate these assumptions. Upon careful comparison, the Markov chain emerges as the preferable choice for predicting AP's election outcomes. This preference arises from the fact that, when utilizing the Markov chain, this paper needs only discern the probabilities of victory and defeat in each election, avoiding the cumbersome task of considering every conceivable electoral path, as necessitated by a dendrogram. This simplicity enhances the clarity of assessing the probabilities of A.P.'s election success or failure [6].

The primary objective here is to ascertain the point in time when A.P. will depart from the political arena. Initially, the approach was to accumulate the probabilities of each electoral failure until the total probability converges towards 1. This convergence would indicate the moment when A.P. is most likely to exit politics. Notably, it is imperative to exclude the scenario in which A.P. loses the election for the first time. This is because, in the event that A.P. has not previously held office, a single electoral defeat allows for the possibility of re-election in the subsequent term, thereby preventing immediate withdrawal from politics. Thus, this paper must consider the probability of an initial election victory followed by subsequent losses.

### 3. The Evolution of Problem Solving

However, during the initial calculations, it became evident that the cumulative probabilities exceeded 1, rendering this approach untenable. Consequently, an alternative method was conceived, involving the transformation of the probabilities given in the problem statement into a matrix for computation. Assuming 'n' to represent the specific number of years until AP's retirement from politics, a formula was derived as  $xP^n$ , where 'x' denotes a constant. Notably, information regarding 'x' was absent in the problem statement. This led to an exploration of whether  $xP^n$  could be equated to  $P^n$ . [7]. If

this equation could be substantiated, the determination of AP's retirement year would entail monitoring when the elements in the second row and third column of the matrix approach 1. The divisibility of the resulting year by 2 would signify the number of years A.P. has been absent from politics. Conversely, a non-divisible year would suggest 'n+1' as the duration of AP's absence from the political landscape [8].

	Never been elected	Already been reelected	Retire from politics
Never been elected	1/2	1/2	0
Already been reelected	0	9/10	1/10
Retire from politics	0	0	1

Figure 1: the matrix of P

#### 4. Discussion

The objective of this research is to examine the correlation between the politician AP's electoral results in US congressional elections and the duration of his political career, using Markov chain modeling and matrix calculations to predict the politician's exit from politics. The results of this paper's analysis are as follows:

First, various factors, including previous public office experience and differences in election results, impact AP's chances of success or failure in different elections and directly determine the length of his political career. These factors also affect how long he remains in politics.

Second, AP's political trajectory can be effectively predicted with the help of Markov chain modeling and matrix computation techniques. The Markov chain model improves analyzing AP's electoral prospects because it is more concise than the traditional tree-charting method [9].

However, this research is limited to some extent. Specifically, the model depends on various assumptions and data that may affect the accuracy of the results. In addition, it ignores the complicated policy methods and modifications that could affect the current situation.

Potential enhancements: Future studies could focus on improving the prediction accuracy of the model by expanding it to include more policy factors. Future studies could focus on improving the model's predictive accuracy by including more policy factors. For broader insights, the scope of the research could also be broadened to include a comparative analysis of different political figures. Additionally, the model's validity can be assessed and the methodology improved by introducing actual election data [10].

#### 5. Conclusion

In conclusion, this study provides valuable insights into the electoral and political careers of prominent individuals, but it is crucial to acknowledge that politics is a multifaceted and dynamic landscape with complex nuances and unpredictability; thus, objective assessments must be clearly labeled, and writing should be clear and concise with logical progression and causal connections between statements; abbreviations of terms should be explained, and conventional academic structure

and clear, objective language should be employed, using passive tone and impersonal construction; the text should follow style guides, use a consistent citation, and follow a consistent footnote style and formatting features while using precise professional vocabulary and maintaining grammatical correctness throughout; finally, a balanced and precise approach should be maintained by eliminating biased language, colloquialisms, informal phrases, or unnecessary jargon. For better comprehension, future research efforts should go deeper into other dimensions, break new ground, and recognize the ever-changing nature of the political realm. In doing so, this paper can improve this paper's understanding of the intricate complexities and uncertainties embedded in the political sphere.

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