CFA Institute

PORTFOLIO CONSTRUCTION

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CONTENTS

How to Use the CFA Program Curriculum

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OTHER FEEDBACK

Please send any comments or suggestions to info@cfainstitute.org, and we will review your feedback thoughtfully.

Portfolio Construction

LEARNING MODULE

1

Overview of Equity Portfolio Management

by James Clunie, PhD, CFA, and James Alan Finnegan, CAIA, RMA, CFA.

James Clunie, PhD, CFA, is at Jupiter Asset Management (United Kingdom). James Alan Finnegan, CAIA, RMA, CFA (USA).

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

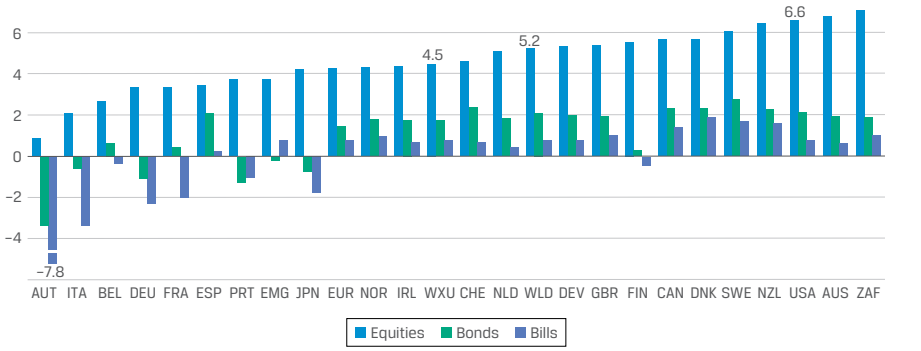
☐ describe the roles of equities in the overall portfolio

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.

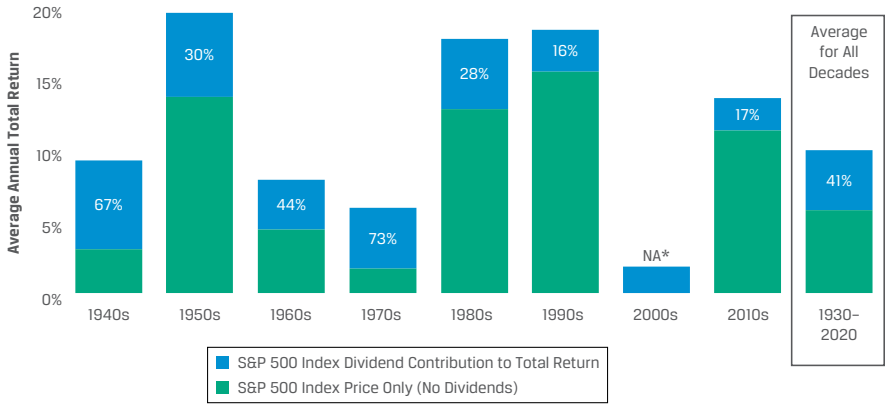
Equities tend to outperform other asset classes during periods of strong economic growth, and they tend to underperform other asset classes during weaker economic periods. Capital (or price) appreciation of equities often occurs when investing in companies with growth in earnings, cash flows, and/or 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