Tracking investment styles of public funds

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With the development of artificial intelligence technology, AI has penetrated every aspect of the financial industry. Financial institutions are seeking technological innovation through artificial intelligence, big data processing and analysis, cloud computing, etc., to improve the popularity, security and efficiency of financial services, and to incubate innovative financial products and services.

As of the end of January 2019, the public fund assets of Chinese fund management companies totaled 13.78 trillion yuan. The steady development of China's economy has led to the continuous rise of national wealth, and the consequent continued prosperity of the wealth management market. Among the many investment channels, the fund has certain risk resistance compared with other venture capital investments, and has attracted more and more attention from the public.

Public funds are required to give an announcement of their investing plans and style when they are issued to the public. Depending on this information, fund investors make their fund portfolio according to their risk tolerance and form their expectation of future return.

However, the strategy and style of public funds during the investment period may change with the market conditions, especially for the flexible allocation or sector rotation funds. These funds change their strategy or industry preference
frequently from quarter to quarter. Moreover, sometimes there are preferred industries which public funds tend to invest, such as real estate, medical biology, food and drink, electronic components. Such information is not only useful for the fund investors, but also can reflect the overall market trend of public funds. But in reality, the drift of investment style and target will not be revealed until the announcement date of the quarterly report, and the detailed shareholding can only be found in the half-year and annual report which significantly lags the market, which makes it quite difficult for investors to follow the fund market trend or have a clear idea about the operation of their funds before the reports.

This project is to address this asymmetry of information between investors and funds and to provide real-time analysis and insight of market enthusiasm for investors. Tracking the fund style and understanding fund investment target make it possible to achieve a more effective risk control while maintaining a certain rate of return on the investment.

The deliverables of this project are:
- Predict fund stock ratio (stock value/total asset) at the end of each quarter.
- Use algorithm (e.g. clustering, correlation analysis or others) to track investment styles of funds (whether fund prefer large-cap stock, medium-cap stock or small-cap stock) during a quarter.
- Identify if fund change their target industries during a quarter.

Data will be provided for this project:
- Large-cap Index, Mid-cap Index, small-cap Index and Industry Index over 5 years (2014~2018)
- Daily NAV and adjusted NAV data from 300 public funds over 5 years
- Quarterly report of public funds including stock position and detailed shareholding (top 10 in 1st and 3rd quarter, full list in 2nd and 4th quarter)
- SSE 50 Index, CSI 300 index and CSI 500 index.
- Shibor and China 1-Year Bond Yield data