BOON INVESTMENTS

Investment framework for diversified portfolio construction

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Executive Summary. Boon offers an automated investment service that enables anyone in the world to access state-of-the-art portfolio management.

The goal of this paper is to provide a comprehensive overview of Boon's investment process. Historically, the nuances of portfolio management have been a black box to the retail investor. Boon hopes to correct this trend by detailing exactly how we manage the portfolios of our clients. Boon believes that real portfolio management is meant to be a partnership, and the more our clients know about their portfolios the better we are able to assist them.

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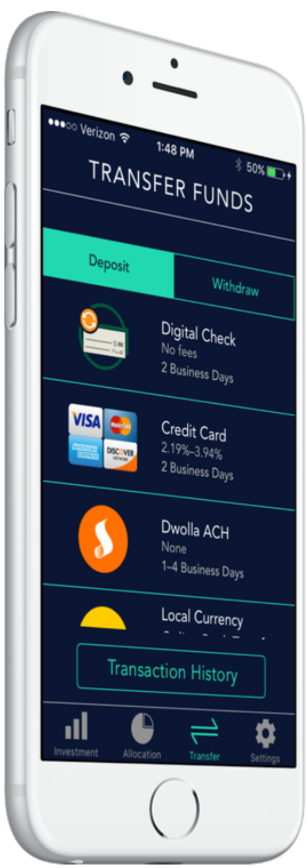
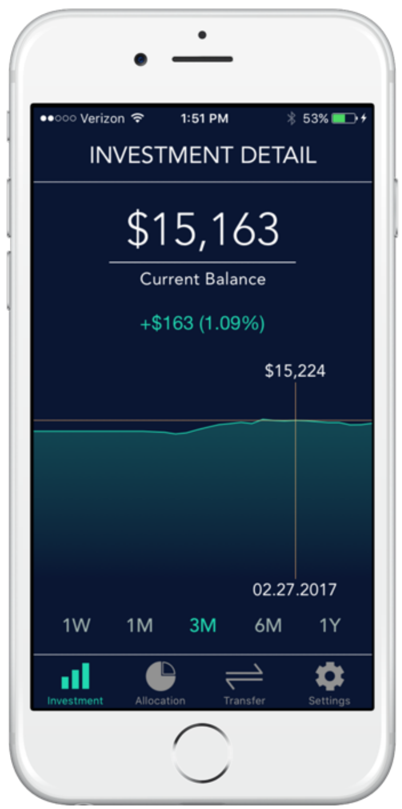
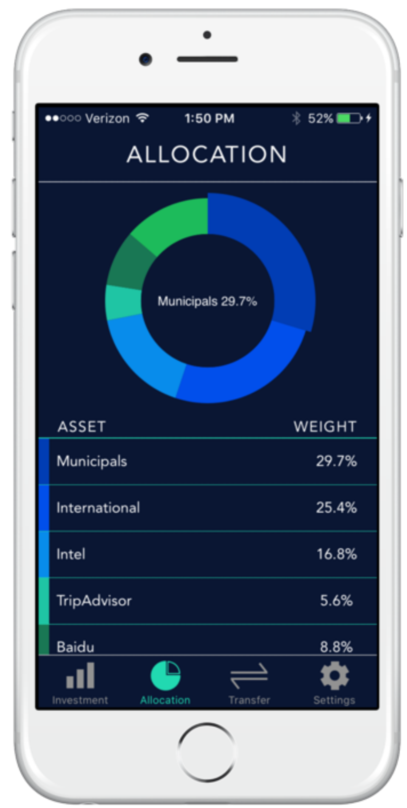
The robo-advisor that connects you to the U.S. financial markets







Introduction

Boon Investments offers clients, both domestic and international, an easy way to make passive, long-term investments in the United States equities and bonds market. When an individual invests in securities, he or she must first determine what securities to buy or sell. This process is often done in consultation with an investment advisor such as Boon.

Boon offers a retail service where an individual, with Boon's assistance, can participate in Boon's automated investment service. This investment service is based on modern portfolio theory, and makes it possible for clients to access state-of-the-art portfolio management. We first seek to identify efficient assets, including both ETFs and individual stocks, which would be appropriate investments for our clients. We then allow our Clients to choose up to ten assets from this curated list for their portfolios. Once the Clients have made their selections, we calculate the Clients' individual risk tolerances. Last, we suggest to the Clients an investment strategy that combines their asset choices in a way which provides efficient returns for their given tolerance for risk.

After the optimal investment strategy for a client is determined, an order is placed with one of Boon's partner broker-dealers[1] to execute the agreed transactions in the securities market. Like traditional investment advisors, Boon places these orders on behalf of its clients.[2] For use of Boon's investment service, Boon charges an annual flat fee of 0.40% per dollar of a client's assets under management (AUM). This fee covers the costs Boon incurs for managing the client's portfolio, but not the expenses related to executing client trades and maintaining custody of client assets. Rather, Boon passes through these fees to our clients and attempts to keep them as low as

Boon charges 0.40% in fees a year

[1] Boon's current partner broker-dealer is DriveWealth, a New Jersey based, SEC registered, FINRA member broker-dealer.

[2] As a part of the User Agreement a client signs, Boon is granted power of attorney over her account.

possible through the process of trade bundling.[1] By aggregating client transactions, Boon is able to decrease client fees to levels significantly lower than broker-dealers typically charge to retail investors.[2] While Boon will attempt to initiate all trade orders in a timely manner, clients should be aware that there may be times, particularly in relation to withdrawals, when Boon decides to withhold execution of orders until significant benefits of scale have been reached. Under these instances, Boon reserves the right to delay trade executions at its discretion.

To interface with clients, Boon primarily relies on an internet-based mobile application. Client investments will be denominated in USD to combat inflation and currency devaluation concerns. For client money transfers, Boon uses third party Money Service Businesses.[3] The minimum deposit to open a Boon client account is $50 USD.

Our clients

Financial vs. Human Capital

In a person's life she accumulates two types of capital: financial capital and human capital. Financial capital takes the form of *tangible assets*, i.e. items that can store value and be traded for other items of value. The most prevalent form of financial capital is, intuitively, money. Other examples of financial capital include Google stock, a pension fund, or

On Human Capital

"Learn, baby, learn, so you can earn, baby, earn" – Martin Luther King, Jr.

[1] Trade bundling is the process by which Boon will aggregate Client orders to minimize transaction costs for all Clients. For complete detail on Boon's brokerage fee structure, please see Appendix A.

[2] Assuming the average Boon client invests in fifty securities spread across ten different assets, they will pay approximately $4.50 to be fully invested. On the other hand, if Boon clients were to open a traditional retail brokerage account which likely charges at least $4.50 per trade in commissions, it would cost them around $45 to be fully invested. For complete detail on Boon's brokerage fee structure, please see Appendix A.

[3] For a full list of Boon's partner MSBs, please see the 'Regulatory Partnerships' section.

one's home.

Human capital, on the other hand, consists of *intangible assets;* it is one's ability to generate earnings both now and in the future from an innate talent. Examples of human capital include abstract skills like critical thinking, but also more practical skills like carpentry and cooking.

The average Millennial

Today, the average millennial has ample human capital. She has a great job and a tireless work ethic. She speaks three different languages and has watched the sun set in over twenty countries. Every day she seeks out new experiences to learn from, and always keeps one eye towards the future.

Unfortunately, the same cannot be said about her financial capital. Because the vast majority of the world's millennial population is born outside the United States, she has very limited investment options for her hard-earned income. Her employer does not have a pension fund and she has developed a great mistrust of her domestic financial markets. When she attempted to deposit her savings with U.S. institutions like Merrill Lynch and Fidelity, they turned her away because she did not qualify.[1] So instead of slowly growing her savings over time like most U.S. citizens do, she is forced to keep them bundled up in a checking account overseas.[2] Over the next twenty years, she will most likely miss out on over 200% of her potential returns.[3]

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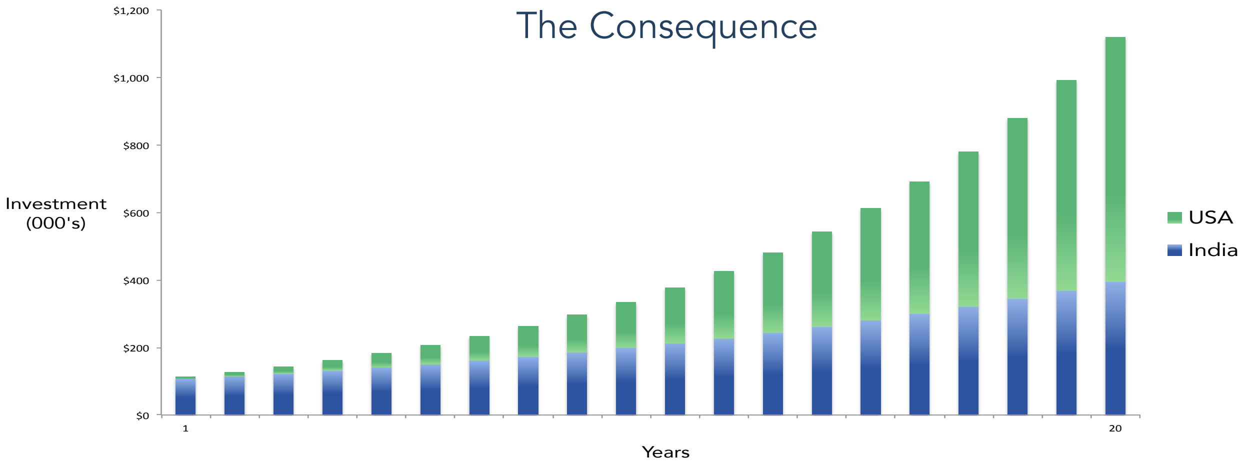
[1] Most U.S. financial institutions have high minimum account requirements. The lowest minimum balance an international investor will find is likely $100,000, with $250,000 - $500,000 being much more common.
[2] While it is true many checking accounts in international markets have high interest rates, these rates counteract the effects of high inflation and depreciation rates.
[3] Returns calculated using the previous twenty years of historical returns for the S&P 500 (USA) and the average Indian checking account (India). Over a long-term investment horizon, the majority of returns result from the compounded annual growth effect, known as CAGR.



*Returns calculated using the previous twenty years of historical returns for the S&P 500 (USA) and the average Indian checking account (India). The returns are not indicative of future performance and do not represent clients' expected returns with Boon Investments.

Enter Boon

Our job at Boon Investments, above all, is to help balance this equation. For an annual management fee of 0.40%, we provide investors exposure to the most well developed financial market in the world: the United States. From trade execution to asset allocation to stock selection, Boon advises investors on all stages of the investment cycle. Through our proprietary investment algorithms, we have created a dynamic solution that helps clients invest efficiently while offering them a level of customization unmatched by traditional robo-advisors. At Boon's core, we provide clients with the low fees, risk management, and automated re-balancing of a traditional robo-advisor, while keeping portfolio control exactly where it should be: with our clients.

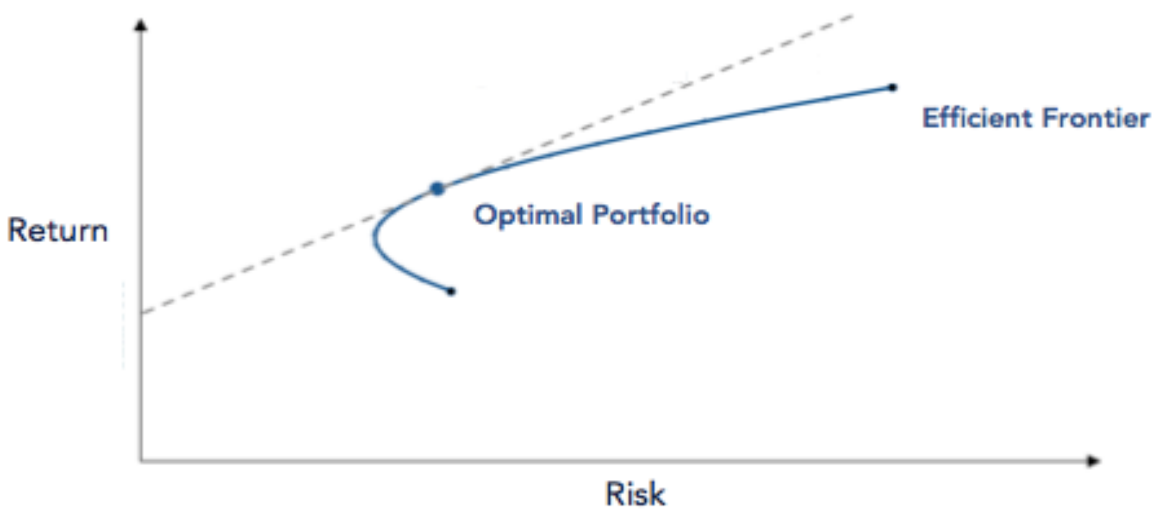
Investment Philosophy

The foundation of Boon's investment philosophy is derived from the teachings of Modern Portfolio Theory (MPT). Introduced in 1952 by Harry Markowitz in his Nobel Prize winning essay "Portfolio Selection" ,[1] MPT is built on the premise

[1] Harry Markowitz is widely considered the father of Modern Portfolio Theory. Almost every new portfolio management strategy created in the last 50 years can in some way be linked to

that the average investor is risk averse, and will only accept additional exposure to risk if she is compensated by additional expected returns. As such, when presented with all the possible portfolio combinations in the investment universe, she will choose to invest in the one that offers the highest returns for the largest amount of risk she is comfortable with. Markowitz expands upon this individual case, and concludes that because there are an infinite number of risk profiles there must also exist an infinite number of optimal portfolios. Markowitz terms this set of portfolios the "Efficient Frontier", and concludes that investors should focus on creating portfolios that exposes them to the level of risk they are comfortable with, rather than the amount of returns they desire. Provided they have diversified their portfolios effectively, investors will earn an appropriate amount of returns.

Markowitz's Efficient Frontier



Asset Selection

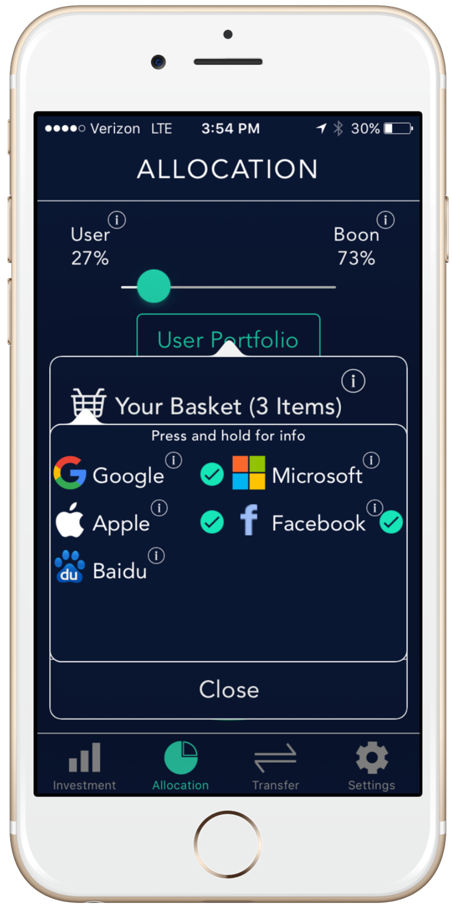
While most robo-advisors employ Modern Portfolio Theory to manage client portfolios, Boon stands out because of the freedom we offer our clients. We pride ourselves in affording our clients an unmatched level of control over their portfolios while still respecting the core tenets of MPT. To accomplish this task,

Markowitz' teachings. Widely known portfolio strategies such as the Black-Litterman Model and the Capital Asset Pricing Model are derivations of MPT.

Boon enables its clients to incorporate blue-chip companies of their choosing into the portfolio optimization model. We call the resulting portfolio of individual stock selections the User Portfolio.

Traditional Methods

For traditional robo-advisors, the process by which a user selects companies to include in their portfolio is very simple: there isn't one. Instead, most constrain their client's portfolio allocation to a static collection of Exchange Traded Funds (ETFs). An ETF is a bundle of stocks offered for a single price. In recent years, ETFs have become incredibly popular investment instruments due to their ability to affordably provide retail exposure to hundreds of stocks. Unlike mutual funds, ETFs can be bought and sold during regular market hours. While some argue this lack of portfolio flexibility is a design oversight, the rationale for doing so is actually grounded in practicality: because a single ETF is comprised of multiple stocks, ETFs by definition have superior diversification benefits relative to stocks. Without a subsequent drop in expected returns, this diversification makes ETFs a more efficient investment vehicle, and an easy choice for the traditional robo-advisor to include in client portfolios.



The User Portfolio selection process

The Boon Method

The advisors at Boon certainly appreciate the above argument for ETF-only portfolios. After all, the initial portfolio Boon recommends to all of its clients is consists of 100% ETFs. However, we also contend that traditional theory is incomplete. Specifically, it does not adequately value what motivates people to invest in the first place. Recently, modern behavioral theory has shown that people obtain happiness not only from the things they have, but the journey they took to obtain those things.[1] When applied to portfolio theory, this suggests that clients derive value from both the returns of their portfolio as well as the role they themselves played in achieving those returns. Unfortunately, because of the lack of control traditional robo-advisors afford their clients, the latter component tends to go ignored.

To mitigate this issue, Boon has taken a more collaborative approach to investment management by enabling our users to include companies of their choice into the optimization model. The process begins by recommending to each client a collection of ETFs to invest in.[2] The client then is presented with baskets of individual securities curated by Boon's advisory team. These baskets are classified by industry, and include companies representative of U.S. culture that Boon clients can be proud to invest in.[3] Every company included in one of Boon's baskets has been screened by Boon's advisory team, and those that have passed Boon's screening are deemed Boon Certified©.[4] The client then may choose to:

1. Include additional securities from the Boon Certified baskets to invest in
2. Substitute Boon's recommended ETFs for individual securities
3. Opt out of specific ETFs Boon has recommended.

Boon Certification

[1] This theory is called the Capability Approach, and was conceived in the 1980s by economist Amartya Sen. As an alternative to traditional utilitarian theory, the Capability Approach contends that a person's happiness is the result of material factors like things and achievements as well as nonmaterial factors like freedom and choice.

2 The ETFs recommended differ from client to client, and is dependent on each client's risk profile.

[3] For example, in the Technology Basket we have included stocks like Apple & Google that are known as leaders in innovation.

[4] While each basket contains Boon Certified companies, every company included in the basket may not be Boon Certified. Boon's primary role is to *advise* our clients, not control them. To limit our clients' selection to only companies we approve of would contradict Boon's core investment philosophy. Therefore, in situations where a significant portion of Boon's clients would like to invest in a specific security, Boon may allow them to do so, even if the security in question is not Boon Certified.

For a company to be considered Boon Certified, it must satisfy one of two sets of criteria. For a Value Company[1], it must meet at least four of the following five requirements:

1. **Debt-to-Capital Ratio under 35%.**[2]
    a. The D/C Ratio is calculated by taking the value of a company's liabilities and dividing it by the company's total combined value of its debt and equity. As a rule of thumb, the less financially leveraged a company is, the less sensitive it will be to financial shocks.
2. **Price-to-Book Ratio lower than industry average.**[3]
    a. The P/B Ratio is calculated by dividing a company's market capitalization[4] by its book value[5]. A low P/B ratio signifies that a company may be undervalued as book value is the most tangible definition of what a company is worth, while market capitalization is simply what people believe it to be worth.
3. **Dividend Yield greater than two-thirds of the interest on the average AAA-rated corporate bond.**[6]
    a. A healthy dividend decreases investment risk by mitigating potential negative returns during market downturns. Additionally, when companies are able to reward shareholders with stable dividends they relay confidence to the public of the company's ability to consistently generate profits in the future.
4. **Earnings growth must be positive over the last 5 years as well as in the most recent year.**[7]

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[1] For the purpose of this paper, non-technical companies include any non-software, non-internet based company as well in the mature phase of its business cycle

[2] According to Peter Lynch, one of the founding fathers of modern value investing, a D/C ratio less than 35% is considered normal.

[3] P/B ratio was perhaps most popularized by Benjamin Graham, famed value investor and mentor to Warren Buffett.

[4] For public companies, market capitalization is calculated by multiplying the company's number of outstanding shares by its share price.

[5] An easy way to understand the concept of book value is it think of how much cash would be paid to shareholders were a company to go bankrupt and its assets liquidated.

[6] Another rule popularized by Peter Lynch. The annual yield AAA-rated corporate bonds as of the publishing of this paper is 3.41%.

[7] For the most recent year, quarter-over-quarter growth is used.

    a. Consistent earnings growth shows resilience to the ebbs and flows of economics cycles. Positive earnings growth in the previous year alleviates concerns that the company is not living off the success of previous years.

5. **Revenue growth must be positive over the last 5 years as well as in the most recent year.**[3]
    a. Not only is revenue one of the most difficult financial metrics for a company to manipulate, but revenue growth belies optimism that the company has not yet reached the mature phase of its business cycle.

For technology companies, we have found it necessary to create a separate set of screening criteria for Boon Certification. Because technology companies derive their value from a larger proportion of intangible assets relative to traditional companies[1], some financial metrics tend to be unreliable indicators of their corporate strength.[2] Take Google for example. As a company known for its innovative business practices that has consistently outperformed the market, Google has historically sustained a high P/B ratio and has never paid a dividend. By most traditional metrics, Google would be considered an irresponsible investment. However, Google stock has consistently been one of the best performers since its public offering. To ensure that good companies like Google are not overlooked by outdated valuation principles, we have developed requirements for companies known for Innovation that place less emphasis on current income and tangible value and rely more on future growth prospects:

1. **Debt-to-Capital Ratio under 35%.**
    a. This D/C ratio is the single criteria that Boon applies to both Value Companies and Innovators, and for good reason: the D/C ratio becomes even more important when a company is going through a significant period of growth, which most innovators are. For growing companies, holding too much debt on the balance sheet

[1] Intangible assets for a company would include its ability to innovate and retain high-quality employees.
[2] This is particularly true for companies with high expectations for future growth incorporated into their valuations.

has the potential to hamstring future growth and grow into significant liquidity problems.

2. **Operating income above industry average.**[1]
    a. Operating income is calculated by subtracting core day-to-day business expenses from total revenue,[2] and is a good indicator of efficient corporate governance. By maintaining a healthy balance sheet, growing companies show they have learned to walk before they run.
3. **PEG Ratio below 1.5.**
    a. The PEG ratio takes the traditional price-to-earnings ratio, and normalizes it for a company's growth expectations.[3] The PEG ratio provides a method to compare companies that have significant growth rates incorporated into their valuations. A PEG ratio less than 1.5 signifies that the company is fairly valued.
4. **Revenue growth must be positive over the last five years, and greater than 7% over the past year.**
    a. Some high growth companies sacrifice earnings for growth. While this may be a sound business decision[4], it unfortunately means that earnings growth is not a reliable indicator of financial health for high-growth companies. As such, we choose to relax that constraint and rely exclusively on revenue growth instead.

Boon's advisors have screened thousands of companies in accordance with the above criteria. The following list of companies satisfy the requirements for Boon Certification

Boon Certified Companies

[1] We use industry average because operating income can vary by industry. For example, a good operating income for the financial services industry would be a very poor operating income for a software company.
[2] Importantly, operating income does not include one-time expenses such as a legal settlement or income from non-core business.
[3] For Boon's calculation of the PEG ratio, we use anticipated earnings for the current year as opposed to last year's earnings.
[4] When the present value of future earnings created through the reinvestment of earnings exceeds the value of the earnings themselves, a company should reinvest.

Value

1. Allstate Corp. (ALL)
2. AMC Entertainment (AMC)
3. Berkshire Hathaway (BRK)
4. Carnival Corp. (CCL)
5. Chipotle Mexican Grill (CMG)
6. Intel Corp. (INTC)
7. Southwest Air (LUV)
8. Sketchers USA (SKX)
9. AT&T, Inc. (T)
10. Toyota Motor Corp. (TM)
11. Walgreens (WBA)
12. Wells Fargo (WFC)
13. Whole Foods Market (WFM)

Innovators

1. Apple, Inc. (AAPL)
2. Baidu, Inc. (BIDU)
3. Facebook, Inc. (FB)
4. Alphabet, Inc. (GOOGL)
5. Alibaba (BABA)
6. Monster Beverage (MNST)
7. Lending Tree (TREE)
8. Trip Advisor (TRIP)

Efficiency Boosts

Providing clients with a level of high autonomy over the construction of their portfolios will always be a core tenet of Boon's investment philosophy. However, providing this level of customization comes with a consequence: it increases our clients' exposure to the idiosyncratic risks of individual company investment. Therefore, to mitigate these risks as much as possible, we recommend to the client a collection of ETFs to invest in alongside their asset selections ("Efficiency Boosts"). While the client may opt out of the Efficiency Boosts, we do not recommend doing so.

Sector Selection

Perhaps the most crucial step in the construction of the Efficiency Boosts is deciding which sector to expose our clients to. For the average investor, this process of sector selection tends to be rather unexciting. Instead of deciding how much of their investment should go to stocks versus bonds, most investors find it more exciting to determine whether Apple will outperform Google in the coming year. Though the former may be a bit dry, macro-level sector allocation has historically been proven to play a much larger role in the determination of portfolio performance than individual stock selection.[1]

At the core of sector selection is the concept of risk. There are two types of risks inherent to financial assets: systematic risk and unsystematic risk. Systemic risk is risk that is common to all securities. No matter how skilled the portfolio manager, systemic risk will always be present when one is invested in the financial markets.[2] For a recent example of systemic risk, consider the 2008 Recession, when in almost all cases, regardless of what an investor's portfolio was comprised of, her returns would have been affected.[3] Unsystematic risk, on the other hand, is risk that is unique to a specific asset. The 2016 oil spill in the Gulf of Mexico is an example of unsystematic risk: it had a large effect on the share price of Shell, but companies not in the oil industry were relatively unaffected. In a perfectly efficient market, unsystematic risk can be diversified away by investing in a large number of assets that are not perfectly correlated.[4]

Ultimately, the goal of sector selection is to reduce the investor's exposure to unsystematic risk as much as possible while only exposing her to the amount of systemic risk she is comfortable with.[5] Because most of Boon's clients reside in countries that are classified as emerging markets, the sectors we have included as Efficiency Boosts were chosen with a clear goal in mind: to be an accurate and complete representation of the developed world's financial markets, with particular emphasis on the U.S. markets. While this emphasis on developed markets is a slight deviation from traditional portfolio management strategies,[6]

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[1] Brinson et. al. concluded that sector selection explained over 90% over time for U.S. pension plans.

[2] Systemic risk is also known as market risk. In statistical applications of MPT, systemic risk is equivalent to the standard deviation of the market portfolio.

[3] There are a few exceptions. For example, a skilled manager could have created a market-neutral portfolio through matching long and short positions in the same stock. However, such high technical strategies are above the purposes of this paper.

[4] The easiest way to visualize this concept is the two-asset portfolio that perfectly inversely correlated (correlation coefficient = -1). In this scenario, the expected return of the portfolio will always be the weighted average of the expected returns of the two assets.

[5] If the markets are operating efficiently, then systemic risk will dictate returns.

[6] For example, most portfolio managers have at least a small amount of exposure to Emerging Markets, a sector that is notably absent from the collection of Efficiency Boosts.

because the demographic Boon serves differs significantly from that of the average investment advisor we believe it prudent for Boon's management style to differ as well. Rather than adhere to a 'one-size-fits-all' investment strategy, Boon tailors each portfolio to complement each client's unique financial circumstances. As such, we have chosen to allocate the Efficiency Boosts across the following investment spectrum:

- U.S. Large-Capitalization Stocks

  Large-cap stocks have market capitalizations of at least $10 billion. They tend to have higher levels of liquidity, be more stable, and pay more consistent dividends relative to their mid and small capitalization counterparts. They are characterized as mature, well-known companies.
- U.S. Mid-Capitalization Stocks

  Mid-cap stocks have market capitalizations of between $2 billion and $10 billion. Relative to large-cap stocks, a much larger percentage of mid-cap stocks are still in the growth phase of their company life cycle, and as such are less likely to pay dividends.
- U.S. Small-Capitalization Stocks

  Small-cap stocks have market capitalizations between $300M and $2 billion. They typically have large expectations for future growth factored into their valuations and are considered relatively volatile investments. They typically do not release dividends, and are considered high-risk, high-reward investments.
- International Developed Market Stocks

  The lone non-U.S. Efficiency Boosts, international developed stocks include securities from developed countries across the world: Germany, Great Britain, France, Japan, etc. While the inclusion of international markets has significant diversification benefits in and of itself, international market exposure also serves a crucial role for Boon's clients: it mitigates the risk of an isolated U.S. economic shock.
- U.S. Treasury Bills

  A treasury bill is a short-term piece of debt (with a time-to-maturity of at most one year) issued by the U.S. government. Because of its high liquidity, short duration, and the fact that the U.S. has never defaulted on its debt, a treasury bill is considered by investors to be 'risk-free'. While this means they earn fairly low interest rates, the true benefit of U.S. treasuries lies in their ability to efficiently decrease portfolio volatility. Because of their status as safe investments, investors will run to treasuries at the first sign of danger[1], which causes them to have very low correlations with the U.S. stock market.

- U.S. Municipal Bonds

  A municipal bond is a piece of debt issued by a state, municipality, or country government to finance public works projects such as the construction of new roads, schools, or bridges. Even though they are exempt from federal taxes, this is of little consequence for most Boon clients because of their status as international investors.[2] More importantly than their tax-exempt status is the fact that municipal bonds are fairly illiquid and have more credit risk, which helps them to yield higher interest rates than U.S. treasury bills. The longer an investor's investment horizon and better their financial situation, the less liquidity concerns should factor into their investment decisions.

- U.S. Investment Grade Corporate Bonds

  Investment grade corporate bonds are pieces of debt issued by corporations that have been rated at least Baa3 by Moody's or BBB- by Standard and Poor's.[3] The higher rated a company's debt is, the less likely the company is to default on that debt. While corporate bonds have a higher correlation with the stock market than other bond sectors, Boon includes corporate bonds in its asset selection to ensure that investors with short-term investment

[1] After the 2008 recession, U.S. treasuries experienced incredible demand from investors who desired to 'de-risk' their portfolios.

[2] In almost all cases, international investors are exempt from U.S. taxation. See "Investor Tax Policy" section for more detail.

[3] Moody's and Standard & Poor's are two of the leading credit ratings agencies in the United States.

horizons still maintain some (indirect) exposure to the U.S. stock market.

- **U.S. Real Estate**

  The U.S. real estate market is a leading indicator of the strength of the U.S. economy. The long durations of most real estate properties, residential mortgages typically have 30-year maturities; income properties can be held in perpetuity, closely match the investment horizons of Boon clients. Due to their relative illiquidity, residential mortgages are also fairly high yielding investments.

ETF Selection

To represent the Efficiency Boost sectors, Boon holds positions in Exchange Traded Funds (ETFs). An ETF is a publicly traded collection of stocks, bonds, or other assets. While some ETFs are created for strategic purposes, most are designed to track an index.[1] ETFs are fairly similar to mutual funds in this regard, but with the added benefit that they can be bought or sold in a similar manner as publicly listed securities. By purchasing ownership in an ETF, investors gain exposure to hundreds of assets for the price of one. In terms of efficiency, it is hard to beat the low costs and liquidity of ETFs.

In order for an ETF to be suitable as an Efficiency Boost, it must satisfy the following criteria:

1. **Passively Managed Investment Strategy**

   Funds can be actively managed, passively managed, or have an enhanced strategy (essentially a combination of the two). Because Boon is looking for ETFs that track indexes, rather than ETFs that are looking to return alpha[2], we only invest in funds that identify as being passively managed.
2. **Low Tracking Error**

[1] One of the most widely known ETFs is the Vanguard S&P 500 ETF, which is almost a perfect representation of the S&P 500.

[2] Alpha is the returns achieved in excess of the returns on the market portfolio, and is usually the result of a unique management strategy. Relative to an ETF, alpha is the expected return earned above the return of the fund's benchmark.

Tracking error is the difference between the return on an ETF and the benchmark it is supposed to track. Importantly, a Boon ETF must properly track the index it was created to mirror.

3. **Low Net Expense Ratio**

   A fund's net expense ratio is calculated by dividing its operating expense by its total assets under management. Essentially, the net expense ratio measures what it costs to manage the fund. Research has shown that for long time horizons, the lower a fund's administrative expenses, the greater it will return relative to its peers.[1]

4. **High Daily Trading Volume**

   The more actively a fund trades, the easier it will be to liquidate clients of their positions when needed. Additionally, high trading volume is typically representative of low bid-ask spreads.[2] Bid-ask spreads are an indirect form of transaction fees, and as such it's in our client's best interest to keep these as low as possible.

5. **Offered by one of our partner broker-dealers**

   In order for Boon to be able to execute trades on a client's behalf, the ETF must be offered by one of our brokerage partners.[3] Otherwise, we legally cannot invest in the ETF.

Boon ETFs

Boon's advisors screened over 1,500 ETFs for the above investment criteria. We update our screening criteria quarterly to ensure that our clients are provided with the most efficient ETFs for their portfolios. After close examination, our advisors have chosen the below eight ETFs to represent the Efficiency Boosta.

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[1] This finding makes intuitive sense. The less money the administrators of a fund take out of the fund to pay for bonuses, high profile office space, etc., the greater effect compounded interest will have on total returns.

[2] A bid-ask spread is the difference between what a buyer bids on an asset and what the seller asks for. This spread is set by market makers and is indicative of the risk they bear for holding the asset on its books. Typically, the higher the trading volume, the less time a market maker needs to hold onto the asset, and the lower the bid-ask spread.

[3] For a complete list of stocks and bonds offered by Boon's primary broker-dealer, DriveWealth, please visit: http://help.drivewealth.com/customer/portal/articles/1946229-drivewealth-s-product-list.

Each of these ETFs is in the top percentile of its asset class for tracking errors, expense ratios, and liquidity.[1]

- Vanguard S&P 500 ETF (VOO)

  Asset Class: U.S. Large Capitalization Stocks

  Expense Ratio: 0.05%

  Tracking Error: 0.04

  Summary: Investment goal is to track the return of the S&P 500 Index. The composition of the ETF industry by industry matches almost exactly to that of the S&P 500. Its top three holdings are Apple Inc., Alphabet Inc., and Microsoft Corp.

- Vanguard Mid-Cap ETF (VO)

  Asset Class: U.S. Mid-Capitalization Stocks

  Expense Ratio: 0.08%.

  Tracking Error: 0.03

  Summary: Investment goal is to track the return of the CRSP U.S. Mid Cap Index.[2] The largest represented industries in both the index and the ETF are Financials, Industrials, and Consumer Goods.

- iShares[3] Russell 2000 ETF (IWM)

  Asset Class: U.S. Small-Capitalization Stocks

  Expense Ratio: 0.20%.

  Tracking Error: 0.07

  Summary: Investment goal is to track the return of the Russell 2000 Index. The largest represented industries in the ETF are Financials, Information Technology, and Healthcare.

- Vanguard FTSE Developed Markets ETF (VEA)

  Asset Class: U.S. International Developed Markets

  Expense Ratio: 0.09%.

  Tracking Error: 0.85

  Summary: Investment goal is to track the return of the FTSE Developed All Cap ex US Transition Index.[1] Includes a diversified portfolio of small-,

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[1] All data is as of April 30th, 2016.

[2] CRSP stands for Center for Research in Securities Prices. The CRSP is a provider of historical stock market data, and run by the Booth School of Business at the University of Chicago.

[3] iShares are a family of ETFs created and managed by BlackRock, a leading investment management company.

mid-, and large-cap companies headquartered in the major markets of Europe and the Pacific.

- iShares US Treasury Bond (GOVT)

    Asset Class: U.S. Treasury Bills

    Expense Ratio: 0.15%.

    Tracking Error: 0.03

    Summary: Investment goal is to track U.S. Treasury bonds that mature in less than one year. The weighted average maturity of the ETF is 0.51 years, and the weighted average coupon[2] is 0.99%.

- iShares iBoxx Dollar Investment Grade Corporate Bond ETF (LQD)

    Asset Class: U.S. Corporate Bonds

    Expense Ratio: 0.15%.

    Tracking Error: 0.17

    Summary: Investment goal is to track U.S. dollar denominated, investment grade corporate bonds. Currently has exposure to over 1,500 different corporate bonds. The weighted average maturity of the ETF is 12.69 years, and the weighted average yield-to-maturity is 2.97%.[3]

- iShares National Muni Bond ETF (MUB)

    Asset Class: U.S. Corporate Bonds

    Expense Ratio: 0.25%.

    Tracking Error: 0.08

    Summary: Investment goal is to track U.S. dollar denominated, investment grade corporate bonds. Currently has exposure to over 1,500 different corporate bonds. The weighted average maturity of the ETF is 12.69 years, and the weighted average yield-to-maturity is 2.97%.

- Vanguard REIT ETF (VNQ)

    Asset Class: U.S. Residential Mortgages

    Expense Ratio: 0.12%

    Tracking Error: 0.05

    Summary: Investment goal is to track the returns of the MSCI REIT Index.[4] A Real-Estate Investment Trust (REIT) is a company that purchases

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[1] FTSE stands for 'Financial Times Stock Exchange', and is a British provider of stock market indices and services.

[2] A bond's coupon is the actual amount of interest the bond pays annually as a percentage of its face value.

[3] A bond's yield-to-maturity is the internal rate of return of the bond, assuming it is held until maturity. It includes both the bond's coupon and discount factor in its calculation.

[4] MSCI is a leader in research driven analytics for institutional investors.

office buildings, hotels, or residential property. By investing in REITs, investors get exposure to thousands of real estate properties for a single price.

Portfolio Optimization

Portfolio optimization is the process by which Boon allocates specific percentages to the assets in a client's portfolio. Boon sets asset allocations with a clear goal in mind: to create portfolios that offer clients the greatest expected return for their unique appetites for risk.

Risk Profile

Perhaps the most overlooked part of portfolio optimization, but one of the most important, is an advisor's ability to accurately assess their client's tolerance for risk. When markets are functioning efficiently, a client's exposure to risk will determine her portfolio returns. As such, if a financial advisor does not have an adequate grasp of her client's appetite for risk, she may over-leverage her client's portfolio in the pursuit of higher returns.

Therefore, before any portfolio optimization may take place, Boon requires clients submit the necessary information to calculate their personal risk profiles. An accurate risk profile is crucial to Boon's ability to build a portfolio to complement the client's needs.

Below are the primary traits Boon requests for clients to determine their risk profiles. We combine multiple characteristics from different parts of a client's life to generate an exhaustive profile of her financial situation:

1. Annual Income

   The less a client has to rely on her portfolio's income to support her daily expenses, the greater her ability to absorb short-term losses and invest for long-term goals.
2. Net Worth

   Similar to annual income, the higher a client's net worth the more ability she has to take on risk. However, unlike annual income, those with a high net worth may still have to rely on their portfolio to generate income. For clients with a high net worth but a low annual income, dividend or interest yielding investments will have greater emphasis relative to pure growth companies.

3. Age

   The younger a client is, the more human capital she has.[1] The more human capital she has, the greater her expected future earnings, and the more ability she has to take on risk.

4. Investment Horizon

   A client's investment horizon affects the composition of assets she should invest in. If a client has a short-term horizon, the less ability she has to withstand short-term shocks to the market and the more her portfolio should emphasize highly liquid, income earning investments. Vice versa, the longer her investment horizon, the more her portfolio should emphasize growth prospects.

5. Appetite for Risk

   How a client self-identifies her appetite for risk is almost as important as her actual tolerance for risk. Part of the portfolio manager's job is to balance a client's preferences with her desires. Even if a client has ample savings and a high salary, if she has no desire to absorb significant losses, then it is the portfolio manager's job to incorporate low risk investments into her investment strategy.

6. Preferred Investment Strategy

   Clients can elect to emphasize a growth, income, or blended portfolio. Similar to how Boon incorporates a client's self-identified appetite for risk, if a client prefers a growth strategy, Boon will place extra emphasis on equities during the optimization process.

Optimization Detail

After a client's risk profile is assessed, the next step is to actually optimize the portfolio. Traditionally, a mean-variance optimization model is employed to

[1] Holding all else constant.

accomplish this goal. MVO models apply quantitative methods to historical trends in order to determine the combination of assets that maximizes a portfolio's returns per unit of risk. MVO models are perhaps the most widely used piece of quantitative analysis in the portfolio management industry today. Most MVO models optimize for the Sharpe Ratio, which is defined as a portfolio's return in excess of the risk-free rate divided by the portfolio's standard deviation.

At Boon, we have developed a MVO model with a twist; we have built a proprietary derivation of the traditional MVO model that we believe improves on its central limitations.[1] The general process of Boon's optimization model is outlined below.

1. **Client selects companies to include in their portfolio.**

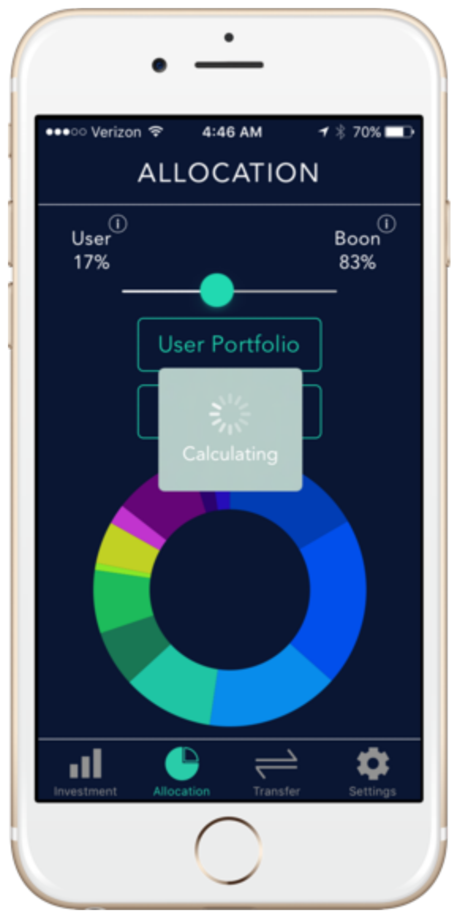
    Companies are chosen from lists curated by Boon. While Boon recommends ETFs for each client to invest in, we do not choose assets for our clients.[2]

2. **Extract historical data for the securities contained in the user's selected portfolio.**

    Boon pulls three years of monthly price data for each security in real time to ensure that the model output is as accurate as possible.

3. **Calculate historical co-variance matrix for portfolio securities.**[3]

    The calculation of the co-variance matrix is one of the most important steps in



Boon's Optimizer calculating a client's allocation

[1] Primary criticisms of MVO include: a) the over-reliance on historical data for expected returns; b) the asymmetric patterns of real-life events; and c) the significance of auto-regression in historical data.

[2] Boon recommended companies are considered 'Boon Certified'. For full detail of this process, please see the 'Asset Selection' section.

[3] From this point onward, the securities in the Boon Portfolio and the User Portfolio are treated as a part of a single portfolio.

Boon's portfolio optimization model. As Markowitz illustrated in his 1952 paper "Portfolio Selection", the co-variance between assets has a larger effect on portfolio efficiency than the individual returns of those assets.

4. **Constrain the optimization algorithm by the client's risk profile.**

   A primary criticism of MPT is its over-reliance on quantitative data to project future results.[1] To combat this concern, we have complimented our optimization algorithm by setting up high-level constraints grounded in qualitative analysis that uses each client's unique risk profile as the core parameter.[2]

5. **Run simulations to predict portfolio returns.**

   Boon randomly walks the prices of the securities in the client's portfolio three months[3] into the future a total of 500 times. Specifically, Boon uses a dynamic, auto-regressive form of the simulation that corrects for auto-correlation issues in expected returns while holding the correlations between assets constant from period to period. [4]

6. **Determine the optimal portfolio composition**

   Boon continuously iterates on the previous simulations results until the portfolio composition converges to an optimal adjusted Sharpe Ratio. Boon uses an alternate form of the traditional Sharpe ratio that substitutes the equation's denominator, volatility, with Conditional-Value-At Risk (CVAR).[5] The use of CVAR corrects for

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[1] Today's historical data is by definition an incomplete set of tomorrow's historical data. Therefore, today will never be able to perfectly predict what will occur tomorrow.

[2] For example, a general rule of thumb in the investing community is that if a client has a short time horizon and low appetite for risk, her portfolio should be composed of more bonds than stocks. We place constraints on the results of our optimization model to ensure that her portfolio will be in line with generally accepted investment principles. For full detail on the optimization constraints, see the next section.

[3] Any interval longer than three months will cause the model to be unreliable. For a frame of reference, most large financial institutions only calculated walk one day into the future.

[4] If over the course the simulation a company's stock price becomes negative, we treat this as the company going "bankrupt".

[5] CVAR represents the expected loss that may occur above a specified loss threshold. The threshold is expressed as a percentage of the portfolio's current market value.

the primary issue with volatility by incorporating not only the probability of loss but also the magnitude of loss.

7. **Confirm with client portfolio allocation is acceptable**

   Boon clients have the first and last say over the composition of their investment portfolio. If they are uncomfortable with the results of the model, they may change some of the user-entered parameters, specifically the securities contained in and the allocation of the User Portfolio. However, Boon does not recommend attempts to game the model into returning a certain result. If a client is unhappy with their allocation, they may always contact Boon support at support@booninvestments.com for an explanation of their portfolio allocation.

Optimization Constraints

While Boon's advisors have complete faith in its MVO model to calculated client allocations, we know pure quantitative analysis has its limitations. A clear example of when traditional MVO models fail is in the allocation of stocks and bonds. Regardless of a client's investment horizon, an MVO model will calculate the most efficient allocation between equities and bonds. However, because bond yields are less volatile than equities, the shorter a client's investment horizon the more that client's portfolio should be comprised of bonds. Most MVO models fail to capture this rule.

For this reason, Boon places additional constraints around its MVO model. Based on each client's risk profile, investment horizon, and investment objective (amongst other metrics), we set maximum and minimum allocation amounts for each asset. By adding this qualitative element to the optimization process, we allow the MVO model to do the heavy lifting while still ensuring that the result fits each client's unique financial situation. Ultimately, Boon clients are left with a solution that combines the best aspects of quantitative and qualitative analysis to provide them with optimal allocations for their given levels of risk. Below is a summary of the characteristics Boon uses to set the constraints of its optimization model:

1. **Income vs. Growth**

Based on each client's investment horizon as well as her appetite for risk, Boon will adjust the maximum outputs between bonds, (which considered income producing investments) and equities (whose returns are generally driven by price appreciation).

2. **Market Risk**

   The less ability the client has to accept risk, the more Boon's optimization model will emphasize U.S. treasuries. Considered by the investment community to be risk free, investment in U.S. treasuries is the most efficient way to de-risk a portfolio.[1]

3. **Value-at-Risk**

   Value-at-risk (VaR) represents the likelihood that an investment's losses will exceed a certain amount over a given period of time. Depending on a client's appetite for risk, we set a maximum level for the client portfolio's VaR.

4. **Average Capitalization**

   As a general rule of thumb, the more capitalized a company is, the safer of an investment it will be. While this rule is not true in all cases, market capitalization is positively correlated with high levels of liquidity, propensity to pay dividends, and general maturity, all indicators of low risk.

Portfolio Management

Even though Boon's core business is automating the investment process, there is a great deal of portfolio management that still must take place behind the scenes. The same procedural tasks that traditional financial advisors must perform on behalf of their clients, from rebalancing portfolios to submitting trade orders, Boon does as well. Well, not exactly the same tasks. We believe our methods are just a little bit better.

Portfolio Rebalancing

Boon will rebalance portfolios on a quarterly basis when at least one of the

[1] The efficiency of exposure to risk-free assets is one of the principle takeaways from Markowitz thesis on portfolio theory.

following conditions is satisfied:

1. The Boon Portfolio/User Portfolio asset allocation differs from target allocation by ten percent (10%) or greater; .
2. The concentration of a single asset's allocation differs from its target allocation by ten percent (10%) or greater.

Trade Execution

Boon clients may change their portfolio six times over a given six-month period. Over the course of a week, Boon aggregates new client allocation requests into a single trade order in order to decrease transaction costs. When the market[1] opens each Tuesday and Friday[2], Boon submits the aggregate buy order to its broker dealer. When the market opens each Monday and Thursday, Boon submits the aggregate sell order to its broker dealer. New client allocations should be reflected by market close of Monday. Clients should be aware that while Boon's goal is to execute all trade orders at the market's opening bell, there may be times when Boon decides to withhold the execution of client orders until we believe it is in the clients' best interest to do so. The primary explanation for why trade orders may be delayed is that Boon is waiting until significant benefits of scale have been reached to decrease costs appropriately for Boon's clients. Under these instances, Boon reserves the right to delay trade executions at its discretion. If trade execution is urgent, clients may contact Boon at support@BoonInvestments.com to expedite the order process.[3]

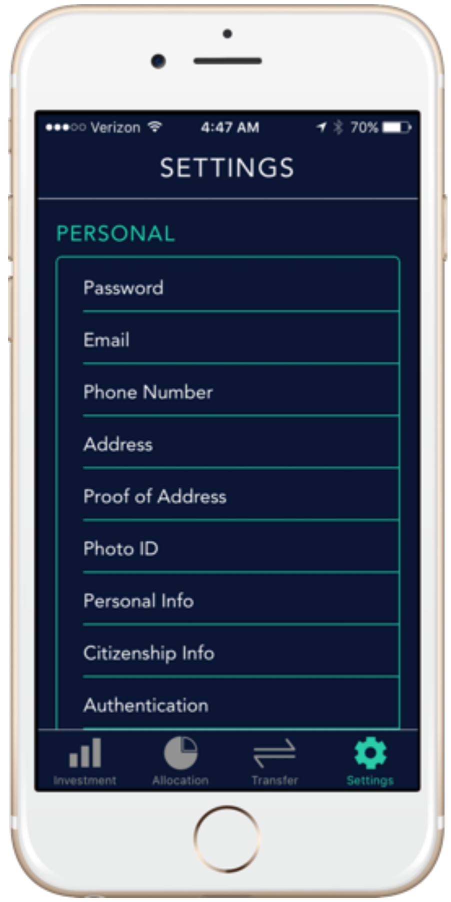
User Data

To help the government fight the funding of terrorism and money laundering activities, Federal law requires Boon, like all financial institutions, to obtain, verify, and record information that identifies each person who opens an account. As such, Boon collects the following information from its clients:

1. Full Name

[1] For purposes of this paper, the market referenced to is the New-York Stock Exchange.
[2] In instances when execution days is a federal holiday and markets are closed, Boon will submit trade orders on the following business day.
[3] Additional fees may apply.

2. Date of Birth
3. Email
4. Phone number
5. Address
6. Marital Status
7. Gender
8. Citizenship
9. Government Identification, Social Security, or Passport Number
10. Photo Identification (Driver's License, Passport)
11. Proof of Address (Utility Bill, Phone Bill)
12. Net Worth
13. Annual Income
14. Employment Status (Title, Employer, Industry, Country)
15. Regulatory Disclosures



Boon's setting page, where all client information is housed

Given how sensitive the above information is, Boon encrypts client data in accordance with industry standard protocol. All data is stored both online on servers hosted by Amazon Web Services as well as offline in accordance with AML guidelines.

Whenever a user creates an account through Boon's mobile application, Boon creates an account for that user with one of Boon's partner broker-dealers. From time to time, Boon may need to communicate and verify client information with the broker-dealer or to ensure accuracy and consistency. We also recognize that Boon clients may have already opened or will open in the future an independent account with one of Boon's partners. For this reason, Boon has stopgaps in place to ensure all data is consistent across all of the client's accounts.

Compliance

SEC Registration

The U.S. Investment Act of 1940 ("Advisers Act") put forth by the U.S. Securities and Exchange Commission ("SEC") defines an investment advisor as any person or firm that for compensation[1] is engaged in the business of[2] providing advice to others or issuing reports or analysis regarding securities.[3] Typically, the Advisers Act prohibits firms from registering with the SEC unless the advisor has over $25 million in assets under management. However, as of 2002, the SEC adopted a new rule that exempts potential RIAs from this threshold if they provide advisory services through the internet.[4] Because Boon's primary contact with our clients is through a mobile application, Boon applied for registration with the SEC and was accepted under this exemption in February 2016.

As an SEC-registered investment advisor, Boon is legally permitted to advise both U.S. and Non-U.S. clients on the composition of their investment portfolios.[5]

Regulatory Partnerships

In order for Boon to legally operate as an investment advisor in the United States, there are four primary businesses we must create partnerships with:

1. **Broker Dealers.** U.S. Broker-dealers are required to register with the Financial Industry Regulatory Authority (FINRA). As such, they have the power to execute trades on behalf of clients as well as liquidate client funds. Boon has entered into a partnership with the New Jersey based

[1] **Compensation**. The receipt of any economic benefit including, but not limited to, advisory fees, commission, or combination of the two.

[2] Engaged in the Business. A person or firm provides advice on securities in a non-isolated incident for compensation.

[3] Advising Others about Securities. A person clearly meets the third element of the statutory test if he provides advice to others about specific securities, such as stocks, bonds, mutual funds, limited partnerships, and commodity pools. The SEC staff has stated that advice about real estate, coins, precious metals, or commodities is not advice about securities.

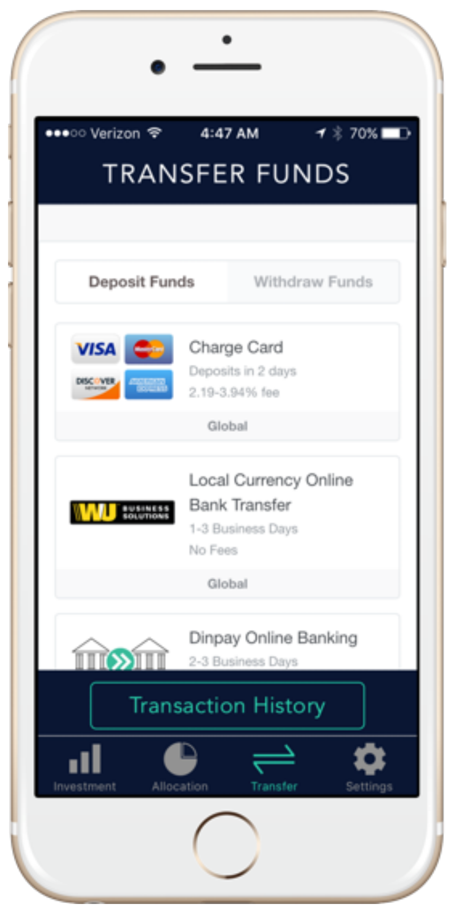
[4] Rule 203A-2(e). Exemption for Certain Investment Advisers Operating Through the Internet, Investment Advisers Act Release No. 2091 (Dec. 12, 2002), available at: http://www.sec.gov/rules/final/finalarchive/finalarchive2002.shtml.

[5] The SEC takes the position that a U.S. person providing advice to non-U.S. persons would still be subject to the Advisors Act.

broker-dealer, DriveWealth, LLC.[1] The partnership is non-exclusive and requires DriveWealth to open brokerage accounts for and execute transactions on behalf of any client that opens a managed account with Boon provided that the client submits all necessary information to satisfy FINRA account guidelines.

2. **Money Service Businesses (MSB).** MSBs facilitate the transfer of client funds between client bank accounts and brokerage accounts. MSBs are supervised by the Financial Crimes Enforcement Network (FinCEN) and must register in each state they do business. By working with MSBs, Boon enables clients from outside the U.S. to transfer funds into U.S. brokerage accounts. Through Boon's partnership agreement with DriveWealth, Boon clients are able to transfer funds through the below MSBs and methods. For full detail on MSB fees, region and deposit time, please see Appendix B:

    a. Charge Card (Global)
    b. Western Union (Global)
    c. DinPay Online Banking (China)
    d. Safety Pay (Latin America & some EU)
    e. China Union Pay (China)
    f. Dwolla (U.S. Only)
    g. TransferWise (European, AUD, & NZD currencies)
    h. Wire Transfer (Global)
    i. Agricultural Bank of China (China)
    j. Bank of China (China)
    k. China Construction Bank (China)
    l. China Construction Bank (China)
    m. China Everbright Bank (China)
    n. Industrial and Commercial Bank of China (China)
    o. Check (U.S. Only)



Boon's transfer services

[1] For more information on DriveWealth, please visit: http://brokercheck.finra.org/Report/View/165429/2

3. **Clearinghouse.** A clearinghouse serves as an intermediary between buyers and sellers of financial instruments. To reduce the risk that one of the parties does not honor its financial obligation, a clearinghouse steps in and acts as the counter party to both sides of a transaction. Through its partnership with DriveWealth, the Industrial & Commercial Bank of China operates as Boon's primary clearinghouse.
4. **Qualified Custodian.** With certain limited exceptions, an investment advisor is required to maintain client funds and securities with a "qualified custodian." Qualified custodians can be banks, registered broker-dealers, futures commission merchants, or certain foreign entities. A qualified custodian either maintains client funds and securities in a separate account for each client under that client's name, or in accounts that contain only client funds and securities under the name of the investment advisor as agent or trustee for the clients. The Industrial & Commercial Bank of China operates as Boon's primary Qualified Custodian.

Account Custodianship

Boon operates as the primary custodian for each account a client opens with Boon. To be considered the custodian of a client portfolio, an investment advisor must be granted one of two authorities by the client: [1]

1. The advisor must have possession, direct or indect, of the client funds or securities
2. The advisor must have power of attorney to sign checks on the client's behalf, to withdraw funds or securities from the client's account, including fees, or to otherwise dispose of a client's assets for any purpose other than authorized trading.

When a client agrees to open an account with Boon, she grants Boon the authority to withdraw fees from her account and enter trades on her behalf. As such, Boon is granted custodianship over her account.

[1] For full detail on the SEC's definition of custodianship, as well as the responsibilities of the custodian, please visit: https://www.sec.gov/investor/alerts/bulletincustody.htm.

Regions in Operation

Boon can accept deposits from all regions and countries[1], excluding the following:

1. Belarus
2. Myanmar
3. Ivory Coast
4. Cuba
5. Congo
6. Iran
7. Iraq
8. Liberia
9. Libya
10. N. Korea
11. Somalia
12. Sudan
13. Syria
14. Taliban associated persons/countries
15. Yemen
16. Zimbabwe

Master/Sub Account Relationship

Boon operates under a master/sub account structure with its broker-dealer. Under this relationship, Boon controls a single master account that is divided into multiple sub-accounts. A sub-account is opened for each of Boon's clients.

The Master/sub account structure has benefits for both Boon and Boon's clients:

1. Boon can manage all its assets from a single account. This enables Boon to aggregate trade orders, withdrawals, etc. that will reduce fees for every client.
2. Boon stores client data in a central location. By having all client data organized in a single location, Boon helps to increase both efficiency and security as it relates to the transference of client data.

Tax Policy of Non-U.S. Residents

Definitions

[1] Given the client submits the necessary information to satisfy KYC documentation.

Investment Income: income earned by trading securities through a U.S. broker-dealer or other agent.

Nonresident Alien: a non-U.S. citizen who does not hold a green card and has not been physically present in the United Sates for:

1. 31 days during the current year; and
2. 183 days during the 3 year period that includes the current year and the two years immediately before. To satisfy the 183 days requirement, count:
    - All of the days you were present in the current year, and
    - One-third of the days you were present in the first year before the current year, and
    - One-sixth of the days you were present in the second year before the current year.

Internal Revenue Services (IRS): the national tax authority of the United States responsible for the enforcement of U.S. taxation law.

Rule Guidelines

In most cases, nonresident aliens (NRAs) are exempt from the majority of the taxes due on the income earned from their U.S. investments. Unfortunately, due to the complexity of the rules put forth by the IRS, many NRAs either end up paying either too much or too little in taxes owed. Incorrect reporting of taxable income can have significant consequences, and in worst-case scenarios may result in charges of tax evasion. Therefore, the goal of this paper is to provide Boon users with an easy-to-understand overview of U.S. investment tax policy so that those who qualify as NRAs understand exactly what they owe in U.S. taxes. In the years when a non-US citizen is considered an NRA for tax purposes, that person owes tax on investment income according to the following rules[1]:

- No tax on bank interest. This exemption covers interest from regular accounts with credit unions, checking accounts, savings accounts, and certificates of deposits, amongst others.

[1] For a complete description of the rules governing U.S. tax policy as applied to nonresident aliens, see Publication 519, U.S. Tax Guide for Aliens.

- No tax is applied to portfolio interest. Portfolio interest is interest earned from debt in a registered form. One example of portfolio interest is interest earned from U.S. Treasury bills.
- A 30% flat rate tax is applied to interest that neither is paid by a bank nor qualifies as "portfolio interest." Notably, this tax applies to interest earned from mutual funds.
- With the exception of individuals who spend more than half the year in the U.S., there is no tax applied to capital gains[1]. This includes both short-term and long-term capital gains, and it follows that brokerages do not have the right to withhold profits when selling client shares.
- 30% flat rate tax is applied to dividends, with the exception of U.S. sourced dividends that are paid by a foreign corporation. As of 2010, all mutual-fund distributions are considered dividends.
- No personal exemption or deductions can be applied against investment income.

International Tax Treaties

If the NRA's country of residence has an active tax treaty with the U.S. government, the rules inherent to the treaty supersede the standard rules set forth by the IRS. For NRAs, treaties limit or eliminate U.S. taxes on various types investment income, including interest, dividends, royalties, and capital gains. In most cases, these treaties serve to reduce the tax rate on interest and dividend income and thereby diminish the effect of double taxation.[2]

Each treaty must be reviewed independently to determine one's eligibility for these provisions, as each may contain language that cannot be applied universally. For example, many treaties also limit the number of years an NRA can claim a treaty exemption. For teachers, professors and researchers, the limit

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[1] Caveat on the capital-gains tax exemption: if the alien is a non-resident for tax purposes in a given year, but spends 183 days or more in the U.S., all capital gains are also subject to the 30% flat tax. For example, this exception would apply to an international student (always considered a non-resident alien for tax purposes) who has US-source income such as a scholarship and has stayed in the U.S or had intended to stay at least one year.

[2] Double taxation refers to income taxes that are paid twice on the same source of earned income. For example, double taxation may occur when the same income is taxed in two different countries.

is usually two to three years. Treaties may also have requirements above those of the IRS to be eligible for benefits.

For detail on specific tax treaties by country, see United States Income Tax Treaties - A to Z. The IRS has compiled a comprehensive list of each treaty, and in most cases, the technical explanation for the treaty. Please note that tax treaties are updated periodically and amended by protocols, so be sure to check IRS.gov website for the latest information on specific treaties when claiming treaty benefits.

The following links are to the US treaties with China and India:

China: https://www.irs.gov/pub/irs-trty/china.pdf
India: https://www.irs.gov/pub/irs-trty/india.pdf

Disclosures of Treaty Benefits Claimed

If you claim treaty benefits that override or modify any provision of the Internal Revenue Code, and by claiming these benefits your tax is or might be reduced, you must attach a fully completed Form 8833, Treaty-Based Return Position Disclosure, to your tax return. There are exceptions to this requirement for certain types of investment income that are outlined in Publication 519, U.S. Tax Guide for Aliens, under the section on Reporting Treaty Benefits Claimed.

FAQ

Boon's advisors have put a great deal of time devising the above investment thesis. However, we also understand that some people may disagree with some of the methods we employ to create client portfolios. For this reason, we have included a list of commonly asked questions below. As always, if you do not find the answer to your question, please email us at: support@booninvestments.com.

Our Clients

1. **Do you accept U.S. clients in addition to international clients?**
   A: Yes. Any U.S. resident that would like to invest with Boon is encouraged to do so.

Asset Selection

1. **Does Boon restrict clients to only investing in 'Boon Certified' Companies**
   A: No. While we recommend Boon Certified companies to our clients, it is our belief that to further limit the freedom Boon clients have over their portfolio allocations would do more harm than good.
2. **If a client would rather be entirely invested in the Boon Portfolio, i.e. ETFs, does she need to allocate any resources to the User Portfolio?**
   a. No. Investment in the User Portfolio is optional.

Efficiency Boosts

1. **Why large-cap stocks and mid-cap stocks both included as efficiency Boosts? Given the high correlation between the two asset classes, is this not inefficient?**
   A: Given the majority of Boon's clients are based in countries other than the U.S., we believe it worthwhile to sacrifice some efficiency in order to offer Boon clients complete exposure to the U.S. equities market.
2. **Why doesn't Boon offer exposure to Emerging Markets? Especially when one considers its high annual returns and low correlation with U.S. markets, it seems like a no brainer.**
   A: The majority of Boon clients reside in countries like India, China, & Brazil. As such, they are naturally exposed to the risks inherent to emerging markets. Therefore, even though the inclusion of emerging markets may improve the portfolio's risk-return profile, it would not improve the client's risk-return profile. Ultimately, the client's wellbeing, of which their portfolio plays a role, is what we care about.
3. **Why does Boon only offer exposure to three bond asset classes? Are there not more than three sectors in the bond market?**
   A: The average Boon user has a fairly long time horizon and at least an average tolerance for risk. As such, the average Boon user's portfolio will tilt more towards stocks than bonds. Because bonds will comprise a low percentage of the total portfolio, and

because the benefits of diversification are mitigated at low percentages, we find it prudent to only include the more impactful bond asset classes in the optimization problem.

4. **How come some of the ETFs have much higher tracking errors and expense ratios than others?**

   A: There tends to be a fairly positive correlation between tracking error and expense ratio. This is due to the fact that the most difficult sectors to track require the most skill to manage effectively. For example, take the S&P 500. It is fairly easy to replicate: it has a relatively small number of holdings, and the securities it does hold have very high levels liquidity. As such the Vanguard S&P 500 ETF has a very low tracking error and very low fees. The Russell 2000 ETF, however, is very difficult to replicate: it's holdings are both numerous and illiquid. For this reason, the iShares Russell 2000 ETF's tracking error of 0.07 is by most considered more impressive than the Vanguard S&P 500 ETF's tracking error of 0.05, even though it is higher. For this reason, the former portfolio's managers can also charge higher fees.

Optimization Detail

1. **Why do you only run 500 iterations for the monte carlo simulation?**

   A: There is a balance that must be met between the reliability of the optimization model and the time it takes for the model to compute. At 500 simulations, we have found the slight variations in portfolio allocation become too insignificant to warrant an additional unit of processing time.

2. **Does Boon's optimization model guarantee returns?**

   A: No. Boon's primary goal is to create a diversified portfolio of assets to expose clients to an amount of risk they are comfortable with. Boon does not promise or guarantee any level of returns. Clients should be aware that by investing in Boon there is potential for returns to be negative.

Compliance

1. **Why does Boon need regulatory partnerships? Wouldn't it be more efficient for Boon to obtain regulatory approval for all the required processes itself?**

   A: In theory, it would make sense for Boon to become a licensed broker-dealer, money service business, etc. However, in practice gaining any sort of regulatory approval would take both time and money, as well as increase the complexity of Boon's legal structure and compliance procedures.

2. **How does Boon withdraw its management fees?**

   A: At the end of every month, Boon calculates its management fee based on the client's time-weighted assets under management for that month. In the event clients are fully invested, in order to withdraw its fees without affecting client allocations Boon keeps a small percentage of client deposits in cash for this purpose. Boon does not charge clients a management fee for the deposit it keeps in cash.

APPENDIX A

Fee Structure

Commission Schedule

Customers will be charged a commission fee based on the following schedule for full share and fractional share purchases of Securities by Boon:

# of Customer Accounts	Allocation Fee per Security
<100	$0.10
101-1,000	$0.09
1,001-5,000	$0.08
5,001-10,000	$0.07
10,001-25,000	$0.06
25,001+	$0.05

Customers will also be charged a $0.10 per month per account administration fee.

The following fees will be passed on to the Customer: Execution & Market Destination Fees (for purchase or sale, currently $0.0030 per share); U.S. Securities and Exchange Commission Fee (for the sale of shares, currently notional value x $0.00002180); and TAF fees (for the sale of shares, currently $0.000119 per share up to $5.95).

APPENDIX B

Transfer Method Detail

1. Charge Card
   a. **Region:** Global
   b. **Fees:** 2.19 – 3.94%
   c. **Deposit Time:** 2 days
2. Western Union
   a. **Region:** Global (local currencies)
   b. **Fees:** No fees
   c. **Deposit Time:** 1-3 business days
3. DinPay Online Banking
   a. **Region:** China
   b. **Fees:** 1.5%
   c. **Deposit Time:** 2-3 business days
4. Safety Pay
   a. **Region:** Latin America & Some EU
   b. **Fees:** 2.3%
   c. **Deposit Time:** 2-4 business days
5. China Union Pay
   a. **Region:** China
   b. **Fees:** 1.5%
   c. **Deposit Time:** 2-3 business days
6. Dwolla
   a. **Region:** U.S. Only
   b. **Fees:** No fees
   c. **Deposit Time:** 1-4 days
7. TransferWise
   a. **Region:** European Currencies, AUD, and NZD
   b. **Fees:** Fees may vary
   c. **Deposit Time:** 1-4 business days
8. Wire Transfer
   a. **Region:** Global
   b. **Fees:** Fees may vary
   c. **Deposit Time:** 1 day
9. Agricultural Bank of China
   a. **Region:** China
   b. **Fees:** Fees may vary
   c. **Deposit Time:** 2-4 business days
10. Bank of China
   a. **Region:** China
   b. **Fees:** Fees may vary
   c. **Deposit Time:** 2-4 business days
11. China Construction Bank
   a. **Region:** China
   b. **Fees:** Fees may vary
   c. **Deposit Time:** 2-4 business days
12. China Construction Bank
   a. **Region:** China
   b. **Fees:** Fees may vary
   c. **Deposit Time:** 2-4 business days
13. China Everbright Bank
   a. **Region:** China
   b. **Fees:** Fees may vary

c. **Deposit Time:** 2-4 business days

14. Industrial and Commercial Bank of China
    a. **Region:** China
    b. **Fees:** Fees may vary
    c. **Deposit Time:** 2-4 business days

15. Check
    a. **Region:** United States
    b. **Fees:** No fees
    c. **Deposit Time:** 2 business days