# Stock Market Indices and ETFs – Practice Problems

## Multiple Choice Questions

1. What type of index is the Dow Jones Industrial Average (DJIA)?  
 a) Equal-weighted  
 b) Market cap-weighted  
 c) Price-weighted  
 d) Dividend-weighted

2. What is the divisor adjustment for in the DJIA?  
 a) Stock splits  
 b) Regular dividends  
 c) Both a and b  
 d) None of the above

3. Which index is most representative of the aggregate U.S. market?  
 a) S&P 500  
 b) Russell 1000  
 c) Dow Jones Industrial Average  
 d) Wilshire 5000

4. How often is the Russell 1000 reconstituted?  
 a) Monthly  
 b) Quarterly  
 c) Annually  
 d) Biannually

5. What is the primary characteristic of an Equal-Weighted Index?  
 a) Weights based on market capitalization  
 b) The same weight for all constituents  
 c) Weights based on stock price  
 d) None of the above

6. What is an Exchange-Traded Fund (ETF)?  
 a) A mutual fund  
 b) A fund traded on exchanges typically tracking stock or bond indexes  
 c) A type of stock  
 d) A derivative product

7. What action do authorized participants (APs) take when an ETF trades at a premium?  
 a) Redeem shares  
 b) Create new shares  
 c) Hold their position  
 d) None of the above

8. What is the NAV of an ETF?  
 a) Market price of the ETF  
 b) Value of underlying portfolio divided by shares outstanding  
 c) Total assets minus liabilities  
 d) None of the above

9. Which type of index requires frequent rebalancing to maintain its structure?  
 a) Price-weighted  
 b) Equal-weighted  
 c) Market cap-weighted  
 d) None of the above

10. What is a 'quantamental' strategy?  
 a) Fundamental analysis only  
 b) Quantitative models only  
 c) A hybrid of fundamental and quantitative approaches  
 d) A strategy for passive investors

## Short Answer Questions

1. Explain how a price-weighted index is constructed.

2. What are the advantages of a market cap-weighted index compared to other types?

3. How do stock splits affect the divisor in price-weighted indices?

4. Why might equal-weighted indices perform better when small stocks outperform large stocks?

5. Define the role of authorized participants in ETF creation and redemption.

6. Describe one limitation of the DJIA as a market index.

7. How does rebalancing affect the tracking of an equal-weighted index?

8. What is the significance of using multiple factors in a quantitative model?

9. Why is it important for ETFs to closely track their underlying index?

10. How can a quant model be back-tested for performance?

## True/False Questions

1. The Dow Jones Industrial Average (DJIA) is a market cap-weighted index.

2. Stock splits cause the divisor in the DJIA to decrease.

3. Exchange-Traded Funds (ETFs) always trade at their Net Asset Value (NAV).

4. Market cap-weighted indices are less affected by the performance of small-cap stocks than Equal-weighted indices.

5. Equal-weighted indices require more frequent rebalancing than price-weighted indices.

6. ETFs do not pay dividends to investors.

7. Quant models rely only on historical data and ignore current market trends.

8. The S&P 500 includes only large-cap stocks selected by Standard and Poor’s.

9. A 1% price increase in a higher-priced stock has a larger effect on a price-weighted index.

10. The Wilshire 5000 now tracks fewer than 5,000 stocks.

## Answers

Multiple Choice Answers:  
1. c) Price-weighted  
2. a) Stock splits  
3. d) Wilshire 5000  
4. c) Annually  
5. b) The same weight for all constituents  
6. b) A fund traded on exchanges typically tracking stock or bond indexes  
7. b) Create new shares  
8. b) Value of underlying portfolio divided by shares outstanding  
9. b) Equal-weighted  
10. c) A hybrid of fundamental and quantitative approaches

Short Answer Answers:  
1. A price-weighted index is constructed by summing the prices of included stocks and dividing by a divisor.  
2. Market cap-weighted indices better reflect overall market value changes and are less impacted by small stocks.  
3. Stock splits reduce the divisor to maintain continuity in index value.  
4. Equal-weighted indices assign greater weight to small stocks, enhancing their performance impact when these stocks outperform.  
5. Authorized participants create/redeem ETF shares by exchanging them with underlying securities.  
6. DJIA's small number of stocks and price-weighting reduce its market representativeness.  
7. Rebalancing aligns portfolio weights with the index's structure, ensuring accurate tracking.  
8. Using multiple factors diversifies and strengthens the predictive power of a quant model.  
9. Tracking minimizes tracking errors and ensures the ETF's performance mirrors its index.  
10. A quant model is back-tested by applying it to historical data and assessing outcomes.

True/False Answers:  
1. False  
2. True  
3. False  
4. True  
5. True  
6. False  
7. False  
8. True  
9. True  
10. True