SECTION I

The ETF Phenomenon

CHAPTER 1

Why Are ETFs So Popular?

They say that as a customer you can only get two of these three things: fast/good/cheap. If it's fast and good, it isn't cheap. If it is good and cheap, it isn't fast. And if it's cheap and fast, well, it probably isn't that good.

Turns out, I have found two things that prove this wrong: Vietnamese restaurants and exchange-traded funds (ETFs). Those are two times when fast, good, and cheap all tend to exist in wonderful harmony.

How this can happen requires a bit of background into what an ETF is.

Essentially, an ETF is the marriage of an index fund (passively managed with low-costs and diversification) with the trading features of a stock (intraday trading, price transparency). That is how most people know them. And that is true on a base level. But that is only half the story. Thanks to the ingenious way ETF shares are created and redeemed—something we will explore in Chapter 3—an ETF has additional qualities that make it rise above the blunt definition of "a fund that trades." I tend to agree with some in the industry who have called ETFs a "disruptive technology."

As an analyst who has covered everything from mutual funds to hedge funds to closed-end funds, I have been amazed at the sheer number of advantages that ETFs offer up. They take many evolutionary steps forward and as such are fast becoming the investment vehicle for the twenty-first century.

The best way to support this lofty description is to just dive into the advantages. These are the things that make them fast, good, and cheap. This isn't to say they are perfect. And there are many things you need to watch out for—which we will go over throughout the book—but they—like other great technologies—offer up several benefits in one shot that can make life easier.

Low Cost

ETFs are cheap. The asset-weighted average fee is 0.30 percent, which is less than half the cost as the asset-weighted average active mutual fund fee of 0.66 percent. And when you look at the top 20 largest ETFs—where a lot of the institutional money gravitates—the average fee is 0.19 percent, as seen in Table 1.1.

And the good news is costs keep coming down. Some call it a fee war, but I call it "fee innovation." After all, it is a technological marvel that issuers can offer these products at such low costs. At this point you can get a deep and diverse all-ETF portfolio for a blended fee of about 0.08 percent.

TABLE 1.1 Fees for the Top 20 Largest ETFs

Ticker	Name	Total Assets ($million)	Expense Ratio
SPY US	SPDR S&P 500 ETF Trust	177,863.06	0.09%
IVV US	iShares Core S&P 500 ETF	68,940.23	0.07%
EFA US	iShares MSCI EAFE ETF	60,793.88	0.33%
VTI US	Vanguard Total Stock Mkt ETF	57,159.11	0.05%
VWO US	Vanguard FTSE Emerging Market	47,665.84	0.15%
QQQ US	Powershares QQQ Trust Series	41,528.99	0.20%
VOO US	Vanguard S&P 500 ETF	32,408.59	0.05%
IWM US	iShares Russell 2000 ETF	26,256.59	0.20%
IWF US	iShares Russell 1000 Growth	30,289.73	0.20%
EEM US	iShares MSCI Emerging Market	25,560.05	0.67%
VEA US	Vanguard FTSE Developed ETF	27,824.86	0.09%
IJH US	iShares Core S&P Midcap ETF	25,896.63	0.12%
BND US	Vanguard Total Bond Market	26,988.95	0.08%
GLD US	SPDR Gold Shares	23,627.12	0.40%
IWD US	iShares Russell 1000 Value E	25,520.39	0.20%
VNQ US	Vanguard REIT ETF	23,728.75	0.12%
AGG US	iShares Core U.S. Aggregate	25,500.20	0.08%
LQD US	iShares iBoxx Investment Grade	21,667.93	0.15%
VIG US	Vanguard Dividend Apprec ETF	19,797.96	0.10%
HEDJ US	Wisdomtree Europe Hedged Equity	21,814.08	0.58%

Source: Bloomberg

When the Schwab U.S. Broad Market ETF (SCHB) cut its expense ratio in 2013 from 0.06 percent to 0.04 percent, it took cheap to a whole other level. Since then, it cut it to 0.03 percent along with the iShares Core S&P Total U.S. Stock Market ETF (ITOT) SCHB and ITOT hold over 2,000 large-, mid- and small-cap stocks, that comes out to about 700 stocks per basis point in fees. SCHB and ITOT are leading what many are calling a "race to the bottom." Some of the leaders in this race to the bottom can be seen in Table 1.2.

And the reason I listed this as the first advantage is that investment costs are one of the most important variables you can control. Performance is fickle, but costs keep coming every day, rain or shine.

When it comes to the fee war, low-cost king Vanguard in particular should be given most of the credit. When they enter a category with a new ETF, it is like Wal-Mart coming to town. They cause a gnashing of teeth from the other issuers, who typically respond by lowering their fees as well. This "Vanguard Effect" is evidenced in the fact that in categories where there is no Vanguard ETF, such as micro-caps or junk bonds, the cheapest ETF is 3 to 6 times more expensive than categories Vanguard has an ETF in. In other words, the fee war is more about the fear of Vanguard than anything else. In the end, though, the investor is the ultimate winner in all of this.

TABLE 1.2 A Race to the Bottom in ETF Fees

Name	Expense Ratio
Schwab U.S. Broad Market ETF	0.03%
iShares Core S&P Total U.S. Stock Market	0.03%
Schwab U.S. Large-Cap ETF	0.03%
Vanguard Total Stock Market	0.05%
Vanguard S&P 500 ETF	0.05%
iShares Core S&P 500 ETF	0.07%
Schwab U.S. Dividend Equity ETF	0.07%
Schwab U.S. Large-Cap Growth	0.07%
Schwab U.S. Mid-Cap ETF	0.07%
Schwab U.S. Large-Cap Value	0.07%
Schwab U.S. REIT ETF	0.07%

Source: Bloomberg

For investors used to buying pricey mutual funds, ETFs' low cost is a godsend. But for massive institutions with loads of money, ETFs can actually be expensive compared to passive separately managed accounts (SMAs). They can get an SMA that gives them index exposure for next to nothing and have it custom-made for their needs. It is the equivalent of getting a tailored suit for $10.

> *"If I'm a large institution, I can go direct to a service provider and say, 'I'm going to dump $10 billion on you and you're going to give me [S&P 500 exposure] for one basis point.' People are going to whine and complain, but guess what happens? The manager is going to say, 'Yes, sir, we're going to do it for one basis point.'"*
>
> Wesley Gray, Alpha Architect

And for many large institutions, every basis point translates into a lot of money. In the case above, let's say the institution paid one basis point for the SMA instead of 0.03 percent for SCHB or ITOT, the cheapest broad-market ETFs in the world. Those two basis points equal $2 million a year. That amount could be several fireman pensions that are now funded. This is why the very largest institutions negotiate over every basis point, and even dirt-cheap ETFs lose if fees are the only criteria.

Like mutual funds, SMAs get more expensive the less you can pony up. So it isn't a black-and-white issue, but certainly at the larger institutional fund levels, they can be a cheaper option.

However, cost isn't the only consideration for an institution, and that brings us to our next advantage.

Liquidity

Liquidity may not be the most attractive feature of ETFs for retail investors, but for institutions it is beloved. ETFs trade throughout the day like stocks. If an asset manager wants to buy mainland China at 2:13 P.M., they could punch up the Deutsche X-trackers Harvest CSI 300 China A-Shares ETF (ASHR) and put in an order and own it within seconds. They could then sell it a minute later or year later.

This is much more expedient than using a mutual fund or hedge fund or owning the aforementioned SMA. None of those things can be gotten into and out of so quickly and easily. That's why the liquidity advantage is really about freedom—something institutions don't have a ton of. With ETFs you can buy and sell whenever you want without having to ask anyone's permission. Institutions in particular value this trait because much of their existence is slow moving and waiting for boards to approve things and dealing with redemption schedules of managers and the like.

> *"It's less paperwork. There are no gates. It's just easy to do business with ETFs because they are exchange traded."*
>
> Matt Goulet, Fidelity Investments

Since the financial crisis of 2008, institutions have been aware of the importance of liquidity in a portfolio. When it comes to liquidity, ETFs are now right up there with stocks. In fact, on any given day, ETFs will typically make up half of the top 10 most traded equities as shown in Table 1.3.

> *"Liquidity and precision are definitely the big benefits of ETFs."*
>
> John Linder, Pension Consulting Alliance

A nice residual benefit of all this liquidity is that some ETFs end up costing less to trade than the basket of holdings they track. Some examples of this can be seen in Table 1.4. For instance, trading all the stocks in the Vanguard FTSE Emerging Markets ETF (VWO) would cost .21 percent, while VWO would cost .03 percent. You can also see that the

TABLE 1.3 Top 10 Most Traded Equities as of June 30, 2015

Ticker	Name	Volume (in $million)
SPY US	SPDR S&P 500 ETF Trust	21,181.54
AAPL US	Apple Inc	5,964.08
IWM US	iShares Russell 2000 ETF	3,976.85
QQQ US	Powershares QQQ Trust Series	2,854.02
EEM US	iShares MSCI Emerging Market	1,767.23
MSFT US	Microsoft Corp	1,442.14
NFLX US	Netflix Inc	1,435.62
GILD US	Gilead Sciences Inc	1,382.10
TLT US	iShares 20+ Year Treasury Bond ETF	1,305.30

Source: Bloomberg

TABLE 1.4 ETF Spreads versus Their Underlying Basket

ETF	ETF Bid/Ask %	Basket Bid/Ask %	Difference %
SPDR S&P 500 ETF Trust (SPY)	0.00	0.03	0.02
Vanguard FTSE Emerging Markets ETF (VWO)	0.02	0.21	0.20
iShares MSCI EAFE ETF (EFA)	0.02	0.07	0.06
iShares Russell 2000 ETF (IWM)	0.01	0.23	0.22
SPDR Barclays HY Bond ETF (JNK)	0.03	0.45	0.44
iShares iBoxx Invst Grd Corp Bond ETF (LQD)	0.01	0.49	0.49

Source: Bloomberg

iShares iBoxx Investment Grade Corporate Bond ETF (HYG) trades for significantly less cost than its basket. And yes, SPY trades so much that the spread is 0.004 percent, which rounds down to 0.00 percent, slightly less than the 0.03 for the Standard & Poor's (S&P) 500 stocks. We'll look at SPY's freakishly high trading volume throughout the book.

This concept is referred to as "price improvement" and is one of the rare cases where you don't have to pay more for convenience, but rather less. While this applies to only the most traded ETFs out there, it isn't something lost on investors.

> *"I can go do a swap on a basket of securities. I can create my own custom basket. I can buy the index myself. But for us it comes down to does the ETF make more sense than going out and spending the physical capital. Usually, it does."*
>
> Jim Dunn, Verger Capital Management

However, it should be noted that you can also get hurt trading ETFs if you aren't careful or rack up some unwanted trading costs. We will dive deeper into ETF liquidity and trading in Chapter 5.

Tax Efficiency

While there are few minor exceptions, ETFs overall have a near-perfect record of not issuing capital gains taxes that can plague mutual funds and hedge funds. Obviously, this advantage means zilch for an institution that is tax exempt. But

TABLE 1.5 Asset-Weighted 5-Year Average Capital Gains Ending 2011

Type	Active MF	Passive MF	ETF
Large-Cap Blend	1.92%	0.16%	0.00%
Large-Cap Value	2.01%	0.08%	0.00%
Large-Cap Growth	1.65%	0.04%	0.00%
Mid-Cap Blend	4.26%	0.13%	0.00%
Small-Cap Blend	3.54%	1.31%	0.00%
Foreign Large Blend	2.50%	0.32%	0.00%
Emerging Market	6.46%	0.02%	0.01%

Source: Morningstar, Inc.

as you go beyond tax-exempt institutions, it matters and is certainly, by anyone's standards, a nice residual benefit of the ETF and worth an explanation.

When there are large redemptions in a mutual fund, the manager must go and sell some stocks in the fund in order to cash out the big investor. Selling those stocks for a gain can trigger a tax event for the fund, which affects all of the existing investors. In other words, the good soldiers who stayed in the fund have to foot the tax bill of the people leaving. Alternatively, the fund manager could keep cash on the side for redemptions, but then they have cash drag on returns.

In contrast, when someone sells their shares of an ETF in the open market for a gain, that is on them and it does nothing to affect investors in the ETF. This is due to the way ETFs shares are created and destroyed using an "in-kind" method which we will learn about in Chapter 3.

The bottom line is ETFs shift the tax burden onto the seller, not the existing shareholders. This makes ETFs even more tax efficient than traditional index funds, as seen in Table 1.5.

Transparency

Transparency is a value that many people hold dear in all aspects of life. We like transparency in our government (even though it is rare), our relationships, our community, and our business. So it is not a shocker that it is a valued trait of ETFs. ETFs are considered transparent because almost all of them report their holdings every day. This is an advantage that is best contrasted to mutual funds, which only report holdings quarterly and with a 60-day delay, and hedge funds, which never report the holdings of their funds.

Knowing what is in your ETF can come in handy in monitoring overlap with other investments. If a stock has some kind of major event, you can check quickly and know how exposed you are to it. In an actively managed fund you just don't know.

For example, if Elon Musk suddenly quits Tesla today, you could quickly figure out how much Tesla you are exposed to across your ETFs and make any necessary adjustments. With mutual funds, you'd be looking at data that were four to six months old, so you'd be in the dark, having no idea exactly how bad the situation was for you.

Figure 1.1 shows us the ETFs and mutual funds that have the biggest weighting to Tesla as of 6/16/2015. You can see that all of the ETFs have holding dates as of the day before, while the mutual funds are months old, and you don't know if they've beefed up or unwound that Tesla position.

There is one caveat to ETFs' daily transparency and that is Vanguard. Vanguard only releases their ETF holdings monthly with a 15-day lag. Across

FIGURE 1.1 ETFs Show Their Holdings Every Day

	Portfolio Name	Ticker	Mkt Val	% Portfolio↑	% Out	File Dt
1.	Market Vectors Global Alternative Energy	GEX US	11.67MLN	12.519	0.04	06/15/15
2.	PRUDENTIAL JENNISON MARKET NEUTRAL FUND	PJNAX US	313,868.8	11.797	0.00	01/31/15
3.	FIRST TRUST NASDAQ CLEAN EDGE U.S. LIQUID...	QCLN US	8.3MLN	9.389	0.03	06/15/15
4.	BARON RETIREMENT INCOME FUND	BFGFX US	20.76MLN	7.713	0.06	03/31/15
5.	BARON PARTNERS FUND	BPTRX US	208.82MLN	6.704	0.65	03/31/15
6.	RIDGEWORTH AGGRESSIVE GROWTH STOCK FUND	SAGAX US	3.01MLN	6.449	0.01	03/31/15
7.	ARK Industrial Innovation ETF	ARKQ US	773,787.84	5.959	0.00	06/15/15
8.	FIDELITY SELECT AUTOMOTIVE	FSAVX US	7.67MLN	5.918	0.02	04/30/15
9.	T ROWE PRICE GLOBAL TECHNOLOGY FUND	PRGTX US	127.34MLN	5.092	0.40	03/31/15
10.	GLOBAL X LITHIUM ETF	LIT US	2.47MLN	5.000	0.01	06/15/15
11.	FIRST TRUST NASDAQ GLOBAL AUTO INDEX FUND	CARZ US	1.7MLN	4.968	0.01	06/15/15
12.	ARK Innovation ETF	ARKK US	374,111.36	4.964	0.00	06/15/15
13.	ALLIANZGI TECHNOLOGY FUND	DRGTX US	60.02MLN	4.471	0.19	04/30/15
14.	WESTCORE SELECT FUND	WTSLX US	3.72MLN	4.465	0.01	04/30/15
15.	RYDEX VA TRANSPORTATION FUND	VRTRANV US	406,763.84	3.270	0.00	05/31/15
16.	RYDEX TRANSPORTATION FUND	RYPIX US	1.35MLN	3.264	0.00	05/31/15
17.	TRANSAMERICA VAN KAMPEN MID CAP GROWTH...	TRVKMGV US	36.75MLN	3.145	0.11	03/31/15
18.	TRANSAMERICA GROWTH OPPORTUNITIES	ITCBX US	33.38MLN	3.073	0.10	03/31/15
19.	SHELTON GREEN ALPHA FUND	NEXTX US	911,232	3.058	0.00	04/30/15
20.	AZL VK MIDCAP GROWTH		18.87MLN	3.043	0.06	03/31/15
21.	MORGAN STANLEY INST FD TRST- MID CAP GR...	MPEGX US	268.32MLN	3.039	0.84	03/31/15
22.	TRANSAMERICA LEGG MASON PARTNERS ALL CA...	TRLMACV US	10.38MLN	3.015	0.03	03/31/15
23.	MORGAN STANLEY UNIVERSAL EQUITY GROWTH	UEGIX US	8.45MLN	3.011	0.03	03/31/15
24.	MORGAN STANLEY CAPITAL OPPORTUNITIES TR...	CPOAX US	15.35MLN	2.998	0.05	03/31/15

Source: Bloomberg

only Vanguard's ETF roster the ETF exists as a share class of Vanguard's index mutual funds, and as such they don't want those funds to be victims of front-running by disclosing holdings daily like other ETF providers do.[1] Many of the early issuers chose to voluntarily disclose daily holdings for competitive reasons, but not because they are required. Still, the stand alone, transparent ETF structure is a consistent improvement relative to other types of funds.

Diversification

Whether it is small caps, China, or biotech, there are just areas where even a large institutional investor simply won't have an opinion or research on single security names. They may not have the resources to study the area or have chosen not to make a single security bet. ETFs offer an alternative to this by offering exposure to an entire market or country or sector.

> *"I'm a stock picker, but I use ETFs for things I don't know about."*
>
> Larry Seibert, 780 Riverside Drive, LLC

Let's say you are interested in getting exposure to health care. There are hundreds and hundreds of stocks to choose from. Which one do you pick? Many people will opt to use an ETF, which puts your eggs in many baskets. In this way, ETFs let you be more of an economist and less of a stock analyst.

Another important aspect of diversification is dampening volatility. Investing in a group of securities protects you from single-company blow-ups.

Let's look at an example using the Guggenheim Solar Energy Index ETF (TAN). In October 2014, a sapphire glass company named GT Advanced Technologies Inc. (GTAT) declared bankruptcy after Apple decided not to use their glass in the screen of the iPhone 6.[2] The stock quickly dropped 90 percent—a nightmare scenario for GTAT's stock holders. Imagine if you were bullish solar energy but had only bought GTAT.

Meanwhile, TAN barely noticed it. GTAT was a 3.2 percent weighting, so its contribution to total return (CTR) for TAN on the year was 0.72 percent, as seen in Figure 1.2. Not desirable, but pretty minor considering the stock blew up. ETFs help investors play their themes without the stock selection process undoing the thematic or allocation work up front.

GTAT was also immediately thrown out of the index because it broke the index rules by declaring bankruptcy. This example also exhibits an

ETF's regeneration process—a benefit that doesn't get brought up too often. Because ETFs track indexes and because those indexes have rules, if a company slips up and breaks the rules, it is going to be kicked out of the index and replaced with a new one.

Not every company burns out; some fade away and before long they are replaced. This Darwinistic process helps your ETF stay in playing shape and evolve with the times. And you don't have to lift a finger—it's all done as part of the normal periodic reconstitutions and rebalances and of the index. Figure 1.2 shows the weekly holdings of TAN during October 2014. In the case of GTAT, it was quickly booted out of the index within days of its bankruptcy.

FIGURE 1.2 TAN's Holdings Each Week during October 2014

Name	Avg % Wgt	CTR	Tot Rtn
GUGGENHEIM SOLAR ENERGY INDE...	100.00	-1.39	-1.39
5N PLUS INC	1.50	0.12	-5.04
ABENGOA YIELD PLC	0.65	-0.68	-26.77
ADVANCED ENERGY INDUSTRIES	3.16	0.12	3.67
CANADIAN SOLAR INC	4.32	-0.18	-18.88
CHINA SINGYES SOLAR TECH	3.08	1.30	39.62
COMTEC SOLAR SYSTEMS GROUP	1.16	-0.45	-29.45
DAQO NEW ENERGY CORP-ADR	1.48	-0.30	-27.44
ENPHASE ENERGY INC	1.31	0.92	125.39
FIRST SOLAR INC	7.84	-2.70	-18.38
GCL-POLY ENERGY HOLDINGS LTD	6.58	-2.68	-25.00
GT ADVANCED TECHNOLOGIES INC	4.13	-0.72	-87.39
HANERGY THIN FILM POWER GROU	6.69	10.15	265.25
HANWHA Q CELLS CO LTD - ADR	1.07	-0.82	-60.29
JA SOLAR HOLDINGS CO LTD-ADR	2.61	-0.10	-10.74
JINKOSOLAR HOLDING CO-ADR	3.44	-0.88	-32.73
MEYER BURGER TECHNOLOGY AG	3.94	-1.52	-45.60
REC SILICON ASA	3.83	-0.45	-40.86
REC SOLAR ASA	3.35	0.28	-1.49
RENESOLA LTD-ADR	2.11	-1.04	-59.13
SHUNFENG INTERNATIONAL CLEAN	4.02	0.04	-11.31
SMA SOLAR TECHNOLOGY AG	2.89	-0.25	-41.52
SOLARCITY CORP	6.79	-0.32	-5.88

Source: Bloomberg

> *"ETFs reduce the risk of a WorldCom or an Enron. You have so many risks using just one stock. How do you know there is not fraud risk or an accounting error or a bad product? There's no way we can do that level of due diligence to figure out if that's occurring. The ETF is rebalancing. It's taking out the losers and putting in the winners. We don't have to do that."*
>
> Sharon Snow, Metropolitan Capital Strategies

Bankruptcies and frauds aside, diversification also dampens day-to-day volatility as well. For example, TAN holds 32 companies involved in the solar energy business. Most are newer, younger, and smaller companies. The average standard deviation for each of the 32 stocks is 63 percent. Meanwhile, the ETF's standard deviation is about half that, at 38 percent. That is still about triple the standard deviation of the S&P 500 index, but it is just much less volatile than the stocks it holds. This is because the stocks neutralize each other somewhat inside the fund. This is a story you will see across many ETFs.

It must be noted that there is a flip side to diversification, and that is single stock investing can pay off *big* when a stock surges. Single stock selection lets you feel every basis point of a positive return. Using an example from TAN's holdings, if you were lucky enough to pick SolarCity Corporation (SCTY), you would have been up 246 percent in the past two years, compared to the diversified TAN, which was up (only) 87 percent.

For those who put in the research and time and think they can pick the right stock (at the right time) and outsmart the army of analysts out there, the ETF probably doesn't make any sense. But in cases where you don't put in the time and research or don't want to take on single-security risk, the diversification of ETFs is a huge benefit. This is also why ETFs are not just drawing away assets from other investment vehicles like mutual funds, but also from single security investors.

Easy Asset Allocation

Everyone will tell you that getting your asset allocation is much more important than picking the right securities. The narrower you go in your investment decisions, the less impactful those decisions become. And when it comes to doing asset allocation, ETFs are like hitting the easy button.

> *"We'll get broad exposure using ETFs. It's a really easy, cheap way to accomplish what we are trying to accomplish, which is to own risk factors or asset classes, and it is the smart way to do it."*
>
> Josh Brown, Ritholtz Wealth Management

ETFs are both broad and precise. They have packaged up virtually every single asset class, strategy, region, country, and even derivative that you can think of. Any investor—both institutional and retail—can now immediately get exposure to everything from real estate companies to short-term high-yield bonds to corn futures to China A-shares.

> *"What ETFs allow is a more focused or segmented approach than in the old days."*
>
> Mark Yusko, Morgan Creek Capital Management

While asset allocation is typically associated with long-term buy-and-hold investors, it is also employed by managers with shorter horizons as well. You've heard of stock pickers. Now there are ETF pickers—except they are called ETF strategists.

> *"There are many people who pick stocks. If you walk down the streets of Boston, I would expect that 9 out of 10 investment managers you bump into pick securities. Yet at the asset class level, there are fewer people who compare assets. But the macro environments across the globe are not in sync, whether it is the economic cycle, credit cycle, or business cycle. So that creates opportunity to generate alpha through asset selection. ETFs are a perfect vehicle for that."*
>
> Linda Zhang, Windhaven Investment Management

This also touches on one of the most fascinating aspect of ETFs, which is how they are at once a replacement for a mutual fund, hedge fund, or an SMA as well as a tool for a mutual fund, hedge fund, or SMA. That makes them a two-headed monster. It's also why institutional exposure to ETFs can come from direct usage and/or indirect usage via external managers.

> *"What makes ETFs really different is that in addition to being a funds solution, they are actually a single security or exposure solution. That means they can be used as a substitute for an SMA or mutual fund, or they can be used as part of the SMA or mutual fund. And that's what makes them unique.*
>
> Matthew Tucker, Blackrock

Standardization

We like it when things are standardized. Whether it is USB ports or gas pumps, it is easier when it works the same way regardless of other variables. When it comes to investing, ETFs have standardized every asset class so that they trade like equities. Investors love the fairness and price transparency of equity investing on a stock exchange. ETFs have simply equity-ized every type of investment.

For example, bonds don't have a common exchange. They trade over the counter (off exchange) in relatively opaque markets, whereas bond ETFs trade like stocks. Some other assets that have been standardized by ETFs include physical gold, oil futures, swap agreements, currencies, and hedge fund strategies. All of these things and more can now be bought and sold on a stock exchange just like shares of General Electric. This has standardized investing, and even more importantly, it has created another venue where investors can buy or sell the ETF's underlying exposures

While this standardization is mostly hailed as a breakthrough in convenience, it has also brought with it a few concerns. Just like *Jurassic Park,* when you try and bring ancient beasts into the modern world, you have to be careful. A popular example is junk bond ETFs. Those bonds are pretty illiquid while the ETFs that hold them can be very liquid. This creates a bona fide "liquidity mismatch" and is one of the issues we will look at more in Chapter 9.

This standardization of the financial markets has also challenged embedded taxonomies and structures all over the financial world. Nowhere is this symbolized more than on the Bloomberg terminal keyboard, which is divided by yellow keys for government bonds, corporate bonds, mortgage bonds, money markets, municipal bonds, preferred, equities, commodities, indexes, and currencies, as shown in Table 1.6. Each asset class has different functions,

TABLE 1.6 The Yellow Keys on the Bloomberg Terminal

LAW	F1	Global law and regulation, litigation, legal analysis, news, etc.
GOVT	F2	Securities issued by national governments and securities by quasi-governmental agencies
CORP	F3	Corporate bonds
MTGE	F4	Mortgage market instruments
M-MKT	F5	Money market securities
MUNI	F6	U.S. municipal bonds
PFD	F7	Preferred securities
EQUITY	F8	Common stocks, American depositary receipts (ADRs), mutual funds, rights, options, warrants
CMDTY	F9	Commodities and associated futures and options
INDEX	F10	Equity indices and economic indices
CRNCY	F11	Foreign currencies
CLIENT	F12	Portfolio and risk management

Source: Bloomberg

traits, and the like. Meanwhile, the ETF covers all the yellow keys. They are at once everywhere but nowhere.

This chameleon nature of ETFs is also making it difficult for companies and desks on Wall Street to figure out where to put them. The ETF desk could be part of equities or fixed income or even derivatives. Some are starting ETF-specific desks. The entire financial system is trying to figure out how to adapt to the "disruptive technology" that is ETFs.

Democratic

ETFs are democratic in two ways. First, they have democratized investing by providing retail access to many asset classes, countries, and strategies.

ETFs have also democratized things by providing this access at the same cost. For the first time ever in the history of investing, big institutional investors and small retail investors are using the same investment products and paying the same expense ratios. Unlike mutual funds and SMAs, which have a fee system equivalent to a regressive tax—the less money you can invest, the more you get charged—ETFs are like a flat tax. So my Aunt Joyce investing $1,000 in an ETF gets charged the same annual expense ratio as would Yale University's endowment or a hedge fund investing $100 million.

In this way, you could argue that ETFs are like the Sam's Club of funds. Just as Sam's Club offers wholesale prices on everything, similarly ETFs are priced about the same as the institutional class of a mutual fund. This fairness provides a philosophical undercurrent that is totally in tune with the times and something that has made them a big hit with millennials who generally like fairness and transparency while distrusting anything Wall Street.

While democratization is heartwarming and great for the little guy, how does this benefit institutions? The benefit to institutions is simple: more liquidity. That's ultimately their favorite thing about ETFs. With retail and advisors using ETFs alongside institutions, they both benefit the increase in liquidity because it brings the bid/ask spread down and makes it cheaper to trade. This advantage is unique to ETFs relative to SMAs and mutual funds—the more users of the ETF, the better the user experience, be it a retail of institutional one.

No Emotion

Making an investment strategy is easy. Sticking to it is hard. This is because things change. Portfolio managers can get swept away in trends, groupthink, and fear and emotion. An ETF is immune to all that, and this is an advantage. This is a trait the ETF shares with index funds.

An ETF is programmed to do nothing but track the index. They are like those spider robots from *Minority Report* that mindlessly fulfill their duty. ETF portfolio managers follow the rules dictated by the index to deliver index-like results. The holdings and allocations inside the ETF are generally outside the control of subjective, emotional, vulnerable humans. The ETF isn't reading the *Financial Times* or watching CNBC. It doesn't even have a Twitter account. It just does its best to follow the index returns by adhering to the index rules. Ironically, this robotic, *passive* functionality is highly useful to someone who is *actively* managing money.

This advantage relies on the indexes having solid rules that they stick to. For the most part, indexes simply do not change their rules even when the pressure builds up because of some hot trend.

> *"If we have some rule and we change it overnight, we have riots on our hands. There are situations that naturally happen in the capital markets, which put those rules under pressure, but they are relatively rare. People like what we do to be stable and reliable, and we can't just change the rules on them at the drop of a hat."*
>
> C. D. Baer Pettit, MSCI

Passive Investing

Lack of emotion is related to the overall move to passive investing. More and more people are losing faith in a manager's ability to pick winning securities. And why shouldn't they—it is very difficult to beat the market.

This dips into a concept known as efficient market hypothesis, which is that at any given time the market has already priced in all the available data, and thus it is nearly impossible to know more than the market. This is not a hard concept to fathom when you consider all the manpower dedicated to analyzing securities. For example, Amazon alone

FIGURE 1.3 Total Analyst Recommendations for Large U.S. Stocks

	Ticker		Short Name	Tot Analyst Rec:D-1
1)	AAPL	US	APPLE INC	56
2)	FB	US	FACEBOOK INC-A	52
3)	BABA	US	ALIBABA GRP-ADR	51
4)	CRM	US	SALESFORCE.COM	50
5)	GOOGL	US	GOOGLE INC-A	49
6)	INTC	US	INTEL CORP	49
7)	EBAY	US	EBAY INC	49
8)	VMW	US	VMWARE INC-CL A	49
9)	AMZN	US	AMAZON.COM INC	48
10)	CSCO	US	CISCO SYSTEMS	46
11)	ORCL	US	ORACLE CORP	46
12)	EMC	US	EMC CORP/MA	45
13)	SLB	US	SCHLUMBERGER LTD	45
14)	MA	US	MASTERCARD INC-A	45
15)	MSFT	US	MICROSOFT CORP	44
16)	V	US	VISA INC-CLASS A	43
17)	PXD	US	PIONEER NATURAL	43
18)	NFLX	US	NETFLIX INC	43
19)	BAC	US	BANK OF AMERICA	42
20)	EOG	US	EOG RESOURCES	42

Source: Bloomberg

has 40+ analysts covering it. These are people that do nothing but look at Amazon and the industry it operates in. Many U.S. stocks have 40+ analysts, as shown in Figure 1.3.

The broad analyst coverage makes it difficult to gain any kind of an edge. Other areas such as fixed income and emerging markets may have less coverage and may present more opportunity for a stock picker. And that's why in those areas—plus fixed income—you will find institutions tend to go active, while going passive with U.S. equities.

Just look at the top 5 funds in the world (including ETFs) as shown in Table 1.7, and you will see that literally all of them are passive stock index funds.

Index investing gets associated with Average Joes using their 401(k) plans. But some of the most successful people in the financial industry who know the most about Wall Street are index investors when it comes to their own personal money. I call them "celebrity indexers." They include Jack Lew, Janet Yellen, Michael Lewis, and Ben Stein. We know this from what they've said in interviews or their financial disclosure documents. Heck, even Bernie Madoff endorsed index investing from his jail cell as the least likely way to get ripped off.

TABLE 1.7 The Top 5 Largest Funds in the World

Ticker	Name	Total Asset ($million)
VTSMX US	Vanguard Tot Stk Mkt-Inv	353,736.625
VINIX US	Vanguard Inst Index-Inst	198,316.672
SPY US	SPDR S&P 500 ETF Trust	182,275.703
VFINX US	Vanguard 500 Index Fund-Inv	180,535.922
VGTSX US	Vanguard Tot Int St Idx-Inv	162,158.187

Source: Bloomberg

But perhaps, the most famous fan of indexing is Warren Buffett. Here's what Buffett said in a recent letter to shareholders about what he would invest in right now:

> What I advise here is essentially identical to certain instructions I've laid out in my will. My advice to the trustee could not be more simple. Put 10% of the cash in short-term government bonds and 90% in a very low-cost S&P 500 index fund. I believe the trust's long-term results from this policy will be superior to those attained by most investors—whether pension funds, institutions, individuals—who employ high fee managers."[3]

Buffett specifically points to pensions and other institutions. Given who is saying this, you have to wonder why institutions don't just follow the Oracle of Omaha and use the Vanguard S&P 500 ETF (VOO) and the iShares 1–3 Year Treasury Bond ETF (SHY), two very liquid ETFs with a blended fee of 0.06 percent a year. Not to mention a 10-year annualized return of 7.5 percent, right in line with the bogey most institutions are trying—but typically fail—to hit. I will be referring to this mini-portfolio as the "Buffett Special" throughout the book.

Flexibility

Flexibility is huge to institutions. This is what the book is about. See, there are many ways ETFs can be used besides a long-term investment. This book covers about a dozen of those usages. You can go long or short with an ETF. You can use them as portfolio adjustment mechanisms. You can do tax-loss harvesting with them. You can use them as placeholders or lend them out to generate income or use options with them. The list goes on.

> *"We use ETFs in a lot of different ways here. And flexibility is really the nice thing."*
>
> Michael Brakebill, Tennessee Consolidated Retirement System

ETFs also allow investors to access both beta (market return) and alpha (excess return). On one hand, ETFs can be used to grab as much beta as possible for those who simply want to own the market(s). Sort of like the aforementioned Buffett Special portfolio. This is a worthy pursuit for sure, especially for buy-and-hold investors.

But for those investors looking to find alpha, or excess return above the market, ETFs are useful for that, too. Alpha can be generated in two main ways using passive ETFs. First is by organizing your ETFs in such a way that you overweight or underweight different sectors, countries, or factors that you think will outperform. Many have called this "alpha through beta." This is what ETF strategists have built a $100 billion industry doing.

The other way is through buying an ETF that is designed to try and generate alpha on its own, either through different weighting schemes—frequently called "smart beta"—and/or actively managed ETFs. We will discuss this in great detail in Chapter 7.

Anonymity

As an ETF analyst, I'm always asked, "Where did the flows come from?" or "Who did that big trade?" My answer is always the same: "I don't know."

No one knows. Even the issuers don't know. There's an anonymity and privacy to ETF investing. Anonymity—and freedom—are advantages that I never really noticed until I spent some time chatting with institutions. These advantages were brought up time and time again in discussions with institutions themselves and the ETF issuers.

While ETFs are bought and sold all the time, it is unknown who is doing the buying and selling. This is a beneficial feature to larger institutions—especially ones doing active management—because it keeps their moves on the down low. Even massive block trades that send billions into an ETF in one shot are anonymous.

> *"With an ETF, no one knows exactly what you are doing and you can hide behind the ETF without having to show your hand."*
>
> Ben Fulton, Elkhorn Capital Group

FIGURE 1.4 The Largest Trades for HEDJ from March 19, 2015, to June 19, 2015

HEDJ US Equity | 98) Time Ranges | 99) Actions | Page 1/2 VWAP

08:49 03/19/15 - Price Filter - Calculation Bloomberg Definition

17:12 06/19/15 Vol Filter - Amount @ Part%

Calculation		VWAP	VWAP Volume	Value Traded	Trades	Avg Size	Std Dev
Bloomberg	d	65.6826	352,961,172	23.183BLN	1,209,36	292	1.600188
Custom	d	65.6826	352,961,172	23.183BLN	1,209,36	292	1.600188

1) Summary | 2) Top Trades (AQR) | 3) Price Chart (VAP) | 4) Price Table (TSM)

Trades with the Largest Impact — Spread / Price Ratio .000159

Date	Time	Volume	Price	Exch	Date	Time	Volume	Price	Exch
04/01	16:05:18	2,374,075	66.71	D	04/20	09:36:47	524,000	66.79 ↑	D
03/31	14:01:58	1,568,431	66.195 ↓	D	03/23	14:31:57	511,065	66.46 ↑	D
05/11	09:46:58	1,493,900	65.41 ↑	D	06/10	16:06:26	500,000	64.0867	D
04/01	12:21:13	1,152,307	66.41 ↑	D	04/17	10:11:12	471,579	66.44 ↑	D
06/10	09:48:07	1,000,000	63.43 ↑	D	03/19	09:30:00	448,777	65.95 ↓	P
04/14	16:00:00	876,656	68.17 ↓	P	04/10	14:12:46	430,000	68.48	D
04/30	15:46:25	854,000	64.16 ↑	D	03/24	09:55:55	400,680	66.48 ↓	D
04/20	11:53:40	818,381	66.80 ↑	D	05/12	13:02:30	393,269	64.81 ↑	D
06/10	10:13:43	800,000	63.49 ↑	D	04/30	16:11:58	386,000	64.26	D
04/29	11:06:04	777,108	65.15 ↓	D	04/17	14:39:03	373,400	66.15 ↓	D
05/11	10:33:28	750,000	65.55 ↑	D	05/05	11:36:22	371,581	63.85 ↓	D
04/29	11:21:18	622,484	65.00 ↓	D	05/18	10:21:05	320,000	64.76 ↑	D
05/08	15:37:47	595,306	65.69 ↑	D	04/17	16:39:17	316,000	66.21	D
04/16	12:33:28	534,480	67.602 ↓	D	05/19	10:47:16	300,000	66.46	D

Source: Bloomberg

Figure 1.4 shows a list of the largest trades in the WisdomTree Europe Hedged Equity ETF (HEDJ) during a three-month stretch. You can see that five of the trades are over one million shares, yet it is unknown who did them. We know the when, the where, and even the how (exchange order versus creation). But we don't know the who, and we also don't know the why. And that's just how institutional investors like it.

Price Discovery

If you want to know what the market really thinks about something, just look at where the ETF is trading. This real-time information can be useful both in normal market environments and on days of intense market stress. ETFs are the tip of the spear in terms of trying to figure out how a market is valuing something. They rival the futures market in this aspect.

For example, many international ETFs trade while the markets they track are closed. Suppose news in the United States of new Russian sanctions comes out at 2 P.M. EST. Russian ETFs will trade immediately on that news and inform investors as to what the underlying Russian stocks are worth and where they may open. This also applies to less liquid areas of fixed income as well.

"ETFs in many ways offer opportunities in price discovery in fixed income. Very much the same way when you trade Japan or Germany equity ETFs. When those markets close, that doesn't mean there isn't a value or people stop thinking about the situation."

Linda Zhang, Windhaven Investment Management

Day-to-day, ETFs are slowly starting to replace indexes as the proxies for different markets as well. And why not? Unlike an index, you can actually *invest* in the ETF.

Beyond the day-to-day, there have been some extreme examples where the ETF served as a discovery tool in market-moving events when markets were closed or incredibly stressed.

One example is after the terrorist attacks of 9/11 and SPY. All trading of stock and bonds was halted from 9/11 through 9/17. When trading opened at 9:30 A.M. on 9/17, SPY began trading immediately and effectively, even though some of the stocks in the S&P 500 had not yet begun trading. Because of this, investors were able to use SPY as a price discovery vehicle and make implied valuations on those stocks that not yet begun trading.

Another example is when Egypt's stock market closed for two months between January and March 2011 due to violent protests in the country. The Market Vectors Egypt ETF (EGPT) continued to trade and serve as a guide as to where the market was trading. Many used the ETF to trade Egypt as volume on the ETF more than tripled during the time—all the while, investors holding individual Egyptian stocks were locked up entirely. They had no venue to unload or acquire those shares. Not surprisingly, the ETF deviated from the net asset value (NAV) and traded at a premium (price goes above its NAV) because the underlying stocks had no updated prices to feed into the NAV calculation. Additionally, creations and redemptions could not be done due to the stock market being closed, as shown in Figure 1.5. We will explore creations and redemptions more in Chapter 3 and premiums in Chapter 5.

The most recent example was in Greece, where the stock market closed for a few weeks in July as the country was in a debt crisis. Meanwhile, the

FIGURE 1.5 EGPT's Price and NAV Graph with Flows at Bottom

Source: Bloomberg

Global X FTSE Greece 20 ETF (GREK) continued to trade about triple its average volume. When it finally came down, it was very close to what the stocks were priced at when they opened.

The idea that you can invest in, trade or simply monitor an ETF even though the markets the ETF tracks are experiencing issues, can be helpful in terms of pricing and portfolio management.

Fiduciary Vehicles

ETFs have to be approved by the Securities and Exchange Commission (SEC) and most, like mutual funds, are regulated funds under the Investment Company Act of 1940. This means they have to have an independent board of directors and that the manager of the ETFs has a fiduciary obligation to act in the best interest of the fund holders. This is in contrast to other institutional vehicles such as swaps, futures, and other bank-issued vehicles including structured products.

This can be very important to some institutions that have mandates that forbid them from using the aforementioned derivatives.

> *"It is always nice when you have a pretty prospectus wrapped around an idea. It has all the disclosures and has gone through a vetting process [with the SEC]. There is good governance around the product. It is a nice, neatly wrapped package that can give asset managers a nice turnkey way of getting exposure."*
>
> Ben Fulton, Elkhorn Capital Group

One quick note, though: Not every ETF is registered under the 1940 Act, and some aren't even "funds" at all. However, those products only have about 4 percent of the assets. We will further examine the specific differences in structures in Chapter 5.

Battle Proven

ETFs have been around for over 23 years now and have lived through numerous traumatic market events, including the Internet bubble bursting, the attacks on 9/11, the 2008 financial crisis, the flash crash, the taper tantrum, and countless market spasms. Their assets continued to grow after these events.

ETFs' durability through these market sell-offs, dislocations, natural disasters, human errors, closures, and trading suspensions is part of the reason even conservative institutions feel more comfortable using them. Over the next few decades, there will be new and trying events that shake the markets and subsequently ETFs, but their design has shown they can handle the pressure and the stress.

Convenience

Last, but definitely not least, is convenience. You could argue that all of the preceding advantages in this chapter really speak to convenience, and people love convenience.

To understand just how powerful convenience is, consider that ETFs give away their secret sauce every single day when they post their holdings and their weightings on a variety of public web sites. If the ETF was not convenient, investors could bypass the ETF, save the management fee, and recreate the ETF themselves. But then they would have to deal with the operational duties of tracking an index, such as rebalances, dividends, spin-offs, warrants, and capital gains. Those are a few of the many instances like tax loss harvesting or securities lending where the portfolio manager at an ETF shop adds value.

Most people would rather just click a button and be done with it. Although it probably helps that ETFs have proven their value above and beyond their commonly minimal expense ratios.

The convenience factor is not lost on Tom Dorsey, founder of Dorsey Wright, whose indices are used in many ETFs. He likes to quote Harvard Professor Theodore Levitt, who said, "People don't want to buy a quarter-inch drill, they want to buy a quarter-inch hole!"

"We have been hiding in the open for 28 years. Every day we tell our clients exactly what we do. But people want the hole, not the drill."

Tom Dorsey, Dorsey Wright

Notes

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