



A Monthly Index for The Irish Stock Market 1961-1965

Rachel Liu, Prof. Grossman, Wesleyan University Department of Economics

Introduction, Data Acquisition, and Methodology

Researchers have long wanted to understand the return of capital in the stock market, as it gives insight into how different sectors in the economy were behaving, how the stock market reacted to shocks historically, and how wealth distribution has changed over time. Capital returns have two major components: yields, and the main focus of our study, changes in its price. This project aims to construct new monthly Irish stock market price indices for 1961-1965 with a focus on the largest or most frequently traded Irish-based firms. By filling in the gaps of 1961-1965 monthly stock exchange data, the new indices open the possibilities for more study topics, such as seasonality, of the Irish stock market for the period.

- The primary data were obtained from the *Irish Times*. Of a total of 422 candidate listings during the period, 18 were excluded, because these companies were not Irish-focused. The remained 404 listings were classified by capital types (i.e. Ordinary Equity, Preference Equity, Private Debt, and Public Debt) and by sectors (government funds, commercial, banks, etc). We entered prices, the amount issued, types of listings (Share or Stock), and the paid-up amount for all listings in each month-year combination.
- For each listing, the market capitalization was calculated by multiplying the number of shares by their price, for share listings, and by dividing the paid-up amount for each share for stock listings.
- The unweighted monthly index was calculated by the average of the changes in the listed price divided by the total number of valid price changes in a given month. The weighted monthly index was the percentage change in price pit weighted by that listing's share over the overall market capitalization in the denominator period.
- We ensured that the rest of the 404 listings were active at some point (i.e. had a non-zero number of shares in a particular month) during the 1961-1965 period. The average number of active firms in each month of the year is shown in table 1.

- Relative to 1961, the number of active listings in 1965 has increased by 15.5% for Public Debt, 6.2% for Ordinary Equity, decreased by 7.4% for Private Debt, and 6.7% for Preference Equity. The number of active listings for all capital types fluctuated by about $\pm 2.5\%$ each year.

Year	Preference				Total
	Ordinary Equity	Equity	Private Debt	Public Debt	
1961	130	120	27	58	335
1962	128	117	27	59	331
1963	132	119	27	66	334
1964	132	117	26	64	339
1965	138	112	25	67	342

Table 1. Average number of active listings in each month of the year, by capital type, one-year intervals

Data Visualization and Results

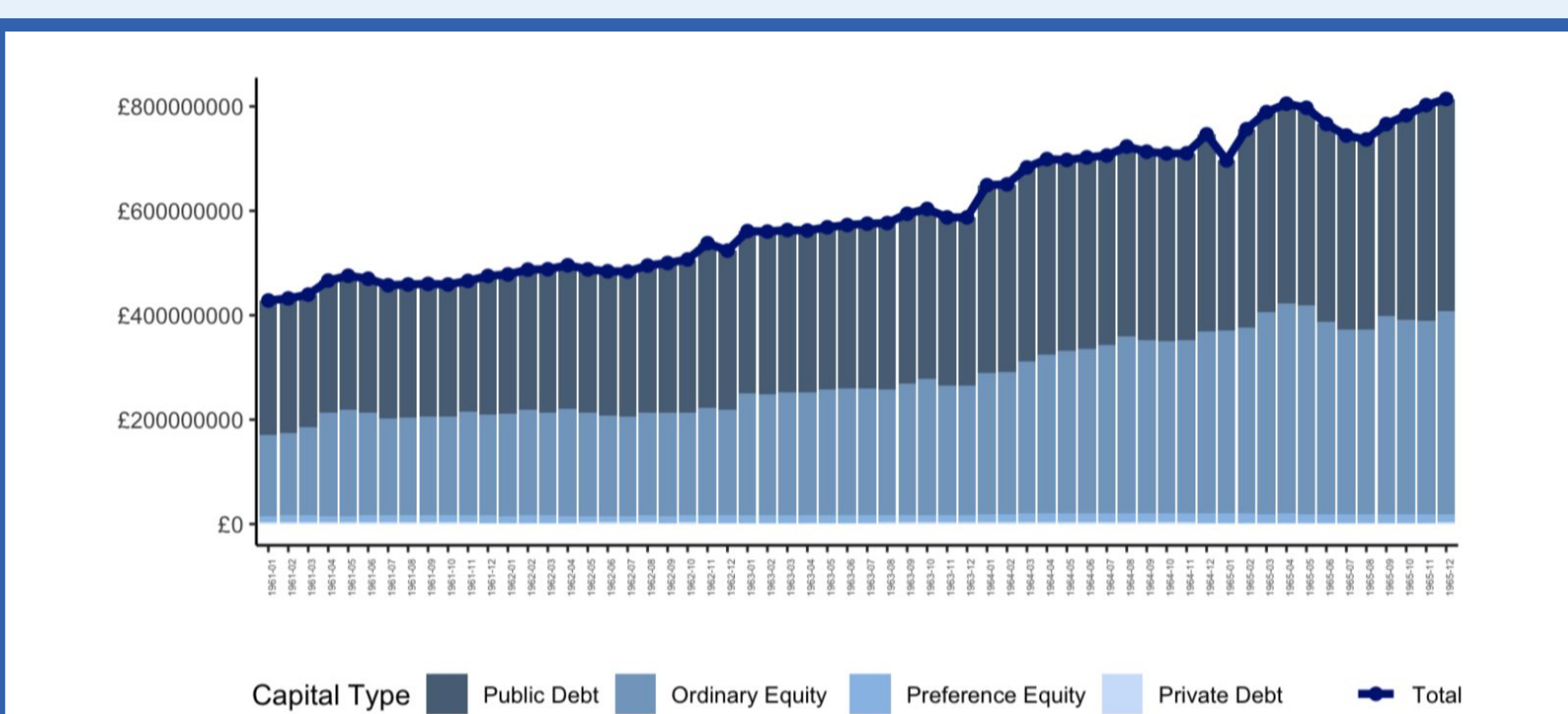


Figure 1. Market capitalization, by capital type, 1961 – 1965.

Figure 1. shows the market capitalization of the Irish equities, broken down by capital types, from January 1961 to December 1965. We observed that the total market capitalization was increasing over the period with an average annual gain of 18 percent, despite some tiny falls along the way. This increase was mainly caused by the rising amount issued when we combine the information inferred from other figures. We also found that Public Debt and Preference Equity occupied the majority (about 96%) of market capitalization, whereas other capital types, Preference Equity and Private Debt, were not that significant. Moreover, as the total market capitalization increased, we noticed that there was a decline in the importance of Public Debt and an increase in the importance of Ordinary Equity. Data revealed that Public Debt comprised only 49.79% of market capitalization by the end of 1965, compared to its 56.81% share at the beginning of 1961. Despite the fact that Public Debt had the most market capitalization of all time, Ordinary Equity had the largest gain during the period for its rapid growth of 151% in its market capitalization.

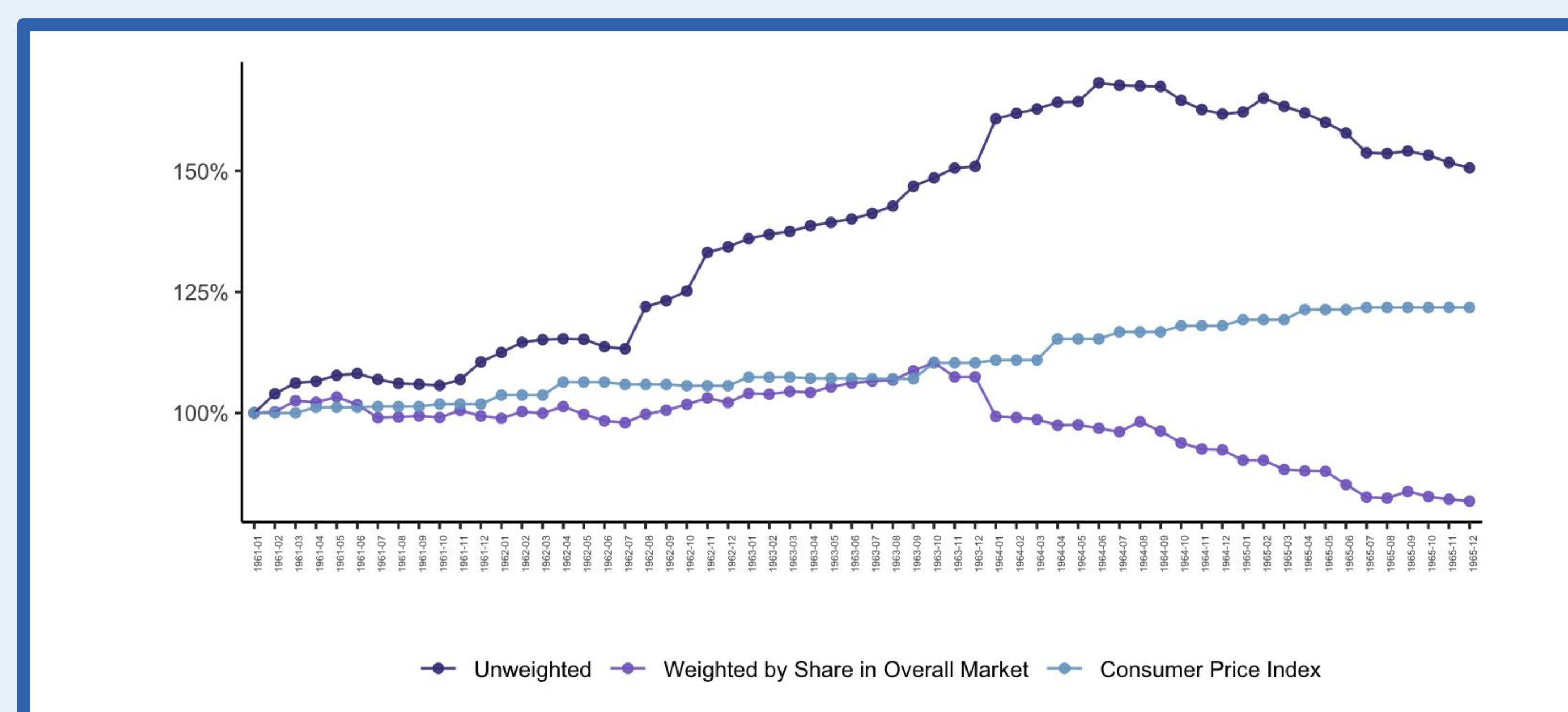


Figure 2. Irish price indices, weighted and unweighted, by capital type (January 1961=100) 1961 – 1965.

Figure 2. plots the weighted and unweighted for the entire stock market and consumer price index for 1961-1965. We set the initial price index for January 1961 as 100 to reflect the cumulative change in price indices over time. Based on the plot, we saw that there existed a co-movement across weighted and unweighted monthly indices for the stock market, yet the difference between the unweighted and weighted price indices was getting larger over the years. We speculated that the major companies in the market were probably not doing so well, especially after 1963. Moreover, the upward trend of the consumer price index for 1961-1965 indicated a rise in inflation, which implied that the market was, perhaps, doing even worse during the period.

The amount issued played an important role in market capitalization, in fact, data confirmed that the total amount issued in December 1965 was 1.75 times higher than that in January 1961. This might explain why over 60% of monthly weighted price indices across all four capital types were less than or equal to 0, yet the December 1965 total market capitalization was still 1.90 times higher than that of January 1961.

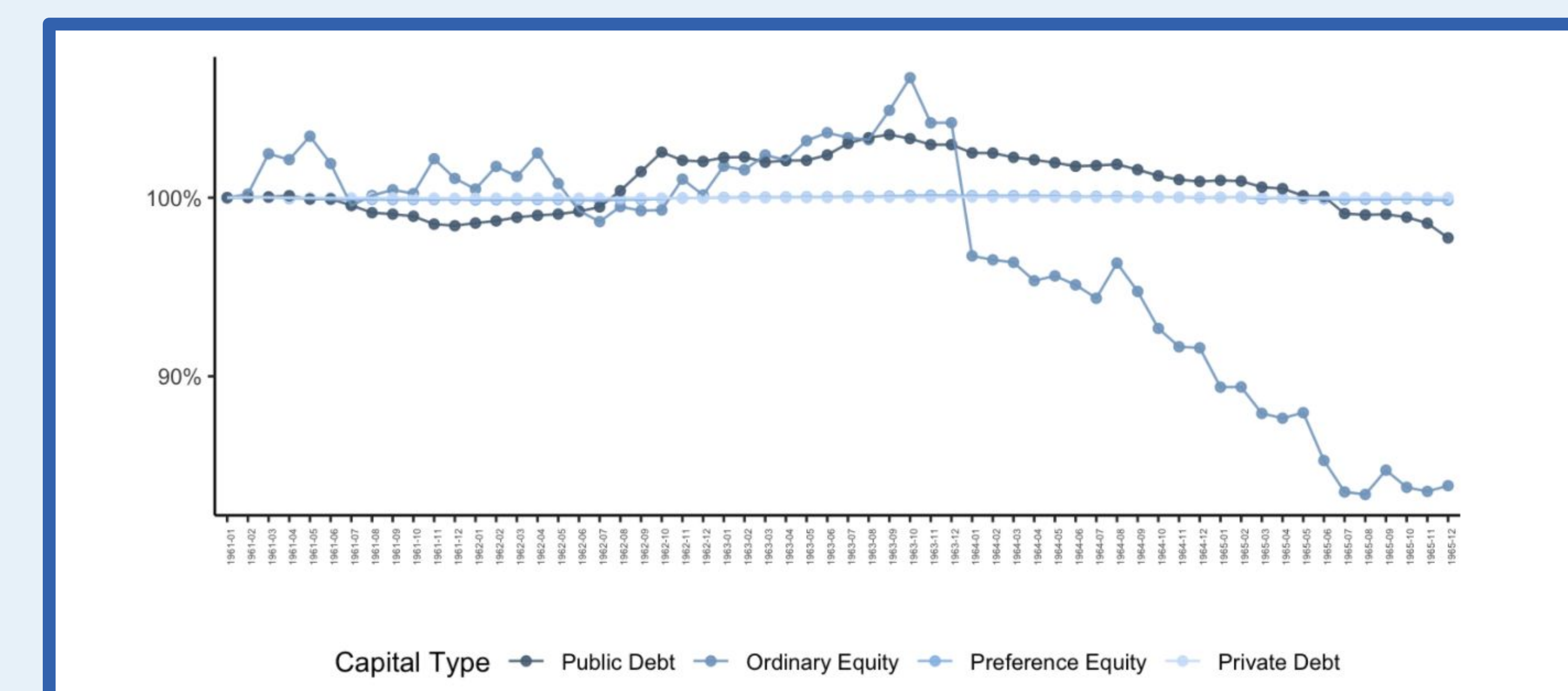


Figure 3. Weighted price indices, by capital type (January 1961=100) 1961 – 1965.

Figure 3. shows the weighted monthly indices for the four capital types with the initial index of January 1961 set as 100. It helps us to understand the unresolved question in the previous figure. In Figure 2, we saw that the difference between the weighted and unweighted price index was significantly greater in 1964-1965 relative to the 1961-1962 period. The observed unweighted price index increased by over 50% between 1961 and 1965, in contrast to the weighted prices index rose by only 7% between 1961 and 1963 but fell by over 20% in the next two years. In Figure 3, we saw a similar pattern in Public Debt and Ordinary Equity, the two dominant capital types in the stock market, which also started to decrease at the end of 1963. In fact, data showed that, relative to December 1963, the decrease in the weighted price index for Public Debt has reached 6%, and that number for Ordinary Equity has reached almost 23%. The evidence suggested that our conjecture was correct, and, compared to smaller companies, larger companies indeed performed significantly worse, especially in the later years.

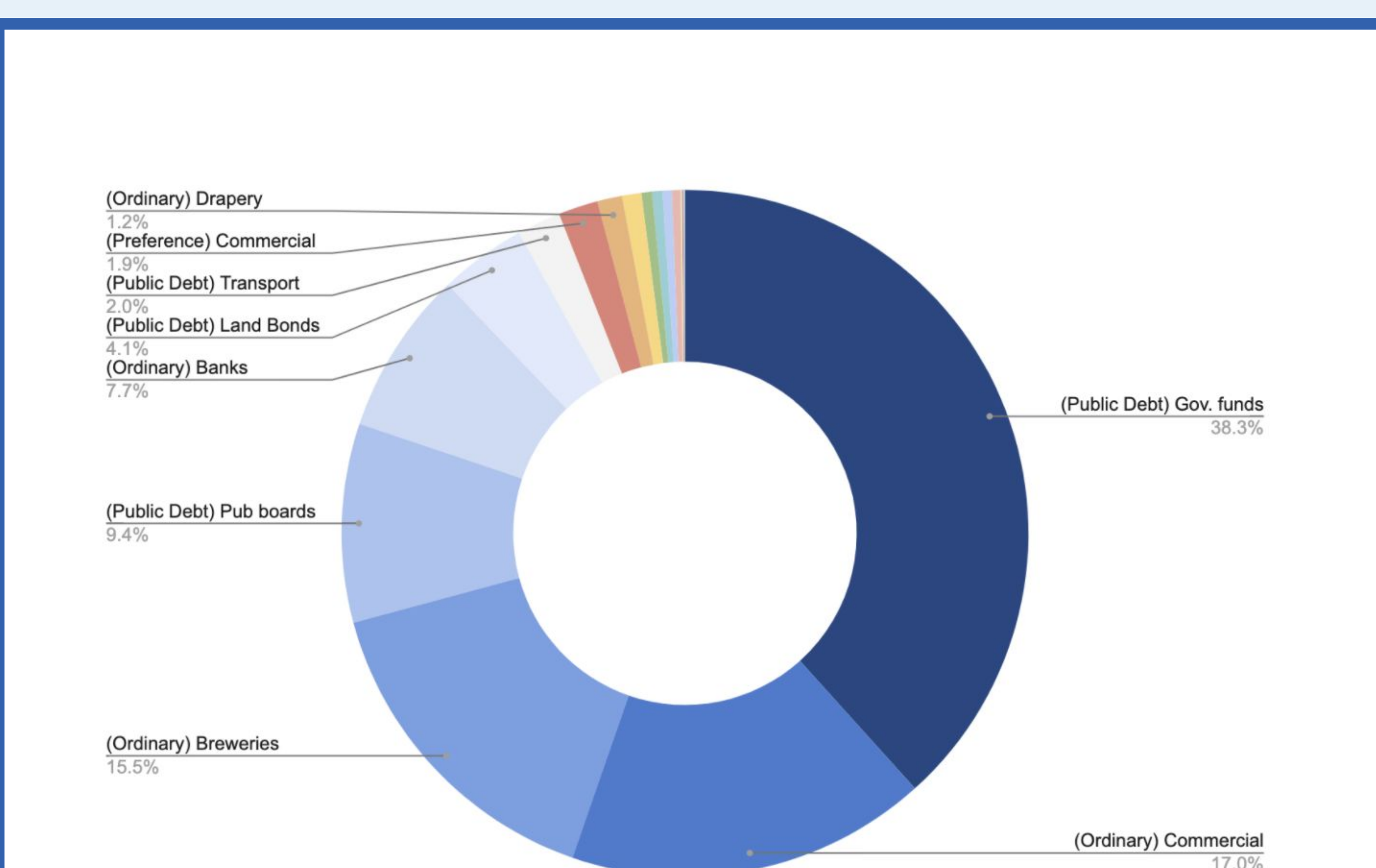


Figure 4. Average market capitalization, by capital type (percent of total), 1961-1965

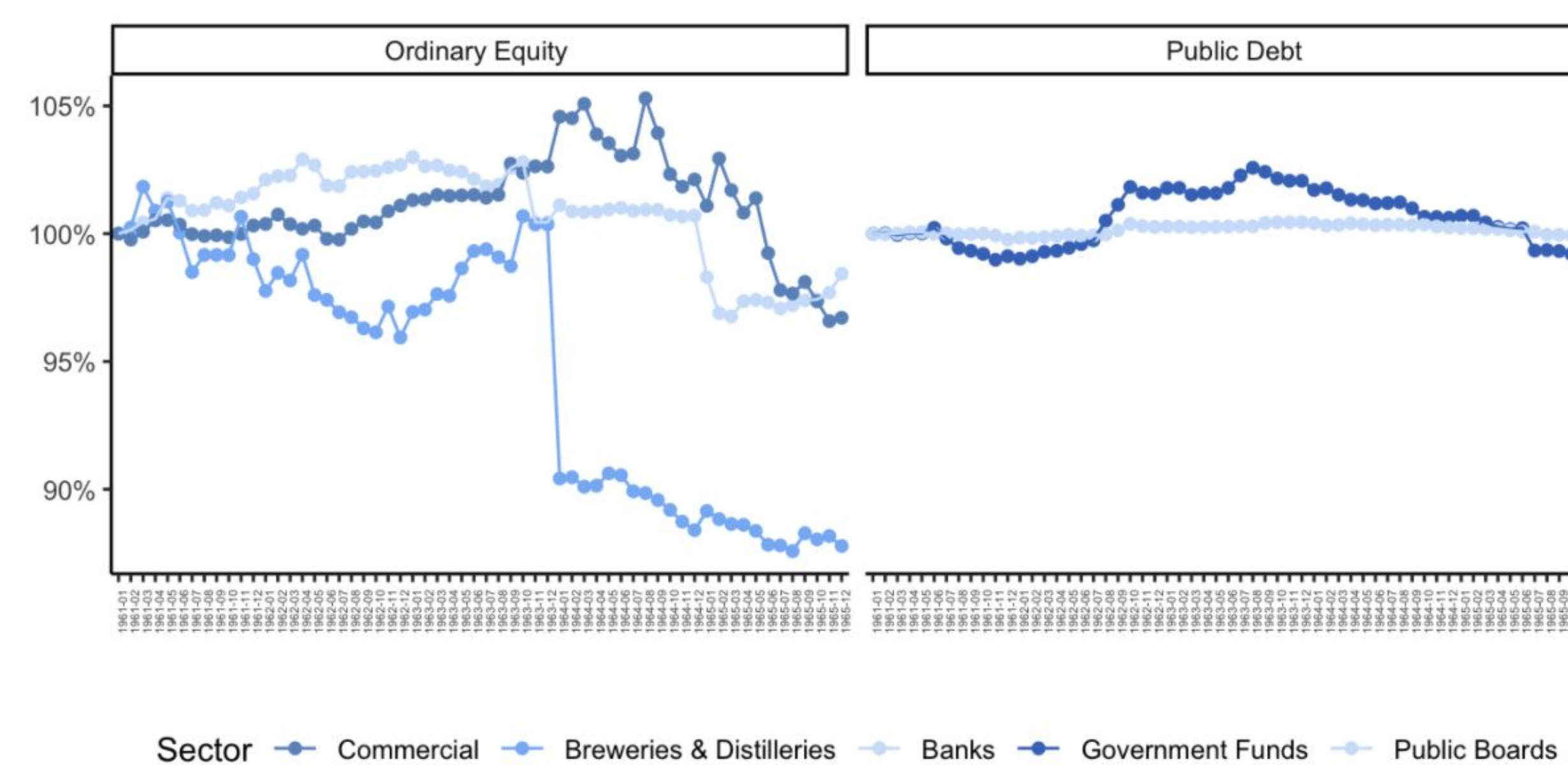


Figure 5. Weighted price indices, by sector (January 1961=100) 1961 – 1965.

Figure 4. shows the average market capitalization of all sectors in 1961-1965 as a percentage of the total. This sectoral breakdown suggests some important industries for further investigation. We learned that government funds, commercials, breweries & distilleries, public boards and banks were accounted for over 80% of the entire market capitalization of all time. We then plotted the weighted price indices by those five major sectors in Figure 5. Unsurprisingly, none of those sectors had the weighted price index higher than 100 at the end of 1965. Moreover, we saw that the variability of the weighted price index for the three Ordinary Equity sectors was much higher than that for the two Public Debt sectors. Take a closer inspection at Public Debt. The weighted price index for public boards only fluctuated by $\pm 0.3\%$ in each year. Therefore, even though the price index for government funds also did not vary much compared to the sectors in Ordinary Equity, it is safe to conclude that government funds was responsible for the majority of weighted price changes within that sector. The situation is more complicated for Ordinary Equity, and we can only conclude that, among all its three sectors, breweries & distilleries had the most significant decline in the weighted price index during the period. We also saw a sudden fall in its January 1961 index, as the price for its major company, Guinness (Arthur) Son & Co, has dropped by an unprecedented 24% that month. The sector contribution to the change in the weighted price index of Ordinary Equity, however, remained mysterious.

Limitations

1. The data source, *Irish Time* typically biased in favor of larger or more liquid firms.
2. Source of inaccuracy: we used the consistent price in this case to calculate market capitalization and price indices. When no business was done in a given month, we assumed the price for these listings stayed unchanged and took the previous month's price to fill in the gap.

Acknowledgment

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