Exploring the Tenures and Political Dynamics of Australian Prime Ministers*

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06 February 2024

Contents

*Code and data are available at: https://github.com/pangyin2/Exploring-the-Tenures-and-Political-Dynamics-of-Australian-Prime-Ministers.git

Content

Table 1: Simulated dataset

prime_minister	birth_year	death_year	years_lived
Kevin	1813	1908	95
Karen	1832	1896	64
Robert	1839	1899	60
Bertha	1846	1915	69
Jennifer	1867	1943	76
Arthur	1892	1984	92
Donna	1907	2006	99
Emma	1957	2031	74
Ryan	1959	2053	94
Tyler	1990	2062	72

Table 2: Parsed data selector gadget

No.	Portrait	Name(Birth–Death)Constituency	Election(Parliament)	Took office	Left office	Time in office
1		Edmund Barton(1849–1920)MP for Hunter, NSW	1901 (1st)	1 January1901	24 September1903	2 years, 266 days
1		Edmund Barton(1849–1920)MP for Hunter, NSW	1901 (1st)	1 January1901	24 September1903	2 years, 266 days
1		Edmund Barton(1849–1920)MP for Hunter, NSW	1901 (1st)	1 January1901	24 September1903	2 years, 266 days
2		Alfred Deakin(1856–1919)MP for Ballaarat, Vic[a]	— (1st)	24 September1903	27 April1904	216 days
2		Alfred Deakin(1856–1919)MP for Ballaarat, Vic[a]	1903 (2nd)	24 September1903	27 April1904	216 days
2		Alfred Deakin(1856–1919)MP for Ballaarat, Vic[a]	1903 (2nd)	24 September1903	27 April1904	216 days

Table 3: Parsed data after filtering

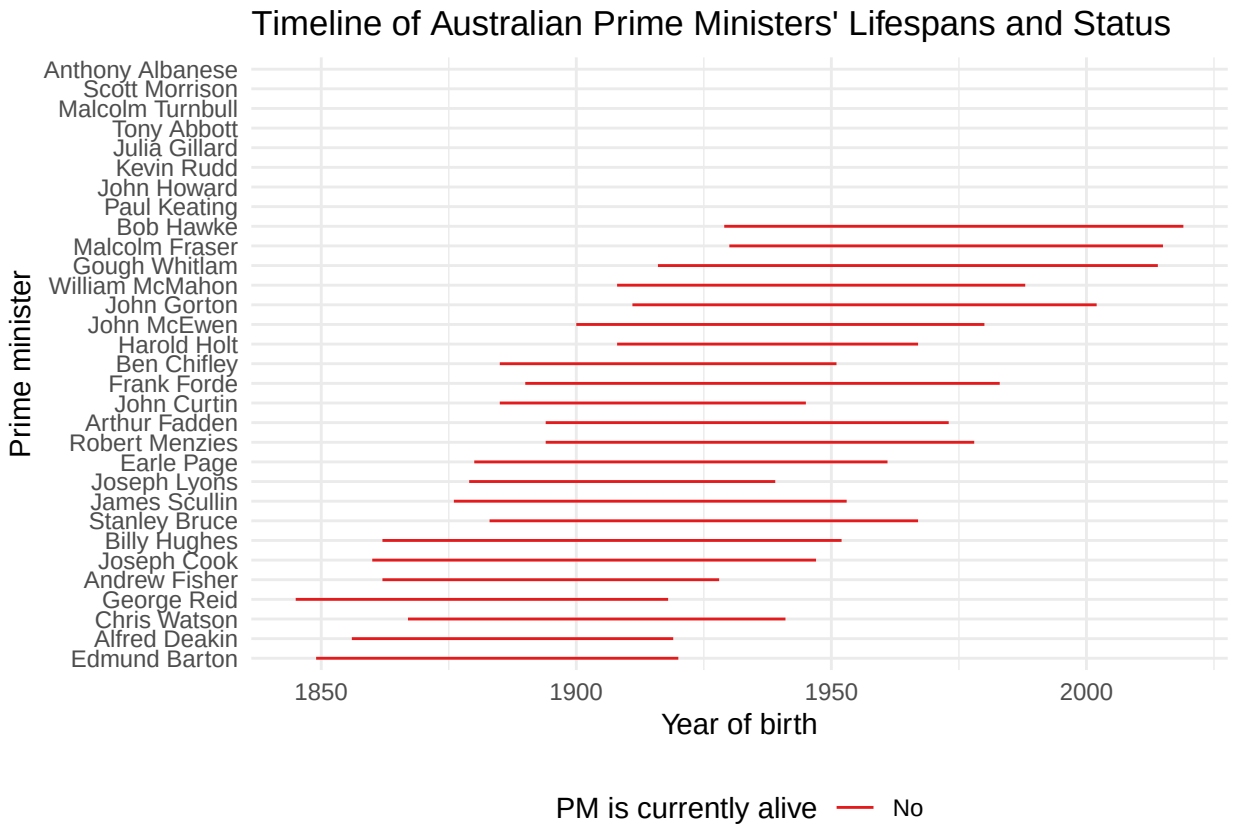
raw_text
Edmund Barton(1849–1920)MP for Hunter, NSW
Alfred Deakin(1856–1919)MP for Ballaarat, Vic[a]
Chris Watson(1867–1941)MP for Bland, NSW
George Reid(1845–1918)MP for East Sydney, NSW
Andrew Fisher(1862–1928)MP for Wide Bay, Qld
Joseph Cook(1860–1947)MP for Parramatta, NSW

Table 4: Second-stage cleaned data

name	born	died	Age_at_Death
Edmund Barton	1849	1920	71
Alfred Deakin	1856	1919	63
Chris Watson	1867	1941	74
George Reid	1845	1918	73
Andrew Fisher	1862	1928	66
Joseph Cook	1860	1947	87

Table 5: Third-stage cleaned data(renamed columns)

Prime Minister	Birth year	Death year	Age at death
Edmund Barton	1849	1920	71
Alfred Deakin	1856	1919	63
Chris Watson	1867	1941	74
George Reid	1845	1918	73
Andrew Fisher	1862	1928	66
Joseph Cook	1860	1947	87


Timeline of Australian Prime Ministers' Lifespans and Status
Anthony Albanese
Scott Morrison
Malcolm Turnbull
Tony Abbott
Julia Gillard
Kevin Rudd
John Howard
Paul Keating
Bob Hawke
Malcolm Fraser
Gough Whitlam
William McMahon
John Gorton
John McEwen
Harold Holt
Ben Chifley
Frank Forde
John Curtin
Arthur Fadden
Robert Menzies
Earle Page
Joseph Lyons
James Scullin
Stanley Bruce
Billy Hughes
Joseph Cook
Andrew Fisher
George Reid
Chris Watson
Alfred Deakin
Edmund Barton
Prime minister
1850
1900
1950
2000
Year of birth
PM is currently alive
No

Discussion

The graphical analysis of the tenures of Australian Prime Ministers offers a detailed account of the ebb and flow of political power through the years. It serves as a visual chronicle of the country's governance, revealing the prominence of the Liberal Party of Australia, which has maintained power for the longest combined duration. This dominance is a testament to the party's ability to resonate with the electorate and to sustain governance over extended periods, underlining its significant role in shaping national policies and directions. In stark contrast, smaller political entities like the National Party of Australia have experienced shorter periods in power, as seen through the brevity of their representation on the timeline. This contrast not only underscores the variability in political success among Australia's parties but also highlights the complexity of the nation's political fabric, where longevity in office can be indicative of both political stability and the voters' trust.

The dataset for this analysis was curated from Wikipedia, a repository of knowledge that is collaboratively edited and updated by users worldwide. Wikipedia's strength lies in its vast, diverse, and frequently updated content, providing a rich, albeit user-generated, source of historical and political data (Wikipedia contributors 2023). In this case, the data on Australian Prime Ministers was readily accessible and extensive, covering numerous aspects of political careers. However, the open-edit nature of Wikipedia introduces the need for critical evaluation. Data extracted from such a platform must be cross-validated with official records or other reliable sources to ensure accuracy. While Wikipedia is an invaluable starting point for broad overviews and information gathering, its utility in scholarly and professional research is contingent upon careful verification and acknowledgment of its crowd-sourced structure. This necessary step of validation can add to the time required for analysis but is crucial for maintaining the integrity of the findings.

The data acquisition and analytical journey was a multifaceted and intricate endeavor, starting with the extraction of data through web scraping (R Core Team 2020). Web scraping, a technique used to gather large amounts of data from websites automatically, was a critical tool in this process. However, the unstructured nature of web data presented a significant challenge, as information on the internet is not always presented in an easily digestible format. The raw data collected was messy and unrefined, necessitating a rigorous and meticulous approach to data cleaning—a procedure where irrelevant, redundant, or incorrect information is identified and corrected or removed. The subsequent step involved transforming this cleaned data into a structured format conducive to analysis. Crafting scripts to automate this process required an iterative approach, with multiple rounds of trial and error to fine-tune the algorithms. This stage, although time-consuming, was vital to ensure that the data was accurate and analysis-ready. The final stage of visualization was where the data truly came to life. Through the use of graphical representations, complex data sets were distilled into clear, concise visual narratives. This transformation was particularly gratifying; patterns that were not initially apparent in the raw data began to emerge, telling the historical story of Australia's political leadership. Observing these patterns evolve into a coherent story was both enlightening and enjoyable, as it translated dry figures into dynamic insights. If the process were to be repeated, a greater emphasis on automation from the outset could streamline the workflow, reducing the time spent on data cleaning and transformation. Furthermore, investing time in the initial design of the data structure might minimize the need for later adjustments. Despite the unexpected complexities, the intersection of technical challenge and creative storytelling in data science proved to be a rewarding experience.

For future endeavours in data analysis, particularly those involving political history or similar complex topics, a methodical and sophisticated approach to data processing would be highly advantageous. Automating the cleaning of data could be refined through advanced scripting, employing algorithms capable of identifying inconsistencies and normalizing datasets with minimal manual oversight. This would significantly reduce project timelines and allow for a focus on more strategic tasks. Expanding the variety of data sources, such as incorporating academic databases, official government records, and reputable historical archives, would enrich the analysis, allowing for a more nuanced understanding of political trends and patterns. By juxtaposing data from varied sources, one could capture a more comprehensive picture of the influences shaping political trajectories. This refined methodology would not only accelerate the analytical process but also deepen the insights gleaned, offering a more sophisticated narrative of political history. The lessons learned from this project would be instrumental in crafting a more nuanced, efficient approach to future analyses.

Reference

R Core Team. 2020. *R: A Language and Environment for Statistical Computing*. Vienna, Austria: R Foundation for Statistical Computing. https://www.R-project.org/.

Wikipedia contributors. 2023. "List of Prime Ministers of Australia — Wikipedia, the Free Encyclopedia." https://en.wikipedia.org/w/index.php?title=List_of_prime_ministers_of_Australia&oldid=1191852550.