The Evolution of the Median Voter Theorem: Historical Context, Contemporary Perspective, and Changing Applicability

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ABSTRACT

In 1948, democracies were still being established across the world, rendering the historical foundation of the Median Voter Theorem a pivotal point in the evolution of political thought. This research paper delves into the intricate relationship between the Western and European political context surrounding the emergence of the Median Voter Theorem in 1948 and its reception by historical and modern scholars. This research paper also explores how these criticisms reflect the changing relevance of the Median Voter Theorem. By doing so, we scrutinize assumptions such as people's clear preference for candidates, single-peaked voter preferences, the one-dimensional nature of policy space, and the rationality of the voters. By examining how those premises have evolved over time and considering changes in political discourse and technology, we can see how the Median Voter Theory is regarded from its genesis to this day. Through offering a comprehensive examination of the historical and contemporary contexts surrounding MVT, this paper also underscores the importance of considering historical foundation in the assessment of political theories and provides insights into the enduring relevance of the Median Voter Theorem in the study of electoral behavior and democratic governance.

Introduction

In 1948, three years after World War II ended, Scottish economist Duncan Black (1948) proposed the Median Voter Theory in the paper "On the Rationale of Group Decision Making" as a response to the changing political landscape in Europe. In this paper, Black put forth the idea of a median voter, a person who holds the median political views and inclinations between the extremes of a scale. Due to the unique essence of the median voter, if we were to graph his position on a spectrum, compared to any other alternative points, the distance, or the difference in political opinion, between the median voter and all the other more biased voters will be the shortest. Consequently, after politicians make a move to the proximity of the median voter through demonstrations such as delivering a speech or passing legislation, his perceived political standpoint will be appealing to more voters. Following this logic, politicians will always display political views congruent to those of the median voter. Since this position represents the ideal compromise point that maximizes the number of supporting voters, Black hypothesized that in a majority voting system that concerns one-dimensional policy preferences, the outcome of the election would tend to converge toward the preferences of the median voter.

From empirical knowledge, we know that this situation does not always occur. This is due to the hard-to-fulfill assumptions of this theory. In order for the Median Voter Theorem to function, the following premises must be satisfied:

1. One-dimensional policy space (political preferences can be represented on a one-dimensional spectrum)
2. Rational voters aiming to maximize their utility
3. Fixed voter preferences

4. Single-peaked preferences
5. Transitive preferences
6. Majority rule

Through researching how well these conditions may or may not hold under different historical circumstances and interpreting how scholars' criticisms of this theorem changed over time, this paper will explain how the state of European democracy around the time the Median Voter Theorem was first produced influenced its proposal, how the theorem is regarded by contemporary scholars, and how has the societal context changed and influenced scholars' opinions on the Median Voter Theorem until this day.

Analyzing the historical context is of paramount importance. Around the origin of this theory, incorporating the prevailing political ideologies and pressing issues of that era is essential for comprehending how the Median Voter Theorem was conceived. Since political thoughts and theories do not exist in a vacuum, examining changing milieus allows us to see how the theorem has evolved and identify the intellectual currents that influenced the development and refinement of existing political theories. Finding how well each of the premises of the theorem holds as time goes on will allow us to better appreciate the reason behind the criticisms of the academics in this field. By incorporating a historical lens, we can assess the theorem's evolution, relevance, adaptability, and criticisms in the face of changing political and societal dynamics, all of which are fundamental to achieving the objectives of this paper.

Historical Context

As stated previously, analyzing the historical context is an important part of this paper and plays a vital role in understanding the nature of a theory. The 1948 was a year of rapid political change, as political parties holding different beliefs rose across the globe, and Europe was still undergoing rebuilding and recovering from the wrecking of World War II, supported by European aid in the Marshall Plan (The U.S. National and Records Administration, 2022).

The Political Context in 1948

The year 1948 hosts various political events that would define what the world looks like today. There was a notable surge in the consolidation of democratic systems, and democratic ideals were brought back to life across the world. Several democratic countries were either established or undergoing improvements and transitions during 1948. For example, what was once fascist Italy initiated its path to democracy with the adoption of a new republican constitution in 1947, which signaled its transition away from authoritarian rule (Senate of the Republic of Italy, 1947). Japan underwent similar routes, adopting the post-war constitution of 1947 under the influences of the United States, securing democratic principles and women's rights (Prime Minister's Office of Japan, 1947). France, after experiencing invasions from Germany and collaboration with the Allied Forces during World War II, was undergoing a political renewal. The Fourth Republic's constitution in 1946 was installed, representing a return to a democratic government (Palais de l'Élysée, 1946). Countries in Eastern Europe, such as Poland (Wolek, 2018), Hungary (Lendvai, 2010), and Czechoslovakia (Kopsa, 2019), were struggling with the transition into communist regimes, while others were returning to democratic rule after the war. We also saw decolonization after the war, which increased the freedom of people who once lived oppressed lives in colonies but also led to violence and disputes (U.S. Foreign Service Institute, n.d.). International organizations such as the United Nations were burgeoning, serving as platforms for cooperation, diplomacy, and democratic discussions while reducing conflicts and promoting peace and security through passing agreed-upon solutions (United Nations, n.d.). People were increasingly aware of their rights, which led to the later Civil Rights Movement (Morris, 1999) and feminism (Rutherford, 2017). These phenomena are all testaments to the

general prevalence of democracy and the empowerment of the people around 1948. The common practice of voting in democracies means that elections constitute most of what qualifies as major political occurrences, and they take place under different systems.

The First-past-the-Post (FPTP) System, also known as "winner-takes-all," is used in countries including the United Kingdom and Canada. In this system, the candidate with the most votes in each constituency wins a seat in the legislature (UK Parliament, n.d.), which favors a two-party system. The Proportional Representation (PR) System gives seats in proportion to the overall vote share received by each political party, which leads to multi-party systems and fosters proportional representation. Countries like the Netherlands, Belgium, and Norway adopted this system around 1948 (Electoral Reform Society, n.d.). The Single Transferable Vote (STV) gives voters the freedom to rank candidates in order of preference (Electoral Reform Society, n.d.). Seats are allocated after a counting process of all the different rankings. Countries that adopted this system include Ireland and Malta.

In all democratic systems, politicians issue political campaigns to connect with voters, which they rely on to hold office. However, the dichotomy of parties present in most countries indicates ideological divides in most political systems, the most prominent of which is the difference between conservatism and progressivism, in which other beliefs could be added, such as liberalism and libertarianism. In democracies, voters must choose politicians representing various political standpoints. How to be more appealing to the most electors or how to achieve the most desired outcome from an election became a primary concern for politicians and the rest of the population.

Development of the Median Voter Theorem

Although it is usually more comprehensive, incorporating a global view while analyzing an issue, it would be best to grant Europe, especially Scotland, the most attention when connecting history with the theorem since these places are the most relevant to the experiences and impressions of voting and politics by Black (1948).

In 1948, Scotland was a part of the United Kingdom and had no separate political system. It only had its own legal and education systems, while critical political matters were managed at the United Kingdom level. The Scottish Parliament would not be established until 1999. At the time, the United Kingdom was a constitutional monarchy, with the hereditary monarch holding ceremonial and symbolic power while elected representatives in Parliament held the real political power. The government was formed by the political party that had the most seats in the House of Commons, which is the lower House of Parliament. The Prime Minister is the leader of the majority party (GOV.UK, n.d.). Therefore, the structure of the government bears semblance to an FPTP system.

The FPTP system influencing Scotland and the RP system that was present in other European countries provided a suitable historical context for the creation of the Median Voter Theorem because gaining support from most voters in both systems will unquestionably lead to a win for politicians. For example, let's suppose that there were two candidates representing two political parties and that voters holding different opinions across the political spectrum are evenly distributed across multiple constituencies. Under the FPTP model, for one candidate to attain any voice in the legislature, he must make sure that he appeals to the most voters, or else he and his party will have no power after the winner wins all. To achieve this objective, he will tend to move to the center of the political spectrum, regardless of other candidates' positions, since the center will always be closer to the preference of the most voters. The candidate in the middle will win all the representation there is to get in one constituency, and candidates that deviate from the median will always lose the seat, causing politicians to all move towards the median over time. This logic operates similarly under the PF system, with only minor differences. Since the candidate that deviates from the median will be closer to the preference of a smaller portion of the voters, his party will gain a small number of seats in the assembly, while the candidate at the

median point will win the largest number of seat and gain the most representation for his party. This fact will incite similar shifts in political standpoints from politicians.

Alongside the impact of FPTP and PR systems, there were also concepts from the subject of economics that could reasonably have influenced the proposal of the Median Voter Theorem. One such concept, termed "Hotelling's Law," was advanced in his paper Stability in Competition (Hotelling, 1929). Concluding that firms are inclined to gravitate toward each other as they attempt to attract customers from their competitors, which produces a similar effect of settling down near the center and minimal differentiation, this law also shares similar premises with the Median Voter Theorem, assuming that competition can be graphed spatially, and competitors are willing to shift positions in self-interest to attract supporters to maximize their outcomes.

The Evolution of Median Voter Theorem Criticisms

The Median Voter Theorem has been a cornerstone in the field of political science since its proposal, offering a helpful approach to the behavior of voters and politicians in majority-voting systems. However, similar to every other academic theory, it has received a profusion of criticisms over the years, mainly along the lines of the assumption of one-dimensional policy space, fixed voter preferences, and single-peaked preferences. These evaluations point directly to the fact that the Median Voter Theorem operates based on a set of simplifying assumptions that often do not align with the complexities of political processes in the real world. In this section, we will delve into the scholarly criticisms that the Median Voter Theorem has received since its proposal.

Early Criticisms

One of the primary criticisms that the Median Voter Theorem faced in its early years concerns the fact that voter preferences can have multiple peaks, many dimensions can be included in one complex issue, and that voters can have non-transitive preferences. In "The Relevance of the Median Voter Theorem" by Rowley (1984), he questioned the applicability of the Median Voter Theorem by focusing on the occurrence of single-peaked preferences and a single policy dimension. According to Rowley, assuming single-peaked preferences does not capture what voters truly consider while voting on complex policies. For example, consider a scenario in which voters cast their ballot on a healthcare system reform, which is an extremely complex issue. Rather than deeming one aspect, such as affordable price, the most superior, voters will inevitably have diverse and nuanced expectations on the issue. For some who have previously experienced financial hardships from expensive treatments, universal coverage will be the most desirable trait in a policy proposal. For those who believe in right-wing ideologies, legislation that uses market-based solutions will be more appealing than one that stimulates large-scale government funding of medical equipment. From this example, we can see that the resolution from a candidate will have multiple aspects that receive different preferences accordingly. We can expect voters' preferences to have multiple peaks at different aspects of a policy, and it will be unrepresentative of what voters truly want when their preferences are conflated into variables with only one peak.

Similar to the multitude of voter preferences, policies themselves possess a multidimensional nature. Using the same example, we can discover that healthcare policies encompass various dimensions of societal organization. When composing a resolution about healthcare, factors such as funding, regulation, and the role of government will be considered and included. Each of them might be directly related to another political debate. Since a government's budget is finite and originates from tax, altering funding on healthcare will consequently affect money spent on national defense or education subsidies and either increase or decrease the tax burden of citizens. Discussing how the government should regulate pharmacies and hospitals, or even the philosophical question of the amount of power the government should have over private companies, will give rise to alternatives and encourage commentary from politicians and voters alike. Thus, one policy can set foot on

spectrums from different dimensions, and considering only one and suggesting a victorious median position is inappropriate.

McKelvey (1976) discussed the implications of intransitive voter preferences in his paper, Intransitivities in multidimensional voting model and some implications for agenda control. Unlike the definite rankings in models and calculations, how voters perceive candidates in real elections is much more equivocal. In logic, we can safely say that if A is preferred more than B, and B is preferred more than C, then A is preferred more than C. However, in real life, this law is less applicable. Firstly, since most politicians share attributes that make them welcomed by the public, and each candidate in elections has comparable ideologies, it can be hard for voters to decide which candidate they support more. Additionally, when it comes to situations where multiple politicians each have their own sets of outstanding and disagreeable traits, one might find that Candidate C has a greater number of more likable characteristics compared to Candidate A, even if Candidate A wins when compared to Candidate B, and candidate B wins when compared to Candidate C. In such cases, it is challenging to determine a single median voter, signaling that voter preferences are not always in accord with the assumptions of the Median Voter Theorem.

Contemporary Criticisms

Criticisms of the Median Voter Theorem have shifted angles in recent decades, transitioning from examining the nature of policies and preferences to questioning voters' rationality, a more fundamental aspect of democracies that elections and theories reside on. Fiorina (1999) mentioned the change in centrist politics in his paper "Whatever Happened to the Median Voter?". Using the increase in polarization as evidence, he argued that the long-held wisdom of American politics being centrist is no longer valid. Aided by the advent and development of faster communication technologies, politicians can harness the power of social media to build and support their own supporter base. With the potential to make voters stay informed and connected, social media platforms also come with side effects. Due to unchecked content, misinformation travels along with the truth, causing conclusions to be drawn from faulty information. Algorithms that are meant to let users see posts tailored to their likes and spend more time in an application are soon feeding political content, regardless of their truthfulness, in a way that solidifies people's original political orientations. Different parties possess their own echo chambers, and voters within these chambers are getting increasingly polarized (Törnberg, 2018). When people are fed a lot of information that confirm their beliefs, they are more inclined to disregard sensible opposing voices, causing voters to become irrational as a result. In 1999, a time when social media was still in its formative stages, Fiorina could already notice the effect, stating that politicians' belief in targeting the median voter had vanished from popular commentary, while journalistic coverage of elections was more centered around "revving up," "firing up," and "energizing" parties' bases. A more polarized voter base directly challenges the reasoning behind the median voter theorem because if the majority of the voters' inclinations can be presented as unevenly distributed near the two ends of a spectrum, then there can be the existence of a point closest to the most voters, yet far away from the median.

A more severe situation can occur if the conditions mentioned above hold true for a long period of time (University of Oxford, 2018). When people start to connect their preferences with politicians themselves rather than the policies they endorse, they become even more irrational, directing their support based on the candidate rather than his ability. The voters subjected to this effect will tend to ignore information deemed unfavorable to the side they prefer, treating it as false information. They are also more inclined to support the candidate hosting their echo chambers, regardless of the consequences of his behavior and decisions (Lempinen, 2020). We can already see this incident, mostly on Trump supporters, after the 2016 and 2020 elections (Smith, 2023). If this phenomenon occurs on a wider scale, then the foundation of the Median Voter Theorem will collapse since we can no longer rely on voters making appropriate decisions based on different policies.

The Practical Applications and Limitations of the Median Voter Theorem in Today's Political Landscape

After going through its criticisms, it is easier for us to understand the practical applications and limitations of the Median Voter Theorem. When we try to spot cases in which the Median Voter Theorem is still majorly applicable, we need to evaluate the implications of the shortcomings of the theorem. The effect of non-transitive, multi-peaked voter preferences and more than one policy dimension can be minimized when the issue in question is simple and occurs on a small scale. Regional elections that involve fewer candidates and legislation with smaller impacts can fit this criterion. Voters can easily sort their preferences between politicians. The simplicity of legislation means that there are fewer related political issues, reducing the dimensions of policy and the peaks in voter preference.

It is harder to find situations that avoid modern criticisms. After all, they stem from novel issues, most of which still persist to this day. It is nearly impossible to completely eliminate the effect of social media on voters' biases. Therefore, we need to rely on the voters themselves to limit the impact of misinformation and to understand points from all sides of an issue. Given that this does not happen in the majority of cases, the consequent polarization will serve as a persistent factor that undermines how the Median Voter Theorem can apply.

New adaptations of the Median Voter Theorem have also been proposed, marking its evolution over history. In "Deterministic and Probabilistic Voting Models," Burden (1997) evaluated formal, deterministic models that assume certain voter choices and stochastic models that suppose undetermined voter preferences, accounting for the uncertain and non-transient nature of voters' preferences. By acknowledging that preferences may not be deterministic, newer models enable the theorem to operate under conditions that bear a closer resemblance to the real world.

Conclusion

Proposed by Scottish economist Duncan Black in 1948, the Median Voter Theorem concerns the existence of a median voter and how politicians will ultimately share the same political standpoint with him in order to win elections. It was born at a time when the world was still recovering from the repercussions of World War Two and gravitating towards democracy. Democratic political institutions such as the First-past-the-Post system and the Proportional Representation were implemented, and Europe and other Western countries acted as the political background for the theorem. After the theory's initiation, it has a history of receiving criticisms attacking its premises, specifically on the grounds of one-dimensional policy space, single-peaked and transitive preferences, and voter rationality. Although these criticisms are straightforward and concrete, there is still some saving grace for the Median Voter Theorem since we can constructively evaluate its applicability in various situations, and there have been revisions of this theory over the years to help it adapt to changing eras.

Recommendations for Future Research

This paper has associated the Median Voter Theorem with its historical and political context, amassed and analyzed the criticisms made in response, and explained the applicability and limitations of this theory in modern contexts, all of which are integral in forming a comprehensive understanding of the connection between the theory and the changing milieu. This overview can also guide future research by pointing to how further revisions and criticisms that reflect unique societal contexts can be made and prevent recurring or redundant research. Given the effect that new information technology has on the median Voter Theorem, it is possible for future research to take multiple paths. If society is able to overcome the echo chambers and misinformation brought forth by social media, then future research might be centered around how newer legislations, such as taxing carbon, subsidizing renewable energy, and legalizing abortion, suit the premises of the Median Voter

Theorem. It may also include studies of how younger generations' political inclinations and perception of politics affect their voting behavior and their relationship with politicians. If the causes of irrationality continue to exist and polarization intensifies, future research might consequently involve the impact of polarized groups on voting outcomes and how politicians holding extreme ideologies shift their position in response to changes in their cult of followers.

Acknowledgments

References

Archives and Publications Office of the Senate Service for Official Reports and Communication, Constitution of the Italian Republic (1947). Italy; Senate of the Republic of Italy (Senato della Repubblica).

Black, D. (1948). On the rationale of group decision-making. *Journal of Political Economy*, *56*(1), 23–34. https://doi.org/10.1086/256633

Burden, B. C. (1997). Deterministic and probabilistic voting models. *American Journal of Political Science*, *41*(4), 1150. https://doi.org/10.2307/2960485

Electoral Reform Society. (n.d.-a). *Proportional representation*. Electoral Reform Society ERS. https://www.electoral-reform.org.uk/voting-systems/what-are-voting-systems/proportional-representation/

Electoral Reform Society. (n.d.-b). *Single transferable vote*. Electoral Reform Society ERS. https://www.electoral-reform.org.uk/voting-systems/types-of-voting-system/single-transferable-vote/

Fiorina, M.P. (1999). WHATEVER HAPPENED TO THE MEDIAN VOTER?

GOV.UK. (n.d.). How government works. https://www.gov.uk/government/how-government-works#:~:text=The%20Prime%20Minister%20is%20the,appoints%20members%20of%20the%20government

History.com Editors. (2009, October 27). *Civil Rights Movement: Timeline, Key Events & Leaders*. HISTORY. https://www.history.com/topics/black-history/civil-rights-movement

Hotelling, H. (1929). Stability in competition. *The Economic Journal*, *39*(153), 41. https://doi.org/10.2307/2224214

Kopsa, A. (2019, November 16). *Czechoslovakia's Velvet Revolution Started 30 Years Ago—But It Was Decades in the Making*. Time. https://time.com/5730106/velvet-revolution-history/

Lempinen, E. (2020, December 7). *Despite drift toward authoritarianism, trump voters stay loyal. why?*. University of California Berkeley. https://news.berkeley.edu/2020/12/07/despite-drift-toward-authoritarianism-trump-voters-stay-loyal-why

Lendvai, P. (2010). *One Day That Shook the Communist World*. https://doi.org/10.2307/j.ctt7t5qx

McKelvey, R. D. (1976). Intransitivities in multidimensional voting models and some implications for Agenda Control. *Journal of Economic Theory*, *12*(3), 472–482. https://doi.org/10.1016/0022-0531(76)90040-5

Morris, A. D. (1999). A retrospective on the Civil Rights Movement: Political and intellectual landmarks. *Annual Review of Sociology*, *25*(1), 517–539. https://doi.org/10.1146/annurev.soc.25.1.517

Office of the Historian, U.S. Foreign Service Institute. (n.d.). *Decolonization of Asia and Africa, 1945–1960*. U.S. Department of State. https://history.state.gov/milestones/1945-1952/asia-and-africa#:~:text=Between%201945%20and%201960%2C%20three,from%20their%20European%20colonial%20rulers.&text=There%20was%20no%20one%20process,only%20after%20a%20protracted%20revolution.

Palais de l'Élysée, The Constitution of 27 October 1946 (1946). Palais de l'Élysée.

Prime Minister's Office of Japan, The Constitution of Japan (1947). Japan.

Rowley, C. K. (1984). The Relevance of the Median Voter Theorem. *Zeitschrift Für Die Gesamte Staatswissenschaft / Journal of Institutional and Theoretical Economics*, *140*(1), 104–126. http://www.jstor.org/stable/40750679

Rutherford, A. (2017). "making better use of U.S. women" psychology, sex roles, and womanpower in post-wwii America. *Journal of the History of the Behavioral Sciences*, *53*(3), 228–245. https://doi.org/10.1002/jhbs.21861

Smith, D. (2023, September 24). *"I like him even better now": Trump's true believers keep the faith*. The Guardian. https://www.theguardian.com/us-news/2023/sep/24/donald-trump-supporters-rally-iowa

Törnberg, P. (2018). Echo Chambers and viral misinformation: Modeling fake news as complex contagion. *PLOS ONE*, *13*(9). https://doi.org/10.1371/journal.pone.0203958

The U.S. National Archives and Records Administration. (2022). *Marshall Plan (1948)*. National Archives and Records Administration. https://www.archives.gov/milestone-documents/marshall-plan#:~:text=On%20April%203%2C%201948%2C%20President,economic%20infrastructure%20of%20post war%20Europe.

UK Parliament. (n.d.). *Voting systems in the UK - UK Parliament*. Voting systems in the UK. https://www.parliament.uk/about/how/elections-and-voting/voting-systems/

United Nations. (n.d.). *History of the United Nations*. https://www.un.org/en/about-us/history-of-the-un

University of Oxford. (2018). *Trump supporters and extreme right "share widest range of junk news."* https://www.ox.ac.uk/news/2018-02-06-trump-supporters-and-extreme-right-share-widest-range-junk-news

Wołek, K. (2018, October 1). *A post-war war. The years of 1944–1963 in Poland*. Warsaw Institute. https://warsawinstitute.org/post-war-war-years-1944-1963-poland/