LEARNING MODULE

1

Overview of Equity Portfolio Management

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LEARNING OUTCOMES

Mastery	*The candidate should be able to:*
☐	describe the roles of equities in the overall portfolio
☐	describe how an equity manager's investment universe can be segmented
☐	describe the types of income and costs associated with owning and managing an equity portfolio and their potential effects on portfolio performance
☐	describe the potential benefits of shareholder engagement and the role an equity manager might play in shareholder engagement
☐	describe rationales for equity investment across the active management spectrum
☐	discuss considerations in choosing a benchmark for an equity portfolio

INTRODUCTION

Equities represent a sizable portion of the global investment universe and are often a primary component of investors' portfolios. Rationales for investing in equities include potential participation in the growth and earnings prospects of an economy's corporate sector as well as an ownership interest in a range of business entities by size, economic activity, and geographical scope. Publicly traded equities are generally more liquid than other asset classes and thus enable investors to easily monitor price trends and trade securities at low costs.

This reading provides an overview of equity portfolio management. In the next section, we discuss the roles of equities in a portfolio. Then, we examine the equity investment universe, including several ways investors segment that universe. We will also cover the income and costs for an equity portfolio, as well as shareholder engagement between equity investors and investee companies. In addition, we will

discuss equity investment across the active management spectrum and considerations for benchmark selection for equity strategies, including for index-based strategies. A summary of key points completes the learning module.

2 THE ROLES OF EQUITIES IN A PORTFOLIO

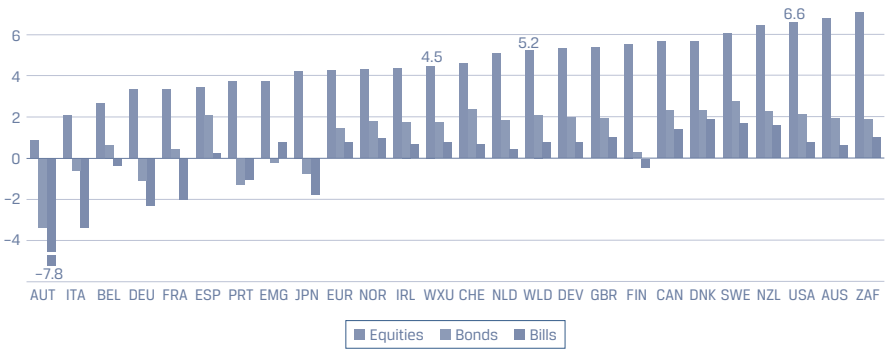
☐ describe the roles of equities in the overall portfolio

Equities play several roles in an overall portfolio, including providing such benefits as capital appreciation, dividend income, diversification with other asset classes, and a potential hedge against inflation. In addition to these benefits, client investment considerations play an important role for portfolio managers when deciding to include equities in portfolios.

Capital Appreciation

Long-term returns on equities, driven predominantly by capital appreciation, have historically been among the highest among major asset classes. Exhibit 1 shows geometric, annualized real returns on equities, bonds, and bills—both globally and in various regions—from 1900 to 2022. Equities outperformed both bonds and bills during this period across the world.

Exhibit 1: Real Returns on Equities, Bonds, and Bills (1900–2022)



Source: Credit Suisse Global Investment Returns Yearbook 2023, Summary Edition.

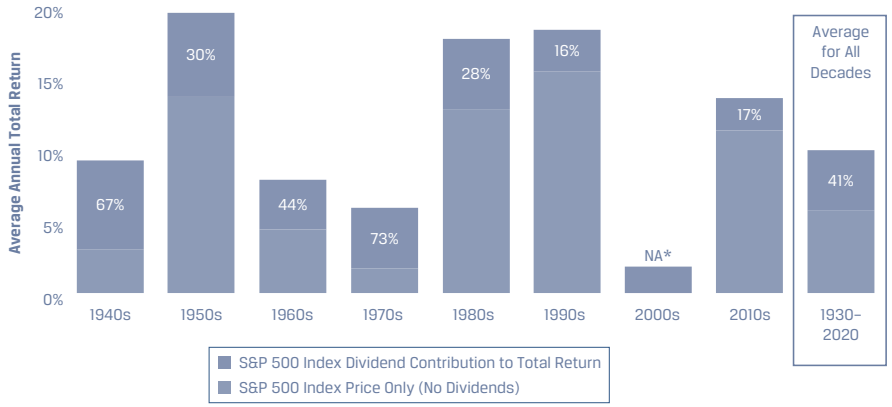
Equities tend to outperform other asset classes during periods of strong economic growth, and they tend to underperform other asset classes during weaker economic periods. Capital (or price) appreciation of equities often occurs when investing in companies with growth in earnings, cash flows, and/or revenues—as well as in companies with competitive success. Capital appreciation can occur, for example, in growth-oriented companies, such as small technology companies, as well as in large, mature companies where management successfully maintains profitability.

Dividend Income

The most common source of income for an equity portfolio is dividends. Companies may choose to distribute free cash flows as dividends rather than reinvest in projects, particularly when suitable projects do not exist or do not have returns greater than investors' required rate of return. Large, well-established corporations often provide dividend payments that increase in value over time, although there are no assurances that dividend payments from these corporations will grow or even be maintained. In addition to dividends on common stock (common dividends), preferred dividends can provide dividend income to those shareholders owning preferred shares.

Dividends have represented a significant component of long-term total returns for equity investors. Over shorter periods of time, however, the proportion of equity returns from dividends (reflected as dividend yield) can vary considerably relative to capital gains or losses. Exhibit 2 illustrates this effect of dividend returns relative to annual total returns on the S&P 500 Index from 1930 through 2021. Since 1990, the dividend yield on the S&P 500 has been in the 1%–3% range; thus, the effect of dividends can clearly be significant during periods of weak equity market performance, such as during the first decade of the 21st century, when price returns were negative. Also note that the dividend yield may vary considerably by sector.

Exhibit 2: S&P 500 Dividend Contribution (1930–2022)



Sources: Morningstar and Hartford Funds.

Diversification with Other Asset Classes

Individual equities have unique characteristics, although the correlation of returns among equities is often high. In a portfolio context, however, equities can provide meaningful diversification benefits when combined with other asset classes (assuming less-than-perfect correlation). Recall that a major reason why portfolios can effectively reduce risk (typically expressed as standard deviation of returns) is that combining securities whose returns are less than perfectly correlated reduces the standard deviation of the diversified portfolio below the weighted average of the standard deviations of the individual investments. The challenge in diversifying risk is to find assets that have a correlation much lower than +1.0.

Exhibit 3 provides a correlation matrix across various global equity indexes and other asset classes using total monthly returns for the 20 years ended 31 October 2021. The correlation matrix shows that during this period, various broad equity indexes

and, to a lesser extent, country equity indexes were highly correlated with each other. Conversely, both the broad and country equity indexes were considerably less correlated with indexes in other asset classes, notably Treasury bonds, investment-grade bonds, and gold. Overall, Exhibit 3 indicates that combining equities with other asset classes can result in portfolio diversification benefits.

It is important to note that correlations are not constant over time. During a long historical period, the correlation of returns between two asset classes may be low, but in any given period, the correlation can differ from the long term. Correlation estimates can vary based on the capital market dynamics during the period when the correlations are measured. During periods of market crisis, correlations across asset classes and among equities themselves often increase and reduce the benefit of diversification. As with correlations, volatility (standard deviation) of asset class returns may also vary over time.

Exhibit 3: Correlation Matrix, 20 Years Ended 31 October 2021

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1 MSCI World NR USD	1.00														
2 MSCI EM IMI NR USD	0.84	1.00													
3 MSCI EAFE NR USD	0.96	0.86	1.00												
4 S&P 500 TR USD	0.97	0.76	0.87	1.00											
5 MSCI China NR LCL	0.66	0.84	0.69	0.58	1.00										
6 MSCI Japan NR JPY	0.79	0.70	0.83	0.72	0.48	1.00									
7 EURO STOXX 50 NR EUR	0.84	0.70	0.91	0.74	0.50	0.46	1.00								
8 FTSE 100 TR GBP	0.88	0.75	0.92	0.78	0.52	0.53	0.87	1.00							
9 Bloomberg US Agg Bond TR USD	−0.02	0.06	0.03	−0.06	0.04	0.04	−0.01	−0.01	1.00						
10 Bloomberg Gbl Agg Ex USD TR USD	0.33	0.40	0.43	0.22	0.34	0.29	0.40	0.38	0.57	1.00					
11 Bloomberg Treasury 1–5 Yr TR USD	−0.36	−0.26	−0.30	−0.39	−0.19	−0.23	−0.29	−0.32	0.76	0.43	1.00				
12 Bloomberg Gbl HY Bond Composite TR USD	0.70	0.73	0.74	0.61	0.55	0.51	0.69	0.69	0.47	0.66	0.02	1.00			
13 S&P GSCI TR USD	0.45	0.48	0.48	0.38	0.39	0.35	0.41	0.54	−0.07	0.28	−0.22	0.44	1.00		
14 S&P GSCI Gold TR	0.12	0.29	0.16	0.05	0.24	0.11	0.10	0.14	0.37	0.52	0.30	0.40	0.23	1.00	
15 FTSE Nareit All Equity REITs TR USD	0.69	0.58	0.65	0.69	0.39	0.49	0.60	0.59	0.23	0.35	−0.12	0.60	0.25	0.13	1.00

0.76 to 1.00 0.51 to 0.75 0.26 to 0.50 0.01 to 0.25
−0.75 to −1.00 −0.50 to −0.74 −0.25 to −0.49 0.00 to −0.24

Source: Morningstar Direct.

Hedge against Inflation

Some individual equities or sectors can provide some protection against inflation, although the ability to do so varies. For example, certain companies may be successful at passing along higher input costs (such as raw materials, energy, or wages) to customers. This ability to pass along costs to customers can protect a company's or industry's profit margin and cash flow and can be reflected in its stock prices. As another example, companies in sectors that produce broad-based commodities (e.g., oil or industrial metals producers) can more directly benefit from increases in commodity prices. Although individual equities or sectors can protect against inflation, the success of equities as an asset class in hedging inflation has been mixed. Certain empirical studies have shown that real returns on equities and inflation have positive correlation over the long term, but the degree of correlation typically varies by country and is dependent on the time period assessed. For severe inflationary periods, such as periods with an annual inflation rate over 5%, studies have shown that real returns on equities and inflation have been *negatively* correlated. Therefore, the asset class's efficacy as an inflation hedge may fail when it is most needed.

Client Considerations for Equities in a Portfolio

The inclusion of equities in a client's portfolio is driven by their goals and needs. A client's investment considerations are typically described in an investment policy statement (IPS), which establishes, among other things, return objectives, risk tolerance, constraints, and unique circumstances. By understanding these client considerations, a financial adviser or wealth manager can determine whether—and what amount of—equities should be in a client's portfolio.

Equity investments are often characterized by such attributes as growth potential, income generation, risk and return volatility, and sensitivity to various macroeconomic variables (e.g., GDP growth, interest rates, and inflation). As a result, a portfolio manager can adapt such specific factors to an equity investor's investment goals and risk tolerance. For example, a risk-averse and conservative investor may prefer some exposure to well-established companies with strong and stable cash flow that pay meaningful dividends. Conversely, a growth-oriented investor with an aggressive risk tolerance may prefer smaller companies with greater growth potential.

Wealth managers and financial advisers often consider the following investment objectives and constraints when deciding to include equities (or asset classes in general, for that matter) in a client's portfolio:

- *Risk objective* addresses how risk is measured (e.g., in absolute or relative terms); the investor's willingness to take risk; the investor's ability to take risk; and the investor's specific risk objectives.
- *Return objective* addresses how returns are measured (e.g., in absolute or relative terms); this term refers to stated return objectives.
- *Liquidity requirement* is a constraint in which cash is needed for anticipated or unanticipated events.
- *Time horizon* is the time period associated with an investment objective (e.g., short term, long term, or some combination of the two).
- *Tax concerns* include tax policies that can affect investor returns; for example, dividends may be taxed at a different rate than capital gains.
- *Legal and regulatory factors* are external factors imposed by governmental, regulatory, or oversight authorities.
- *Unique circumstances* are an investor's considerations other than liquidity requirements, time horizon, or tax concerns that may constrain portfolio choices. These considerations may include environmental, social, and governance (ESG) issues or religious preferences.

Clients' interest in ESG and sustainable investing has grown. With regard to equities, these considerations often determine the suitability of certain sectors or individual company stocks for designated investor portfolios. Historically, ESG approaches used by portfolio managers have largely represented **negative screening** (or exclusionary screening) and **positive screening** or **best-in-class** approaches. Negative screening refers to the practice of excluding certain sectors or companies that deviate from accepted standards in such areas as human rights or environmental concerns. Positive screening attempts to identify companies or sectors that score most favorably with regard to ESG-related risks and/or opportunities. For example, a negative screening approach may involve excluding oil and gas producers from consideration for a client's portfolio strategy, while a positive screening approach may overweight companies and industries with strong governance practices, such as an independent board chair. Rather than screening, however, as of 2020, the largest sustainable investment strategy globally was ESG integration, which is the inclusion of ESG considerations in financial analysis and investment decisions (GSIA 2020).

The goals of ESG integration are to reduce financial risks and/or enhance financial returns by identifying and valuing risks or opportunities that are not typically identified and valued. ESG integration begins with identifying relevant ESG information for sector, industry, and company research and evaluating its financial materiality. Financially material ESG information is then used alongside traditional financial information to inform an analyst's valuation and recommendation to buy, hold, or sell a security. Just as with traditional equity analysis, a variety of tools and methods exist for integrating ESG information into the analytical process, and analysts must choose the ones they believe are most appropriate for their analysis.

GUIDANCE AND CASE STUDIES FOR ESG INTEGRATION

CFA Institute and the United Nations–supported Principles for Responsible Investment (PRI) initiative published a best practice report ("Guidance and Case Studies for ESG Integration: Equities and Fixed Income") and three regional reports—one for the Americas (AMER), one for Asia Pacific (APAC), and one for Europe, the Middle East, and Africa (EMEA)—to help investors understand how they can better integrate ESG factors into their equity, corporate bond, and sovereign debt portfolios. This report contains many case studies of ESG integration and introduces an ESG Integration Framework as a reference for practitioners. The following two cases are brief excerpts from that report.

Adjusting Revenue and Margins

In "Evaluating ESG Impact on Revenue and Margins," AGF Investments Inc. illustrates how ESG information can be used to adjust forecasted financials. In this case study, Company A is a global leader in specialty chemicals that has positioned itself to profit from trending consumer preferences for sustainable products. Company A recently shifted from purchasing petrochemicals for use as a product base to manufacturing its own product base using naturally sourced, renewable raw materials. AGF analysts project that the shift to in-house manufacturing and use of renewable materials will reduce costs from purchasing petrochemicals and managing hazardous waste materials. Analysts also project that consumers will pay a premium for Company A's sustainable products versus competitors' petrochemical-based products, which will increase annual revenue growth by 30 bps. Analysts estimate that the cost savings plus increased revenue over the next five years will result in a 100 bp improvement to EBIT (earnings before interest and taxes).

Adjusting the P/E Multiple

The case study "Valuation Adjustment According to Environmental Regulations" demonstrates the use of ESG information to adjust the P/E multiple.

In this example, analysts at E Fund Management Co., Limited, believed that new pollution regulations in China would be strictly enforced and developed a four-factor framework to score companies in affected industries on environmental protection factors. The case study compares the evaluation of Y Chemical and H Corporation. After scoring the companies, analysts concluded that H Corporation had a greater environmental risk than Y Chemical. Analysts were unable to estimate the projected environmental protection costs for the two companies, so they chose to discount the target P/E for H Corporation to a

P/E of 20 versus the industry average P/E of 23.7 (trailing 12 months). Analysts believed that H Corporation was overpriced due to its environmental risks not being recognized by the market and thus would have a negative return.

Source: CFA Institute and the PRI, "Guidance and Case Studies in ESG Integration: Equities and Fixed Income" (2018). www.cfainstitute.org/-/media/documents/survey/guidance-case-studies-esg-integration.pdf.

Two other approaches to ESG investing are **thematic investing** and **impact investing**. Thematic investing refers to investing in companies with positive exposure to ESG megatrends, such as clean energy, green technology, sustainable agriculture, gender diversity, or affordable housing. Global economic development has raised the demand for energy at the same time as increased greenhouse gas emissions are widely believed to negatively affect the earth's climate. Similarly, rising global living standards and industrial needs have created a greater demand for water along with the need to prevent drought or increase access to clean drinking water in certain regions of the world. While these themes are based on trends related to environmental issues, social issues—such as access to affordable health care and nutrition—are also of interest.

Impact investing is a related approach that seeks to achieve targeted social or environmental objectives along with measurable financial returns through engagement with a company or by direct investment in projects or companies. An example would include investing in products or services that help achieve 1 (or more) of the 17 Sustainable Development Goals (SDGs) launched by the United Nations in 2015, such as "SDG 6: Clean Water and Sanitation—Ensure availability and sustainable management of water and sanitation for all" and "SDG 11: Sustainable Cities and Communities—Make cities and human settlements inclusive, safe, resilient and sustainable." Impact investing is a relatively smaller segment of the broader sustainable and responsible investing market.

ROLES OF EQUITIES

1. Alex Chang, Lin Choi, and Frank Huber manage separate equity portfolios for the same investment firm. Chang's portfolio objective is conservative in nature, with a regular stream of income as the primary investment objective. Choi's portfolio is more aggressive in nature, with a long-term horizon and with growth as the primary objective. Finally, Huber's portfolio consists of wealthy entrepreneurs who are concerned about rising inflation and wish to preserve the purchasing power of their wealth.

   Discuss the investment approach that each portfolio manager would likely use to achieve his or her portfolio objectives.

   Solution

   Given that his portfolio is focused on a regular stream of income, Chang is likely to focus on companies with regular dividend income. More specifically, Chang is likely to invest in large, well-established companies with stable or growing dividend payments. With a long-term horizon, Choi is most interested in capital appreciation of her portfolio, so she is likely to focus on companies with earnings growth and competitive success. Finally, Huber's clients are concerned about the effects of inflation, so he will likely seek to invest in shares of companies that can provide an inflation hedge. Huber would likely seek companies that can successfully pass on higher input costs to their customers, and he may also seek commodity producers that may benefit from rising commodity prices.

3 EQUITY INVESTMENT UNIVERSE

☐ describe how an equity manager's investment universe can be segmented

Given the extensive range of companies in which an equity portfolio manager may invest and the range of clients' risk and return objectives, an important task for the manager is to segment the universe by grouping companies according to similar characteristics. This segmentation enables portfolio managers to better evaluate and analyze their equity investment universe, and it can help with portfolio diversification. Several approaches to segmenting the equity investment universe are discussed in the following sections.

Segmentation by Size and Style

A popular approach to segmenting the equity universe incorporates two factors: (1) size and (2) style. Size is typically measured by market capitalization and often categorized by large cap, mid cap, and small cap. Style is typically classified as value, growth, or a combination of value and growth (typically termed "blend" or "core"). In addition, style is often determined through a "scoring" system that incorporates multiple metrics or ratios, such as price-to-book ratios, price-to-earnings ratios, earnings growth, dividend yield, and book value growth. These metrics are then typically "scored" individually for each company, assigned certain weights, and then aggregated. The result is a composite score that determines where the company's stock is positioned along the value–growth spectrum. A combination of growth and value style is not uncommon, particularly for large corporations that have both mature and higher-growth business lines.

Exhibit 4 illustrates a common matrix that reflects size and style dimensions. Each category in the matrix can be represented by companies with considerably different business activities. For example, both a small, mature metal fabricating business and a small health care services provider may fall in the Small Cap Value category. An example of how several listed companies are categorized as of February 2023 is shown in Exhibit 5. In practice, individual stocks may not clearly fall into one of the size/style categories and classification is dynamic, so these are best thought of as guidelines rather than a strict taxonomy.

Exhibit 4: Equity Size and Style Matrix

	Style		
	Value	**Blend**	**Growth**
Large			
Mid			
Small			

Source: Morningstar.

Exhibit 5: Equity Size and Style, Example Classifications as of February 2023

	Style		
	Value	**Blend**	**Growth**
Large	Samsung Electronics Co. Ltd.	Tencent	Meituan
Mid	Schroders PLC	Gedeon Richter	Ocado PLC
Small	Hawaiian Airlines	National Beverage Corp.	WeWork Inc.

Source: Morningstar.

Segmentation by size/style can provide several advantages for portfolio managers. First, portfolio managers can construct an overall equity portfolio that reflects desired risk, return, and income characteristics in a relatively straightforward and manageable way. Second, given the broad range of companies in each segment, segmentation by size/style results in diversification across economic sectors or industries. Third, active equity managers—that is, those seeking to outperform a given benchmark portfolio—can construct performance benchmarks for specific size/style segments. Generally, large investment management firms may have sizable teams dedicated toward specific size/style categories, while small firms may specialize in a specific size/style category, particularly mid-cap and small-cap companies, seeking to outperform a standard benchmark or comparable peer group.

The final advantage of segmentation by size/style is that it allows a portfolio to reflect a company's maturity and potentially changing growth/value orientation. Specifically, many companies that undertake an IPO (initial public offering) are small and in a growth phase, and thus they may fall in the small-cap growth category. If these companies can successfully grow, their size may ultimately move to mid-cap or even large cap, while their style may conceivably shift from high growth to value or a combination of growth and value (e.g., a growth and income stock). Accordingly, over the life cycle of companies, investor preferences for these companies may shift increasingly from capital appreciation to dividend income. In addition, segmentation also helps fund managers adjust holdings over time—for example, when stocks that were previously considered to be in the growth category mature and possibly become value stocks. The key disadvantages of segmentation by size/style are that the categories may change over time and may be defined differently among investors.

Segmentation by Geography

Another common approach to equity universe segmentation is by geography. This approach is typically based on the stage of markets' macroeconomic development and wealth. Common geographic categories are *developed markets*, *emerging markets*, and *frontier markets*. Exhibit 6 demonstrates the commonly used geographic segmentation of international equity indexes according to MSCI. MSCI classifies countries as developed, emerging, or frontier according to a holistic framework that considers economic development, size and liquidity, and accessibility criteria, such as openness to foreign equity ownership. Other major index providers—such as FTSE, Standard & Poor's, and Russell—provide similar types of international equity indexes.

Geographic segmentation is useful to equity investors who have considerable exposure to their domestic market and want to diversify by investing in global equities. A key weakness of geographic segmentation is that investing in a specific market (e.g., market index) may provide lower-than-expected exposure to that market. As an example, Nestle, Roche, and Novartis together account for over half of the MSCI

Switzerland Index, but Switzerland accounts for less than 2% of each company's sales. Another key weakness of geographic segmentation is potential currency risk when investing in different global equity markets.

Exhibit 6: MSCI International Equity Indexes (as of January 2023)

Developed Markets

Americas	Europe and Middle East	Pacific
Canada	Austria	Australia
United States	Belgium	Hong Kong SAR
	Denmark	Japan
	Finland	New Zealand
	France	Singapore
	Germany	
	Ireland	
	Israel	
	Italy	
	Netherlands	
	Norway	
	Portugal	
	Spain	
	Sweden	
	Switzerland	
	United Kingdom	

Emerging Markets

Americas	Europe, Middle East, and Africa	Asia Pacific
Brazil	Czech Republic	Chinese mainland
Chile	Egypt	India
Colombia	Greece	Indonesia
Mexico	Hungary	South Korea
Peru	Kuwait	Malaysia
	Poland	Philippines
	Qatar	Taiwan region
	Saudi Arabia	Thailand
	South Africa	
	Turkey	
	United Arab Emirates	

Frontier Markets

Europe and CIS[1]	Africa	Middle East	Asia
Croatia	Kenya	Bahrain	Bangladesh
Estonia	Mauritius	Jordan	Pakistan
Iceland	Morocco	Oman	Sri Lanka
Lithuania	Nigeria		Vietnam
Kazakhstan	Tunisia		
Romania	WAEMU[2]		
Serbia			
Slovenia			

Notes: The following markets are not included in the developed, emerging, or MSCI frontier indexes but have their own market-specific indexes: Argentina, Jamaica, Panama, Trinidad and Tobago, Bosnia Herzegovina, Bulgaria, Malta, Russia, Ukraine, Botswana, Zimbabwe, Lebanon, and Palestine.
[1]*CIS:* Commonwealth of Independent States (formerly the USSR).
[2]*WAEMU:* West African Economic and Monetary Union, also known by its French acronym UEMOA,

which consists of the following countries: Benin, Burkina Faso, Ivory Coast, Guinea-Bissau, Mali, Niger, Senegal, and Togo.

Segmentation by Economic Activity

Economic activity is another characteristic that portfolio managers may use to segment the equity universe. Most equity classification systems group companies into industries/sectors using a *market-oriented* approach, grouping companies based on the markets they serve, the way revenue is earned, and the way customers use companies' products.

The four main commercial global classification systems, which were discussed earlier in the curriculum, are (1) the Global Industry Classification Standard (GICS); (2) the Industrial Classification Benchmark (ICB); (3) the Thomson Reuters Business Classification (TRBC); and (4) the Russell Global Sectors Classification (RGS). These classification systems help standardize industry definitions so that portfolio managers can compare and analyze companies and industries/sectors. In addition, the classification systems are useful in the creation of industry performance benchmarks.

Exhibit 7 compares the four primary classification systems. Each system is classified broadly and then increasingly more granularly to compare companies and their underlying businesses.

Exhibit 7: Primary Sector Classification Systems

Level/ System	GICS	ICB	TRBC	RGS
1st	11 Sectors	10 Industries	10 Economic Sectors	9 Economic Sectors
2nd	24 Industry Groups	19 Super Sectors	28 Business Sectors	33 Sub-Sectors
3rd	68 Industries	41 Sectors	54 Industry Groups	157 Industries
4th	157 Sub-Industries	114 Sub-Sectors	136 Industries	Not Applicable

Sources: Thomson Reuters, S&P/MSCI, FTSE/Dow Jones.

To illustrate how segmentation of the classification systems may be used in practice, Exhibit 8 demonstrates how GICS, perhaps the most prominent classification system, sub-divides selected sectors—in this case, Consumer Discretionary, Consumer Staples, and Information Technology—into certain industry group, industry, and sub-industry levels.

Exhibit 8: GICS Classification Examples

Sector	Consumer Discretionary	Consumer Staples	Information Technology
Industry Group Example	Automobiles and Components	Food, Beverage, and Tobacco	Technology Hardware and Equipment
Industry Example	Automobiles	Beverages	Electronic Equipment, Instruments, and Components
Sub-Industry Example	Motorcycle Manufacturers	Soft Drinks	Electronic Manufacturing Services

Source: MSCI.

As with other segmentation approaches mentioned previously, segmentation by economic activity enables equity portfolio managers to construct performance benchmarks for specific sectors or industries. Portfolio managers may also obtain better industry representation (diversification) by segmenting their equity universe according to economic activity. The key disadvantage of segmentation by economic activity is that the business activities of companies—particularly, large ones—may include more than one industry or sub-industry.

SEGMENTING THE EQUITY INVESTMENT UNIVERSE

1. A portfolio manager is initiating a new fund that seeks to invest in the Chinese robotics industry, which is experiencing rapidly accelerating earnings. To help identify appropriate company stocks, the portfolio manager wants to select an approach to segment the equity universe.

   Recommend which segmentation approach would be most appropriate for the portfolio manager.

   Solution

   Based on his desired strategy to invest in companies with rapidly accelerating (growing) earnings, the portfolio manager would most likely segment his equity universe by size/style. The portfolio manager would most likely use an investment style that reflects growth, with size (large cap, mid cap, or small cap) depending on the company being analyzed. Other segmentation approaches, including those according to geography and economic activity, would be less appropriate for the portfolio manager given the similar geographic and industry composition of the Chinese robotics industry.

Segmentation of Equity Indexes and Benchmarks

Segmentation of equity indexes or benchmarks reflects some of or all the approaches previously discussed in this section. For example, the MSCI Europe Large Cap Growth Index, the MSCI World Small Cap Value Index, the MSCI Emerging Markets Large Cap Growth Index, and the MSCI Latin America Midcap Index combine various geographic, size, and style dimensions. This combination of geography, size, and style also sometimes applies to individual countries—particularly those in large, developed markets.

A more focused approach to segmentation of equity indexes uses industries or sectors. Because many industries and sectors are global in scope, the most common types of these indexes are composed of companies in different countries. Examples include the following:

- Global Natural Resources—the *S&P Global Natural Resources Index* includes 90 of the largest publicly traded companies in natural resources and commodities businesses across three primary commodity-related sectors: agribusiness, energy, and metals and mining.
- Worldwide Oil and Natural Gas—the *MSCI World Energy Index* includes the large-cap and mid-cap segments of publicly traded oil and natural gas companies in the developed markets.
- Multinational Financials—the *Refinitiv Global Financials Index* includes the 100 largest publicly traded companies in the global financial services sector as defined by the TRBC classification system.

Finally, some indexes reflect specific investment approaches, such as ESG investing. Such ESG indexes are made up of companies that reflect certain considerations, such as sustainability or impact investing.

INCOME ASSOCIATED WITH OWNING AND MANAGING AN EQUITY PORTFOLIO

4

☐ describe the types of income and costs associated with owning and managing an equity portfolio and their potential effects on portfolio performance

Dividends are the primary source of income for equity portfolios. In addition, some portfolio managers may use securities lending or option-writing strategies to generate income. On the cost side, equity portfolios incur various fees and trading costs that adversely affect portfolio returns. The primary types of income and costs are discussed in this section.

Dividend Income

Investors requiring regular income may prefer to invest in stocks with large or frequent dividend payments, whereas growth-oriented investors may have little interest in dividends. Taxation is an important consideration for dividend income received, particularly for individuals. Depending on the country where the investor is domiciled, where dividends are issued, and the type of investor, dividends may be subject to withholding tax and/or income tax.

Beyond regular dividends, equity portfolios may receive **special dividends** from certain companies. Special dividends occur when companies decide to distribute excess cash to shareholders, but the payments may not be maintained over time. **Optional stock dividends** are another type of dividend in which shareholders may elect to receive either cash or new shares. When the share price used to calculate the number of stock dividend shares is established before the shareholder's election date, the choice between a cash or stock dividend may be important. This choice represents "optionality" for the shareholder, and the optionality has value. Some market participants, typically investment banks, may offer to purchase this "option," providing an additional, if modest, source of income to an equity investor.

Securities Lending Income

For some investors, **securities lending**—a form of collateralized lending—may be used to generate income for portfolios. Securities lending can facilitate short sales, which involve the sale of securities the seller does not own. When a securities lending transaction involves the transfer of equities, the transaction is generally known as **stock lending** and the securities are generally known as *stock loans.* Stock loans are collateralized with either cash or other high-quality securities to provide some financial protection to the lender. Stock loans are usually open-ended in duration, but the borrower must return the shares to the lender on demand.

Stock lenders generally receive a fee from the stock borrower as compensation for the loaned shares. Most stock loans in developed markets earn a modest fee, approximately 0.2%–0.5% on an annualized basis. In emerging markets, fees are typically

higher, often 1%–2% annualized for large-cap stocks. In many equity markets, certain stocks—called "specials"—are in high demand for borrowing. These specials can earn fees that are substantially higher than average (typically 5%–15% annualized), and in cases of extreme demand, they could be as high as 25%–100% annually. However, such high fees do not normally persist for long periods of time.

In addition to fees earned, stock lenders can generate further income by reinvesting the cash collateral received (assuming a favorable interest rate environment). However, as with virtually any other investment, the collateral would be subject to market risk, credit risk, liquidity risk, and operational risk. The administrative costs of a securities lending program, in turn, will reduce the collateral income generated. Dividends on loaned stock are "manufactured" by the stock borrower for the stock lender; that is, the stock borrower ensures that the stock lender is compensated for any dividends that the lender would have received had the stock not been loaned.

Index funds are frequent stock lenders because of their large, long-term holdings in stocks. In addition, because index funds merely seek to replicate the performance of an index, portfolio managers of these funds are normally not concerned that borrowed stock used for short-selling purposes might decrease the prices of the corresponding equities. Large, actively managed pension funds, endowments, and institutional investors are also frequent stock lenders, although these investors are likely more concerned with the effect on their returns if the loaned shares are used to facilitate short selling. The evidence on the impact of stock lending on asset prices has, however, been mixed (see, for example, Kaplan, Moskowitz, and Sensoy 2013).

Ancillary Investment Strategies

Additional income can be generated for an equity portfolio through a trading strategy known as **dividend capture**. Under this strategy, an equity portfolio manager purchases stocks just before their ex-dividend dates, holds these stocks through the ex-dividend date to earn the right to receive the dividend, and subsequently sells the shares. Once a stock goes ex-dividend, the share price should, in theory, decrease by the value of the dividend. In this way, capturing dividends would increase portfolio income, although the portfolio would—again, in theory—experience capital losses of similar magnitude. However, the share price movement could vary from this theoretical assumption given income tax considerations, stock-specific supply/demand conditions, and general stock market moves around the ex-dividend date.

Selling (writing) options can also generate additional income for an equity portfolio. One such option strategy is writing a *covered call*, whereby the portfolio manager already owns the underlying stock and sells a call option on that stock. Another option strategy is writing a *cash-covered put* (also called a *cash-secured put*), whereby the portfolio manager writes a put option on a stock and simultaneously deposits money equal to the exercise price into a designated account. Under both covered calls and cash-covered puts, income is generated through the writing of options, but clearly the risk profile of the portfolio would be altered. For example, writing a covered call would limit the upside from share price appreciation of the underlying shares.

EQUITY PORTFOLIO INCOME

1. Isabel Cordova is an equity portfolio manager for a large multinational investment firm. Her portfolio consists of several dividend-paying stocks, and she is interested in generating additional income to enhance the

portfolio's total return. Describe potential sources of additional income for Cordova's equity portfolio.

Solution

Cordova's primary source of income for her portfolio would likely be "regular" and, in some cases, special dividends from those companies that pay them. Another potential source of income for Cordova is securities (stock) lending, whereby eligible equities in her portfolio can be loaned to other market participants, including those seeking to sell short securities. In this case, income would be generated from fees received from the stock borrower as well as from reinvesting the cash collateral received. Another potential income-generating strategy available to Cordova is dividend capture, which entails purchasing stocks just before their ex-dividend dates, holding the stocks through the ex-dividend date to earn the right to receive the dividend, and subsequently selling the shares. Selling (writing) options, including covered call and cash-covered put (cash-secured put) strategies, is another way Cordova can generate additional income for her equity portfolio.

COSTS ASSOCIATED WITH OWNING AND MANAGING AN EQUITY PORTFOLIO

5

- ☐ describe the types of income and costs associated with owning and managing an equity portfolio and their potential effects on portfolio performance

Management Fees

Management fees are typically determined as a percentage of the funds under management (an *ad-valorem* fee) at regular intervals. For actively managed portfolios, the level of management fees involves a balance between fees that are high enough to fund investment research but low enough to avoid detracting too much from investor returns. Management fees for actively managed portfolios include direct costs of research (e.g., remuneration and expenses for investment analysts and portfolio managers) and the direct costs of portfolio management (e.g., software, trade processing costs, and compliance). For index-based portfolios, management fees are typically low because of lower direct costs of research and portfolio management relative to actively managed portfolios.

Investment managers typically present a standard schedule of fees to a prospective client, although actual fees can be negotiated between the manager and investors. For a fund, fees are established in the prospectus, although investors could negotiate special terms (e.g., a discount for being an early investor in a fund).

Performance Fees

In addition to management fees, portfolio managers sometimes earn performance fees (also known as incentive fees) on their portfolios. Performance fees are generally associated with hedge funds and long/short equity portfolios, rather than long-only portfolios. These fees are an incentive for portfolio managers to achieve or outperform

return objectives, to the benefit of both the manager and investors. As an example, a performance fee might represent 10%–20% of any capital appreciation in a portfolio that exceeds some stated annual absolute return threshold (e.g., 8%). Several performance fee structures exist, although performance fees tend to be "upwards only"; that is, fees are earned by the manager when performance objectives are met, but fund investors are not reimbursed when performance is negative. However, performance fees could be reduced following a period of poor performance. Fee calculations also reflect high-water marks. A **high-water mark** is the highest value, net of fees, that the fund has reached. The use of high-water marks protects clients from paying twice for the same performance. For example, if a fund performed well in a given year, it might earn a performance fee. If the value of the same fund fell the following year, no performance fee would be payable. Then, if the fund's value increased in the third year to a point just below the value achieved at the end of the first year, no performance fee would be earned because the fund's value did not exceed the high-water mark. This basic fee structure is used by many alternative investment funds and partnerships, including hedge funds.

Administration Fees

Equity portfolios are subject to administration fees. These fees include the processing of corporate actions, such as rights issues; the measurement of performance and risk of a portfolio; and voting at company meetings. Generally, these functions are provided by an investment management firm itself and are included as part of the management fee.

Some functions, however, are provided by external parties, with the fees charged to the client in addition to management fees. These externally provided functions include the following:

- *Custody fees* paid for the safekeeping of assets by a custodian (often a subsidiary of a large bank) that is independent of the investment manager
- *Depository fees* paid to help ensure that custodians segregate the assets of the portfolio and that the portfolio complies with any investment limits, leverage requirements, and limits on cash holdings
- *Registration fees* that are associated with the registration of ownership of units in a mutual fund

Marketing and Distribution Costs

Most investment management firms market and distribute their services to some degree. Marketing and distribution costs typically include the following:

- Costs of employing marketing, sales, and client servicing staff
- Advertising costs
- Sponsorship costs, including costs associated with sponsoring or presenting at conferences
- Costs of producing and distributing brochures or other communications to financial intermediaries or prospective clients
- "Platform" fees, which are costs incurred when an intermediary offers an investment management firm fund services on the intermediary's platform of funds (e.g., a "funds supermarket")
- Sales commissions paid to such financial intermediaries as financial planners, independent financial advisers, and brokers to facilitate the distribution of funds or investment services

When marketing and distribution services are performed by an investment management firm, the costs are likely included as part of the management fee. However, those marketing and distribution services that are performed by external parties (e.g., consultants) typically incur additional costs to the investor.

Trading Costs

Buying and selling equities incur a series of trading (or transaction) costs. Some of these trading costs are explicit, including brokerage commission costs, taxes, stamp duties, and stock exchange fees. In addition, many countries charge a modest regulatory fee for certain types of equity trading.

In contrast to explicit costs, some trading costs are implicit in nature. These implicit costs include the following:

- Bid–offer spread
- Market impact (also called price impact), which measures the effect of the trade on transaction prices
- Delay costs (also called slippage), which arise from the inability to complete desired trades immediately because of order size or lack of market liquidity

In an equity portfolio, total trading costs are a function of the size of trades, the frequency of trading, and the degree to which trades demand liquidity from the market. Unlike many other equity portfolio costs, such as management fees, the total cost of trading is generally not revealed to the investor. Rather, trading costs are incorporated into a portfolio's total return and presented as overall performance data. One final trading cost relates to stock lending transactions that were previously discussed. Equity portfolio managers who borrow shares in these transactions must pay fees on shares borrowed.

Investment Approaches and Effects on Costs

Equity portfolio costs tend to vary depending on their underlying strategy or approach. As mentioned previously, index-based strategies tend to charge lower management fees than active strategies primarily because of lower research costs. Index-based equity portfolios also tend to trade less frequently than actively managed equity portfolios, with trading in index-based portfolios typically involving rebalancing or changes to index constituents. Index funds, however, do face a "hidden" cost from potential predatory trading. As an illustration, a predatory trader may purchase (or sell short) shares prior to their effective inclusion (or deletion) from an index, resulting in price movement and potential profit for a predatory trader. Such predatory trading strategies can be regarded as a cost to investors in index funds, albeit a cost that is not necessarily evident to a portfolio manager or investor.

Some active investing approaches "demand liquidity" from the market. For example, in a momentum strategy, the investor seeks to buy shares that are already rising in price (or sell those that are already falling). In contrast, some active investing approaches are more likely to "provide liquidity" to the market, such as deep value strategies (i.e., those involving stocks that are deemed to be significantly undervalued). Investment strategies that involve frequent trading and demand liquidity are, unsurprisingly, likely to have higher trading costs than long-term, buy-and-hold investment strategies.

6 SHAREHOLDER ENGAGEMENT

☐ describe the potential benefits of shareholder engagement and the role an equity manager might play in shareholder engagement

Shareholder engagement refers to the process whereby investors actively interact with companies. Shareholder engagement often includes voting on corporate matters at general meetings as well as other forms of communication (e.g., quarterly investor calls or in-person meetings) between shareholders and representatives of a company. Generally, shareholder engagement concerns issues that can affect the value of a company and, by extension, an investor's shares.

When shareholders engage with companies, several issues may be discussed, including the following:

- *Strategy*—a company's strategic goals, resources, plans for growth, and constraints. Also of interest may be a company's research, product development, culture, sustainability and corporate responsibility, and industry and competitor developments. Shareholders may ask the company how it balances short-term requirements and long-term goals and how it prioritizes the interests of its various stakeholders.
- *Allocation of capital*—a company's process for selecting new projects as well as its mergers and acquisitions strategy. Shareholders may be interested to learn about policies on dividends, financial leverage, equity raising, and capital expenditures.
- *Corporate governance and regulatory and political risk*—including internal controls and the operation of the company's audit and risk committees.
- *Remuneration*—compensation structures for directors and senior management, incentives for certain behaviors, and alignment of interests between directors and shareholders.
- *Composition of the board of directors*—succession planning, director expertise and competence, culture, diversity, and board effectiveness.

Benefits of Shareholder Engagement

Shareholder engagement can provide benefits for both shareholders and companies. From a company's perspective, shareholder engagement can assist in developing a more effective corporate governance culture. In turn, shareholder engagement may lead to better company performance to the benefit of shareholders (as well as other stakeholders).

Investors may also benefit from engagement because they will have more information about companies or the sectors in which companies operate. Such information may include a company's strategy, culture, and competitive environment within an industry. Shareholder engagement is particularly relevant for active portfolio managers. By contrast, index-based fund managers are primarily focused on tracking a given benchmark or index while minimizing costs to do so. Any process, such as shareholder engagement, that takes up management time (and adds to cost) would detract from the primary goal of an index-based manager. This would be less of an issue for very large index-based portfolios, where any engagement costs could be spread over a sizable asset base.

Investors who do not pursue engagement can still benefit from the shareholder engagement of others as so-called free riders. Specifically, assume that a portfolio manager using an active strategy actively engages with a company to improve its operations and was successful in increasing the company's stock price. The manager's actions in this case improved the value of his portfolio and also benefited other investors who own the same stock in their portfolios. Investors who did not participate in shareholder engagement benefited from improved performance but without the costs necessary for engagement.

In addition to shareholders, other stakeholders of a company may also have an interest in the process and outcomes of shareholder engagement. These stakeholders may include creditors, customers, employees, regulators, governmental bodies, and certain other members of society (e.g., community organizations and citizen groups). These other stakeholders can gain or lose influence with companies depending on the outcomes of shareholder engagement. For example, employees can be affected by cost reduction programs requested by shareholders. Another example is when creditors of a company are affected by a change in a company's vendor payment terms, which can impact the company's working capital and cash flow. Such external forces as the media, the academic community, corporate governance consultants, and proxy voting advisers can also influence the process of shareholder engagement.

Shareholders that also have non-financial interests, such as ESG considerations, may also benefit from shareholder engagement. However, these benefits are difficult to quantify. Empirical evidence relating shareholder returns to a company's adherence to corporate governance and ESG practices is mixed. This mixed evidence could be partly attributable to the fact that a company's management quality and effective ESG practices may be correlated with one another. As a result, it is often difficult to isolate non-financial factors and measure the direct effects of shareholder engagement.

Disadvantages of Shareholder Engagement

Shareholder engagement is time consuming and can be costly for both shareholders and companies. Second, pressure on company management to meet near-term share price or earnings targets could be made at the expense of long-term corporate decisions. Third, engagement can result in selective disclosure of important information to a certain subset of shareholders, which could lead to a breach of insider trading rules while in possession of specific, material, non-public information about a company. Finally, conflicts of interest can result for a company. For example, a portfolio manager could engage with a company that also happens to be an investor in the manager's portfolio. In such a situation, a portfolio manager may be unduly influenced to support the company's management so as not to jeopardize the company's investment mandate with the portfolio manager.

The Role of an Equity Manager in Shareholder Engagement

Active managers of equity portfolios typically engage, to some degree, with companies in which they currently (or potentially) invest. In fact, investment firms in some countries have legal or regulatory responsibilities to establish written policies on stewardship and/or shareholder engagement. Engagement activities for equity portfolio managers often include regular meetings with company management or investor relations teams. Such meetings can occur at any time but are often held after annual, semi-annual, or quarterly company results have been published.

Larger investment firms may also employ an analyst (or team of analysts) that focus on ESG issues. They work in conjunction with traditional investment analysts on shareholder voting and other engagement topics.

Activist Investing

Activist investing is a distinct and specialized version of engagement. Activist investors (or activists) specialize in taking stakes in companies and creating change to generate a gain on their investment. Hedge funds are among the most common activists, possibly because of the potential for, in many cases, high performance fees. In addition, because hedge funds are subject to limited regulation, have fewer investment constraints, and can often leverage positions, these investors often have more flexibility as activists.

Engagement through activist investing can include meetings with management, shareholder resolutions, letters to management, presentations to other investors, and media campaigns. Activists may also seek representation on a company's board of directors as a way of exerting influence. Proxy contests are one method used to obtain board representation. These contests represent corporate takeover mechanisms in which shareholders are persuaded to vote for a group seeking a controlling position on a company's board of directors. Social media and other communication tools can help activists coordinate the actions of other shareholders.

Voting

The participation of shareholders in general meetings, also known as general assemblies, and the exercise of their voting rights are among the most influential tools available for shareholder engagement. General meetings enable shareholders to participate in discussions and to vote on major corporate matters and transactions that are not delegated to the board of directors. By engaging in general meetings, shareholders can exercise their voting rights on major corporate issues and better monitor the performance of the board and senior management.

Proxy voting enables shareholders who are unable to attend a meeting to authorize another individual (e.g., another shareholder or director) to vote on their behalf. Proxy voting is the most common form of investor participation in general meetings. Although most resolutions pass without controversy, sometimes minority shareholders attempt to strengthen their influence at companies via proxy voting. Occasionally, multiple shareholders may use this process to collectively vote their shares in favor of or in opposition to a certain resolution.

Some investors use external proxy advisory firms, such as Institutional Shareholder Services and Glass Lewis, that provide voting recommendations and reduce research efforts by investors. Portfolio managers need not follow the recommendations of proxy advisers, but these external parties can highlight potential controversial issues. An investor's voting instructions are typically processed electronically via third-party proxy voting agents.

When an investor loans shares, the transaction is technically an assignment of title with a repurchase option; that is, the voting rights are transferred to the borrower. The transfer of voting rights with stock lending could potentially result in the borrower having different voting opinions from the lending investor. To mitigate this problem, some stock lenders recall shares ahead of voting resolutions to enable exercise of their voting rights. The downside of this action would be the loss of stock lending revenue during the period of stock loan recall and potential reputation risk as an attractive lender. Investors, in some cases, may borrow shares explicitly to exercise the voting rights attached. This process is called *empty voting*, whereby no capital is invested in the voted shares.

SHAREHOLDER ENGAGEMENT

1. An investor manages a fund with a sizable concentration in the transportation sector and is interested in meeting with senior management of a small aircraft manufacturer. Discuss how the investor may benefit from

his or her shareholder engagement activities, as well as from the shareholder engagement of other investors, with this manufacturer.

Solution

The investor may benefit from information obtained about the aircraft manufacturer, such as its strategy, allocation of capital, corporate governance, remuneration of directors and senior management, culture, and competitive environment within the aerospace industry. The investor may also benefit as a "free rider," whereby other investors may improve the manufacturer's operating performance through shareholder engagement—to the benefit of all shareholders. Finally, if the investor has non-financial interests, such as ESG, he or she may address these considerations as part of shareholder engagement.

EQUITY INVESTMENT ACROSS THE ACTIVE MANAGEMENT SPECTRUM

7

☐ describe rationales for equity investment across the active management spectrum

The debate over index-based and active management of equity portfolios has been a longstanding one in the investment community. In reality, the decision between index-based and active management is not an "either/or" (binary) alternative. Instead, equity portfolios tend to exist on a spectrum, ranging from portfolios that closely track a broad, market-capitalization-weighted index to concentrated portfolios of a few equity securities. In some cases, portfolios may resemble a "closet index" in which the portfolio is advertised as actively managed but is essentially an index fund. For an equity manager (or investment firm), there are several considerations for positioning a portfolio along the spectrum.

Confidence to Outperform

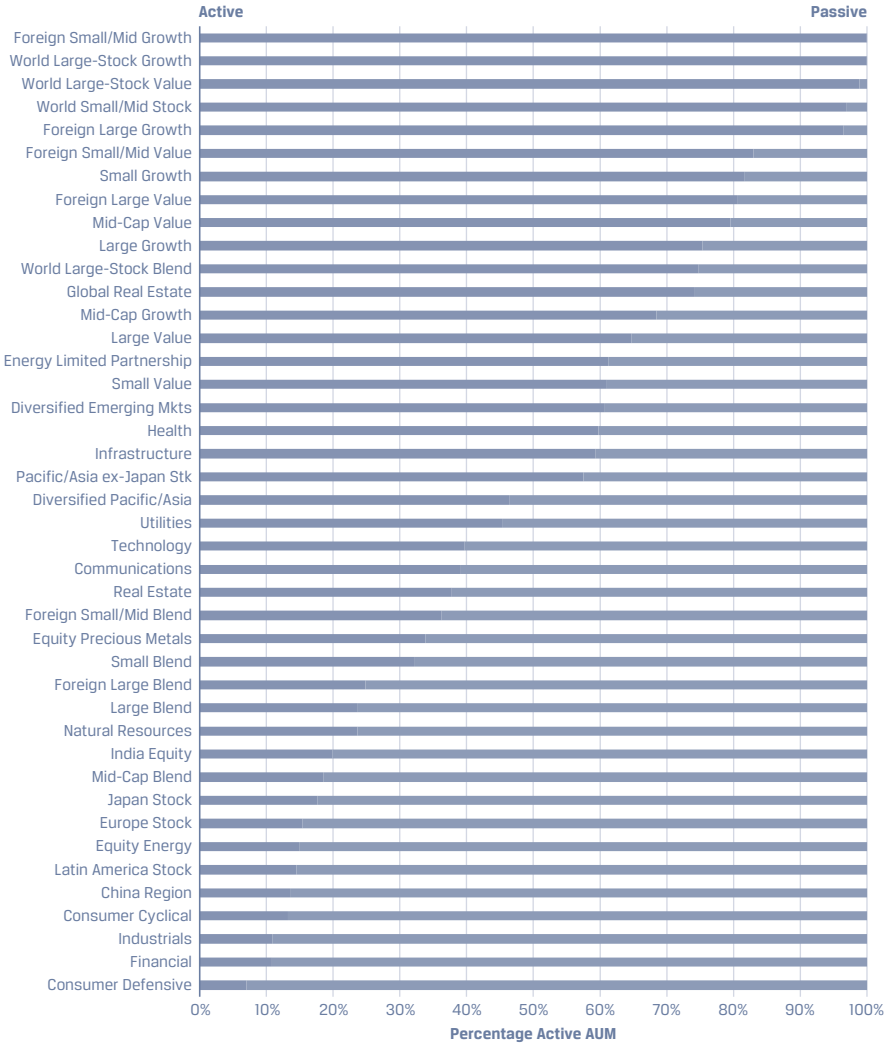
An active investment manager typically needs to be confident that she can adequately outperform her benchmark. This determination requires an understanding of the manager's equity investment universe, a competitive analysis of other managers that have a similar investment universe, and appropriate resources (e.g., research staff and access to information).

Client Preference

For equity portfolio managers, client preference is a primary consideration when deciding between index-based or active management. Portfolio managers must assess whether their strategies will attract sufficient funds from clients to make the initiatives viable. Another consideration reflects investors' beliefs regarding the potential for active strategies to generate positive alpha. For example, in some equity market categories, such as large-cap/developed markets, companies are widely known and have considerable equity analyst coverage. For such categories, investors often believe that potential alpha is substantially reduced because all publicly available information is efficiently disseminated, analyzed, and reflected in stock prices.

Exhibit 9 illustrates the prevalence of index-based and active management in US open-end mutual funds and exchange-traded funds (ETFs) by Morningstar equity category. Nearly all assets under management (AUM) in some categories, such as foreign small/mid-cap growth, are managed on an active basis. Other categories, such as large-cap blend, are predominantly managed using an index-based approach.

Exhibit 9: Passive versus Active Equities in US Open-End Mutual Funds and ETFs



Source: Morningstar Direct. Data as of 31 October 2021.

Suitable Benchmark

An investor or equity manager's choice of benchmark can play a meaningful role in the ability to attract new funds. This choice is particularly relevant in the institutional equity market, where asset owners (and their consultants) regularly screen new managers in desired equity segments. As part of the selection process in desired equity segments, active managers normally must have benchmarks with sufficient liquidity of underlying securities (thus maintaining a reasonable cost of trading). In addition,

the number of securities underlying the benchmark typically must be broad enough to generate sufficient alpha. For this reason, many country or sector-specific investment strategies (e.g., consumer defensive companies) are index based.

Client-Specific Mandates

Client-specific investment mandates, such as those related to ESG considerations, are typically managed actively. This active approach occurs because index-based management may not be particularly efficient or cost effective when managers must meet a client's desired holdings (or holdings to avoid). For example, a mandate to avoid investments in companies involved in certain "unacceptable" activities (e.g., the sale of military technology or weapons, tobacco/alcohol, or gambling) requires ongoing monitoring and management. As part of this *exclusionary* (or *negative*) *screening* process, managers need to determine those companies that are directly, as well as indirectly, involved in such "unacceptable" industries. Although ESG investing is typically active, there are a growing number of index-based ESG investment vehicles available.

Risks/Costs of Active Management

As mentioned previously, active equity management is typically more expensive to implement than index-based management. Additionally, "key person" risk is relevant for active managers if the success of an investment manager's firm is dependent on one or a few individuals ("star managers") who may potentially leave the firm.

Taxes

Compared with active strategies, index-based strategies generally have lower turnover and generate a higher percentage of long-term gains. An index fund that replicates its benchmark can have minimal rebalancing. In turn, active strategies can be designed to minimize tax consequences of gains/income at the expense of higher trading costs. One overall challenge is that tax legislation differs widely among countries.

ACTIVE MANAGEMENT SPECTRUM

1. James Drummond, an equity portfolio manager, is meeting with Marie Goudreaux, a wealthy client of his investment firm. Goudreaux is very cost conscious and believes that equity markets are highly efficient. Goudreaux also has a narrow investment focus, seeking stocks in specific country and industry sectors.

   Discuss where Goudreaux's portfolio is likely to be positioned along the active management spectrum.

   Solution

   Goudreaux's portfolio is likely to be managed using an index-based approach. Because she believes in market efficiency, Goudreaux likely believes that Drummond's ability to generate alpha is limited. Goudreaux's cost consciousness also supports index-based management, which is typically less expensive to implement than active management. Finally, Goudreaux's stated desire to invest in specific countries and sectors aligns with index-based approaches.

Advantages of Index-Based Equity Strategies

Many studies over decades support the use of index-based strategies for equities. Renshaw and Feldstein (1960) observed that the returns of professionally managed portfolios trailed the returns on the principal index of that time, the Dow Jones Industrial Average. They also concluded that the index would be a good basis for what they termed an "unmanaged investment company." French (2008) found that the cost of index-based investing is lower than the cost of active management.

Further motivation for index-based investing comes from studies that examine the return and risk consequences of security selection versus asset allocation. Brinson, Hood, and Beebower (1986) found a dominant role for asset allocation rather than security selection in explaining return variability. With index-based investing, portfolio managers eschew the idea of security selection, concluding that the benefits do not justify the costs.

The efficient market hypothesis gave credence to investors' interest in indexes by theorizing that stock prices incorporate all relevant information—implying that after costs, the majority of active investors could not consistently outperform the market. With this backdrop, investment managers began to offer strategies to replicate the returns of stock market indexes as early as 1971.

Index-based management requires substantially fewer personnel, fewer technological resources, and less time spent on analysis and management than active management. Consequently, index-based management fees are generally much lower than fees charged by active managers. This fee differential represents the most significant and enduring advantage of index-based management.

Another advantage is that managers seeking to track an index can generally achieve their objective. Index-based managers model their clients' portfolios to the benchmark's constituent securities and weights as reported by the index provider, in essence replicating the benchmark. The skill of an index-based manager is apparent in the ability to deliver risk-adjusted returns and explain their performance to clients. Gross-of-fees performance among index-based managers tends to be similar, so much of the industry views them as undifferentiated apart from their scope of offerings and client-servicing capabilities.

8 BENCHMARK SELECTION

☐ discuss considerations in choosing a benchmark for an equity portfolio

Successful investors choose their performance benchmarks with care. It is surprising that investors who spend countless hours analyzing the investment process and past performance of an active management strategy may accept a strategy based on a benchmark index without question. A comprehensive analysis of the creation methodology and performance of an index is just as important to investors as the analysis of an active strategy.

Indexes for Index-Based Strategies

For an index to become the basis for an equity investment strategy, it must meet three initial requirements. It must be rules based, transparent, and investable.

Examples of rules include criteria for including a constituent stock and the frequency with which weights are rebalanced. An active manager may use rules and guidelines, but it is often impossible for others to replicate the active manager's decision process. Index rules, in contrast, must be objective, consistent, and predictable.

Transparency may be the most important requirement because index-based managers expect to understand the rules underlying their investment choices. Benchmark providers disclose the rules used and constituents in creating their indexes without any black-box methodologies, which assures investors that indexes will continue to represent the intended strategy.

Equity index benchmarks are investable when their performance can be replicated in the market. For example, the FTSE 100 Index is an investable index because its constituent securities can be purchased easily on the London Stock Exchange. In contrast, most investors cannot track hedge fund-of-funds indexes, such as the HFRI series of indexes, because of the difficulty of buying the constituent hedge funds. Another example of a non-investable index is the Value Line Geometric Index, which is a multiplicative average price. The value of the index is obtained by multiplying the prices and taking a root corresponding to the number of stocks. This index is not useful for investing purposes because it cannot be replicated.

Certain features of individual securities make them non-investable as index constituents. Many stock indexes "free-float adjust" their shares outstanding, which means that they count only shares available for trade by the public, excluding those shares that are held by founders, governments, or other companies. When a company's shares that are floated in the market are a small fraction of the total shares outstanding, trading can result in disproportionate effects. Similarly, stocks for which trading volume is a small fraction of the total shares outstanding are likely to have low liquidity and commensurately high trading costs. Many indexes consequently require that stocks have float and average shares traded above a certain percentage of shares outstanding.

Equity index providers include CRSP, FTSE Russell, Morningstar, MSCI, and S&P Dow Jones. These index providers publicize the rules underlying their indexes, communicate changes in the constituent securities, and report performance. For a fee, they may also provide data to investors who want to replicate the underlying basket of securities.

Index providers have taken steps to make their indexes more investable. One key decision concerns when individual stocks will migrate from one index to another. As a stock increases in market capitalization over time, it might move from small-cap to mid-cap to large-cap status (or in the opposite direction if the stock decreases in market capitalization). Some index providers have adopted policies intended to limit stock migration problems and keep trading costs low for investors who replicate indexes. Among these policies are buffering and packeting. **Buffering** involves establishing ranges around breakpoints that define whether a stock belongs in one index or another. As long as stocks remain within the buffer zone, they stay in their current index. For example, the MSCI USA Large Cap Index contains the 300 largest companies in the US equity market. But a company currently in the MSCI USA Mid Cap Index must achieve a rank as the 200th largest stock to move up to the Large Cap Index. Similarly, a large-cap constituent must shrink and be the 451st largest stock to move down to the Mid Cap Index. Size rankings may change almost every day with market price movements, so buffering makes index transitions a more gradual and orderly process.

The effect of buffering is demonstrated with the MSCI USA Large Cap Index during the regularly scheduled May 2016 reconstitution. The MSCI USA Large Cap Index consists of stocks of US-based companies that meet the criterion to be considered for large cap. Further, the MSCI USA Large Cap Index is intended to represent the largest 70% of the market capitalization of the US equity market.

At each rebalance date, MSCI sets a cutoff value for the smallest company in the index and then sets the buffer value at 67% of the cutoff value. During the May 2016 rebalance, the cutoff market capitalization (market cap) of the smallest company in the index was USD15,707 million; so, the buffer value was USD10,524 million, or approximately USD10.5 billion.

Whole Foods Market, a grocery store operating primarily in the United States that was publicly traded before its acquisition by Amazon.com, had experienced a drop in market value from USD15.3 billion in May 2015 to USD10.4 billion in May 2016. The drop in value put the market cap of Whole Foods Market at a lower value than the acceptable buffer. That is, Whole Foods Market was valued at USD10.4 billion, which was below the buffer point of USD10.5 billion. Per the stated rules, Whole Foods Market was removed from the MSCI USA Large Cap Index and was added to the MSCI USA Mid Cap Index.

Packeting involves splitting stock positions into multiple parts. Let us say that a stock is currently in a mid-cap index. If its capitalization increases and breaches the breakpoint between mid-cap and large-cap indexes, a portion of the total holding is transferred to the large-cap index but the rest stays in the mid-cap index. On the next reconstitution date, if the stock value remains large cap and all other qualifications are met, the remainder of the shares are moved out of the mid-cap index and into the large-cap index. A policy of packeting can keep portfolio turnover and trading costs low. The Center for Research in Security Prices (CRSP) uses packeting in the creation of the CRSP family of indexes.

Considerations When Choosing a Benchmark Index

The first consideration when choosing a benchmark index is the desired factor exposures, which is driven by the objectives and constraints in the investor's investment policy statement (IPS). For equity portfolios, the choices to be made include the geographic market segment (broad versus sectors, domestic versus international), size (large, mid, or small market capitalization), style (value, growth, or blend/core), and other constituent characteristics (e.g., high or low momentum, low volatility, and quality) that are considered risk factors. These are the same factors discussed earlier in equity investment universe segmentation.

The choice of geographic market depends on the investor's circumstances. The investor's domicile, risk tolerance, liquidity needs, and legal considerations all influence the decision. For example, the decision will proceed differently for an Indian institutional investor than for a US-based individual investor. In India, while there are 7,000 listed equity securities, the domestic equity universe is less than one-tenth the size of the US equity market by market capitalization, making the Indian investor more likely to invest globally. But a domestic investment does not carry with it the complexities of cross-border transactions.

Market history and empirical studies show that small-cap stocks tend to be riskier and provide a higher long-term return than large-cap stocks, so size is an important consideration. To the extent that a benchmark's return is correlated with this risk factor, the benchmark has exposure to the size factor.

Size classifications range from mega-cap to micro-cap. Classifications are not limited to individual size categories. For example, many indexes seek to provide equity exposure to both small- and mid-cap companies ("smid-cap" indexes). Investors who desire exposure across the capitalization spectrum may use an "all-cap" index. Such indexes do not necessarily contain all stocks in the market; they usually just combine representative stocks from each of the size ranges. Note that a large-cap stock in an emerging market may have the same capitalization as a small-cap stock in a developed country. Accordingly, index providers usually classify company capitalizations in the context of the local market environment.

Equity benchmark selection also involves the investor's preference for exposure on the growth versus value style spectrum. Growth stocks exhibit such characteristics as high price momentum, high P/Es, and high EPS growth. Value stocks, however, may exhibit high dividend yields, low P/Es, and low price-to-book value ratios. Depending on their basic philosophy and market outlook, investors may have a strong preference for growth or value.

Exhibit 10 shows the number of available total-return equity indexes in various classifications available worldwide. Broad market exposure is provided by nearly 79% of all indexes. Developed market indexes are about four times as common as emerging market indexes. The majority of total-return global equity indexes cover the all-cap space or are otherwise focused on large-cap and mid-cap stocks. total-return global equity indexes cover the all-cap space or are otherwise focused on large-cap and mid-cap stocks.

Exhibit 10: Characteristics of Total-Return Global Equity Indexes

Total-return global equity indexes	14,650
Broad market indexes	11,559
Sector indexes	1,171
Not classified	1,920
Of the 14,650 total-return global equity market indexes:	
Developed markets	8,415
Emerging markets	2,210
Developed and emerging markets	4,006
Not classified	194
Of the 14,650 total-return global equity market indexes:	
All-cap stocks	6,806
Large-cap stocks	1,038
Large-cap and mid-cap stocks	5,766
Mid-cap stocks	216
Mid-cap and small-cap stocks	132
Small-cap stocks	682
Not classified	10

Source: Morningstar Direct, October 2021.

Once the investor has settled on the market, capitalization, and style of benchmark, the next step is to explore the method used in constructing and maintaining the benchmark index.

Index Construction Methodologies

Equity index providers differ in their stock inclusion methods, ranging from **exhaustive** to **selective** in their investment universes. Exhaustive stock inclusion strategies are those that select every constituent of a universe, while selective approaches target only those securities with certain characteristics. The FT Wilshire 5000 Index has perhaps the most exhaustive set of constituents in the US market. This market-cap-weighted index includes approximately 5,000 publicly traded stocks from across the market-cap spectrum. In contrast, the S&P 500 Index embodies a selective approach and aims to provide exposure to US large-cap stocks. Its constituent securities are selected using a committee process and are based on both size and broad industry affiliation.

The weighting method used in constructing an index influences its performance. One of the most common weighting methods is market-cap weighting. Each constituent company's weight in the index is calculated as its market capitalization divided by the total market capitalization of all constituents of the index. In the development of the capital asset pricing model, the capitalization-weighted market portfolio is mean–variance efficient, meaning that it offers the highest return for a given level of risk. To the extent a capitalization-weighted equity index is a reasonable proxy for the market portfolio, the tracking portfolio may be close to mean–variance efficient.

A further advantage of the capitalization-weighted approach is that it reflects a strategy's investment capacity. A cap-weighted index can be thought of as a liquidity-weighted index because the largest-cap stocks tend to have the highest liquidity and the greatest capacity to handle investor flows at a manageable cost. Many investor portfolios tend to be biased toward large-cap stocks and use benchmarks that reflect that bias.

The most common form of market-cap weighting is free-float weighting, which adjusts each constituent's shares outstanding for closely held shares that are not generally available to the investing public. The process to determine the free-float-adjusted shares outstanding relies on publicly available information to determine the holders of the shares and whether those shares would be available for purchase in the marketplace. One reason to adjust a company's share count is that strategic holdings by governments, affiliated companies, founders, and employees are seldom traded. Another less common reason is to account for limitations on foreign ownership of a company; these limitations typically represent rules that are generally set up by a governmental entity through regulation.

Adjusting a company's shares outstanding for float can be a complex task and often requires an index provider to work with the issuer's shareholder services unit or to rely on analytical judgements. Although all data used in determining a company's free-float-adjusted shares outstanding are public information, the various index providers often report a different number of float-adjusted shares outstanding for the same security based on methodological differences.

In a *price-weighted* index, the weight of each stock is its price per share divided by the sum of all share prices in the index. A price-weighted index can be interpreted as a portfolio that consists of one share of each constituent company. Although some price-weighted indexes, such as the Dow Jones Industrial Average and the Nikkei 225, have high visibility as indicators of day-to-day market movements, price-weighted investment approaches are not commonly used by portfolio managers. A stock split for any constituent of the index complicates the index calculation. The weight in the index of the stock that split decreases, and the index divisor decreases as well. With its divisor changed, the index ceases to be a simple average of the constituent stocks'

prices. For price-weighted indexes, the assumption that the same number of shares is held in each component stock is a shortcoming, because very few market participants invest in that way.

Equally weighted indexes produce the least-concentrated portfolios. Such indexes have constituent weights of $1/n$, where n represents the number of stocks in the index. Equal weighting of stocks in an index can be considered a naive strategy because it does not show preference toward any single stock, but the reduction of single-stock concentration risk and slowly changing sector exposures make equal weighting attractive to many investors.

As noted by Zeng and Luo (2013), broad market equally weighted indexes are factor indifferent and the weighting randomizes factor mispricing. Equal weighting also produces higher volatility than cap weighting, one reason being that it imparts a small-cap bias to the portfolio. Equal weights deviate from market weights most dramatically for large-cap indexes, which contain mega-cap stocks. Constrained market-cap ranges, such as those of mid-cap indexes, even if market weighted, tend to have relatively uniform weights.

Equally weighted indexes require regular rebalancing because immediately after trading in the constituent stocks begins, the weights are no longer equal. Most index providers use a regular reweighting schedule. Standard & Poor's offers the S&P 500 Index in an equally weighted format and rebalances the index to equal weights once each quarter. Therein would appear to lie a misleading aspect of equally weighted indexes: For a 91-day quarter, the index is not equally weighted (albeit, modestly so) for 90/91 = 99% of the time.

Another drawback of equal weighting is its limited investment capacity. The smallest-cap constituents of an equally weighted index may have low liquidity, which means that investors cannot purchase a large number of shares without causing price changes. Zeng and Luo (2013) addressed this issue by assuming that 10% of shares in the cap-weighted S&P 100 and S&P 500 and 5% of shares in the cap-weighted S&P 400 and S&P 600 indexes are currently held in cap-weighted indexing strategies without any appreciable liquidity problems. They then focused on the smallest-cap constituent of each index as of December 2012, and they determined the value that 10% (5%) of its market capitalization represents. Finally, they multiplied this amount by the number of stocks in the index to estimate the total investment capacity for tracking each of the S&P equally weighted equity indexes. Zeng and Luo's estimates are shown in Exhibit 11.

Exhibit 11: Estimated Investment Capacity of Equally Weighted (EW) Equity Indexes

Index	Capitalization Category	Estimated Capacity
S&P 100 EW	Mega-cap	USD176 billion
S&P 500 EW	Large-cap	USD82 billion
S&P 400 EW	Mid-cap	USD8 billion
S&P 600 EW	Small-cap	USD2 billion

Source: Zeng and Luo (2013).

Qin and Singal (2015) showed that equally weighted portfolios have a natural advantage over cap-weighted portfolios. To the extent that any of the constituent stocks are mispriced, equally weighted portfolios will experience return superiority as the stock prices move up or down toward their correct intrinsic value. Because of the aforementioned need to rebalance back to equal weights, Qin and Singal found that the

advantage largely vanishes when taxes and transaction costs are considered. However, based on their results, tax-exempt investors could experience superior returns from equal weighting.

Other non-cap-weighted indexes are weighted based on such attributes as a company's or stock's fundamental characteristics (e.g., sales, income, or dividends). Discussed in more detail later, fundamental weighting delinks a constituent stock's portfolio weight from its market value. The philosophy behind fundamental weighting is that although stock prices may become over- or undervalued, the market price will eventually converge to a level implied by the fundamental attributes.

Market-cap-weighted indexes and fundamentally weighted indexes share attractive characteristics, including low cost, rule-based construction, transparency, and investability. Their philosophies, however, are different. Market-cap-weighted portfolios are based on the efficient market hypothesis, while fundamentally weighted indexes look to exploit possible inefficiencies in market pricing.

An important concern in benchmark selection relates to how concentrated the index is. In this case, the concept of the effective number of stocks, which is an indication of portfolio concentration, can provide important information. An index that has a high degree of stock concentration or a low effective number of stocks may be relatively undiversified. Woerheide and Persson (1993) showed that the Herfindahl–Hirschman Index (HHI) is a valid measure of stock-concentration risk in a portfolio, and Hannam and Jamet (2017) demonstrated its use by practitioners. The HHI is calculated as the sum of the constituent weightings squared, as shown in Equation 1:

$$\text{HHI} = \sum_{i=1}^{n} w_i^2, \tag{1}$$

where w_i is the weight of stock i in the portfolio.

The HHI can range in value from $1/n$, where n is equal to the number of securities held, to 1.0. An HHI of $1/n$ would signify an equally weighted portfolio, and a value of 1.0 would signify portfolio concentration in a single security.

Using the HHI, one can estimate the effective (or equivalent) number of stocks, held in equal weights, that would mimic the concentration level of the chosen index. The effective number of stocks for a portfolio is calculated as the reciprocal of the HHI, as shown in Equation 2:

$$\text{Effective number of stocks} = \frac{1}{\sum_{i=1}^{n} w_i^2} = 1/\text{HHI}. \tag{2}$$

Malevergne, Santa-Clara, and Sornette (2009) demonstrated that cap-weighted indexes have a surprisingly low effective number of stocks. Consider the NASDAQ 100, a US-based market-cap-weighted index consisting of 100 stocks. If the index were weighted uniformly, each stock's weight would be 0.01 (1%). In May 2017, the constituent weights ranged from 0.123 for Apple, Inc., to 0.0016 for Liberty Global plc—a ratio of 77:1. Weights for the top five stocks totaled almost 0.38 (38%), a significant allocation to those securities. Across all stocks in the index, the median weight was 0.0039 (that is, 0.39%). The effective number of stocks can be estimated by squaring the weights for the stocks, summing the results, and calculating the reciprocal of that figure. The squared weights for the NASDAQ 100 stocks summed to 0.0404, the reciprocal of which is 1/0.0404 = 24.75, the effective number of stocks. Thus, the 100 stocks in the index had a concentration level that can be thought of as being equivalent to approximately 25 stocks held in equal weights.

EFFECTIVE NUMBER OF STOCKS

1. A market-cap-weighted index contains 50 stocks. The five largest-cap stocks have weights of 0.089, 0.080, 0.065, 0.059, and 0.053. The bottom 45 stocks represent the remaining weight of 0.654, and the sum of the squares of those weights is 0.01405. What are the portfolio's Herfindahl–Hirschman Index and effective number of stocks held?

Solution

The stocks, their weights, and their squared weights are shown in Exhibit 12.

Exhibit 12: Calculations for Effective Number of Stocks

Stock	Weight	Squared Weight
1	0.089	0.00792
2	0.080	0.00640
3	0.065	0.00423
4	0.059	0.00348
5	0.053	0.00281
Stocks 6–50	0.654	Sum of squared weights for Stocks 6–50: 0.01405
Total for Stocks 1–50	1.000	0.03889

The HHI is shown in the final row: 0.03889. The reciprocal of the HHI is 1/0.03889 = 25.71. Thus, the effective number of stocks is approximately 26. The fact that the portfolio weights are far from being a uniform 2% across the 50 stocks makes the effective number of stocks held in equal weights less than 26.

The stock market crises of 2000 and 2007 brought heightened attention to investment strategies that are defensive or volatility reducing. For example, some income-oriented investors are drawn to strategies that weight benchmark constituents based on the dividend yield of each stock. Volatility weighting calculates the volatility of each constituent stock and weights the index based on the inverse of each stock's relative volatility. A related method produces a minimum-variance index using mean–variance optimization.

Exhibit 13 shows the various methods for weighting the constituent securities of broad-based, non-industry-sector, total-return global equity indexes.

Exhibit 13: Equity Index Constituent Weighting Methods

Weighting Method	Number of Indexes
Market-cap, free-float adjusted	11,211
Market-cap weighted	1,362
Multi-factor weighted	442

Weighting Method	Number of Indexes
Equal weighted	715
Dividend weighted	357

Source: Morningstar Direct, October 2021.

Another consideration in how an index is constructed involves its periodic rebalancing and reconstitution schedule. Reconstitution of an index frequently involves the addition and deletion of index constituents, while rebalancing refers to the periodic reweighting of those constituents. Index reconstitution and rebalancing create turnover. The turnover for developed-market, large-cap indexes that are infrequently reconstituted tends to be low, while benchmarks constructed using stock selection rather than exhaustive inclusion have higher turnover. As seen in Exhibit 14, both rebalancing and reconstitution occur with varied frequency, although the former is slightly more frequent.

Exhibit 14: Index Rebalancing/Reconstitution Frequency for Broad Global Equity Market Total-Return Indexes

Frequency	Rebalancing	Reconstitution
Daily	18	25
Monthly	624	42
Quarterly	9,354	4,389
Semi-annually	1,328	6,235
Annually	2,925	3,102
As needed	147	33

Note: The totals for the Rebalancing and Reconstitution columns differ slightly, as does the index total in Exhibit 14.
Source: Morningstar Direct, October 2021.

The method of reconstitution may produce additional effects. When reconstitution occurs, index-tracking portfolios, mutual funds, and ETFs will want to hold the newly included names and sell the deleted names. The demand created by investors seeking to track an index can push up the stock prices of added companies while depressing the prices of the deleted ones. Research shows that this produces a significant price effect in each case. Depending on the reconstitution method used by index publishers, arbitrageurs may be able to anticipate the changes and front-run the trades that will be made by index-based managers. In some cases, the index rules are written such that the decision to add or remove an index constituent is voted on by a committee maintained by the index provider. Where a committee makes the final decision, the changes become difficult to guess ahead of time. In other cases, investors know the precise method used for reconstitution, so guessing is often successful.

Chen, Noronha, and Singal (2004) found that constituent changes for indexes that reconstitute using subjective criteria are often more difficult for arbitrageurs to predict than indexes that use objective criteria. Even indexes that use objective criteria for reconstitution often announce the changes several weeks before they are implemented. Stocks near the breakpoint between small-cap and large-cap indexes are especially vulnerable to reconstitution-induced price changes. The smallest-cap stocks in the Russell 1000 large-cap index have a low weight in that cap-weighted index. After any of those stocks are demoted to the Russell 2000 small-cap index, they are likely to have some of the highest weights. Petajisto (2010) showed that the process of

moving in that direction tends to be associated with increases in stock prices, while movements into the large-cap index tend to have negative effects. He also concluded that transparency in reconstitution is a virtue rather than a drawback.

A final consideration is investability. As stated earlier, an effective benchmark must be investable in that its constituent stocks are available for timely purchase in a liquid trading environment. Indexes that represent the performance of a market segment that is not available for direct ownership by investors must be replicated through derivative strategies, which, for reasons explained later in the curriculum, may be sub-optimal for many investors.

SUMMARY

- Equities can play several roles in an overall portfolio, including providing such benefits as capital appreciation, dividend income, diversification with other asset classes, and a potential hedge against inflation.
- The inclusion of equities in a portfolio can be driven by a client's goals or needs. Portfolio managers often consider the following investment objectives and constraints when deciding to include equities (or asset classes in general, for that matter) in a client's portfolio: *risk objective*, *return objective*, *liquidity requirement*, *time horizon*, *tax concerns*, *legal and regulatory factors*, and *unique circumstances*.
- Investors often segment the equity universe according to (1) size and style, (2) geography, and (3) economic activity.
- Sources of equity portfolio income include dividends, securities lending fees and interest, dividend capture, covered calls, and cash-covered puts (or cash-secured puts).
- Sources of equity portfolio costs include management fees, performance fees, administration fees, marketing/distribution fees, and trading costs.
- Shareholder engagement is the process whereby companies engage with their shareholders. The process typically includes voting on corporate matters at general meetings and other forms of communication, such as quarterly investor calls or in-person meetings.
- Shareholder engagement can provide benefits for both shareholders and companies. From a company's perspective, shareholder engagement can assist in developing a more effective corporate governance culture. In turn, shareholder engagement may lead to better company performance to the benefit of shareholders (as well as other stakeholders).
- Disadvantages of shareholder engagement include costs and time involved, pressure on a company to meet near-term share price or earnings targets, possible selective disclosure of information, and potential conflicts of interest.
- Activist investors (or activists) specialize in taking stakes in companies and creating change to generate a gain on the investment.
- The participation of shareholders in general meetings, also known as general assemblies, and the exercise of their voting rights are among the most influential tools available for shareholder engagement.

- The choice of using active or index-based management is not an "either/or" (binary) decision. Investors may decide to position their portfolios across the active management spectrum based on their confidence in outperforming, client preference, suitable benchmarks, client-specific mandates, risks/costs of active management, and taxes.
- Many active equity portfolio managers are unsuccessful at beating benchmarks and have charged high management fees. Consequently, index-based strategies have increased in popularity.
- Selection of a benchmark is driven by the equity investor's objectives and constraints as presented in the investment policy statement. The benchmark index must be rule-based, transparent, and investable. Specific important characteristics include the domestic or foreign market covered, the market capitalization of the constituent stocks, where the index falls in the value–growth spectrum, and other risk factors.
- The equity benchmark index weighting scheme is another important consideration for investors. Weighting methods include market-cap weighting, price weighting, equal weighting, and fundamental weighting. Market-cap weighting has several advantages, including the fact that weights adjust automatically.
- Index rebalancing and reconstitution policies are important features. Rebalancing involves adjusting the portfolio's constituent weights after price changes, mergers, or other corporate events have caused those weights to deviate from the benchmark index. Reconstitution involves deleting names that are no longer in the index and adding names that have been approved as new index members.

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PRACTICE PROBLEMS

The following information relates to questions 1-8

Three years ago, the Albright Investment Management Company (Albright) added four new funds—the Barboa Fund, the Caribou Fund, the DoGood Fund, and the Elmer Fund—to its existing fund offering. Albright's new funds are described in Exhibit 1.

Exhibit 1: Albright Investment Management Company New Funds

Fund	Fund Description
Barboa Fund	Invests solely in the equity of companies in oil production and transportation industries in many countries.
Caribou Fund	Uses an aggressive strategy focusing on relatively new, fast-growing companies in emerging industries.
DoGood Fund	Investment universe includes all US companies and sectors that have favorable environmental, social, and governance (ESG) ratings and specifically excludes companies with products or services related to aerospace and defense.
Elmer Fund	Investments selected to track the S&P 500 Index. Minimizes trading based on the assumption that markets are efficient.

Hans Smith, an Albright portfolio manager, makes the following notes after examining these funds:

Note 1 The fee on the Caribou Fund is a 15% share of any capital appreciation above a 7% threshold and the use of a high-water mark.

Note 2 The DoGood Fund invests in Fleeker Corporation stock, which is highly rated in the ESG space, and Fleeker's pension fund has a significant investment in the DoGood Fund. This dynamic has the potential for a conflict of interest on the part of Fleeker Corporation but not for the DoGood Fund.

Note 3 The DoGood Fund's portfolio manager has written policies stating that the fund does not engage in shareholder activism. Therefore, the DoGood Fund may be a free rider on the activism by these shareholders.

Note 4 Of the four funds, the Elmer Fund is most likely to appeal to investors who want to minimize fees and believe that the market is efficient.

Note 5 Adding investment-grade bonds to the Elmer Fund will decrease the portfolio's short-term risk.

Smith discusses means of enhancing income for the three funds with the junior analyst, Kolton Frey, including engaging in securities lending or writing covered calls. Frey tells Smith the following:

Statement 1 Securities lending would increase income through reinvestment of the cash collateral but would require the fund to miss out on dividend income from the lent securities.

Statement 2 Writing covered calls would generate income, but doing so would limit the upside share price appreciation for the underlying shares.

1. The Barboa Fund can be *best* described as a fund segmented by:
   - **A.** size/style.
   - **B.** geography.
   - **C.** economic activity.

2. The Caribou Fund is *most likely* classified as a:
   - **A.** large-cap value fund.
   - **B.** small-cap value fund.
   - **C.** small-cap growth fund.

3. The DoGood Fund's approach to the aerospace and defense industry is *best* described as:
   - **A.** positive screening.
   - **B.** negative screening.
   - **C.** thematic investing.

4. The Elmer fund's management strategy is:
   - **A.** active.
   - **B.** index.
   - **C.** blended.

5. Based on Note 1, the fee on the Caribou Fund is *best* described as a:
   - **A.** performance fee.
   - **B.** management fee.
   - **C.** administrative fee.

6. Which of the following notes about the DoGood Fund is correct?
   - **A.** Only Note 2
   - **B.** Only Note 3
   - **C.** Both Note 2 and Note 3

7. Which of the notes regarding the Elmer Fund is correct?
   - **A.** Only Note 4

B. Only Note 5

C. Both Note 4 and Note 5

8. Which of Frey's statements about securities lending and covered call writing is correct?

A. Only Statement 1

B. Only Statement 2

C. Both Statement 1 and Statement 2

The following information relates to questions 9-11

Evan Winthrop, a senior officer of a US-based corporation, meets with Rebecca Tong, a portfolio manager at Cobalt Wealth Management. Winthrop recently moved his investments to Cobalt in response to his previous manager's relative underperformance and high expenses.

Winthrop resides in Canada and plans to retire there. His annual salary covers his current spending needs, and his vested defined benefit pension plan is sufficient to meet retirement income goals. Winthrop desires exposure to global equity markets with a focus on low management costs and minimal tracking error to any index benchmarks. The fixed-income portion of the portfolio may consist of laddered maturities with a home-country bias.

Tong proposes using an index-based equity strategy and reviews the most important requirements for an appropriate benchmark. With regard to investable indexes, Tong tells Winthrop the following:

Statement 1	A free-float adjustment to a market-capitalization-weighted index lowers its liquidity.
Statement 2	An index provider that incorporates a buffering policy makes the index more investable.

Winthrop asks Tong to select a benchmark for the equity allocation that holds all sectors of the Canadian equity market and to focus the portfolio on highly liquid, well-known companies. In addition, Winthrop specifies that any stock purchased should have a relatively low beta, a high dividend yield, a low P/E, and a low price-to-book ratio (P/B).

9. Which of Tong's statements regarding equity index benchmarks is correct?

A. Only Statement 1

B. Only Statement 2

C. Both Statement 1 and Statement 2

10. To satisfy Winthrop's benchmark and security selection specifications, the equity index benchmark Tong selects should be:

A. small capitalization with a core tilt.

B. large capitalization with a value tilt.

C. mid-capitalization with a growth tilt.

11. What is a problem with Winthrop's benchmark preference?

A. The geographic limitation to Canadian equities

B. The exclusion of fixed-income securities given Winthrop's significant exposure

C. The inclusion of all sectors

SOLUTIONS

1. C is correct. The Barboa Fund invests solely in the equity of companies in the oil production and transportation industries in many countries. The fund's description is consistent with the production-oriented approach, which groups companies that manufacture similar products or use similar inputs in their manufacturing processes.

   A is incorrect because the fund description does not mention the firms' size or style (i.e., value, growth, or blend). Size is typically measured by market capitalization and often categorized as large cap, mid-cap, or small cap. Style is typically classified as value, growth, or a blend of value and growth. In addition, style is often determined through a "scoring" system that incorporates multiple metrics or ratios, such as price-to-book ratios, price-to-earnings ratios, earnings growth, dividend yield, and book value growth. These metrics are then typically "scored" individually for each company, assigned certain weights, and then aggregated.

   B is incorrect because the fund is invested in many countries, which indicates that the fund is not segmented by geography. Segmentation by geography is typically based on the stage of countries' macroeconomic development and wealth. Common geographic categories are developed markets, emerging markets, and frontier markets.

2. C is correct because the fund focuses on new companies that are generally classified as small firms, and the fund has a style classified as aggressive. A widely used approach to segment the equity universe incorporates two factors: size and style. Size is typically measured by market capitalization and often categorized as large cap, mid-cap, or small cap. Style is typically classified as value, growth, or a blend of value and growth.

3. B is correct. The DoGood fund excludes companies based on specified activities (e.g., aerospace and defense), which is a process of negative screening. Negative, or exclusionary, screening refers to the practice of excluding certain sectors or companies that deviate from accepted standards in such areas as human rights or environmental concerns.

   A is incorrect because positive screening attempts to identify companies or sectors that score most favorably regarding ESG-related risks and/or opportunities. The restrictions on investing indicate that a negative screen is established.

   C is incorrect because thematic investing focuses on investing in companies in a specific sector or following a specific theme, such as energy efficiency or climate change. The DoGood Fund's investment universe includes all companies and sectors that have favorable ESG ratings (no specific sectors or screens) but with specific exclusions.

4. B is correct. The fund is managed under the assumption that the market is efficient, and investments are selected to mimic an index. Compared with active strategies, index strategies generally have lower turnover and generate a higher percentage of long-term gains. An index fund that replicates its benchmark can have minimal rebalancing.

5. A is correct. Performance fees serve as an incentive for portfolio managers to achieve or outperform return objectives, to the benefit of both the manager and investors. Several performance fee structures exist, although performance fees tend to be "upward only"; that is, fees are earned by the manager when performance objectives are met, but fund investors are not reimbursed when performance is negative. Performance fees could be reduced, however, following a

period of poor performance. Fee calculations also reflect high-water marks. As described in Note 1, the fee for the Caribou Fund is a 15% share of any capital appreciation above a 7% threshold, with the use of a high-water mark, and is therefore a performance fee.

B is incorrect because management fees include direct costs of research (such as remuneration and expenses for investment analysts and portfolio managers) and the direct costs of portfolio management (e.g., software, trade processing costs, and compliance). Management fees are typically determined as a percentage of the funds under management.

C is incorrect because administrative fees include the processing of corporate actions, such as rights issues and optional stock dividends; the measurement of performance and risk of a portfolio; and voting at company meetings. Generally, these functions are provided by an investment management firm itself and are included as part of the management fee.

6. B is correct because the fund becomes a free rider if it allows other shareholders to engage in actions that benefit the fund, and therefore Note 3 is correct. Investors benefit from the shareholder engagement of others under the so-called free-rider problem. Specifically, assume that a portfolio manager using an active strategy actively engages with a company to improve its operations and was successful in increasing the company's stock price. The manager's actions in this case improved the value of his portfolio and also benefited other investors that own the same stock in their portfolios. Those investors that did not participate in shareholder engagement benefit from improved performance but without the costs necessary for engagement.

   Note 2 is incorrect because a conflict of interest arises on the part of the DoGood Fund if it owns shares of a company that invests in the fund. Conflicts of interest can result for a company. For example, a portfolio manager could engage with a company that also happens to be an investor in the manager's portfolio. In such a situation, a portfolio manager may be unduly influenced to support the company's management so as not to jeopardize the company's investment mandate with the portfolio manager.

7. A is correct. For index-based portfolios, management fees are typically low because of lower direct costs of research and portfolio management relative to actively managed portfolios. Therefore, Note 4 is correct.

   Note 5 is incorrect because the predictability of correlations is uncertain.

8. B is correct. Writing covered calls also generates additional income for an equity portfolio, but doing so limits the upside from share price appreciation of the underlying shares. Therefore, Statement 2 is correct.

   A is incorrect because dividends on loaned stock are "manufactured" by the stock borrower for the stock lender; that is, the stock borrower ensures that the stock lender is compensated for any dividends that the lender would have received had the stock not been loaned. Therefore, Statement 1 is incorrect. Frey is incorrect in stating that the funds would miss out on dividend income on lent securities.

9. B is correct. The three requirements for an index to become the basis for an equity investment strategy are that the index be (a) rule based, (b) transparent, and (c) investable. Buffering makes index benchmarks more investable (Statement 2) by making index transitions a more gradual and orderly process.

   A is incorrect because basing the index weight of an individual security solely on the total number of shares outstanding without using a free-float adjustment may make the index less investable. If a stock market cap excludes shares held by founders, governments, or other companies, then the remaining shares more ac-

curately reflect the stock's true liquidity. Thus a free-float adjustment (Statement 1) to a market index more accurately reflects its actual liquidity (it does not lower its liquidity). Many indexes require that individual stocks have float and average shares traded above a certain percentage of shares outstanding.

10. B is correct. To address Winthrop's concerns (sector diversification, liquidity, risk, dividend yield, P/E, and P/B), the benchmark should consist of large-capitalization stocks with a value tilt. A large-capitalization index contains the largest-cap stocks, which tend to have the highest liquidity. Value stocks tend to exhibit high dividend yields and low P/E and P/B ratios.

    A is incorrect because small-capitalization stocks tend to be riskier than large-capitalization stocks. Winthrop has a preference for low-beta (low-risk) stocks.

    C is incorrect because a growth index will not address Winthrop's preference for a low P/E. Growth stocks exhibit such characteristics as high price momentum, high P/Es, and high EPS growth.

11. A is correct. Winthrop desires exposure to global equity markets, so the equity benchmark should be global as well—for example, the MSCI All Country World Index.

    B is incorrect because Winthrop was stating a preference for the benchmark for his equity allocation. Including fixed income would be inappropriate.

    C is incorrect because including all sectors is appropriate because his investment strategy includes all sectors.