

# Supplementary Material for A Systematic Review on Graph Neural Network-based Methods for Stock Market Forecasting

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## 1 DATASET

Table 1 summarizes the various market indexes and market capitalization values of various countries.

Table 1. Summary of market index.

| Country      | Market Capitalization (In Trillions) | Index                          | Description   |
|--------------|--------------------------------------|--------------------------------|---|
| America      | 40.71                                | S&P 500 [12]                   | Since 1957, the Standard and Poor's 500 has been an index of 500 large cap companies listed on the New York Stock Exchange.   |
|              |                                      | DJIA [4]                       | Since 1896, the Dow Jones Industrial Average has been an index of 30 blue-chip companies listed on the New York Stock Exchange.   |
|              |                                      | NASDAQ [8]                     | Since 1971, the Nasdaq Stock Exchange has included 3626 companies in its index.   |
|              |                                      | NYSE [10]                      | An index that includes 2800 companies listed on the New York Stock Exchange since 1792.   |
|              |                                      | RUSSEL 2000 [11]               | An index of 2000 small-cap companies traded on the US Stock Exchange.   |
| China        | 7.62                                 | SSE [13]                       | An index of all stocks traded on the Shanghai Stock Exchange since 1904.  |
|              |                                      | SZSE [15]                      | An index of top 500 stocks traded on the Shenzhen Stock Exchange.   |
|              |                                      | CSI 100                        | An index of top 100 stocks traded on the SSE and SZSE index.  |
|              |                                      | CSI 300                        | An index of top 300 stocks traded on SSE and SZSE index.  |
|              |                                      | CSI 500                        | An index of top 500 mid cap and small cap stocks traded on the China market.  |
|              |                                      | A share and B share market [6] | A share market is restricted to mainland Chinese citizens and consists of stocks traded on the SSE and SZSE indexes, whereas the B share market is for foreign investors. |
| Hong Kong    | 6.13                                 | HIS [7]                        | An index of the 64 largest companies traded on the Hong Kong Stock Exchange since 1969.   |
| Japan        | 5.67                                 | TPX [17]                       | An index of large companies listed on the Tokyo Stock Exchange since 1878.  |
| Europe       | 5.5                                  | STOXX 600 [14]                 | It is an index of 600 large, mid, and small-cap companies from 17 countries in Europe.  |
| India        | 3.21                                 | NIFTY 50 [9]                   | An index of 50 large companies listed on the National Stock Exchange since 1994.  |
|              |                                      | BSE 100 [2]                    | An index of the top 100 stocks traded on India's Bombay Stock Exchange.   |
| Saudi Arabia | 2.4                                  | TASI [16]                      | Since 2007, the Tadawul All Shares Index has included large companies listed on the Saudi Stock Exchange.   |
| Germany      | 2.28                                 | DAX [3]                        | An index of 40 blue-chip companies has traded on the Frankfurt Stock Exchange since 1988.   |
| Taiwan       | 1.56                                 | TSE [18]                       | An index of 907 large companies listed on the Taiwan Stock Exchange since 1961.   |
| Italy        | 0.58                                 | FTSE MIB [5]                   | The Milano Indice di Borsa is an index that represents the 40 most traded stocks on the Italian Stock Exchange.   |
| Australia    | 0.0114                               | ASX [1]                        | An index of companies listed on the Australian Stock Exchange since 1987.   |

To evaluate the effectiveness of a forecasting model developed for a specific market index, it is often tested on multiple different market indices to see how it performs in different cross-market scenarios. Some researchers focus on predicting the movements of all the constituent stocks within an index, while others only consider a single target company. By treating the stock market as a network, it is possible to make predictions about both the overall market index and individual stocks.

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