

6.02 Security Market Indexes

Question 1

The following price-weighted index data is for one year:

Asset	Beginning Price (€)	Ending Price (€)	Income (€)
X	20	15	1
Y	40	50	3
Z	60	62	4

The total return of the index is *closest* to:

- A. 5.8%
- B. 7.5%
- C. 12.5%

Question 2

A fundamentally weighted index is constructed using the following data, with earnings yield as the weighting factor:

Asset	Beginning price (€)	Earnings per share (€)
X	100.00	3.00
Y	48.00	4.80
Z	80.00	4.00

If the initial value of the index is €1,000, the value of Asset Z in the index is *closest* to:

- A. €277
- B. €333
- C. €351

Question 3

An analyst compiles the following data about a market-capitalization-weighted index with a beginning index value of €1,000:

Asset	Beginning price (€)	Ending price (€)	Dividends per share (€)	Outstanding shares
X	100	112	3	100
Y	48	60	1	200
Z	80	92	2	300

The value of Asset X in the index at the beginning of the period is *closest* to:

- A. €230
- B. €333
- C. €439

Question 4

Which of the following is *most likely* characteristic of fixed income index construction?

- A. Fixed income indexes are more costly and difficult to replicate than equity indexes.
- B. A small number of securities can precisely replicate a given fixed income universe.
- C. Due to the size and liquidity of the bond market, there is ample price transparency.

Question 5

An analyst gathers the following data about a value-weighted index:

Selected Data (AUD)				
Asset	Beginning Price	Ending Price	Dividend	Shares Outstanding
A	13.50	11.50	0.30	700,000
B	56.50	55.00	0.25	450,000
C	67.00	69.00	0.00	400,000

The price return of the index is *closest* to:

- A. -2.1%
- B. -1.5%
- C. -1.1%

Question 6

An analyst has gathered the following information about a market-capitalization-weighted index:

Asset	Beginning of Period Price (€)	End of Period Price (€)	Dividends per Share (€)	Outstanding Shares
Y	10	12	2	200
Z	20	28	4	300

The price return of the index is *closest* to:

- A. 33%
- B. 35%
- C. 55%

Question 7

Of the following, one disadvantage of price weighting a security index is that price weighting:

- A. leads to indexes with an inherent value tilt.
- B. does not reflect securities' market capitalization.
- C. is complex and difficult to apply to index creation.

Question 8

Reconstituting an index *most likely* causes the highest turnover of securities in a(n):

- A. price-weighted index.
- B. equal-weighted index.
- C. market-cap-weighted index.

Question 9

An analyst has gathered the following data about the stocks included in an equal-weighted index with a beginning value of €1,200:

Asset	Beginning price (€)	Ending price (€)	Dividends per share (€)
X	80	100	1
Y	40	44	2
Z	20	23	1

The price return for the equal-weighted index during the period is *closest* to:

- A. 16.7%
- B. 19.3%
- C. 20.4%

Question 10

An analyst gathers the following data about an equal-weighted index:

Asset (€)	Beginning price	Ending price	Dividends
X	10.00	11.00	0.50
Y	8.00	7.00	0.30
Z	5.00	7.00	0.20

The price return of the index is *closest* to:

- A. 7.8%
- B. 12.5%
- C. 16.8%

Question 11

A given equity index consists of stocks of consumer durable companies. The companies represented in this index are from different countries and include large-, mid-, and small-cap companies. This type of index is *most appropriately* categorized as a:

- A. style index.
- B. sector index.
- C. broad market index.

Question 12

Which of the following *best* describes an aggregate fixed-income index? The index includes:

- A. all bonds outstanding regardless of type, maturity, or credit quality.
- B. only exchange-traded bonds regardless of type, maturity, or credit quality.
- C. a representative sample of bonds regardless of type, maturity, or credit quality.

Question 13

The following market-capitalization-weighted index data is for one year:

Asset	Beginning Price (£)	Ending Price (£)	Dividends Per Share (£)	Shares Outstanding
X	10	14	1	6,000
Y	18	20	2	7,500
Z	22	21	1	10,000

The index's total return for the year is *closest* to:

- A. 7.0%
- B. 14.5%
- C. 24.1%

Question 14

Survivorship bias is *most likely* a concern when analyzing indexes of:

- A. hedge funds.
- B. commodities.
- C. real estate investment trusts.

Question 15

An equal-weighted index is constructed using the following three assets:

Asset	Beginning price (€)	Ending price (€)
X	120	112
Y	80	86
Z	40	50

The initial value of the index is €1,200. The number of shares of Asset Z initially included in the index is *closest* to:

- A. 5 shares.
- B. 8 shares.
- C. 10 shares.

Question 16

A global index includes both growth and value technology stocks, with constituent companies that range in size from small to large cap. This index is *best* described as a:

- A. style index.
- B. sector index.
- C. multimarket index.

Question 17

The following securities make up a price-weighted index:

Security	Beginning price (€)	Price return
X	101	12%
Y	62	20%
Z	85	15%

If the divisor is 2.5, the index value at the beginning of the period is *closest* to:

- A. €82.67
- B. €85.76
- C. €99.20

Question 18

In managing a security market index, reconstitution *most likely* refers to changing:

- A. the index's weighting method.
- B. the securities that make up the index.
- C. the weights of the securities in the index.

Question 19

Three equity indexes hold the same 30 securities, but they are weighted differently in each index. Over the past year, the total returns of the indexes were:

Index Weighting	Return %
Fundamental	6
Equal	10
Market capitalization	2

The *best* explanation for this performance difference is:

- A. large-cap and value outperformance.
- B. small-cap and value outperformance.
- C. large-cap and momentum outperformance.

Question 20

Once a security market index has been established, rebalancing is *most likely* a concern for a(n):

- A. price-weighted index.
- B. equal-weighted index.
- C. market-cap-weighted index.

Question 21

In comparison to equity indexes, fixed-income indexes are *most likely* harder to construct and replicate since fixed-income securities:

- A. are less liquid than equity securities.
- B. need to be tracked with futures contracts.
- C. do not accurately track styles and sectors.

Question 22

An analyst gathers the following information on the constituents of a price-weighted index:

Stock	Beginning price (¥)	Ending price (¥)	Dividends per share (¥)	Shares outstanding
A	150	180		12,000
B	250	270	10	10,000
C	200	180	5	14,000

Based on this information, the index's price return is *closest* to:

- A. 5.0%
- B. 6.3%
- C. 7.5%

Question 23

An analyst wants to calculate the total return of an index comprising the following assets:

Asset (€)	Beginning price (€)	Ending price (€)	Income (€)	Weight
X	101.00	109.00	1.00	10%
Y	10.00	9.00	0.50	30%
Z	6.00	7.00	0.10	60%

The total return of the index is *closest* to:

- A. 7.4%
- B. 8.6%
- C. 10.4%

Question 24

Value tilt is *most likely* to impact equity indexes that are:

- A. price weighted.
- B. fundamentally weighted.
- C. market capitalization weighted.

Question 25

Assume that a capitalization-weighted (cap-weighted) equity index and an equal-weighted equity index have the same constituent stocks. All else being equal, if the cap-weighted index had a greater one-year price return, the *most appropriate* conclusion is that large-cap stocks:

- A. outperformed small-cap stocks.
- B. underperformed small-cap stocks only.
- C. underperformed small- and medium-cap stocks.

Question 26

All else being equal, a decrease in the value of a price-weighted stock index *most likely* results when the value of its constituent company shares decreases due to a:

- A. reconstitution.
- B. constituent company's stock splits.
- C. constituent company decreasing its cash dividend.

Question 27

An index starts with a value of 100 and has the following returns over 3 years:

Price Appreciation Income		
Year 1	4.0%	2.0%
Year 2	8.0%	1.5%
Year 3	-4.0%	2.0%

If the index value is based on its total return, then its value at the end of Year 3 is *closest* to:

- A. 113.50
- B. 113.75
- C. 113.87

Question 28

A mutual fund whose holdings are selected from a wide range of small-cap stocks compares its performance each year with that of the Russell 2000 Index. This is *most likely* an example of using a market index as a:

- A. benchmark for an actively managed portfolio.
- B. proxy for the small-cap asset class in an asset allocation model.
- C. way to understand market sentiment regarding small-cap stocks.

Question 29

A style index would *most likely* contain which of the following constituents?

- A. The smallest 200 stocks in a region
- B. All consumer goods companies within a country
- C. A representation of indexes from countries deemed emerging markets

Question 30

Which of the following *best* describes the difference between the returns of a commodity index based on futures prices and the returns of the same commodities based on spot prices?

- A. The difference can be substantial.
- B. The difference is the risk-free rate.
- C. There is no effective difference due to arbitrage.

Question 31

The divisor used to calculate the value of a price-weighted stock index is *most appropriately* adjusted if a constituent company's stock:

- A. splits.
- B. appreciates.
- C. pays a cash dividend.

Question 32

Which of the following *best* describes security market indexes? Security market indexes:

- A. are valued no more often than daily.
- B. can only be valued using actual asset prices.
- C. represent a security market, market segment, or asset class.

Question 33

An exchange-traded fund (ETF) has been created to replicate the performance of a broad market index. In the design of the ETF, the index was *most likely* used as a:

- A. model portfolio.
- B. asset class proxy.
- C. performance benchmark.

Question 34

An analyst uses the return on the Tokyo Stock Price Index over the last 10 years as an input to the CAPM to determine the expected return of a stock. This is an example of using a securities market index as a(n):

- A. indicator of market sentiment.
- B. model portfolio for investment products.
- C. proxy to model risk, return, or risk-adjusted performance.

Question 35

Two market-cap weighted indexes are created with the same stocks and stock weights, one as a total return index and one as a price return index. If the stocks repurchase shares instead of paying dividends, after 1 year, which index will *most likely* have the greater return?

- A. The total return index
- B. The price return index
- C. The indexes will have the same return

Question 36

Changing the constituent stocks in a broad market index to reflect changes in the relative economic importance of different industry sectors is *best* described as a:

- A. rebalancing.
- B. reconstitution.
- C. reorganization.

Question 37

An analyst designing a security market index who wants to minimize the need to actively rebalance the index would *most appropriately* choose:

- A. price weighting.
- B. equal weighting.
- C. float-adjusted market-capitalization weighting.

Question 38

The weight of individual stocks in a float-adjusted market capitalization–weighted index is *most likely* based on:

- A. shares sold to investors through public offerings.
- B. issued shares less shares repurchased by the company.
- C. outstanding shares less shares owned by controlling shareholders.

Question 39

The performance of which of the following indexes for alternative investments is *most likely* to reflect the spot prices of the asset class it represents?

- A. Hedge fund index
- B. Commodities index
- C. Real estate investment trust index