

— THE — REINVESTMENT HANDBOOK

GREEN ENDOWMENTS INITIATIVE



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INTRODUCTION: WHY DIVEST FROM THE FILTHY 15?

"IF THEIR COLLEGE'S ENDOWMENT PORTFOLIO HAS FOSSIL-FUEL STOCK, THEN THEIR EDUCATIONS ARE BEING SUBSIDIZED BY INVESTMENTS THAT GUARANTEE THEY WON'T HAVE MUCH OF A PLANET ON WHICH TO MAKE USE OF THEIR DEGREE." – Bill McKibben, Rolling Stone¹

Universities – through their investment decisions as well as their course offerings – participate in creating the world into which their graduates enter. Universities can either financially support a world that preserves and stewards the health and well being of their alums, or they can teach students about the environment, social responsibility, healthy consumer products and human rights while supporting companies that profit from the antithesis of each of these things.

We have identified the “Filthy 15” – the ten dirtiest United States (US) utilities and the 5 least responsible coal mining companies – as companies that a university concerned with the future of its graduates would not want to support.

There are both social and financial reasons for divesting from the “Filthy 15.”

The following presents the rationale for divesting from coal-related industries and information about alternative investment strategies. Although there are programs calling for divesting from all fossil fuel investments, this document is focused on coal-fired utilities and mining companies because coal used for the generation of electricity is responsible for approximately 20% of global greenhouse gas emissions and electricity production accounts for 34% of the US’ greenhouse

gas emissions.² Therefore, by divesting from coal-based holdings, universities will be targeting the single largest contributor to climate change.

SOCIAL RISKS FROM COAL

There is a direct link between pollution from coal-fired electricity generating plants and human health. In 2010, coal plants were responsible for 13,200 deaths, 20,400 heart attacks, 217,600 asthma attacks, and 9,700 hospitalizations in the US.³ Many coal-fired power plants are located near low-income communities, placing the greatest health burden on the people who can least afford it. The cost for coal-related medical services is estimated at \$100 billion annually.⁴ In China, the sulfur dioxide produced in coal combustion contributes to 400,000 premature deaths each year.⁵

Coal mining causes irreparable damage to land, water, and air and poses risks to the health, safety, and vitality of local communities. Throughout the mining process, coal miners are exposed to dust and particle pollution that can cause black lung and other respiratory problems. The conditions at many mines are unsafe, placing miners at risk of injury and/or deadly explosions like the one that occurred at Massey Energy’s Upper Big Branch mine, which killed 29 miners.⁶

The coal industry represents the second-largest source of airborne hazards to human health, after tobacco, investments from which many foundation, endowment, and pension funds have already turned away due to tobacco’s cost in human lives.

Coal-fired utilities and coal mining companies have increased their efforts to stop regulating the emissions, waste, and safety standards of their industries. According to OpenSecrets.org, in 2011 electric utilities spent more than \$145 million on lobbying.⁷ This spending was led by Southern Company, the fourth-largest utility in the US, with lobbying expenditures

of over 12.7 million.⁸ Coal mining companies spent more than \$18 million in 2011 led by Peabody Energy, which spent over \$6.9 million. The National Mining Association spent over \$4.7 million in 2011, up from \$3.9 million in 2010.⁹

With the coal-based industries buying Congress in an attempt to create the least-regulated playing field – one in which they are not responsible for the health impacts or environmental externalities of their business practices – universities can send a clear message that they want clean air, clean water, and clean bills of health by divesting from the industry's worst offenders.

FINANCIAL RISKS FROM COAL

The financial risks of investing in coal mining and coal-fired utilities are significant and increasing.

The risks are:

1. Increasing capital costs for environmental controls at existing coal plants and uncertainty about future regulatory compliance costs;
2. Declining prices for natural gas, a driver of electric power prices in competitive markets;
3. Upward price pressures and price volatility of coal due to diminished reserves and increasing production costs;
4. High construction costs for new coal plants and unknown costs to implement carbon capture and storage;
5. Increasing competitiveness of renewable generation resources.

These risks are exacerbated for mining companies by electricity generators purchasing less coal and for electric utilities by the cost of coal-fired generation becoming less and less economical in comparison to other generation sources and increased energy efficiency. These trends have dramatically altered the context within which electric utilities do business and plan for reliable delivery of electricity to their customers.

UNBURNABLE CARBON RISK

One additional risk that is not yet significantly represented in traditional market sector analyses may indeed be one of the most important. In 2011, the *Carbon Tracker Initiative* published a compelling report explaining that it is impossible to safely burn all of the fossil fuel reserves currently listed on the stock exchanges without breaching the 2 °C rise in global temperatures that climate scientists agree cannot be exceeded.¹⁰ The report notes that only 20% of the total reserves can be burned unabated, leaving up to 80% of assets technically unburnable. If a company is only able to sell or use 1/5 of its reserves, then the balance of these currently-valued assets would be effectively worthless and the company (and its stock) highly over-valued.

As investment dollars continue to flow into companies whose chief business is reliant upon the assumption that the reserves they are stockpiling will be consumed, we are leading our economies down an unsustainable path. After the credit and financial crisis of 2008, it is imperative that investors be more attuned to the catastrophic effects of mispriced risks in the financial markets.



DIVESTMENT

Universities can divest from ownership of the most egregious of the coal-fired utilities and mining companies. Divestment can be a powerful tool for addressing issues that have a significant impact on society.

Divestment is selling an asset, in this case an ownership (equity, stock) or debt (bond) position in a company. Numerous universities and pension funds divested from tobacco stocks because smoking has a negative impact on human health. The Tobacco Divestment Project drew “public and media attention to the destructive nature of the cigarette industry.”¹¹ More notably, divestment was a powerful tool in ending apartheid in South Africa.



In the 1980s, students witnessed the atrocities happening in South Africa. Responding to the apartheid system that disenfranchised people of color, students participated in a mass democratic movement that called for worldwide governments to impose economic sanctions on South Africa. The US, which was deeply tied to South Africa, refused. In response, students realized that they could take matters into their own hands and pressure their universities to divest. Through the power of student activism, one university after another divested from South Africa. The country became a moral pariah; owning stock in businesses that benefited from apartheid became morally unacceptable. The apartheid system began to unravel and was ultimately dismantled.

The primary lesson from South Africa is that external pressure from stakeholders was needed to move investment managers to examine the moral and social impacts of their investments and the related risks.

The Coal Divestment campaign is a moral intervention into the market. The campaign challenges the social license of companies involved in coal mining and coal burning, and by extension, the social legitimacy of investing in those companies. Through the coal divestment campaign, university officials will recognize that it is no longer acceptable to profit from an industry that is destroying the future for its students and will expose the financial community to the notion that coal is not only a moral pariah but also facing unprecedented financial risk. By demanding that universities end their investments in coal, students can expose the networks of money that reinforce the continued reliance on dirty energy sources, stigmatize the coal industry, influence the broader financial community that coal is a liability to their portfolio and reputation, and empower a movement of students in support of responsible energy investing to fund a clean energy future.

By leveraging the power of university endowments, students will spearhead a movement within the financial community to consider the significant financial, environmental, and health risks of coal as financiers make critical decisions about their investments in energy.

**WHERE ENDOWMENTS ARE CONCERNED,
IT'S TIME FOR UNIVERSITIES TO
PRACTICE WHAT THEY TEACH.**

The goal of these campaigns is to divest all university endowment funds out of the 15 filthiest utilities, coal operators, and mining companies in the U.S.

ENDOWMENTS

WHY TARGET THE ENDOWMENT FOR DIVESTMENT?

The endowment is where the university's investments are held. University endowments control more than \$400 billion in combined assets. They, therefore, have tremendous potential to catalyze a transition from coal to clean energy – if the students mobilize and put pressure on endowment trustees. As such, if students want to have a say in which companies their school is invested, they need to speak with the managers of the endowment – the trustees and investment committee.

UNDERSTANDING UNIVERSITY ENDOWMENTS

An endowment is a fund that finances a portion of the operating costs of a university while also ensuring that there are funds invested that will generate cash into the future. The funds in an endowment are, most often, donated to the university by alumnae and other supporters of the work and specialized research that the university does. At institutions with large endowments, the cash that endowments earn contributes significant resources to the university's operating budgets.

Endowments are often invested in both publicly traded financial instruments (stocks, bonds, etc.) and private investments (see the Appendix Finance 101 of this document for a description of investment categories). The investments earn money (grow) and generate income (cash) that is used to pay faculty, pay the electric bill, invest in new buildings and facilities, and other activities.

WHO MAKES DECISIONS REGARDING THE ENDOWMENT?

The way endowment funds are managed varies from school to school. Most often, the board of trustees makes the decisions for the financial interests of the university and its endowment. In some cases, the university sets up a foundation to manage its funds, while in others the university has an investment committee that is responsible for the management of the endowment. In either case, consultants are hired

who lay out the financial strategy for the endowment and identify investment managers to execute that strategy. The investment managers are the ones who make the actual buy/sell decisions, but to do so they follow a guideline created by the consultants and approved by the foundation and/or the board of trustees.

LACK OF TRANSPARENCY

A challenge for students trying to get their universities to divest from the “Filthy 15” is the lack of transparency regarding endowments. Universities often disclose how their endowments are invested by sharing what percentage of the endowment is in different asset classes (stocks, bonds, REITs, etc.), but do not disclose the individual holdings in each class – the names of the companies whose stocks or bonds the university holds.

Some investment managers require that the university not disclose its holdings to students or the public, claiming that could have a negative impact on the profitability of the endowment. The impacts of this are debatable.

There are efforts to increase transparency of university endowments, and, as a result, many universities have adopted policies including those stating that the endowment can not be invested by firms in which members of the board of trustees have a personal/ financial interest – but this transparency does not trickle down to the individual companies held in each asset class.

As such, students may not know exactly what their university owns when they begin to ask, or even throughout the entire process of asking, that the university divests from the “Filthy 15.”



SUSTAINABLE INVESTMENT

WHAT IS SUSTAINABLE INVESTMENT?

Sustainable or socially responsible investment refers to an investment approach that involves “the full integration of environmental, social and governance (ESG) factors into investment analysis and decision-making.” Such considerations are “premised on the financial materiality of ESG factors.”¹²

The “financial materiality” of ESG means that analysis of a company or investment incorporates the costs, attendant financial risks, and savings of how a company uses its resources (e.g. releases to water, carbon emissions, etc.), manages its human capital (e.g. labor rights and supply chain management), and executes on its governance principles (e.g. equitable compensation incentives for management that is tied to company performance, independent directors, etc.). Sustainable investors evaluate the quantitative consequences of these activities. How a firm is able to adapt and manage these issues is crucial when determining a company’s ability to create long-term value for investors. Ultimately, sustainable/ESG investing is about identifying risks, particularly in areas that until now were considered immaterial to business activities.

Sustainable investing utilizes screening, shareholder advocacy, and community investment to ensure that portfolios meet investors’ criteria for different social and environmental issues.

- Screening is the process of evaluating portfolios or funds based on selected social, environmental, and governance (ESG) criteria. A portfolio can incorporate “negative screens” where a class of companies or practices are eliminated from a portfolio or “positive screens” that seek out investments in particular areas (e.g.: clean energy).
- Shareholder advocacy is a strategy where investors who own shares of a company engage in dialogue with company executives on ESG issues. At times, the investors may also file resolutions on these issues

that often “go to a vote” where all shareholders of the company can vote either by proxy or at the annual general meeting (AGM) on how management should act on these topics.

- Community investment redirects capital to communities underserved by traditional financial services institutions. It provides access to credit, equity, capital, and basic banking products to communities that otherwise lack such services.

Practitioners of this investment approach include institutional asset managers like mutual funds, sovereign wealth funds, foundations and endowments, pension funds and, increasingly, high net worth individuals advised by investment advisors. Socially responsible investing has grown significantly in recent years – from \$639 billion in 1995 to \$3.07 trillion in 2010.¹³ This increase of 380% took place at the time that the broader investment universe increased assets under management by 260%.¹⁴

PERFORMANCE

Well-managed ESG investments, funds, and portfolios have been shown to be comparable or to outperform their various indices. Yet debate continues as to whether ESG investing actually can deliver added value, or “alpha,” over time. For anyone who is paying close attention to trends in ESG investing, the idea that it requires investors to sacrifice returns is an anachronism of a bygone era.

The Domini Social Index (DSI) is the oldest US stock index with inclusion based on social criteria. It contains companies selected exclusively on ESG factors and has demonstrated that ESG can create added value by outperforming the S&P 500. Since its inception in 1990, the DSI, currently known as the MSCI KLD Social 400 Index, has outperformed the S&P 500 on an actual and risk adjusted basis for 20 years.

MSCI AND S&P PERFORMANCE APRIL 1990 THROUGH MAY 2012



Source: MSCI; Style Advisor - Zephyr¹⁵

Some screened funds are outperforming their non-screened peers. An illustrative example is from Dana Investment Advisors. Over the past twelve years, its SRI fund has outperformed both its Large Cap Equity fund and the S&P 500.

DANA LARGE CAP EQUITY VS. DANA LC SOCIALLY RESPONSIBLE EQUITY

TIME PERIOD: 4/1/2000 TO 3/31/2012					
	Return	Std Dev	Alpha	Beta	R2
Dana Socially Responsible Equity	6.40	17.15	4.77	0.88	89.25
Dana Large Cap Equity	5.12	17.12	3.53	0.90	93.76
S&P 500 Index	1.36	18.45	0.00	1.00	100.00

Source: Dana Investment Advisors. Dana Socially Responsible Equity March 2012

In 2010, a study published in the Journal of Investing found that “socially responsible” companies will have a longer “life,” or – in other words – have a lower risk of bankruptcy.¹⁶ In the same study, the authors also concluded that a market capitalization weighted portfolio of stocks in sustainable corporations produce both higher returns and lower risk than the S&P 500.¹⁷

A joint study conducted by RLP Capital, Inc. and Trucost PLC compared the carbon footprints, performance and risk characteristics of the eight largest traditional equity mutual funds and the eight largest responsible equity mutual funds. The report clearly identifies carbon intensive industries as a significant financial risk. The study found that all eight Responsible funds outperformed their Median Peer Group over a one-year period. Seven of eight outperformed their Median Peer Group over a three-year period, while five of eight outperformed over a five-year period. Also, the Responsible funds analyzed were on average 40% less carbon intensive than the Traditional funds.¹⁸

ESG INVESTING STRATEGIES

There are three primary ESG investment strategies:

1. to only purchase companies that fit a prescribed values-based guideline (e.g.: no companies whose business includes coal, no companies that profit from tobacco, no companies that profit from alcohol, etc.)
2. to hold companies regardless of their industry or social performance in order to engage in shareholder advocacy to improve company performance
3. to hold companies that, regardless of their industry or social performance, are “best in class” or “best in sector”

1. The most straightforward way to invest along ESG criteria is to only hold companies that excel in their ESG performance and to omit companies that either don’t perform well on an indicator (e.g.: poor labor rights) or entire industries that profit from a practice

that the investor wishes to avoid (e.g.: nuclear weapons). This avoidance of industries and practices considered “undesirable” is called “negative screens.” An investment strategy can also utilize “positive screens” that seeks out investments in particular industries (e.g.: renewable energy).

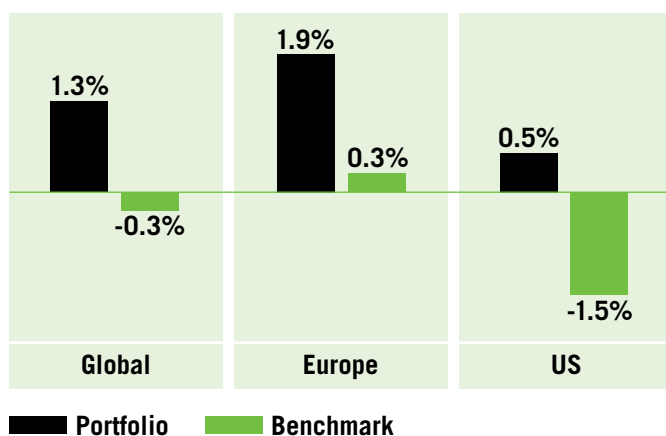
2. Another way to incorporate ESG performance while not limiting the universe of companies in which you invest is to engage in shareholder advocacy. In this strategy, an investor holds shares of stock in a company that engages in practices that the investor wishes to change or improve. The investor can file a shareholder resolution with the company, asking management to explore changing its policies and practices on the issue of concern (e.g.: reducing greenhouse gas impacts). The resolution can be put to a vote at the company’s annual general meeting (AGM) and, in many instances the company takes action and improves its performance.

3. The “Best in Class” or “Best in Sector” approach to ESG portfolio construction is open to investment in companies of all industries (strategy #1 precludes an industry as a whole) and selects leaders within a given sector. For example, a portfolio may hold coal-related companies, but only those that are more responsible in their corporate practices than their industry/sector peers. A company with a poor environmental track record would be excluded, but other companies that have coal-related investments could be in the fund or portfolio. For example, an engineering/manufacturing company that develops clean coal technology could fall into this category (even though most environmentalists do not support “clean coal” technologies on the basis that there is no such thing).

A best in class strategy is a way for an investor to be invested in the complete universe of sector options, but not support the most egregious actors in each industry. Best in class has proven to be a successful investment strategy. A study by RCM Capital Management found

that portfolios consisting of companies that scored Best-in-Class on ESG metrics outperformed the benchmark in all regions. The Global portfolio outperformed its benchmark by 1.6%, Europe outperformed its benchmark by 1.6%, and the US Best-in-Class portfolio outperformed its benchmark by 2%.¹⁹

BEST-IN-CLASS PORTFOLIO



Source: RCM, December 2005 to September 2010

DIVESTING FROM COAL: POTENTIAL IMPACTS TO PORTFOLIO PERFORMANCE

Eliminating coal-related companies does not mean that there will be a negative impact on portfolio performance. For example, KOL is an exchange-traded fund that replicates the performance of the Stowe Coal IndexSM that includes companies that derive greater than 50% of their revenues from the coal industry. For the past three years, the index returns have been negative as seen in the chart below.²⁰

1 MONTH	-4.13%
3 MONTHS	-29.35%
1 YEAR	-54.67%
3 YEARS*	-4.82%
5 YEARS*	NA

*Annualized Returns

Eliminating coal-related companies from a portfolio while retaining or outperforming current returns, can be achieved in several ways using different strategies. Some investment managers do just that - sell all coal-related holdings (strategy #1 above). Others employ the “best in class” style discussed in the previous section.

For endowments that hold stocks directly, fund managers can decide to divest from coal-related holdings (mining companies, utilities, railroads that transport coal, etc.) or engage in shareholder advocacy with those companies in order to reduce reliance on coal. There are many SRI firms that engage with coal-related industries, so the endowment could co-file shareholder resolutions with these firms and thus reduce the amount of work to be done in the dialogues while still using their shares to influence corporate practice. A university would only be able to divest from coal-related holdings in its mutual funds or index funds by selling its shares in the fund itself.²¹

REINVESTMENT – THE POST-COAL PORTFOLIO

Ultimately, responsible investment need not cost investors money. As sampled in this toolkit, studies on responsible investment and performance show that ESG strategies can outperform benchmarks and conventional active funds, but it is important to remember that responsible investment strategies vary widely and specialist expertise is often crucial to their success.²²

There are many, and a growing number of, funds in all asset classes that do not have coal-related holdings or have implemented low-carbon or best-in-class screens. US SIF, “The Forum for Sustainable and Responsible Investment,” has detailed information on SRI funds on its website, as well as a directory-by-state of SRI financial advisors.²³



Following is a sample listing of sustainable fund families. This list does not serve as investment recommendations, but an introduction to the different types of funds in different asset classes.

- Ariel Investments
- Calvert Investments
- Community Capital Management
- Domini Investments
- Forward Funds
- Parnassus Investments
- Pax World
- Trillium Asset Management
- Walden Asset Management

A university endowment that – to paraphrase Bill McKibben – is working to protect the future for which you are being educated is a smart thing on all counts, but in addition to the obvious “pros” some take issue with the additional fees applied to funds that have screens. In the end, the decision to protect our world, not just for future generations, but now for our own may be seen to outweigh the cost of a few basis points.



APPENDIX A: THE FILTHY 15

The “Filthy 15” are the largest, dirtiest coal-fired utilities and coal mining companies in the US. The Filthy 15 are jeopardizing public health, damaging the environment, and placing an unfair burden on

low-income and minority communities, and they are becoming an increasingly risky investment.

WHO ARE THE FILTHY 15?

COAL-FIRED UTILITIES



1) American Electric Power: AEP burns more coal than any other utility.



2) Duke: Duke was the #1 killer responsible for 1,248 deaths last year.



3) Southern: Southern is the fourth largest carbon polluter in the world.



4) FirstEnergy: After a merger with Allegheny they doubled their coal capacity.



5) Mid-American: They own PacifiCorp one of the dirtiest energy providers on the West Coast.



6) Ameren: The average age of Ameren's plants reaches 50 years old.



7) PPL: PPL Doled out \$25 million to neighbors of its Colstrip plant after its coal ash ponds contaminated groundwater.



8) GenOn: GenOn has one of the dirtiest fleets of coal plants in the nation.



9) Dominion: They're embroiled in legal battles over misuse of coal ash in public areas.



10) Edison International: Edison is the worst environmental justice violator in the country.

MINING COMPANIES



11) Peabody: Peabody is the world's biggest private-sector coal company.



12) Arch: They're the second largest coal producer in the U.S.



13) Patriot: Patriot is the second largest practitioner of mountaintop removal mining.



14) Alpha: Alpha bought Massey and has 9 environmental violations per day.



15) CONSOL Energy: CONSOL is the operator of 7 of the 20 U.S. mines with the most safety citations.



HOW WERE THEY SELECTED?

Coal-Fired Utilities

The utilities on the Filthy 15 list were selected based on the following criteria:

- the amount of coal burned
- the amount of pollution emitted from coal-fired plants
- amount of coal ash waste produced and how it is handled
- environmental health and safety violations
- legal issues
- aggregated health impacts
- egregious environmental justice issues
- influence peddling via political donations

Coal Mining Companies

The mining companies on the Filthy 15 list were selected based on the following criteria:

- overall tons of coal mined
- method of extraction
- environment and safety regulation violations
- influence peddling via political donations

By owning shares of or debt issues for these companies, a university is aligning its endowment against the future health, wellness, and financial prosperity of its students and alums. These companies face significant financial risks from their reliance on coal that are already having a negative impact on profitability and the health impacts of coal mining and combustion remove any social legitimacy from investments in these companies.



APPENDIX B: FINANCE 101

Universities can invest their endowments in many types of financial assets. **Financial assets** are claims to income generated by real assets or the government. **Real assets** generate income – e.g. a company that makes and sells products and produces profits, or real estate that collects rents and generates profits – and based on the income and perception of the value of the real asset (company, property, etc.) investors make money on their financial assets.

What does a university want from financial assets?

- To provide income (cash) in the present
- To provide income in the future
- Growth (more value in its assets from which the university can derive income at a later date)

Depending on the investment goals (to have cash now or later) and the university's willingness to take on risk, there are numerous vehicles and ways in which the university can invest its money in financial markets.

A **financial market** is a very broad term that describes any marketplace where buyers and sellers engage in the trading of financial assets such as **equities** (stocks), **bonds**, **derivatives**, and **currencies**. Financial markets have basic forms of regulation on trading, fees, and costs. Outside market influences will determine the prices of the **securities** (stocks, bonds, and the right to ownership/options). Financial markets can be found in almost every nation in the world and vary in size. The largest exchange is the New York Stock Exchange (NYSE).

The **stock market** is where shares (stock) of companies are traded. The stock market can also be known as the **equity market** and it is one of the most vital areas of an economy. It provides companies the ability to access capital (money) via investors who in return receive an ownership position in the company. The potential for **capital gains** (income from trading) is based on the company's future growth and performance. All investments on any financial market carry some degree of **risk**.

For each investment considered, there is a trade-off between risk and **returns**. Returns on a security are often a function of the level of risk involved in the investment. Think of it like horse racing – if you put \$100 on a horse that is sure to win and it wins, you will make a little money, maybe \$5 on your bet. If you put \$100 on a horse that is expected to come in last place and the horse wins, you could make \$100,000 on your bet. The second bet was much riskier and it yielded a better return. Investments in the market are similar – more risky investments can yield higher returns (and steeper losses).



PORTFOLIO

A **portfolio** is a group of investments. Portfolios are constructed by balancing the risk and returns of different asset classes in order to achieve the investor's investment goals via **asset allocation** – the percentage of the portfolio allocated to individual asset classes. **Asset classes** are groups of securities that behave similarly and are subject to the same laws and regulations. Stocks, bonds, cash, commodities, and real estate are each examples of asset classes. There are also investment vehicles that are based on combinations of these (mutual funds) and on derivative securities (returns are dependent on the price of other assets including currency, debt, interest rates, etc.). A well-designed portfolio will be diversified to balance the risks inherent in each individual asset in order to achieve continuous growth over a specified time horizon.

EQUITY MARKETS

Equities are shares (stock) in a corporation that represent an ownership interest in that corporation. There are two types of stock, common and preferred.

- **Common Stock:** Corporations issue stock to raise new capital to finance the operations and ventures of the company. Owning common stock enables the investor to also vote on matters of corporate governance that are put to a vote at the company's annual general meeting (AGM). Stocks can be bought on stock exchanges.
- **Preferred stock:** Preferred stock does not come with the voting rights of common stock. It promises to pay its holder a fixed amount of income each year (like a bond) but it is an equity investment. The payments are called **dividend payments**, and they are paid at the company's discretion. Preferred stock holders will receive payment prior to common stockholders if a company is to be liquidated (all assets sold). If a company does not have enough earnings to pay dividends to both preferred and common stock holders, preferred holders take precedence.

BOND MARKETS

Bonds or **fixed-income securities** are **debt** instruments issued by companies and governments (city, state, and federal) to raise money. As debt, the bondholder does not own a position in the company, but instead has loaned the bond issuer money that will be repaid. The issuer sells bonds at a specified interest rate to be repurchased after a specified interval of time in order to raise money. Bonds are considered to be a low risk investment vehicle that can reduce the overall risk of a portfolio while providing a steady source of income via interest payments to the bondholder. There are several types of bonds.

- **Treasury notes and treasury bonds:** used by the US government to borrow funds. Notes or bonds are issued (investors pay less for the note or bond than the face-value of the note or bond) and the investor receives semiannual interest payments (coupon payments because in the old days you would literally bring in a coupon to get your interest payment). In the last 5 years of life, treasury bonds can be repurchased at par (face) value.
- **Municipal bonds:** bonds issued by state or local governments. They are tax exempt (investors pay neither federal nor state taxes on interest earned). Because there is no tax impact, municipal bonds have lower yields than corporate bonds. The lower yields save the governments from paying the yield, which is more than they would be making back in taxes on the difference.
- **Corporate bonds:** are issued by corporations in order to borrow money directly from the public. They usually pay semiannual coupons and, when the bond matures, the investor receives the face value of the bond. They are similar in structure to treasury bonds, but are significantly more risky because the company could default.
- **Mortgage-backed securities:** are either an ownership in a pool of mortgages or an obligation that is secured by a pool of mortgages.

MONEY MARKET

The money market trades in cash assets.

- **Treasury bills:** issued by the government in order to raise money. The bills are purchased at a discount from the maturity value of the bill. When the bill matures, the purchaser receives the face-value of the bill. For example, a \$100 treasury bill could be purchased for \$90. When the bill matures, the purchaser receives \$100. Treasury bills are a low-risk investment vehicle because the expectation is that the government will not default.
- **Certificate of deposit (CD):** a time-limited deposit with a bank. An investor must leave the funds in the bank for the specified period of time. When the time has expired, the bank pays interest and principal to the depositor.
- **Commercial paper:** unsecured debt issued by a large company. Companies thus raise money through the issuance of commercial paper versus borrowing from a bank. This is a low-risk asset because they are short term (usually one or two months, always less than 270 days) and the firm's performance can be monitored over that short period and companies often have a line of credit to pay off the paper at maturity if necessary.
- **Repurchase agreements (repos or RPs):** a government security is sold on an overnight basis with the agreement to buy back the security the next day. The price the next day includes the overnight interest. It is like a one-day loan with the security as collateral.

DERIVATIVE MARKETS

The value of derivatives is dependent upon the values of other assets. It is a contract relating to the transfer of the asset at a specified date, not the asset itself.

- **Options:** “call” options give the holder the option to purchase an asset for a specified price on or before a specified date. A “put” option gives the holder the option to sell an asset for a specified price on or before a specified date.

- **Futures:** require the delivery of an asset (or its cash value) at a specified date for an agreed upon price to be paid upon maturity.

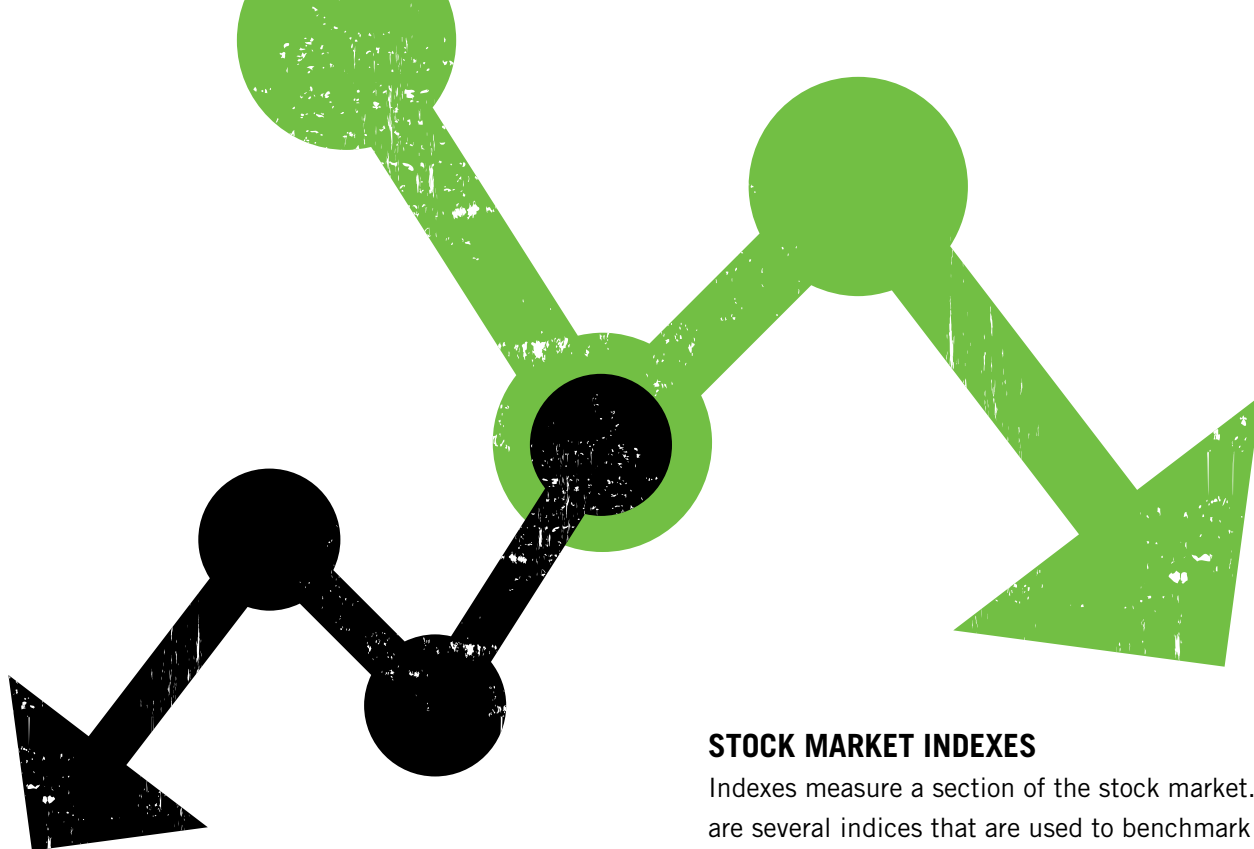
FOREIGN EXCHANGE MARKET

Currencies are bought, sold, exchanged, and speculated upon in the foreign exchange market (Forex). Each transaction requires a purchase and sale of different currencies simultaneously, because the value of a currency is determined by its ratio to another currency (e.g.: Euro:US Dollar is approximately 1:1.3). Unlike other markets (e.g.: NYSE, London Stock Exchange), the foreign exchange market is not a single exchange. Instead, trading takes place “over-the-counter” on a computerized network of banks, central banks, investment firms, companies, and foreign exchange brokers. It is open 24 hours/day, 5 days/week. The foreign exchange market is the largest (in terms of cash value traded) and most efficient market in the world.

- **Currencies:** currency is the generally accepted form of money in a country or region. Currencies have different values in relation to each other, and those values are constantly shifting due to trading in the foreign exchange market.

OTHER INVESTMENT VEHICLES

- **Mutual Funds:** a pool of funds collected from many investors. Mutual funds allow investors to obtain the financial returns of a broader spectrum of equities, bonds, and or money market instruments, than if the investor were to invest in individual stocks, bonds, etc. The investor owns a share of the mutual fund, not the underlying securities. An **index fund** is a mutual fund that matches the components of a market index (e.g: S&P 500). Owners of shares of mutual funds do not have a say in what securities are in the fund, but they can see the types of securities that have been held by the fund and use that information to decide in which mutual fund to invest.



- **REIT (Real Estate Investment Trust):** similar to a mutual fund but it is invested in real estate (versus stocks and bonds). REITS typically have a high dividend payout.
- **Private equity:** investments that are made directly into a company (not through an exchange).
- **ETF (Exchange-Traded Fund):** an investment fund (like a mutual fund) that tracks an index but is traded like a stock.
- **Hedge funds:** a portfolio of investments that uses advanced strategies (leveraging, derivatives, etc.) to generate high returns. They are like mutual funds in that the money is pooled, but the fund has much more flexibility in its investing strategies than does a mutual fund. Hedge funds are often unregulated. They often hold speculative investments and can be very risky.
- **Commodities:** a basic good in commerce that is interchangeable with other goods of the same type (e.g.: cotton, gold, silver, orange juice). Commodities are often traded as futures – a contract to buy or sell a specified commodity for a specified price on a designated date in the future.

STOCK MARKET INDEXES

Indexes measure a section of the stock market. There are several indices that are used to benchmark either how the market as a whole is doing, or individual portfolio performance. Often portfolio performance is measured against an appropriate index (e.g.: a US index for US stocks). For example, if the portfolio returns 10% and the appropriate index returns 8%, the portfolio is outperforming its benchmark index.

- **Dow Jones Industrial Average:** a tool by which the public can measure the overall performance of the stock market. It is the average of 30 blue-chip US stocks each of which represents a sector of the economy. The Dow Jones Industrial Average is a price-weighted average (the amount of money invested in relation to the share price of the company).
- **Standard & Poor's Composite 500 (S&P 500):** a market-weighted index of 500 firms (based on the market-value of the companies in the index) where the change in market value of those 500 firms determines the rate of return of the index. This is considered the most broad-based market index.
- **Other indexes include:** Russell 1000 (1000 largest companies in the US market); MSCI KLD 400 Social Index (market-cap weighted index of 400 companies that pass specified social/environmental/governance screens); and FTSE4Good (index of companies that meet corporate responsibility standards).

APPENDIX C: GREEN REVOLVING LOAN FUNDS

Another way that universities have been “greening” their endowment is to use funds to “green” the university itself. This effort has been called “Green Revolving Funds” (GRF). Funds are used for on-campus investment that reduces environmental impact and operating costs via energy and energy efficiency upgrades and waste programs. When a university implements an energy

efficiency program, it immediately uses less electricity and thereby reduces its reliance on coal. These funds’ report a median annual return on investment (ROI) of 32%.²⁴ One example of an endowment being used to fund a GRF is California Institute of Technology’s Caltech Energy Conservation Investment Program.²⁵

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14 Social Investment Forum Foundation, 2010 Report on Socially Responsible Investing Trends in the United States, <http://ussif.org/resources/research/documents/2010TrendsES.pdf> p 8

15 Average annual return: an historical number indicating the percentage that a mutual fund returned averaged over a number of years (usually 3, 5, or 10), this is distinct from an annual return which is the percentage return over one year;

standard deviation: a measurement of the historical volatility of an investment. A higher standard deviation (std dev) indicates a more volatile investment – so it would yield higher “highs” and lower “lows”; Beta vs S&P: beta indicates systemic risk – the security or portfolio in comparison to the market as a whole (represented by the S&P 500). A beta of 1 means the price of the security will move with the market (S&P), less than 1 is less volatile than the market and greater than 1 means the security is more volatile than the market; Alpha (%): is the percent by which a stock or fund outperforms (or underperforms if the percentage is negative) its benchmark index; Sharpe: the Sharpe Ratio indicates if a security or portfolio’s return is a function of smart investing or the investor taking on excess risk. A higher ratio indicates it performs better (smart investing) on a risk-adjusted basis; R-squared: the percentage of a security or fund’s performance that can be explained by the performance of the benchmark index. An R-squared of 100 means that changes in a security’s returns are 100% explained by changes in the benchmark index. R-squared below 70 indicate the returns are relatively independent from the benchmark index.

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19 “Sustainability: opportunity or opportunity cost? Applying ESG factors to a portfolio does not negatively impact performance and may enhance it.” RCM White Paper July 2011. <http://www.rcm.com/london/pdf/RCMSustainabilityWhitePaper2011.pdf> The “worst-in-class” (on ESG factors) portfolios returned lower than their benchmarks in every region. The Global Worst-in-Class portfolio underperformed its benchmark by 0.5%, the European Worst-in-Class portfolio underperformed by 2.5%, and the U.S. Worst-in-Class portfolio underperformed its benchmark by 0.3%.

20 <http://investing.money.msn.com/investments/etf-list/?symbol=KOL> data through 29 June 2012. Accessed on 27 July 2012

21 If you know the name of a mutual fund in your university’s portfolio, you can use Calvert Investment’s “Know What You Own” tool at <http://www.calvert.com/kwoy.html> and test the fund against different ESG criteria.

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THE REINVESTMENT HANDBOOK

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