

Active and Passive Investment

Their Coexistence in Portfolio Management



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INTRODUCTION AND MAIN CONCLUSIONS

In this report we discuss the causes and the consequences of the extraordinary growth experienced by passive investment funds -especially, but not exclusively, Exchange Traded Funds (ETFs)- in the last twenty years, an expansion that has been particularly intense in the last decade. This growth has changed dramatically the landscape of the investment funds industry: competition and transparency have increased and costs for the investor have fallen. Traditional, active investment funds compete with each other in a monopolistic competition¹ framework: each of them claiming to be different from and smarter than the rest. The emergence of passive, plain vanilla, inexpensive investment vehicles -there are more than 5,000 ETFs at the time of writing this report- has put the traditional framework to the test.

We have divided the work in 10 sections.

In **Section 1** we put forward a historical explanation of the democratization of financial investment in the Western world. This process stems, on the one hand, from the emergence of middle classes with saving possibilities and, on the other hand, from the development of financial markets and instruments that made it feasible and easy for individuals and institutions to gain access to them. *Historia magistra vitae est.*

In **Section 2** we present a theoretical model that brings some discipline to the investment processes of both individuals and institutions. This methodology is based on the idea that all financial investors should separate their investments between a strategic portfolio, aimed at getting whole market returns, and several

¹ See the **Monopolistic Competition** entry in the **Glossary**



satellite portfolios, aimed at getting pure alpha. In this framework we discuss the Fundamental Law of Active Management and assess the roles of skill and luck in top active manager's performance. The data show very weak persistence in time of top performances, so luck may have a greater role than commonly assumed in determining who the top performers are at a given time.

In **Section 3** we describe some key features of the index-producers industry that provides benchmarks not just for passive investors but for active investors as well. The number of indices reported by the Index Industry Association is truly mind-blowing: some 3.2 million were kept updated by mid-2018. We report in this section some regulatory concerns that have been raised by IOSCO regarding the kind of indices that are suitable to be used by collective investment schemes -an issue of transparency- and the problems raised by homemade indices -an issue of conflict of interests-. In any case, the index industry is very profitable and shows a high degree of concentration: the three largest index providers have a market share of 70% and a profit margin of 65%.

In **Section 4** we deal with passive funds and, especially, their more relevant investment vehicle: Exchange Traded Funds (ETFs). We provide a thorough description of how ETFs work. We start from their creation as an investment vehicle by a sponsor and continue by describing how ETFs' shares are created and redeemed. These are complex processes. We describe the primary and secondary markets for ETFs and how they manage to disclose the Intraday Net Asset Value (INAV) of the fund every 15 seconds during the trading session. We also refer to the recently authorized Non-Transparent Active ETFs and comment on how their cost structure may evolve.

In **Section 5** we address the issue of how ETFs track their indices. This is not a straightforward issue. The method chosen depends, among other factors, on the liquidity and cost of trading the underlying securities. ETFs can replicate their reference index physically, but that may prove to be difficult and expensive; they can do it by statistical sampling, which always incurs in tracking errors that can become significant; or they may use swaps, funded or unfunded, to imitate the index synthetically. This section also discusses the so-called "closet-trackers" problem, i.e. purported active asset managers that actually implement an index-tracking strategy.

In **Section 6** we discuss the contentious issue of the costs of investment funds.



This is a fiendishly complex topic. Comparisons between active funds are very difficult and may be plainly impossible to make. Commonly used ratios as the Expense Ratio or the Total Expense Ratio typically do not include all expenses that are eventually charged to the client. Heterogeneity in the active investment funds universe fogs all possible comparisons. Passive funds, especially ETFs, have a much more transparent cost structure, given that most transaction costs are shifted from the fund to the investor, who pays for them directly.

In **Section 7** we examine the reasons why investment funds' expenses are trending down. And down they trend indeed! Management fees charged by open-ended funds have fallen 50% between 2000 and 2018. This fall is driven by clients becoming much more sensitive to costs and being ready to move from expensive funds to cheaper ones. In this section we also provide a graphic description of the effects of this cost reduction on the world of investment funds.

In **Section 8** we come to grips with another controversial topic. Does the concentration of shares of public companies in holdings of ETFs undermine competition? Is the concentration of voting rights in ETFs' management a negative for the economy? We discuss these problems in an Agent-Principal framework, finding no meaningful adverse effects.

In **Section 9**, we address the controversial issue of whether or not gigantic ETFs pose significant challenges to financial stability. Concerns about this were raised as early as 2011 regarding three main areas: 1) the reliance of synthetic ETFs on derivatives (swaps), (2) their investments in illiquid assets and (3) their extensive use of securities lending. After examining these issues with some detail we find no evidence of ETFs rising risks to financial stability beyond what other financial instruments and institutions have already been doing for decades.

Finally, in **Section 10**, as concluding remarks to this report, we return to the financial investment model spelled out in Section 2 and make the case for a combination of strategic and tactical portfolios. Investors in financial assets may be classified in two broad classes. In the first group we find those who do not care for the subtleties of investment processes. These investors should concentrate in passive, inexpensive investment vehicles. The second group of investors does care about investment decisions, market intelligence and a close relationship with fund managers. They should have active management vehicles in their portfolios and be prepared to pay higher fees.



1. THE ACTIVE VERSUS PASSIVE INVESTMENT DILEMMA: A HISTORICAL PERSPECTIVE

1.1 Financial markets, middle classes and pensions.

Current ideas on financial investment are rooted in the historical development of financial markets, in the growth of social middle classes with actual possibilities of saving and investing, and in the extension of life expectancy, not just in developed countries but also in the developing world. These three processes have proceeded in parallel since the last-decades of the 19th century. Previously, rich people invested in property, agrarian, real estate or industrial. Nowadays property is no longer the sole means of accumulating wealth.

1.2 The financial disintermediation of industrial capitalism.

The first stock market was founded in Amsterdam in 1602. It operated in the mansion of the *Van der Buërse* family (hence the alternative name of Bourses for stock markets). In London the stock market was officially founded in 1801 but there is strong evidence that already in 1695 there were more than 140 enterprises trading their own stock in the coffee shops around *Exchange Alley* in order to get long term financing. As the 19th century went on several stock exchanges appeared in industrializing countries aiming at achieving the best possible financial world: one in which firms could get long term financing using short term investments made by private investors. This financial alchemy opened the possibility of accumulating financial, liquid wealth to both the upper and the burgeoning middle classes. In the 20th century the capitalization of stock markets grew at hastening pace.



1.3 Expanding middle classes.

Contrary to Karl Marx's expectations, capitalism and industrialization did not lead to growing polarization between capitalists and proletarians. There were two important reasons for his prediction's failure. First, industrial capitalism needed ever more qualified, educated workers, and higher productivity led to higher compensation. This resulted in average salaries moving away and up from mere subsistence levels thus creating the possibility of saving for the better-paid workers. Second, in the 19th century several European countries -Germany, Italy and others- experienced national construction processes that required a lot of newly created social cohesion around the emerging idea of nation. These processes needed middle classes that related their own prosperity to the consolidation of the new nations and, also, the establishment of the foundations of the welfare state to keep the working classes on board. These two processes resulted in growing access to real estate property and to financial markets, especially the stock markets. In Western countries liberal democracies became amiable to the popular capitalism doctrine.

1.4 Survival pyramids become rectangles thus threatening pensions.

There has never been such a thing as a "population pyramid" because they are flat figures: they should be named "population triangles". Having said that, in the 20th century these triangles morphed into rectangles in many Western countries and, in some places, even reshaped into inverted triangles. This "*rectanglization*" of survival, which can be seen in the 21st century in most countries, results from three different but related processes. First, the sharp fall in infant mortality due to improved public hygiene regulation, on the one hand, and by the discovery of antibiotics, on the other. Second, the even sharper fall of the fertility rate in response to the reduction of infant mortality. And third, the worldwide increase of life expectancy: in the UK life expectancy at birth was 40 years in 1900 and 81 years in 2015; in Ethiopia it was 34 years in 1950 and 65 years in 2015. *Rectanglization* is a worldwide phenomenon.

The *rectanglization* of survival poses obvious problems to pension systems, be it pay-as-you-go or capitalization. In the first case fewer and fewer active workers are supposed to pay the pensions of more and more pensioners whose



life expectancy keeps growing, lengthening the years of retirement. At some point pay-as-you-go systems will have to be complemented by capitalization ones, as it is already the case in countries like the UK, US, Sweden and many others. This translates into huge flows of funds pouring into financial markets in a structural, non-speculative way. A similar process already occurred in mid-20th century in other English-speaking and Nordic countries such as Canada and Norway. In Germany, pension plans were held in the balance sheets of firms and were not externalized until the beginning of the 21st century.

1.5 Active versus passive investment: a recent dilemma.

From 1602, when the first stock market was born in Amsterdam, to mid-20th century investment in stocks had a clear “active” or even a speculative nature. The Dow Jones index was created in 1896 and the S&P 500 in 1957. Before these dates it was practically impossible to bet on “the market” as a whole. Moreover, even after these indexes were available, they were extremely difficult to replicate. It was not until 1982 that the Chicago Mercantile Exchange introduced the first futures contract on the S&P 500. This provided a simple and inexpensive way of getting exposure to the full index therefore facilitating in practice “passive” investment. But this is not the whole story. The futures markets also facilitated “active” investments different in nature to stock picking, such as the search for alphas and betas relative to the full market.

1.6 From mutual funds to ETFs.

The earliest mutual funds appeared in Europe in the late 19th century. In the US the first mutual fund was the Boston Personal Property Trust, founded in 1893 and largely, but not exclusively, property-based. The Massachusetts Investors’ Trust, an open fund and the first of its kind, started in 1924 and is still operative nowadays.

The first indexed fund was designed in 1971 by Wells Fargo Investment Advisors for Samsonite’s pensions fund. The first indexed mutual fund was launched in 1975 by the late John Bogle, founder of the Vanguard Group. The first successful ETF was launched in 1990 in the Toronto stock exchange. Three years later, in 1993, appeared the S&P SPDR (Standard & Poor’s De-



pository Receipt (SPY)), the longer lasting and most successful of ETFs. Its assets under management were US\$ 475m in its first year and nowadays they exceed US\$ 317 bn².

The ETF industry was strengthened in 1996 by the launching of Morgan Stanley's WEBS (World Equity Benchmark Shares) managed by Barclays Global Investors (BGI). The key idea was to offer an investment vehicle linked to several countries' stock market indexes constructed by Morgan Stanley Capital International (MSCI). Eventually BGI took full control of WEBS and changed its name to iShares. Contrary to SPY, iShares was able to offer a wide range of ETFs -linked to different indices-, thus creating the possibility of building portfolios of ETFs. In 1999 the Bank of New York launched QQQ, an ETF based on NASDAQ 100 (NDX). In its first year QQQ raised US\$ 18,6bn and nowadays it exceeds US\$ 66bn. It took some time for the first ETF to show up in Europe. In April 2000 the European Exchange Traded Fund Company issued two of them -managed by Merrill Lynch- in the Deutsche Borse and linked to the Euro Stoxx 50 and the Stoxx 600 indices.

Beyond shares and bonds, ETFs have also made important inroads into other asset classes, including real estate, commodities and derivatives. Along that road, in 2004 the SPDR Gold Shares from State Street raised US\$ 1 billion in its first three days of existence. Around the same time the first ETFs linked to the price of oil also appeared in the market.

This schematic "history" of the evolution of asset management, leading to the current burst of ETF issuance and its growing share of investment funds is meant to highlight firstly, that any controversy about active vs. passive management is not new. This issue has been discussed for more than 50 years and is unlikely to be settled any time soon. It is also worth noting that the regulation and taxation to which the industry is subject, conditions the form that the investment vehicles available to investors will adopt.

ETFs have acquired their current importance through a combination of "trial and error", academic thinking and a selected group of clever asset managers competing among themselves.

² As of 16 January 2020. Source: etf.com.



1.7 The decrease of market liquidity and the increase in passive investment since 2008.

The financial crisis that started in summer 2007 brought about a sharp decrease in financial markets liquidity especially, but not restricted to, in the markets for riskier assets. Trading equities became more expensive, trading corporate bonds became more expensive and trading some sovereign bonds became more expensive too. Some huge and liquid markets disappeared overnight: the Alt-A derivatives in the US in 2007, the interbank repo market in the Eurozone in 2011 and many others. This fall in market liquidity had two main causes. First, investment banks' capital requirements were sharply increased and most of them had to merge with commercial banks that, in turn, also had their capital requirements raised. This reduced the inclination of banks to provide liquidity and counterpart to trading in financial markets. Second, there was a drastic reduction in proprietary trading -a great source of profits for all investment banks during the financial bubble and, also, an important source of market liquidity-that contributed very significantly to make trading more expensive. All this enhanced the appeal of passive investments and hold-to-maturity strategies in order to reduce trading costs and paved the way for the success of investment instruments such as the ETFs. By the end of 2018 assets under management by ETFs and other passive funds amounted to 17,3% of the global investment funds universe.

1.8 Active and passive investment: the point of view of investors.

As already mentioned above, passive investment was made possible by the development of futures and derivatives markets since 1982 that allowed investors to take exposure to an entire index such as the S&P 500. It is a bit paradoxical that it was the availability of instruments for passive investment what gave a much sharper focus on what active investment should aim to achieve. Active investment makes sense if there is a reasonable probability that it can consistently deliver higher returns than passive investment, after commissions and charges. This is an extremely controversial topic and, as we will discuss below, the key issue is what "reasonable probability" means. The theoretical conditions for active investment outperforming passive investment will be discussed in some detail in the following pages.



1.9 Active and passive investment: the point of view of asset managers.

Nobody welcomes more competition in his or her activity and fund managers are no exception. The emergence of inexpensive passive investment funds like ETFs, some boasting about charging their clients commissions close to zero, was not well received by traditional, active investment managers. When all financial investment was basically active -before the emergence of benchmarking and of passive instruments and strategies related to it- it was quite difficult and cumbersome to gather information about active managers' performance and costs in order to compare and decide who were the best. Lack of competition is usually based on opacity in information. Nowadays this kind of decisions about what managers to choose has been drastically simplified because it suffices to compare a particular manager's performance with some index, the S&P 500 for instance, to decide whether to stay with that manager or-to buy an ETF referenced to that index. This brings a significant change to the asset management industry. First, the increasing transparency on individual management results should prod investors to quit the unsuccessful managers and join the ranks of the successful or simply to buy an ETF. Second, the intense competition in fees and costs does not involve just active managers, but passive ones too. In that process, funds -active and passive- have strived to exploit economies of scale and lower unit costs to be price-competitive. That has led to much larger funds and to a remarkable degree of concentration in the industry through mergers and acquisitions. By 2018 the five largest asset managers accounted for 51% of assets, up from 35% in 2005. This high degree of industry concentration poses some relevant questions for corporate governance that will be dealt with later on.

1.10 Active and passive investment: the point of view of regulators.

Investment in ETFs brings about a concentration of voting rights in the managers of the ETF. An investor buying shares of an ETF is entitled to get the returns obtained by the reference index but is not entitled to the voting rights of the underlying shares. These rights remain concentrated in the ETF provider companies. Something similar occurs in an active investment fund, but the consequences in this case are far less dramatic. A passive fund is interested in the performance of an index -a sector index, for instance- and it might be the case that the strengthening of competition among companies in that index reduces its aggregate returns, at least for some time. The opposite may happen if competition is lessened. The



The active versus passive investment dilemma: a historical perspective

gigantic size of ETF providers adds more concerns to this already worrying situation. An active investment fund, on the contrary, is typically not interested in the aggregate performance of indices, but in picking their best performing individual stocks. These issues should call the attention of economic and financial regulators and academics and are addressed in section 8.3.

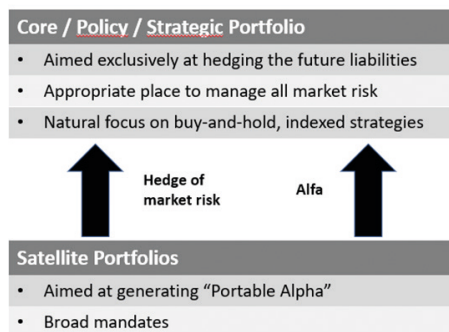


2. THE ACTIVE VERSUS PASSIVE INVESTMENT DILEMMA: A THEORETICAL PERSPECTIVE

2.1 A theoretical framework combining active and passive investment strategies.

As stated in Molinas, C. (2004), the starting principle is that any investment portfolio should be thought as a means of financing a future flow of liabilities. This principle allows the identification of the criteria that should guide the portfolio building process. Generally speaking, once the criteria have been identified, the portfolio should be subdivided into a *core portfolio* and a number of *satellite portfolios*.

Graph 2.1



Source: Own elaboration

The core portfolio should be structured to give the best possible hedging of the forecast future liabilities. To achieve that, investment managers should try to minimize the inevitably very large errors in the long-term forecasts of returns of the assets in the portfolio. The core portfolio is the right place to hedge market risk not just for its own investments but also for the satellite portfolios. Given



these objectives, core portfolio's investments should be long-term, passive and by means of index investing.

Once the future liabilities have been given proper hedging in the core portfolio, the search for alpha has to proceed from the satellite portfolios with all market risk hedged back to the core portfolio (this is the idea underlying the expression *portable alpha*). This hedging of market risk may be achieved via long/short positions in futures contracts or -why not?- index-tracking ETFs. These satellite portfolios should be the most active part of the investment procedure. In principle, this search for portable alphas may have no quantitative limits, but in following pages we will qualify this statement when we discuss the expertise or ability of investment managers: it is more prudent to underestimate it than to do the opposite.

2.2 The Fundamental Law of Active Management.

A good starting point to analyse active strategies is to remember that not all active managers can outperform the market. Referred to the broadest possible market of investable assets, active investment is necessarily a zero-sum game: what some managers gain outperforming the market, other managers must lose underperforming it by the same amount. For that reason, investors should be very careful when selecting their active managers and should try checking their skills before making any commitment of entrusting funds.

If we call Information Ratio (IR) to the maximum alpha a manager can get per unit of active risk, Information Coefficient (IC) to a measure of the skill of the manager and we call Breadth (BR) to the number of independent bets in which the manager can exercise his or hers skill, the Fundamental Law of Active Management states that

$$IR = IC \sqrt{BR}$$

It is the consensus view that managers with $IR > 0.5$ are in the top performance quartile and managers with $IR > 1$ are in the top decile. This law was first enounced by Grinold and Kahn (2000) and has since been the subject of a vibrant debate about its relevance. We will have more to say about it.



2.3 The relevance of breadth.

Why are casinos such good businesses? The answer is: because they have enormous breadth in their bets. To simplify, let's focus just on the roulette (the generalization to other games is quite straightforward). Betting on red against the casino has a probability of winning of $18/37$, which amounts to 48,6%, and a probability of losing of $19/37$ i.e. 51,4%. The IC of the casino is $1/37$ due the 0 pocket that belongs to the house. In an isolated bet the IC of the casino is $1/37 = 0,027$ a very low number: a casino would be a terrible business if it accumulated all the money gambled in a year in a single bet. But this huge annual bet is split into zillions of small independent bets thus giving the casino enormous breath. For one million bets the IR of the casino is flabbergasting: $IR = 1/37 (1.000.000)^{1/2} = 27$. There is no active manager on Earth who could even dream of approaching that number.

2.4 Skill and breadth.

The best active strategies are not necessarily those based on skill but those based on breadth. Of course skill helps, but breadth is the key issue. Tactical asset allocation strategies between broad asset classes (bonds versus stocks, emerging versus developed markets, etc.) typically lack breadth because of the limited choice of broad categories. Moreover, they are afflicted by high correlation among them. For any given IR, the required share of hits falls with increasing numbers of bets. Something similar happens at the "micro" level when the bets are made on individual stocks (stock picking strategies). In this case, the possibilities of making

Table 2.1 Hit Ratios for Selected Information Ratios and Breadth

Number of Decisions per Year		IR= 0.15	IR= 0.50	IR= 0.75
Tactical Allocation	↑ 1	56,0%	69,1%	77,3%
	↓ 4	53,0%	59,9%	64,6%
	↓ 12	51,7%	55,7%	59,5%
Stock Picking	↑ 200	50,4%	51,4%	52,1%
	↓ 400	50,2%	51,0%	51,5%

Source: César Molinas, Merrill Lynch (2004)

Note: Shaded cells correspond to plausible hit ratios



many bets are much higher than in “macro” strategies but this does not mean that these bets are going to be independent. A large number of bets may not result in a large breadth. The table above shows typical values for IR and the share of hits for an increasing number of bets in “macro” and “micro” investment strategies. Augmenting the bets’ number does not improve the hit ratio.

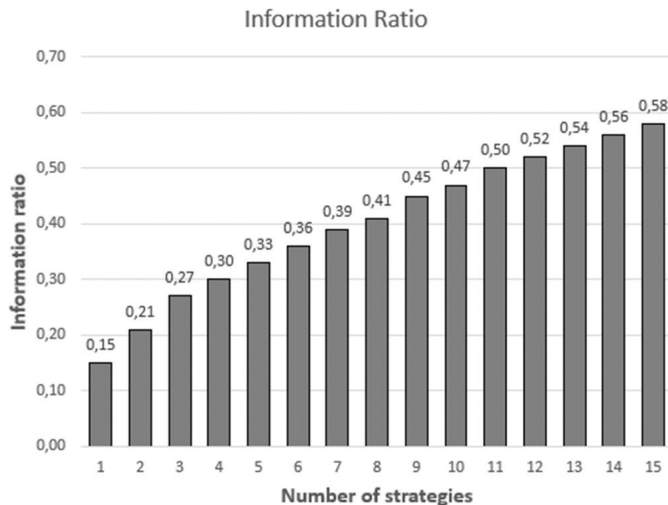
2.5 The Fundamental Law is additive.

As long as the information sources for different strategies of an active manager are independent, the Fundamental Law is additive in the squares of the information ratios. This is

$$(\text{IR})^2 = \sum_i^n \text{IC}_i^2 \text{BR}_i$$

The chart below shows the improvement of an Information Ratio of 0,15 (IR = 0,15) as an increasing number of independent strategies are added to the investment process. Initially the aggregate IR grows fast, but the improvement decelerates significantly as more and more independent strategies are incorporated.

Graph 2.2



Source: César Molinas, Merrill Lynch (2004)



2.6 Are there truly independent investment strategies?

This is an important question. Seemingly independent bets may be less independent than what meets the eye. The tables below show the relative correlations (the correlation between the ratio of returns of two assets and the ratio of returns of two other assets) for a small number of equity and bond markets. If we assume that in equities Japan will outperform the US, this hypothesis has a 92% correlation with Japan outperforming the UK, 86% correlation with Japan outperforming Europe, and 62% correlation with Global Emerging Markets outperforming the US. These hypotheses are hardly independent. Similar, although smaller, correlations can be seen in the table for bonds. Markets -and individual stocks- are much more correlated than what active managers may assume. This sets a limit in practice to the additivity of the Fundamental Law: truly independent strategies are hard to find.

Table 2.2 Equities -Relative Correlations with “Japan outperforming US”

Outperforming Equity Region	US	UK	Europe	Japan	GEM
US	-	-	-	-	-
UK	28%	-	-	-	-
Europe	31%	11%	-	-	-
Japan	100%	92%	86%	-	20%
GEM	62%	58%	54%	-	-

Bonds -Relative Correlations with “US outperforming Germany”

Outperforming Bond Region	US	UK	Germany	Japan
US	-	45%	100%	27%
UK	-	-	43%	13%
Germany	-	-	-	0%
Japan	-	-	-	-

Source: Merrill Lynch GAIA model (2004)

Note: Relative correlation is the correlation between the ratio of returns on two assets and the ratio of returns on two other assets. Data 1995-2004

2.7 A generalized view of the Fundamental Law of Active Management.

Some research carried out after Grinold and Kahn’s book of 2000 has questioned whether Breadth (BR) is the sole factor of relevance in generating Information Ratios (IR). A paper published in 2010 by Zhuanxin Ding spells out a generalized version of the Fundamental Law that includes Grinold and Kahn’s as a particular case. This generalized equation allows for relaxing some of the hypothesis



used in the classical formula that may be too restrictive. One of these hypotheses is that the skill of active managers (IC) remains constant over time, implying that there is no learning. Another is that IC remains constant across all simultaneous bets that conform the alpha-generating portfolio at a given time: the skill of managers is restricted to be the same for stock picking, for bond picking, for commodities and for foreign exchange, among other asset classes. In a temporal perspective the classical formula disregards luck -a crucial factor in all investments- and, as mentioned above, learning. In a spatial perspective, if the different strategies in the portfolio were truly independent the additivity of the Fundamental Law would make differences in the ICs across asset classes irrelevant. But, as seen in 2.6, truly independent bets may be in scarce supply.

What happens if we relax the hypothesis that ICs are constant in time? In that case Ding presents simulations showing that the variability over time of the ICs may be more relevant for the IRs than the variability of BRs. The consequences of these results for alpha-searching management are clear: more resources should be invested in improving alpha prediction models in order to try to raise the skill of investment managers (IC). The same conclusion should apply to spatial or transversal ICs over different asset classes or over individual assets in one given asset class. However, an indirect likely consequence of this advice is the increase of the “arms race” in financial research among different management institutions. We should not forget that the search for alpha is necessarily a zero-sum game. And zero-sum games are a most favourable environment for this kind of races to take place.

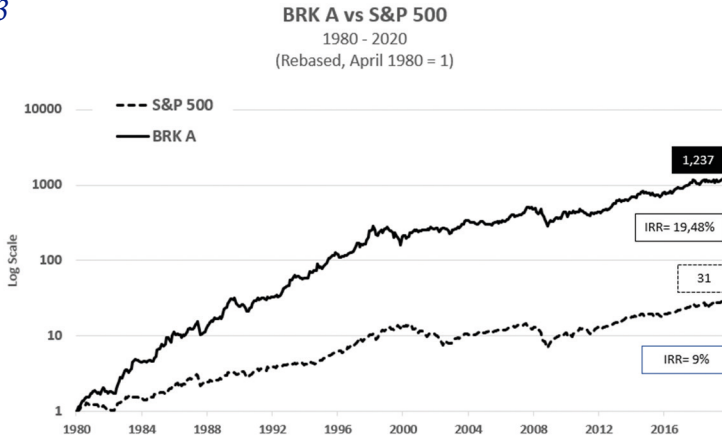
2.8 The proof of the pudding for active management: Berkshire Hathaway.

Is it possible for active managers to outperform a reference index during prolonged periods of time? The case of Berkshire Hathaway (BRK) shows that yes, some can do it. As shown in the chart below, the total return (reinvesting dividends) of BRK over the latest three decades has been 75% higher than the total return (reinvesting dividends) of the S&P 500³. Of course there have been periods in which the S&P 500 has performed better than BRK, but these periods, most occurring during sharp market downturns, have been relatively brief. Everything points to BRK having been able to build a winning long-term strategy.

³ The outperformance of BRK over the S&P500 was generated in the first two decades of the sample period. In the last decade BRK has maintained, but not increased, previous relative gains.



Graph 2.3



Data source: Investing.com

What are the basics of this strategy? BRK's portfolio consists of a reduced number of stocks, less than 50, that are highly correlated among them. Moreover, rotation of the portfolio is very low. It does not look as a strategy based on breadth (BR). Most likely the knowledge BRK has of each of its bets is extremely high, this meaning that the volatility of the transversal ICs is extremely low and that more than compensates the lack of breadth.

But just buy and hold would not do, however wisely we do it. A recent paper by Bessembinder et al (2019), reports the performance of 62,000 global stocks trading in public markets over the 1990 to 2018 period. Some of their findings are truly eyebrow rising. First, only 40.5% of these individual stocks have full sample buy and hold US\$ returns that exceed the accumulated return of the US Treasury bill. The others, the majority in the 62,000 chosen stocks, did not reach the returns of that popular risk-free benchmark.

Second, the full-sample US\$ returns of broad markets are much higher than those of the US Treasury bill. However, these large returns of the broad market are generated by the returns of a very small number of stocks. Focusing only on the 24,000 firms that showed positive net wealth creation, US\$ 44.7 trillion in the sample period, just five firms (0.008% of the total) -Apple, Microsoft, Amazon, Alphabet and Exxon Mobile-accounted for 8.3% of global net worth creation; the best performing 306 firms (0.5% of the total) accounted for 73% of global net



wealth creation and the best performing 811 firms (1.3% of the total) accounted for almost 100% of global net wealth creation.

These numbers and these names show how difficult it is to be a successful stock-picker. One has to be very smart, or very lucky, to figure out with anticipation the 811 names that contributed almost 100% of global stock markets net wealth creation in the latest three decades. Amazon and Alphabet/Google did not even exist at the beginning of the sample period. Stock picking in a buy and hold strategy is not an easy task. This is why BRK has earned so much respect.

The alternative to buy and hold strategies is activist management, i.e. strategies that rely on frequent portfolio rotation. It is not easy to assess the merits of activist strategies separating the effects of skill from those due to pure luck. It is easier to examine whether there is persistence in active managers in top performance. A very recent paper by S&P Indices Research analysts Liu, Preston and Soe (2019)⁴ reports empirical results about some active investment managers consistently outperforming their peers. Their findings are worth remembering. Over the three-year period ending March 2019 only 11.4% of domestic (US) active funds starting top quartile in performance ended the period top quartile. Wow. This percentage falls to 5.8% if we consider only large-cap funds and falls further to 2.3% if we consider only small-cap funds. It is tempting to interpret these numbers, all of them quite low, by guessing a larger role of luck in large-cap relative to small-cap and a larger role of skill in small-cap relative to large cap.

Persistence numbers become even more dramatic when considering the five-year period ending March 2019. Just 0.7% of all domestic (US) funds that were top quartile in March 2014 remained so in March 2019. This percentage falls to 0.0% in large-cap funds and is just 0.75% in small-cap funds. If, instead of looking at the top quartile, we look at the top half funds over a five-year period the persistence percentages are 10.36% for all domestic (US) funds, 13.24% for large-cap funds and 6.39% for small-cap funds. The conclusion is that outperformance persistence may exist in the active investment funds universe but, if so, it should be very, very difficult to find.

⁴ See the full reference in the list at the end of this report.



3. STOCK MARKET INDICES

3.1 A bit of history.

Indices of negotiable securities have long been used to measure the aggregate performance of a market (or a section of it). The vast amount of information that markets generate beseech for such a summary indicator. For investors, indices provide essential reference points for assessing the appropriateness of their investment decisions. Also, indices provide handy benchmarks for the evaluation of the performance and skill of professional money managers to whom investment decisions may be entrusted. The importance of these points is hard to exaggerate. Indexing shapes the whole asset management industry.

In 1884, the journalist Charles H. Dow and the banker Edward D. Jones created the homonymous index, the *Dow Jones Average*. This first index appeared daily in *The Customers' Afternoon Letter*, providing its readers with a simple average of the prices of eleven stocks, nine of which were railway companies and the two other industrials. This index was named the *Dow Jones Transportation Average*. Two years afterwards they started to publish a more diversified index, the *Dow Jones Industrial Average* (DJIA), covering twelve values of different industries.

3.2 A densely populated world.

A lot has happened in the indexing world since the seminal work of Dow and Jones. Based in New York, the *Index Industry Association* (IIA) agglutinates fifteen of the largest providers of indices worldwide⁵. Since 2017, the IIA annually

⁵ It includes Bloomberg Indices, FTSE Russell, Center for Research in Securities Prices (CRSP), CCDC, CBOE Holdings, ICE, IHS Markit, Morningstar, MSCI, NASDAQ OMX, S&P Dow Jones



surveys its members and reports on the total number of indices produced by them. In June 2018, the IIA counted 3.27 million indices among its members, a truly mind-blowing figure. Furthermore, 438.000 indices were created between mid-2017 and mid-2018. The IIA gives no public information about the breakdown of the number of indices by type, making any guess of the number of those linked to stock markets highly tentative. Nevertheless, we should bear in mind that, according to the World Bank estimate, there were 43,192⁶ public companies listed in all markets in 2018. On this ground the total number of indices would stand disproportionately tall, even if most of the indices were unrelated to stock markets.

3.3 A complex and technical world.

From the humble and easy to calculate stock market indexes of the beginning, independent index providers have turned them into highly sophisticated statistics. Different methodologies, index creation criteria and “maintenance” rules have been devised to provide investors with explicit, transparent measures of market “sentiment” and credible benchmarks against which investments’ performance can be measured. Some of these indices, like the S&P 500, the NASDAQ 100 or the EuroStoxx 50, have become everyday household names.

However, that familiarity should not mislead anyone to believe that the constructing and maintaining of an index is an easy task, particularly if the market that it tracks contains a large number of stocks or if they are dispersed across an ample spectrum of countries. To begin with, one must distinguish between Total Return Indices and Price Indices. The first assumes the reinvestment of dividends while the second does not. Dividend payments are the simplest and more frequent of the so-called *Corporate Actions* that the index provider must track. But we should bear in mind that there can be special dividends⁷ and that they can be paid in cash, with shares or with cash with a shares alternative and that

Indices, STOXX, Tokyo Stock Exchange, Hang Seng Indexes and Shenzhen Securities Information Company.

⁶ This number is consistent with the 62,000 reported in section 2.8 because the latter corresponds to the period 1990-2018 in which there were many net dropouts.

⁷ An extraordinary, large dividend that the firm may decide upon when implementing a change to its financial structure.



they do not have the same consequences for the calculation of the index. If the dividend is paid in shares, the index provider adjusts the price and the number of shares. The same happens if the company implements a stock split, another type of corporate action, but the formula for adjusting both the price and the number of shares might be different. Reverse splits, scrip issues, rights issues (whether transferable or not) and buy-backs also require a recalculation of the index.

These various methods of rewarding a company's investors do not exhaust the actions that affect the work of the index provider. Think for a moment of a company that spins off part of its activities. The spun off (new) company may or may not be listed in the market or may not be large enough to be included in the index in any case. In the case of a merger or an acquisition, different scenarios must be contemplated also. The company bought can be in the index or not, the acquiring company may or may not issue shares to buy its target or the transaction may lead to a delisting. Many options arise, leading to different impacts on the index.

Additionally, the index must reflect bankruptcies, suspensions from trading, write-offs of capital, exchange offers, conversions of preferred stock or bonds or capital repayments. Naturally, regular reviews of the index call for rebalancing (adding or deleting constituent firms). And this list is not meant to be exhaustive⁸.

In global markets, with tens of thousands of public firms, the enormity of the task of index maintenance should be evident. It is also easy to see why, once the fundamental work of creating and keeping up an index is done, the provider is likely to produce a myriad of sub-indices based on a subset of the same companies. The marginal cost is minimal and may well match the investment strategy of an asset manager. Conversely, the asset manager with a new investment product is likely to approach an established index provider that can easily produce a tailor-made benchmark.

⁸ As useful examples, Refinitiv's (Thomson Reuters) (2019) document "Corporate Actions Methodology" provides a detailed description of how they, as a provider, perform their index maintenance. See https://www.refinitiv.com/content/dam/marketing/en_us/documents/methodology/corporate-actions-methodology.pdf.

See also <https://us.spindices.com/documents/methodologies/methodology-sp-equity-indices-policies-practices.pdf> for S&P Dow Jones methodology.



3.4 Indices and benchmarks.

It is tempting to conclude that the proliferation of ETFs -there are over 5,000 in existence- is instigating the concomitant, hyperbolic growth in the number of indices. However, their use would be widespread even in the absence of ETFs. Passive investment managers (non-ETF) and active managers also lean on them as benchmarks. Furthermore, many indices have no relation with stock markets and not even with financial markets.

Many of the advances in indexing, if not most, have deep roots in information technology (IT). Markets and its agents have gone electronic. IT, coupled with the economies of scale and of scope featured by the production of indices, has allowed a reduced number of suppliers to generate them expediently and at a very low (unitary) cost.

The availability of “cheap” and abundant indices feeds into the proliferation of ETFs. Asset managers dispose of any imaginable benchmark to track, encouraging the launch of indexed funds of all sorts. However, to remain viable (profitable) an ETF must attain a certain size (assets under management) in a reasonable time. Many ETFs fail in this task and are subsequently closed. The mortality rate among ETFs has accelerated. This is not cost-free for the investor, even if there are no capital losses associated with the closure, because finding an alternative conveys transaction costs.

3.5 A profitable industry.

Unquestionably the largest index providers have benefited hugely from the expansion of the ETF market and there is a high degree of concentration among them. The three largest, S&P Dow Jones, Morgan Stanley Capital International (MSCI) and FTSE Russell have a 70% market share and profit margins that go up to 65% in an industry that generates an estimated US\$ 3.5 billion in revenues each year⁹. Interestingly, index providers charge fund managers both a subscription fee and one based on assets under management (AUM), the former accounting for 40% of revenues and the latter for roughly 50% of them. Brand recognition plays a fundamental role, allowing the dominant providers to extract economic rents from the use of their indices.

⁹ Financial Times, May 20, 2019.



3.6 Home-made indices.

Competition among asset managers has driven deep cost cutting in their operations, an issue that we will explore in more detail later. This trend has focused their attention to the outlays on index licensing that they must bear and has brought to their minds the idea of self-indexing. In 2016, Fidelity Investments released its first in-house index as a benchmark. Since then, it has developed more than 20 such indices, part of an effort to further reduce costs. Blackrock, State Street and Invesco, also big companies in the money management industry in the U.S., have also gone along the same route. In Europe, Amundi, a big asset manager from France, has explored a slightly different course, associating itself with the *École des Hautes Études Commerciales* (EDHEC), an academic institution, for the production of indices and has developed a partnership with Solactive, a provider of indexes from Germany, which may not enjoy the name recognition of the largest providers in the sector but has been more aggressive in undercutting the more established firms.

This concept, that the fund manager creates and maintains the index against which it is going to measure its own performance, even if it is in partnership with a third party, is not free of controversy. It may well be a case of “the fox guarding the hen house”.

3.7 Regulatory concerns.

The International Organization of Securities Commissions (IOSCO) has expressed concern about the selection of indices used for tracking a market. It asked its Standing Committee on Investment Management whether restrictions should be imposed on the type of index that can be used by an index fund. Their reply is telling: *“collective investment schemes (CIS) regulators are concerned about the potential for abuse caused by conflicts of interests resulting from the use of indices promoted by parties related to the CIS operator. CIS regulators are also concerned with transparency, including adequate disclosure regarding the index methodology employed by the CIS and the risks posed by index funds tracking highly concentrated indices”*¹⁰.

¹⁰ IOSCO “Index Funds and the use of indices by the Asset Management Industry”. 2004



IOSCO recommendations regarding the adequacy of indices -in those jurisdictions where there is separate regulation of index funds- boil down to three: (1) Indices should be widely used and accepted; (2) Public information about the composition, methodology and rules should be available; and (3) The index should be sufficiently diversified.

These guidelines have not imposed stringent limits to the choices made by asset managers regarding the selection of indices for their funds. Over time, regulators have shown some concerns about the possible conflicts of interest of having too close a relationship between the index provider and the fund that uses it, but no regulator has gone as far as publishing a list of acceptable indices. Index provision remains an unregulated activity. However, a description of the index is required for those funds that use it in investment vehicles, but not of its content or the rules that govern it.

3.8 In-house competition to index providers.

In placing an indexed fund, the most relevant factor is the credibility that the index may have among investors. If investors want to track precisely the EuroStoxx 50, no other “similar” index may be persuasive enough to substitute the former. Nevertheless, it must be acknowledged that the large fund management houses have enough muscle to twist and turn convictions among its clients, particularly if the tracking product can be offered at a lower cost. The asset manager is faced with a strategic decision: it must choose between the cost savings associated with self-indexing and the reputational cost of disappointing investors by tracking an index that does not quite perform as the one that they had in mind. But who knows, maybe Blackrock is a more familiar name to retail clients than Nasdaq. Our guess is that if index providers feel the squeeze, they will lower the charges made for their services. Time will tell.

The hyper abundance of indices mentioned earlier merits careful attention by investors. Many an index would purport to track the same market but significant differences among them may make their evolution differ, sometimes significantly. Weights, composition and calculation methods of indexes are matters that investors should bear in mind.



3.9 Beyond profitability.

A word or two must be uttered about the irruption of environmental, social and governance (ESG) issues in the world of indexing and investment, because they have become prominent. These issues are very relevant, but it is too early to tell whether they will create a schism between the total return of “traditional” indices and the newer ones that incorporate ESG concerns in their construction. The jury is still out and is not scheduled to return soon. It is risky to assume either superior or inferior performance of funds of one type or the other, but if it turns out that the incorporation of ESG concerns in investment decisions implies a measurable (adverse) impact on total returns, it would be of interest to observe the choice that investors will make.



4. PASSIVE AND EXCHANGE TRADED FUNDS

4.1 Passive funds.

The definition of what is a passive fund is straightforward: it is an investment vehicle that tracks a market index in deciding what securities to invest in. Hence, the “manager” renounces playing any role in determining what securities to hold and in what proportion. Properly speaking, such passive funds do not have *real* managers. A fund may be passive either explicitly or implicitly. The fund promoting company may tell its investors that it is going to follow a given market index or it may do so without telling them, becoming what is known as a “closet tracker” (see Section 5.3).

4.2 Exchange traded funds (ETFs).

ETFs are funds that have participations (shares) that trade in an exchange. Although they are not necessarily passive (index tracking), most of them are. This follows from the relatively stable composition of index funds that makes them particularly suitable for instantaneous pricing, given enough computational power. This perfunctory description is necessary because confusion abounds and many a time people refer to passive investment and ETFs as synonymous, which they are not.

Essentially, ETFs are hybrid investment products that combine the characteristics of mutual funds with the versatility of dealing in shares in an organised market. When investors buy participations in an ETF, they become stakeholders in the assets held by the fund. The promoter of the fund “manages” it in exchange



for a commission, subject to the corresponding regulations. But in a manner fundamentally different to mutual funds, ETFs trade continuously in an exchange, just like any stock does. The similarity of an ETF share with that of the common stock of a company goes as far as making them suitable for lending or short positions, opening the possibility of their strategic use by market participants. This is not the case for shares of a mutual fund.

4.3 How do ETFs work.

In the beginning a sponsor creates an ETF. In what follows, we will assume that the sponsor's choice is an index-tracking fund. The sponsor chooses the benchmark index and method that is going to be used to track it. The choice of an index may seem to be a trivial issue but it is not, nor is the selection of the tracking method¹¹. The notion that tracking an index would require investing in all the securities that constitute it must be ruled out as impractical, expensive or simply impossible. The broader the index, the more difficult it becomes to invest in all its components. Some securities may not be liquid enough, may have insignificant weights or face other restrictions. Under such conditions, the sponsor may choose a tracking method that entails sampling¹². Whether it is by full replication or by sampling, both fall into what is understood as **physical replication** of the index. More alternatives will be explored later.

With the ETF ready to go, the ETF must acquire or sell shares of the companies that conform the portfolio. This is done through a distinctive procedure: the **creation and the redemption of ETF shares**. Because ETFs are open-ended, the creation may result from the initial offering or from a subsequent increase in demand for the participations in the fund. The opposite may also occur if incumbent investors may decide they don't want to hold their shares in the fund any longer and redeem them.

¹¹ In the "early days" of ETFs, tracked capitalisation weighted indexes that were well known. More recently, sponsors have used indices that select their constituent securities based on a variety of criteria (or *factors*) such as dividends, volatility, book value, growth, etc.

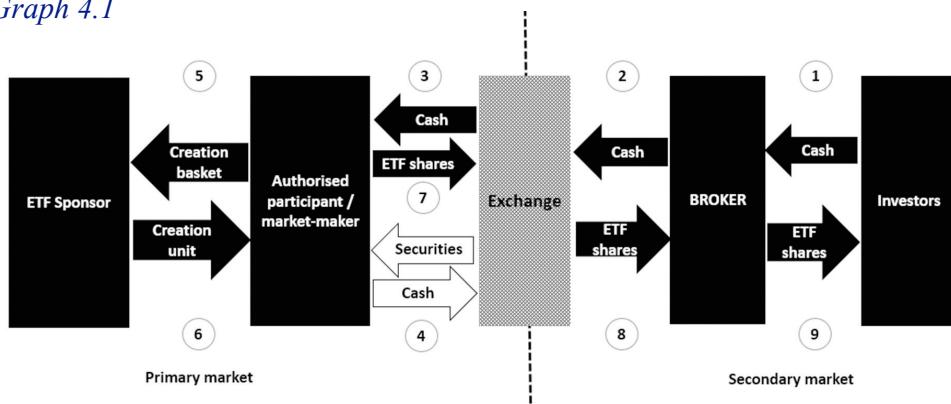
¹² In the case of actively managed ETFs, the securities are bought and sold at the discretion of the manager (sponsor).



Let us focus first on the “issuance” of new ETF shares (creation units). If investors want (more) shares of the fund, they approach their broker and place an order ①. The broker may get lucky and may match the order with that of a seller and everyone is happy, but that is unlikely ② ⑦. In any case, this would be a secondary market activity that does not involve a change in the number of ETF shares outstanding.

4.4 Creation of ETF shares.

Graph 4.1



Sources: Ramaswami, Antoniewicz, own elaboration

Far more likely is that the broker will have to approach an **Authorised Participant (AP)** to get the ETF participations. The AP is a large financial institution that has a contractual relationship with the fund sponsor to settle all transactions regarding the creation and the redemption of the ETF shares. The fund may have such a relationship with several APs simultaneously. APs are registered broker-dealers that clear and settle the transactions. We have moved fully into the primary market. Thus, APs will not act immediately on any order placed by a broker: It will only place an order with the ETF sponsor for a **creation unit** when it has reached the specified minimum size¹³. There are no odd lots; all creation units have the same size. Importantly, the AP does not “pay” for this creation

¹³ In the U.S., the creation unit contains between 25,000 and 200,000 ETF shares.



unit in cash. Instead, it delivers a **Creation Basket** to the ETF sponsor. The AP does not have to guess what securities it must buy in the market (④) to deliver in exchange for the creation unit. The established procedure guarantees that the **Portfolio Composition File (PCF)** (the list of securities, their quantities, and or cash that the sponsor requires for the creation) be available the previous evening. Thus, the AP provides the Sponsor with the Creation Basket ⑤ just as needed by the fund, receives the lot of ETF shares ⑥ and delivers them, through the Exchange and the Broker (⑨), to the investors.

The process of redemption of ETF shares puts the above flows into reverse and little else. In both the Creation and the Redemption processes, the value of the baskets is equal to the value (NAV) of the ETFs shares delivered in exchange, calculated at the end of the day in which the transaction takes place.

4.5 The Primary Market for ETFs.

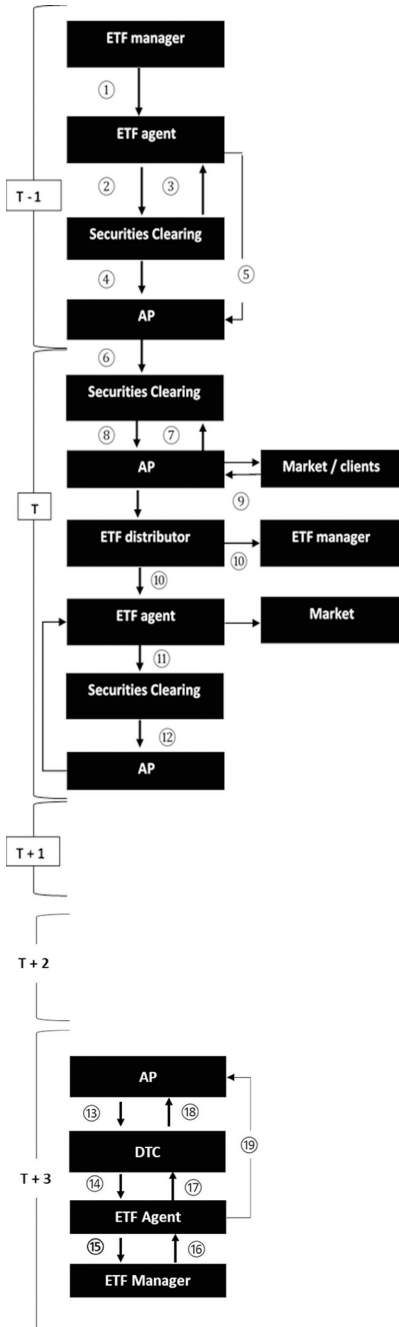
In this section we intend to clarify the somewhat cumbersome process through which ETFs are created, cleared and settled. The interaction between the AP and the fund sponsor described earlier, in which the exchange of the creation or redemption basket (CR) for the ETF shares takes place, is what increases or decreases the number of outstanding ETF shares (and consequently, the assets under management of the fund). What follows describes how the process works for ETFs in the U.S. through the institutional and regulatory arrangements set up in its markets.

Following Antoniewicz and Heinrichs (2014), let us start with the fund's sponsor and the publication of the Portfolio Composition File (PCF).

The ETF manager issues the PCF (name of securities, quantities and/or cash) for the CR baskets of the following trading day. It sends that information to the ETF agent. (①)

The agent is also the custodian, accountant and administrator. Sometimes it generates the PCF itself. It sends the PCF to the NSCC (National Securities Clearing Corporation) by 8pm (ET)

The NSCC analyses the PCF and accepts or rejects it.



If the PCF is accepted, it is passed on to the AP by 10pm (④).

There are circumstances when the NSCC is “bypassed” (⑤). That is the case if the securities involved in the fund are not NSCC–eligible (e.g. international shares or certain fixed-income securities). In this case, the AP is required to post collateral.

If the PCF was rejected on T-1 (③), the agent can correct it and resubmit it by 12am (⑥). This is a supplemental process contemplated by the NSCC. The ETF agent can also modify the PCF before that deadline.

APs accumulate and send a netted order to the ETF distributor by the cut-off time. That limit varies, depending on the type of securities held by the fund. The ETF distributor places the order with the ETF agent and notifies the ETF manager. The agent gives the CR order to the NSCC which checks and validates it. After 8 p.m. it distributes the accepted file to the agent and the AP which is the contract for the CR. It has prices for each asset in the basket. This is known as “bursting the basket”. The CR is “locked-in” (⑫).

During T+1 the contract is the ETF agent and the AP check the NSCC file against their own records and solve any differences regarding prices or quantities: The contract can still be modified or cancelled at this point. Any corrections are incorporated into the NSCC file. By midnight all transactions involved are guaranteed by the NSCC.



By the morning of T+2 the NSCC sends the trade summary to the AP and to the agent, specifying the securities (each one of them) and money (both net) due for settlement the next day. It is also sent to the Depository Trust Company (DTC).

On T+3 the DTC goes through the books (e-books, naturally) of the AP and the agent to match any available securities. It does so continuously until shortly after 3 p.m.. In the case of a creation, DTC transfers ownership of securities from the AP to the ETF agent (13)(14) which, in turn, will pass them on to the ETF manager (15). Simultaneously, it transfers ETF shares from the manager to the agent and then to the AP (16)(17)(18).

If we were dealing with a redemption, the opposite flow of ETF shares in exchange for securities would take place through the DTC actions.

If the creation order was not carried out through NSCC, the agent returns the posted collateral to the AP (19).

Although it is unusual, it is possible for this settlement process to be delayed beyond T+3. This may happen if the AP fails to deliver the ETF shares by T+3. The regulation allows for three more days under justifiable conditions (eg the ETF shares had been lent and could not be recalled on time or a client had failed to deliver them to the AP as agreed).

The CR process is probably the most important differentiating factor between ETFs and indexed mutual funds. Purchase and sales orders are made by the investor through a broker who matches orders with those of other investors. The only ones that can create or redeem ETF shares are the **Authorised Participants (AP)**. These are broker-dealers and market makers of significant size that are authorised by the fund promoter to participate in the process.

The AP creates ETF shares transacting with the manager of the fund (the agent). Each day, the agent publishes the list of securities that it seeks (dubbed “**the creation basket**¹⁴”). That list also helps to determine the **intraday net asset value (INAV)** of an ETF shares, given the prices of the securities during the trading session. With the creation basket at hand, the AP goes to the market to acquire the securities that it doesn’t hold in stock. Once it completes its “shopping list”, the

¹⁴ The creation basket is a list of stocks, bonds, cash or other assets or a combination of them.



AP delivers them to the ETF manager and receives from it the equivalent value in ETF shares and delivers them to its clients¹⁵.

In this process, the ETF only delivers to the AP large blocks of shares that go by the name of **creation units**, usually containing between 50,000 and 150,000 shares of the fund.

The process of fund redemptions by the investors works through the same channels described above, with a **redemption basket** delivered by the ETF manager to the AP which is sold in the market, the cash being returned to the fund participants through their brokers.

Another crucial one complements these primary market activities of the AP: keeping aligned the price of the ETF shares with the value of the underlying securities (NAV).

4.6 The Secondary Market.

Graph 4.2



Source: own elaboration

The arbitrage incentives are straightforward. If during the trading session the ETF share price and its NAV differ, the APs will find it profitable to either buy or sell the ETF shares in the market. Clearly, the ETF shares can trade at a small premium or discount depending on the liquidity of both, the ETF shares themselves or that of the underlying securities. This feature also differentiates ETFs

¹⁵ The promoter of the fund charges the AP for issuing the creation unit. This discretionary commission varies widely, it can be as low as US\$50 (e.g. Vanguard Short-Term Inflation Protected Securities ETF (VTIP)) and as high as US\$28.000 (e.g. Vanguard All-World Ex-US Small-Cap ETF (VSS)).



from mutual funds. Bear in mind that, in the US, mutual funds are only under the regulatory obligation to disclose their holdings quarterly.

Curiously, it is the APs who bear the cost of buying (or selling) the shares for the fund and these costs translate into the Bid/Offer spread that the final investors face when buying into the fund or withdrawing from it through a broker. In this regard, ETFs differ from the conventional mutual funds. In the latter, the costs of entry and exit are borne by the fund itself and are shared among all the investors in the fund, diluting the burden faced by the investor(s) carrying out the transaction. Even without brokerage commissions, which have been introduced for ETFs by some brokers of late, the investor must bear the cost through bid-offer spreads.

The regulatory exemption that the Securities and Exchange Commission (SEC) gives to the promoters of ETFs in the U.S. makes it mandatory for a third party to be in charge of the calculation of an intraday net asset value (INAV)¹⁶ of the ETF shares and to make it available to market participants every 15 seconds throughout the trading session.

4.7 A further development: Non-transparent Active ETFs.

One of the key features of ETFs is their transparency. That is, the funds disclose their holdings every day, a most important feature in the creation / redemption process and the fair pricing of the shares of the fund. This characteristic sits well with indexed ETFs that feature no strategy to speak of. Asset managers that want to retain the ETF intraday pricing and their tax deferral advantages face the dilemma of having to reveal their active management strategies if they let everyone know what their holdings are.

In April of 2019, the Securities and Exchange Commission approved Precidian Funds' application for *ActiveShares*, a structure that is being licensed to several asset management groups¹⁷. The crucial innovation proposed is the use of authorised intermediaries -known as **trusted agents**- that will have information

¹⁶ Also known as "indicative value of the portfolio".

¹⁷ There are competing non-transparent active ETF structures in the process of seeking regulatory approval. Natixis' structure, for example, relies on proxy portfolios that do not replicate the holdings of the fund in its entirety.



about the composition of the fund's holdings and use confidential accounts in the creation / redemption process for the authorised participants, but not disclosing it to the general public. The promoter of this new structure pledges that it should allow the non-transparent active ETF's shares to be priced every second, improving on the "every 15 seconds" pricing that ETFs currently provide.

Although many of the features of passive ETFs are preserved (the exchange listing, real-time pricing, avoidance of transfer agency costs and what are known as 12b-1 fees) it is not likely that the higher costs of pursuing an active strategy (e.g. research costs) can be entirely avoided by non-transparent active ETFs. This will require higher management fees and these will have to be compensated to investors with a superior performance.



5. HOW DO ETFS TRACK INDICES?

ETFs that track a market index do so through different methods: (1) They can imitate the composition of the index completely, what is known as **physical replication**, (2) they can use **statistical sampling** or (3) they can build a **synthetic ETF**. The method chosen by the promoter of the fund depends on the regulatory framework and on the characteristics of the market where the underlying securities trade. The securities targeted need to be tradable and the cost -direct and indirect- of doing so must be reasonable.

5.1 Physical replication.

Imitating the composition of the index tracked is the most intuitive manner to establish an exchange-traded passive fund. However, carrying out such venture may be difficult, expensive or both. If the index chosen comprises a very large number of securities and/or these securities trade in different jurisdictions (perhaps including different time zones), trying to buy every single security (in the right proportion) may not be the best of ideas. Even with smoothly functioning markets, the larger the number of shares (bonds, commodities or derivatives), the greater will the difficulties associated with tracking an index beset with periodic changes in relative weights and the consequent need to rebalance the portfolio. The breadth of the index also augments the probability that it may include shares with reduced liquidity that are either fiendishly difficult to buy or sell or have wide bid-offer spreads. The larger number of securities also impinges on the costs assumed by the fund regarding dividend payments and other outlays associated with clearing and settlement of transactions. These administrative burdens are more onerous if the ETF invests across several countries. A dividend, for example, may come from far away lands, making it likely that the actual collection



of the payment may take several weeks, while the index assumes an immediate reinvestment of dividends, generating a tracking error by the ETF. The same can be said of funds that, investing overseas, may face taxes that need to be paid by the fund and that the index builders may not have considered, yielding a sort tax-free index that cannot be matched appropriately by the fund.

5.2 Representative or Statistical Sampling.

Given the potentially high costs of a full replication of an index, the manager of an ETF may well decide to do the tracking with a fraction of the securities included in the index. This involves selecting the “chosen few” based on the correlation that they display with the index performance and, naturally, bearing in mind their superior liquidity. The manager of the fund must deal with the problem of changing correlations by periodic rebalancing of the portfolio. Some of the initially chosen securities may be dropped and other included as part of that revision. Some degree of tracking error is likely to show up with this method when compared to physical replication, but normally within narrow limits. This tracking strategy benefits from significant lower costs for the fund’s investors.

5.3 Synthetic ETFs.

Although the vast majority of ETFs are of the physical replication type mentioned earlier (a feature that fits the U.S. market and a bit less so the European one), synthetic ETFs are of greater interest to regulators and generate a more passionate discussion among analysts and observers. In this sort of tracking method, the ETF promoter enters a swap agreement with some counterparty. In that contract, the counterparty pledges to deliver to the fund the returns implied by the index performance in exchange for the returns of a basket that the ETF retains or is delivered as collateral plus a fee.

There are two alternative ways to structure the synthetic ETF: unfunded or funded. In the first one, also known as an *outperformance swap*, the ETF manager uses the investors’ cash to acquire a substitute basket¹⁸. The securities bought by

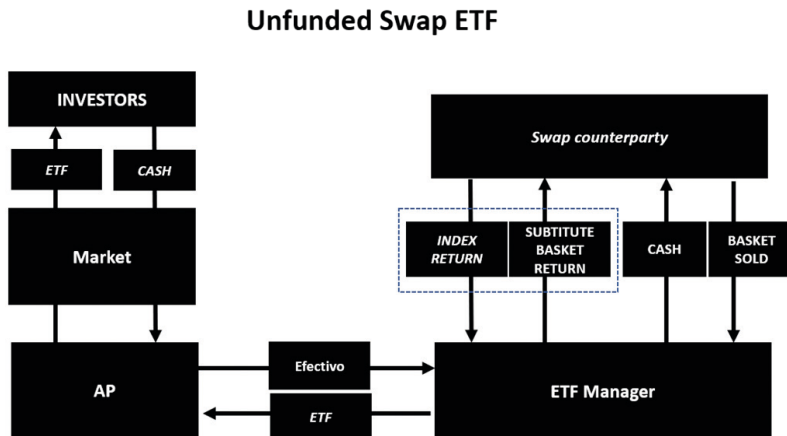
¹⁸ Most commonly, the ETF buys the substitute basket from the swap counterparty and keeps it in a segregated account with a custodian.



the ETF for that purpose might differ from those tracked by the index, although they must comply with regulatory requirements regarding domicile, eligibility, diversification and liquidity. The total return swap entered transfers the tracking error risk to the counterparty. The swap exchanges the total returns of the index and of the substitute basket.

It is worth highlighting that the counterparty risk is nil under this structure because the ETF has access to the assets of the substitute basket.

Graph 5.1



Sources: Amenc (2012), Ramaswami (2012)

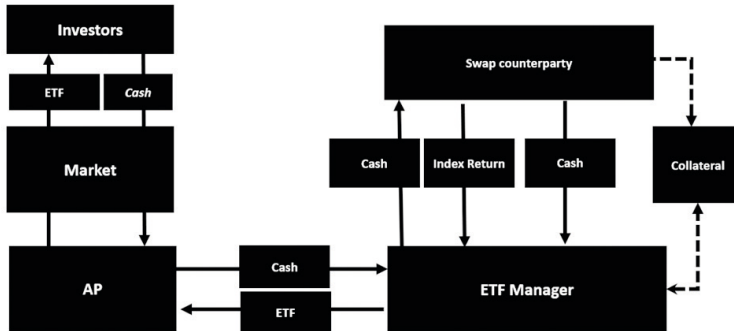
In the case of a funded¹⁹ swap structure, the ETF transfers funds from the investors directly to the swap counterparty and it is the latter who places the collateral with a custodian. To avoid the counterparty risk, the basket is priced daily and its value must exceed (marginally) the NAV of the tracked index. If the value of the collateral falls short of the level required, additional collateral is deposited by the counterparty.

¹⁹ The funding is available from the point of view of the counterparty.



Graph 5.2

Funded Swap ETF



Sources: Amenc (2012), Ramaswami (2012)

Given that the ETF does not own the collateral, in case of default the fund must claim its ownership to access it. Regulation demands some degree of over-collateralisation to deal with the risk that access to the assets claimed may be delayed.

5.4 The ‘Closet-Trackers’ Problem.

The growing share of passive ETFs in the investment management landscape has brought to the fore a long-standing problem: the purported active management of funds that actually implement an index-tracking strategy.

It could be argued that this is not much of a problem. Investors would end up discovering the ruse and weed out of the system index-trackers that pretend to be otherwise. However, it is evident that the fee structure differs significantly between active and passive management and that, while it lasts, it detracts from the returns that should accrue to investors.

Furthermore, the regulation demands that fund managers provide investors with documentation stating explicitly objectives and methods. It would be nothing short of fraud to substitute for the work associated with continued adjustment of the portfolio with a buy and hold basket that mimics the reference index without saying so explicitly.



This conundrum has caught the attention of regulators in recent times. In March of 2018 the Financial Conduct Authority (FCA) of the United Kingdom imposed a GBP 34 million penalty on five funds that it deemed to be ‘closet trackers’, after analysing 23 funds that gave the appearance of having adopted a deceitful strategy of this sort. On November 2019, the FCA fined Janus Henderson, an asset manager, GBP 1.9 million for charging active management fees to 4,700 retail customers and not letting them know for five years that it had changed its strategy from active to passive in two funds, investing in the US and Japanese markets, something that the manager had actually communicated to its institutional investors²⁰.

It is not easy to determine if a fund manager is acting actively or passively. To some degree, all active managers invest passively because all the assets they can choose from belong to the index. Consequently, a fraction of the portfolio they hold tracks the index. To be active, a manager must try to outperform the chosen benchmark by making investments that differ from it.

Table 5.1

Stocks	Weight in the index	Weight in the fund	
[A]	[B]	[C]	[C]-[B]
i1	20	15	-5
i2	10	8	-2
i3	3	5	2
i4	5	5	0
i5	10	12	2
i6	4	6	2
i7	6	4	-2
i8	18	25	7
i9	9	9	0
i10	15	11	-4
Total	100	100	0

Source: own elaboration

To illustrate the nature of the problem let us build a simple example. Suppose the index is composed of 10 stocks, labelled i1, i2... i10. Table 5.1 shows their weights in the index and the weights that the fictional manager assigns to them in his portfolio.

Let us assume further that the index covers the whole market and that there are no alternative assets that the manager may invest in (e.g. bonds or cash). All shares have the same initial value of 1, pay no dividends and no corporate actions take place. In this example, the fund underweights some stocks (i1, i2,

i6 and i7), is index-neutral in i4 and i9 and overweighs the remaining four assets. Many an asset manager (and many more of the investors in the fund) would regard this decision on the composition of the fund as active management. But let us take a closer look.

²⁰ Financial Times, 21 November 2019.



Table 5.2

Stocks	Annual return	Year-end value of the Index	Year-end value of the fund
i1	5%	21,0	15,75
i2	5%	10,5	8,4
i3	5%	3,2	5,25
i4	5%	5,3	5,25
i5	5%	10,5	12,6
i6	10%	4,4	6,6
i7	10%	6,6	4,4
i8	10%	19,8	27,5
i9	10%	9,9	9,9
i10	10%	16,5	12,1
Total		107,6	107,75

Source: own elaboration

Table 5.3

Stocks	Annual return	Year-end value of the Index	Year-end value of the fund
i1	1%	20,2	15,15
i2	4%	10,4	8,32
i3	10%	3,3	5,5
i4	5%	5,3	5,25
i5	7%	10,7	12,84
i6	9%	4,4	6,54
i7	3%	6,2	4,12
i8	8%	19,4	27
i9	6%	9,5	9,54
i10	2%	15,3	11,22
Total		104,67	105,48

Source: own elaboration

In Table 5.2 we let the stocks appreciate over a year, by 5% for stocks i1 to i5 and by 10% the remaining five. As a result, the index yields 7.6% and the fund 7.75%. The fact that the fund “beats the market” may be either fortuitous or a reflection of the manager’s skills. In this context it is not relevant. What we want to highlight is that an ostensibly active strategy yields meagre returns when compared to a passive strategy. The difference is of 15 bps and it is almost certain that it would be eaten away by the higher fees charged by the active manager.

Even if we introduce more dispersion in the returns of the stocks (they now rank between 1 and 10%, Table 5.3) and the skills of the manager are such as to correctly rank the investment in the securities according to those returns *ex ante*, we would not generate a large enough difference between active and passive management (it increases it to 71 bps) to justify the difference in fees usually charged.

Admittedly, we could have created a “fund” with greater discrepancies between its holdings and the composition of the index. But we will leave that for later. The point we want to make is that active strategies can lead to results that are very similar to index tracking (or passive strategies).

Two commonly used measures to detect index tracking are **tracking error** and the **coefficient of correlation (R²)**. These two measures are based on the analysis of the returns of the fund and its benchmark index.



The tracking error is defined as the standard deviation of the discrepancy between the return of the fund and that of the index basket:

$$\text{Tracking Error}_t = \sigma [R_{fund,t} - R_{index,t}]$$

where $R_{fund,t}$ is the fund's performance at time t , $R_{index,t}$ is the benchmark index's return at time t , and σ is the standard deviation.

It is tempting to conclude that if the tracking error is very low, the fund may be passive. However, even if serves as a warning signal, the previously constructed example should advice against such a rushed conclusion.

Along the same lines, the coefficient of correlation, which is the ratio of the explained variance to the total variance, associates the variance of the fund to that of the associated benchmark. If the link is strong (close to a value of 1), it points to the possibility of a passive approach to investment.

While it is generally understood that active asset managers can only outperform the benchmark by holding a portfolio that differs from it, they can do so in two distinct ways: (1) By selecting individual stocks or (2) by factor timing (or both). The latter involves shifting holdings depending on their views on systemic risk factors (e.g. macroeconomic, industries, etc.)²¹. While the two approaches can deliver returns that would differ from those of the benchmark index, their impact on tracking error (and on R^2) are different. Cremers and Petajisto (2009) realised that “the tracking error of a diversified stock picker is substantially lower than that of a sector rotator”²². The reason for this is quite simple: selecting individual stocks allows the fund manager greater diversification which translates into a lower tracking error.

To better measure how active (or passive) a fund manager is, Cremers and Petajisto put forward a metric, called **active share**, that compares the holdings of a fund to those of the index:

²¹ This investment strategy is also known as tactical asset allocation or sector rotation.

²² Cremers and Petajisto (2009) p. 1



$$Active\ Share_t = \frac{1}{2} \sum_{i=1}^N |w_{fund,i,t} - w_{index,i,t}|$$

Table 5.4

Stocks [A]	Weight in the index [B]	Weight in the fund [C]	[C]-[B]	Active share calculation
i1	20	15	-5	5
i2	10	8	-2	2
i3	3	5	2	2
i4	5	5	0	0
i5	10	12	2	2
i6	4	6	2	2
i7	6	4	-2	2
i8	18	25	7	7
i9	9	9	0	0
i10	15	11	-4	4
Total	100	100	0	26
			Active share:	13%

Source: own elaboration

where $w_{fund,i,t}$ and $w_{index,i,t}$ are the portfolio weights of asset i in the fund and in the index at time t , respectively, and the sum is taken over all assets. The authors explain that a mutual fund portfolio can be decomposed into a 100% position in the benchmark index, plus a zero-net-investment long-short portfolio. The long-short portfolio represents all the active bets the fund has taken. Active Share measures the size of that long-short portfolio as a fraction of the total portfolio of the fund. The sum of portfolio

weight differences is divided by two to normalise the indicator, as a result if a fund has no overlap with its benchmark index its Active Share would be 100% (a clearly impossible proposition). If there are say 200 stocks in the index and the manager invests in 40 of them (with no size bias), her active share would be 80% (only 20% overlaps with the index). The long side and the short side of holding in one security are not counted twice. Thus, the active share sits between 0% and 100% and the closer it is to the upper limit, the more active the fund manager is.

Going back to our previous example of Table 5.1, the calculation of the active share gives us 13%, as shown in Table 5.4. This is clearly a low figure. Cremers and Petajisto would agree: "Funds with an Active Share of less than 20% consist of pure index funds" (pp. 13). In fact, they deem "closet indexers" funds with an active share between 20 and 60%.

Evidence for the U.S. suggests that fund size and active management are negatively correlated, a finding that does not imply causality. Also, as should be expected, active funds have much larger turnover ratios than indexed funds (up to 10 times bigger). Cremers and Petajisto found that almost all mutual funds

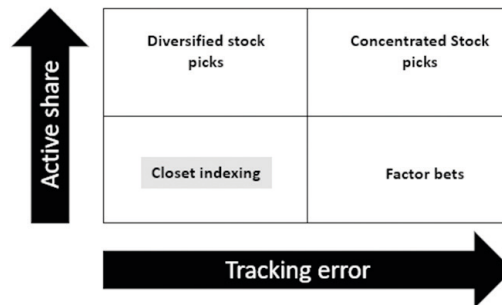


have similar turnover averages, a sighting that would be “consistent with closet indexers (perhaps unwittingly) masking their passive strategies with portfolio turnover”²³.

There is no reason for not using both measures -tracking error and active share- in trying to identify “closet trackers”. After all, they emphasise different things. While the tracking error measures the volatility of the fund’s return compared to that of the index, focusing the attention on how much the investments rely on systematic risk, active share emphasis rests on fraction of the portfolio that differs from the index (i.e. stock selection).

ESMA (2016) has adopted this approach in a study with data from 2010 to 2014. It defined a fund to be a closet tracker if in 3 of those years, the fund has an active share of less than 60% and a tracking error below 4%. However, it is a perfectly reasonable investment strategy for an active fund to become passive during bearish years (like 2010 and 2011). The criteria may yield false positives (signalling as index trackers funds that are actively managed).

Graph 5.3



Source: Demartini and Mosson (2018), own elaboration

Much as the active share is a terrific tool in trying to identify index trackers, in the European context it faces serious limitations: unlike the U.S., where the regulation requires funds to be transparent and reveal, on a quarterly basis, their holdings, no such obligation exists for UCITS. Even if data were available, the extensive use of derivatives in Europe (not normally taken into account in port-

²³ Cremers and Petajisto (2009) pp. 15



folio composition reporting) would render the calculation misleading. Furthermore, it is not always easy to know what index a fund manager is referencing to and, when it is, the composition of the index itself may not be readily available.

Consequently, regulatory attempts to identify and measure any subterfuge of an index-tracking nature tends to rely on tracking error or correlation of returns methods, with all their limitations. These are return-based and depend on market data that have the clear advantage of providing high frequency (daily) figures. Pinpointing closet trackers by statistical methods will naturally involve some judgement as to what constitutes a high degree of correlation (or low tracking error) with respect to an index and will also require for the metric to be persistent over a long enough period. This length of time is also a matter of judgement²⁴.

²⁴ A. Demartinni and N. Mosson from the *Autorité des Marchés Financières* in their paper “Closet Index Funds: A Contribution to the Debate in Europe” of 2018 (pp. 17), for example, choose to define a closet index fund as one that is barely active 75% of the time.



6. COSTS OF INVESTMENT FUNDS: ACTIVE AND PASSIVE

Is a BMW more expensive car than a Volkswagen? It would be tempting to associate BMWs as a luxury brand and Volkswagen with a more austere alternative and respond affirmatively. But for anyone that has ever bought a car with a minimum of due diligence, the reply would be: “It depends”. To answer adequately we need more information about the specific models and the features that the buyer wants included in the vehicle. Choosing extreme examples, a Volkswagen can cost three times as much as a BMW! No one can say that there is no competition in the automobiles’ market, but the products are clearly differentiated. Much the same happens in the funds’ market. And the difficulty of comparing prices in both markets is alike.

The fee structure for asset management services is fiendishly complex. This complexity has many sources. First and foremost, the characteristics of funds can be quite different depending on the markets in which the investments are made. Managing equities differs from managing bonds, commodities, real estate, money market instruments, options or other financial instruments (or any combination of them). The costs (and fees) of managing locally also vary from those of managing internationally. The expenses incurred by an asset manager are clearly inferior if its clients are big institutions rather than retail clients. Crucially, funds also differ significantly in size and that impinges on their ability to exploit economies of scale. And of course, the skills of managers are different and/or perceived to be so. There are no good reasons to expect any form of standardised pricing for asset management services. The fund management industry is one of monopolistic competition.



Table 6.1

Recurring charges	Sales Charges (or Loads)
Management fees	Account fees
<ul style="list-style-type: none"> • Selection of securities on a continuous basis. • Administrative tasks • Accounting and auditing, calculation of NAV 	<ul style="list-style-type: none"> • A fee that may be charged to maintain an account, particularly if it falls below a set level.
12b-1 fees	Redemption fees
<ul style="list-style-type: none"> • Marketing / selling the fund 	Charged when selling the shares in the fund
	Switching fees
	Charged for moving from one fund to another within the same management company
Other expenses	Purchase fees
<ul style="list-style-type: none"> • Transaction fees (buying and selling securities). • Web site, call centres. • Index utilisation charges. 	

Source: ICI, own elaboration

Aside from the product differences that render them heterogeneous in price, the distribution channels may also be quite diverse. This adds another layer to the price that the investor finally pays for a fund. Sometimes the costs of distribution are embedded in the fund and sometimes they are not, further impairing a fair comparison among them.

Please bear these caveats in mind, as we proceed to describe how investors are generally charged for owning investment funds.

Generally, charges fall into two broad classes; (1) Recurring or Ongoing and (2) Sales loads. This classification is not always clear-cut, and it very much depends on the investment horizon of the investor. In the extreme case where the investor plans and holds the investment for only one period (say a year or less), the



above classification loses all its relevance, all the costs incurred have the same importance.

Table 6.1 gives a brief summary of the typical costs of a fund in the U.S., based on their classification as either ongoing or as sales charges (or loads). Loads are charged to pay for the sales and distribution costs. Brokers, financial planners or investment advisors help investors in selecting funds and must be compensated for their efforts.

The range of funds' expenses is quite broad. It includes the outlays associated with managing the portfolio of securities, paying for the administrative costs, for the regulatory and compliance obligations, accounting and recordkeeping, for services provided to the shareholders and for some -but not all- distribution charges (known in the U.S. as 12b-1 charges²⁵). In addition to the fund's costs there might be others that accrue directly to the investors.

The most used measure of “all” the annual expenses of a fund, as percentage of the NAV, is known as the **Expense Ratio (ER)**²⁶. The expense ratio includes only recurring charges and is expressed as percentage of total assets. In mutual funds, the expenses accrue to the fund and investors pay for them through this indirect route. However, funds may differ as to which expenses are assumed by the fund itself and which are faced directly by the investor, complicating a fair assessment of the costs of one fund against others.

It is understood that, even obviating the problem just mentioned, expense ratios will vary depending on the objective pursued by the fund, the assets that it holds and the services that it provides to its shareholders.

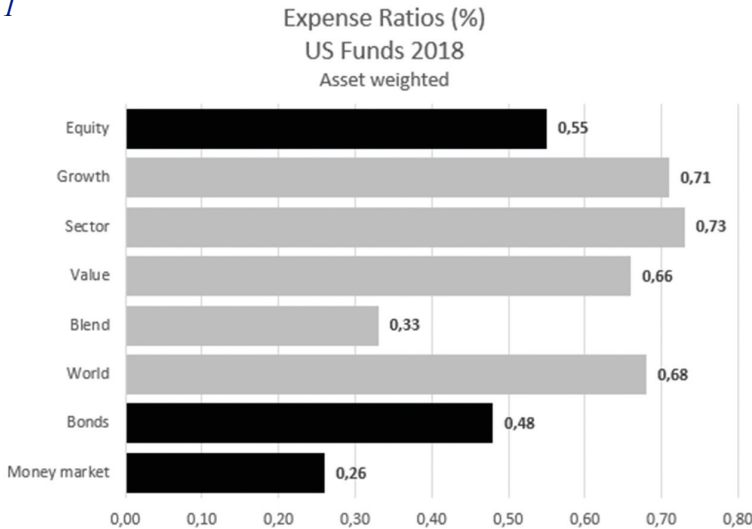
Expense ratios differ crucially if the funds are “load” or “no-load”. Loads are not included in the Expense Ratio. Loads are paid when buying or selling the fund or may be charged on an ongoing basis. In the U.S. funds' shares may be of many different classes, depending on the type of loads that affect them. Reportedly, a single fund may have reached up to 50 classes, although that is clearly exceptional. However, the average number of classes of a fund is seven, still a significant number.

²⁵ Also known as trailing commission or “hidden fees”. Normally paid to the broker. They have a cap of 1% and are known as 12b-1 fees in the US.

²⁶ Also known as **Total Annual Operating Expenses**.



Graph 6.1



Source: ICI, Investment Company Factbook, 2019

A multi-class fund has only one set of portfolio holdings, but the charges differ between one class of shares and another based on (a) minimum investment thresholds, (b) the level of front load charges, (c) the level of deferred or back-load charges, (d) the level of level load charges, (e) the 12b-1 charge level, (f) the length of tenure of the investment, (g) whether the investor is institutional or not and (h) the channel through which the purchase of the fund shares is made. These criteria are combined in varied ways, giving as a result a particular asset class. The three most common types are Class A, Class B and Class C²⁷.

Class A shares bear a **front-end load** and the investor pays a commission when buying a participation in the fund which is discounted from the amount invested. On average, it is in a range of 2 to 5% and is paid to the broker²⁸.

²⁷ Morningstar provides a more complete list of share classes in the document “Descriptions of Share Class Types”, including 18 of them: A, Adv, B, C, D, I, Inst, Inv, J, K, M, N, No Load, Other, R (Retirement), S, T and Y. It is not meant to be exhaustive. https://morningstardirect.morningstar.com/clientcomm/Share_Class_Types.pdf

²⁸ It is common for fund managers to offer discounts on class A share front-end loads for investments of a certain size. The so-called breakpoints indicate the volumes at which such discounts apply.



Class B shares have a **back-end load**²⁹ which applies if the shares are sold before a specified time. This load tends to decrease as the holding period of the investment lengthens. Normally the fund charges higher annual fees on class B shares.

Class C shares have a **level load**, charged every year that the fund is held and does not convert to another share class.

It is worth noting that most actively managed funds are sold with a load through brokers. In fact, it is the load that pays for their services and works as the incentive for the broker to sell one fund rather than another.

If the investor uses the services of a **financial advisor** there is a separate commission or an annual fee, based on the value of the portfolio. It usually sits in the range of 0.5 to 2%.

No-load funds do not have sales charges. For this type of funds, the usual practice is that the participations be bought from the fund asset manager directly. If there is intermediation through a financial advisor or a broker loads reappear. Yet they may still impose fees of the sort defined by 12b-1.

The 12b-1 fees³⁰ were introduced under the logic that marketing the fund would increase its size and would benefit investors by lowering its costs through economies of scale³¹. Although there is some controversy around this issue, the fact is that 12b-1 fees are used to pay the intermediaries that sell the fund's shares.

Whether distribution or sales charges are treated as loads or as (recurring) 12b-1 outlays makes the comparison of funds' costs difficult and misleading if one only pays attention to the expense ratio. It is quite possible for a low expense ratio fund to be more onerous to own than one with a (much) higher expense ratio.

It may well be the case that the fund management industry has produced such a varied choice in order to accommodate the differing needs of investors, given that some have shorter term investment horizons and other have longer ones, that

²⁹ Also known as contingent deferred sales charges (CDSC).

³⁰ The name refers to the section of the 1940 Investment Company Act.

³¹ 121-b cover marketing costs and pay the brokers or other intermediaries who sell the funds' shares. They are used to pay for the *prospectus*.



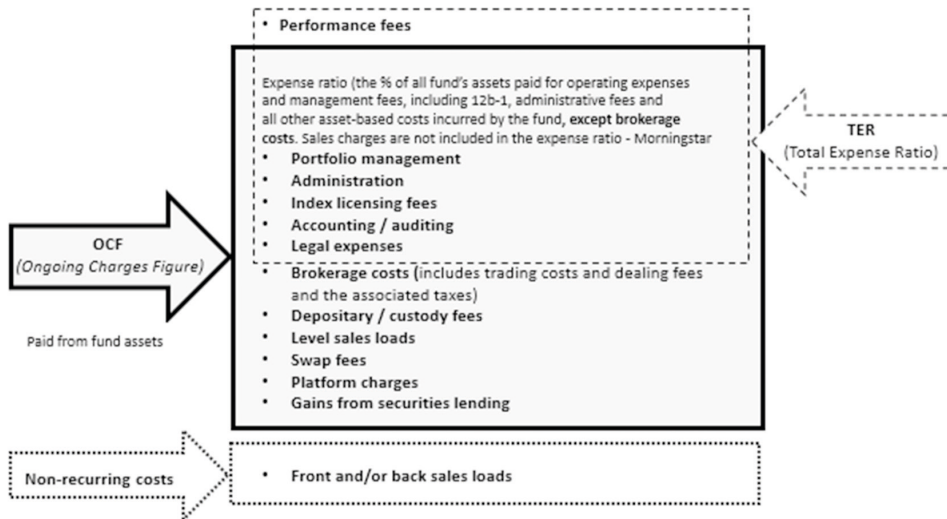
the size of their investments differ considerably, that their needs for advice are not homogeneous, among other differences. However, the result is that investors, particularly those of the retail sort, face a very onerous burden in trying to discern the relative merits of one fund versus another and even, within the same fund, between its different share classes.

From this perspective, it is unsurprising that regulators have strived to bring some clarity and comparability to the fund management industry.

The Markets in Financial Instruments Directives (MIFID) and the regulation on Packaged Retail and Insurance-based Investment Products (PRIIPs) have tackled some of the issues. MIFID II makes it mandatory for distributors to provide investors with ex-ante and ex-post information on the costs and charges through the Key Investor Information Document (KIID)³².

Table 6.2

Cost structure of funds



Source: own elaboration

In 2009, the EU -through the UCITS IV Directive- started requiring that the KIID contained a modified version of the Total Expense Ratio (TER), called the



Ongoing Charges Figure (OCF), totalling the charges made from the assets of the UCITS and expressed as a percentage, both prospective and historical.

Observe that the OCF improves on the TER by including some costs of the fund that were previously missing in the latter. However, non-recurring costs and performance fees are still left out. This is not arbitrary, since their impact on a true measure of total costs depends much on what decisions the investor makes regarding switching funds, early redemption or the simple uncertainty as to whether the purchase of shares in the fund are going to be short or long term.

However, the difficulties in comparing funds' costs do not disappear.

Even making no consideration of loads, it is evident that passive funds, whether organised as mutual funds or as ETFs, enjoy a cost advantage vis-à-vis actively managed funds because no effort is devoted to find securities that offer higher appreciation prospects. Management fees constitute the lion-share of the recurring charges of a fund and disappear “almost completely” under index-tracking.

ETFs have no loads. Even the process of creation or redemption of shares does not imply a cost to the fund because it charges the authorised participants for doing so.

The key difference is that ETFs are traded like any other stock in the market. Consequently, the investor may have to pay a (brokerage) commission to either buy or sell them. For selected ETFs, these commissions have been competed away and some brokers waive them for selected ETFs when the trading is done through electronic platforms.

For many investors, ETFs have provided an almost perfect substitute for other (actively managed) funds at a lower cost. This has unleashed a fierce competition among active managers to keep their funds competitive and reduce their managing fees. This effort may have slowed somewhat the switch over from active to passive funds, but the shift continues.



7. EXPENSES TREND DOWN, ETFS SHARE OF THE MARKET CLIMBS

7.1 Competition unleashed.

Funds' fees have been trending downward for a long time. According to the Investment Company Institute (ICI), the average costs for asset management services for a long-term equity mutual fund (managed actively) in the U.S. was of 0.91% in 2005. By 2018 it had fallen to 0.55%. For indexed funds, the Average Expense Ratio (AER) went from 0.28% to 0.20% during the same period. This tendency towards lower AERs extends to all asset classes, including bond, money market, commodities and hybrid funds.

In the U.S., where the changes experienced by the industry have deeper roots and are more widespread, the data substantiates the scope of the adjustment. Morningstar, an investment research company from Chicago, has followed the evolution of fees charged by mutual funds and estimates that the average expense ratio (asset-weighted) for open-ended mutual funds has fallen by nearly 50%, from 0.93% in 2000 to 0.48% in 2018.

The changes that have taken place in the industry are structural. Several forces are at work. There has been a marked shift in investors' preferences that has favoured investment in lower cost funds, be they active or passive. The tendency has been for investors to move funds from load to no-load share classes, from actively managed to passive funds, favouring ETFs among the latter. Investors are moving away from high cost funds to lower-cost ones. The same Morningstar

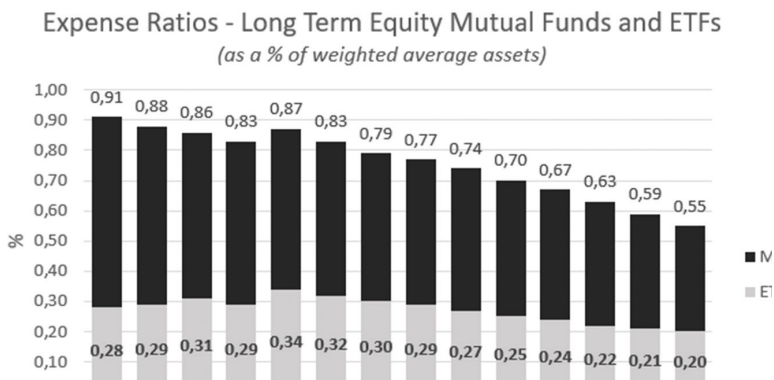


research points out that in 2018, the cheapest quintile of funds experienced net inflows of US\$ 605 billion (74% of these went to passive funds) while the remaining 80% of funds had outflows of US\$478 billion³³.

Competition among asset managers has also been a big force behind the fall in AERs. Asset managers have been cutting fees and introducing shares classes with lower costs to secure market share. Looking at the equal-weighted average cost of funds (i.e. not weighted by assets under management) we can get a clearer picture of what the industry is experiencing regarding the pricing for their services. Both the commodity-like nature of the broad-based index funds and the associated economies of scale in asset management have triggered a price war among the largest managers, pushing fees sharply down, very near the marginal cost of providing the services. Even though this trend started among ETF providers, it has spread to all the market segments, leading to continued consolidation (M&A activity is rife in the sector) to attain the costs benefits of a larger scale and remain competitive. Between 2015 and 2018, equally weighted AERs have fallen from 1.21 to 1.11% for active funds and from 0.70 to 0.63% for passive funds.

According to Morningstar calculations, the average asset-weighted AER for passive funds was 0.15% in 2018, 4.5 times less than the equivalent figure for actively managed funds.

Graph 7.1



Source: ICI Factbook 2019, own elaboration



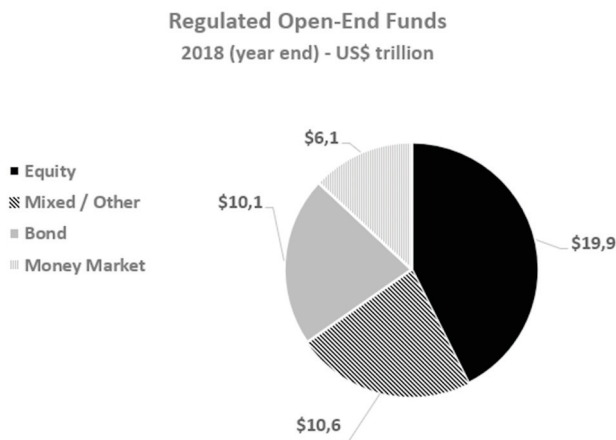
The enormous growth in the total amount of assets under management in the industry, coupled with a concentration of investment in fewer funds has also allowed managers to exploit the associated economies of scale and pass on part of those savings to investors. There are considerable fixed costs in asset management (accounting, directors' retribution, information technology) and the larger pool of assets has a favourable impact on average costs.

Competition among asset managers has also had a noticeable impact on ERs. That process has been prompted by the sharp expansion in ETFs, which have captured headlines with extremely low management fees and have forced active managers to compress ERs.

7.2 The Swift Expansion of ETFs.

At the end of 2018, the assets managed globally by the approximately 119,000 regulated funds had reached US\$46.7 trillion³⁴. Given the estimated US\$85 trillion of the world's GDP that year, the volume of assets is very significant. The growth has been steady, nearly doubling the total of US\$ 26.7 trillion at the end of 2009 and increasing the number of funds by 43% since then.

Graph 7.2



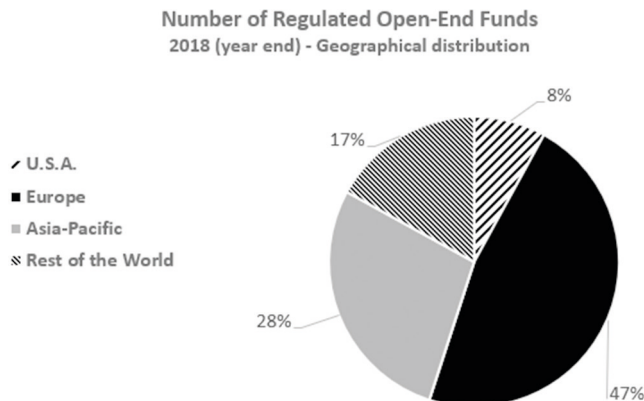
Source: ICI Investment Company Handbook 2019

³⁴ The data, collected by the International Investment Funds Association (IIFA), includes 47 jurisdictions and comprises only open-end funds. Unregulated funds are not included nor are funds of funds.



While the U.S. remains the largest market in terms of net assets (US\$21.1 trillion), the US\$16.5 trillion managed in Europe were deployed in a far larger number of funds, accounting for 47% of the number of funds worldwide. To the extent that economies of scale are an important factor in reducing the costs of managing funds, the scales are tilted in favour of the American fund managers. In terms of assets, the average size of a fund is US\$ 2.3 billion in the U.S., nearly 8 times larger than that of a European average size fund. Spain domiciled funds are 18 times smaller than those in the U.S. by the same measure. The scope for consolidation and cost cutting remains large in Europe, but much depends on a true integration of its capital markets.

Graph 7.3

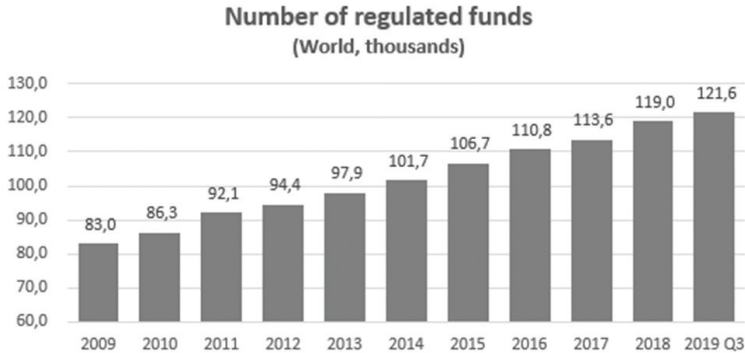


Source: ICI Investment Company Handbook 2019

It is beyond our scope to determine precisely how much of the growth of assets under management is nominal (due to the increase in the value of the securities) and how much is “real”. It should suffice to say that net sales of regulated funds have averaged US\$1.5 trillion in the five years between 2014 and 2018, an average annual growth rate of nearly 4%, very much aligned with that shown by the expansion of global economic activity (GDP growth) during that period.



Graph 7.4



Source: IIFA

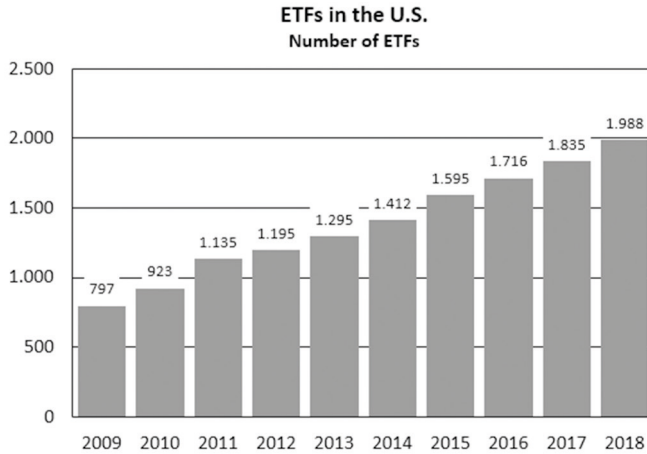
The steady increase in the number of regulated funds worldwide appears to be at odds with the benefits associated with economies of scale in fund management (and the fact that some of the most successful ETFs are huge). Since 2010, an average 4.000 new funds find their way to the market each year (in net terms).

However, regional patterns differ significantly. In the US, the number of funds increased by approximately 2,000 in the ten years lapsing between 2009 and the end of 2018. In Europe, 11,500 new funds appeared during the same period, but over 60% of this expansion was accounted for by new funds in Ireland and in Luxembourg, clearly a taxation motivated event. The number of funds domiciled in France and Spain fell and it barely increased in Germany. Additionally, fund management activity took a significant boost from new funds in China -which increased from less than 500 in 2009 to over 5,000 in 2018- and in Japan, which doubled to approximately 12,300.

The U.S. dominant share of assets under management owes much to the depth and the spread of its capital markets, the painstaking development of regulatory framework under which it operates and to the good financial returns of the activity. Europe's industry prospects should remain bright, if the integration of its capital markets proceeds unhindered. The regulatory framework provided by the Undertakings for the Collective Investment in Transferable Securities (UCITS) goes a long way creating a market of a size and breath that could rival that of the U.S., but it is early days in the process and many national regulatory barriers still in place will have to be brought down.

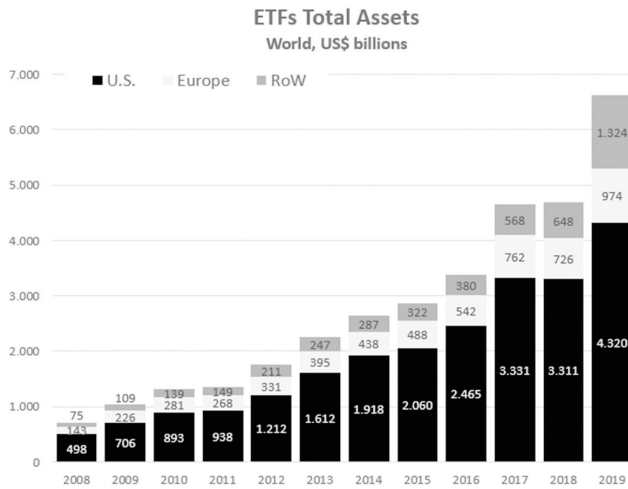


Graph 7.5



Source: ICI

Graph 7.6

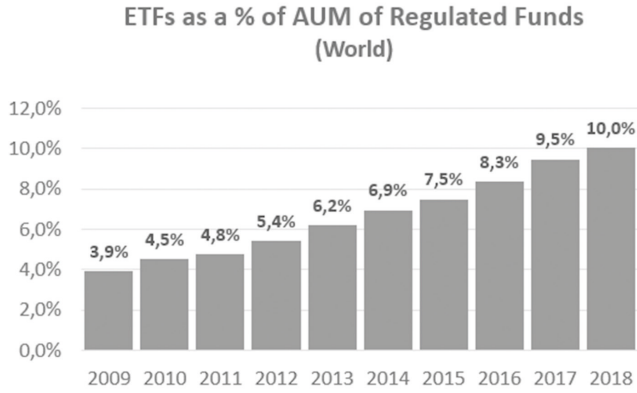


Source: ETFGI.com



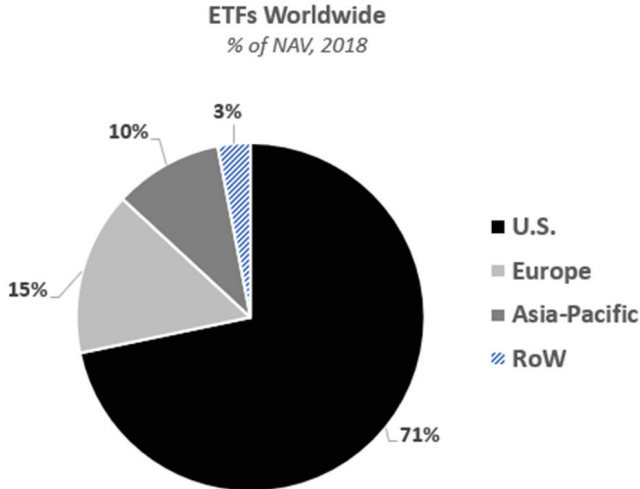
Expenses trend down, ETFs share of the market climbs

Graph 7.7



Source: ICI

Graph 7.8



Sources: ICI, ETFGI.com



8. ETFS: ALLOCATION OF CAPITAL, COMPETITION AND CORPORATE GOVERNANCE

Trends in the asset management industry have attracted the attention of academic researchers and regulators for a long time. The concentration of asset management in fewer hands and concomitant growth in passive investment have revived old concerns about their potential impact for three areas in particular: (1) the efficient allocation of capital to firms through financial markets, (2) competition in product markets and (3) adequate corporate governance. Calls have been made to limit the expansion of passive funds or regulating their activity. It is worth highlighting from the outset that the concerns voiced refer to passive investment generally and not particularly to ETFs. It is our view that none of these issues is pressing enough to warrant intervention. It is nevertheless worth spending some time reviewing these “problems” to dispel some misconceptions and put the issues in their correct dimension.

8.1. Do ETFs threaten an efficient allocation of capital?

The prospect of a stock market where all the shares are held through passive investment funds is nothing short of a nightmare. The relative prices of shares would hardly change. Firms with promising, bright prospects would be just as favoured as those that prove to be unmitigated disasters. Capital would flow evenly in the market and would not move away from undeserving companies to those that are believed to have a brilliant future.

This sort of dystopia has been imagined following the growing share of passive investment in the main stock markets through ETFs. Nevertheless, it should be regarded as unwarranted fear. Long before such a scenario would come to frui-



tion, big rewards would accrue to those actively taking positions -long or short- in grossly mispriced assets.

Passive investment can be characterised as being indifferent to the relative merits of quoted companies. They do not have any concern about the price of a share reflecting its true worth, whether it is “expensive” or “cheap” relative to the expected future profits, cash flows or dividends of the company or if the share of an alternative company offers better value. That task is left to active managers, not fully diversified investors, hedge funds and “raiders”.

The prices of shares are determined by the marginal transactions. That means that it is not necessary to have high volumes of transactions for prices to be established. The market’s liquidity for individual stocks may be reduced if a big share of the investors seat on the sidelines, but it would imply a reduction in both the supply and the demand. All that is necessary for prices to be efficient in a market is that they equate the risk-adjusted expected returns of all assets. To achieve this result is not necessary to have thousands upon thousands of active participants. It would be enough to have “a few” skilled ones.

8.2. Common ownership, Passive ETFs and Competition.

To understand the nature of the problem posed by common ownership imagine the following situation. You are an investor. Two identical firms produce an identical product and compete in the market. Initially you own one of them but, unrestricted by regulation, you manage to buy the second one, becoming the owner of both. Would you let two independent management teams compete their profits away? As a proper *homo oeconomicus* you would not. What should be expected from you is to care about the joint profits of the two firms, acting as a monopolist (or a duopolist), restricting production and raising prices to maximise your economic rents. The consequences of this common ownership for the firms’ behaviour are not restricted to what they do in their products markets, they also change their investment decisions, their expenditure on R&D, their relationship with suppliers and their bargaining power in wage negotiations with their employees. There is virtually nothing in the life of the firms that would not change under the new ownership structure.

The extremely simplified situation just described does uncover the potential ill effect of common ownership on product markets. It may lead to social welfare



losses. The fact that passive funds hold stakes in firms and their competitors could be of the same nature. Is it?

Let us backtrack a bit.

The increased acceptance of passive ETFs among investors, the spectacular growth in both the assets under management and the much larger size of the most successful ETFs tracking the big markets, have allowed the larger fund management companies to engage in a process of sustained reductions of management fees. For any two passive ETFs tracking the same index, the larger of the two is very likely to have lower unitary costs (per dollar or euro managed), thanks to significant economies of scale, prompting the race to outgrow competitors. The first-mover advantage in same-index passive ETFs is very meaningful. Under the ETF format, passive funds have achieved sizes that could not have been dreamed of before.

The drive to outgrow competing managers in terms of assets under management (AUM) is not restricted to the passive ETFs realm. Mutual funds (non-ETF) that have passive or quasi-passive strategies have also felt the “heat” coming from the passive ETFs. Much lower management costs for passive ETFs have forced the hand of mutual funds, pushing them to offer better deals to their investors in terms of fees and to seek economies of scale through consolidation. There is ample evidence of M&A activity in the mutual fund industry in recent years. Size matters and matters a lot.

As a result, at the start of 2018 the top four ETF providers (BlackRock, Vanguard, State Street and Fidelity) managed over US\$ 16 trillion in assets. For nearly 90% of the firms that constituted the S&P500, one of those four funds was the single largest investor. Furthermore, the “Big Three” (excluding Fidelity) combined owned 21% of the average S&P500 company³⁵.

While investors have benefited from lower costs, the increased concentration of ownership of public companies in a smaller number of funds has stirred a bustling debate about its consequences, as we said earlier.

The thrust of the concern is that common ownership of the companies in a sector tends to smother competition, benefiting firms at the expense of consumers.

³⁵ Backus et al (2019). “Common Ownership in America: 1980-2017) p. 19.



Common owners would care about maximising the aggregate profits of the companies in a sector, reducing competition among them if necessary, just like in the imagined situation described at the beginning of this section.

This idea, initially suggested by Julio Rotemberg³⁶ in 1984 has been echoed under different guises more recently, as the growth in ETFs has made common ownership a more likely “threat”. A frequently quoted research paper on the US airline industry by Azar, Schmaltz and Tecu³⁷, found that that ticket prices had increased significantly in routes where competing airlines have common shareholders. Backus, Conlon and Sinkinson (2019)³⁸ suggest that a firm’s management takes into account that its shareholders also have stakes in competing firms and, consequently, instead of being concerned solely about its own profits it gives some weight to the profits of those firms also to maximise shareholders’ value. It is not that shareholders instruct them to take their interests into account, managers themselves internalise those interests. If this description of managers’ behaviour is accurate, a firm would care not only about its own profits but also for those of the competitors with common owners. Then, if a firm raises the price of its product, some consumers shift to competitors. In a purely competitive environment that would prevent the firm from making such a decision. With common ownership that concern is dampened, because the loss is more than compensated by the gains of other firms and the firm increasing the price cares about those profits as well.

We remain sceptical about the general validity of this way of describing firms’ conduct vis-à-vis competitors. Some of the reasons for this will be explained in the next section (on corporate governance). In the meantime, let us point out, as some in the asset management industry have already done, that there is no hint of any mechanism by which asset managers (ETF providers in particular) influence corporate decisions regarding competition. Large institutional investors such as BlackRock, Vanguard or State Street have not shown any sign of meddling with decision-making at any firm. But perhaps of greater importance is that compa-

³⁶ Julio J. Rotemberg (April 1984) Financial Transaction Costs and Industrial Performance. Mimeo. <https://dspace.mit.edu/bitstream/handle/1721.1/47993/financialtransac00rote.pdf?sequence=1&isAllowed=y>

³⁷ Azar, José and Schmaltz, Martin C. and Tecu, Isabel, **Anticompetitive Effects of Common Ownership** (May 10, 2018). *Journal of Finance*, 73(4), 2018. Available at SSRN: <https://ssrn.com/abstract=2427345> or <http://dx.doi.org/10.2139/ssrn.2427345>

³⁸ Matthew Backus, Christopher Conlon, Michael Sinkinson (2019) The Common Ownership Hypothesis: Theory and Evidence.



nies' managers are not as diversified in their shareholdings as fund managers are. For them it is far more important (economically) the performance of the firm under their tutelage than the favourable evolution of the sector or the market at large. Tesla's CEO incentives package is not linked to the performance of the S&P500 or of General Motors. If it were, there would be a genuine source of concern. Probably it would also be illegal.

It is more likely that common ownership reduces competition in the takeover market, as has been argued by Irani, Yang and Zhang in a recent paper³⁹. Their key finding is that the presence of common shareholders in the acquirer and the target firm reduces the likelihood of an interloper placing a competing bid by 45%. This reflects the fact that merger and acquisition decisions are important (and observable) and may require approval by shareholders. Institutional investors (fund managers among them) are much more likely to pay attention and influence the outcome, and managers are much more likely to consider the potential reaction of shareholders to the transaction. Even if these findings are correct, there is no obvious reduction in social welfare. While a takeover in the presence of common owners arguably benefits the acquiring firm (which would pay a lower price) at the expense of the targeted firm, passive investors would have stakes in both firms.

8.3 ETFs and Corporate Governance.

An ETF's ownership of stakes in public companies is held on behalf of the buyers of the ETF's shares, to whom the ETF provider owes a fiduciary duty. Nevertheless, voting rights remain at the fund level, which are controlled by increasingly fewer ETF providers. This results in what has been called The Problem of Twelve: the idea that it will not be long before control of most major public companies will be in the hands of a dozen people in the United States.

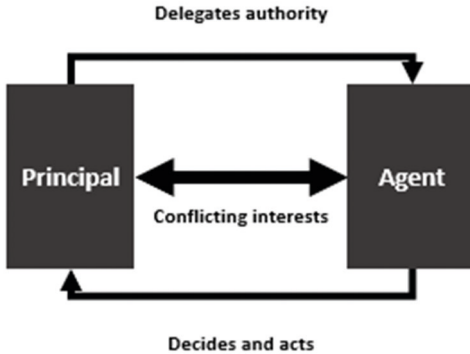
In corporate finance theory, the principal-agency problem has been known and researched for a long time⁴⁰. The principal (shareholders) delegates the decision-making power to the agent (corporate management) but the interests of the

³⁹ Irani, M., Yang, W. Zhang, F (2019)

⁴⁰ Seminal papers to the theory were written by Stephen Ross (1973) and by Michael Jensen and William Meckling (1976).

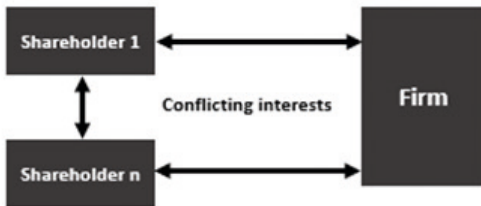


Graph 8.1



Source: Own elaboration

Graph 8.2



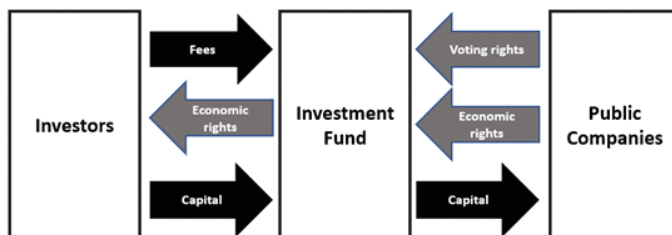
Source: own elaboration

two parties may not be aligned. The agent may act to serve his own interests, which may run against those of the principal.

The control of public companies is not alien to this problem. If anything, the principal-agent problem becomes far more complex in the presence of many shareholders (principals) because they may not all agree as to the objectives that the firm's management is meant to achieve on their behalf. While it is relatively simple to set the objectives for the agent to maximise profits, shareholders may disagree as to how to reach that objective. They may also differ as to the priority that should be given the other pursuits (e.g., meeting ESG standards). And of course, the problem of coordinating objectives among shareholders when

there are many thousands of them might prove insurmountable. This is also a well-known difficulty, known in the literature on the subject as the **multiple principal** or **common agency problem**.

Graph 8.3



Source: Shenkar, Heemskerk & Fichnter (2017), own elaboration



These adversities in aligning the actions of the firms' management to the interests of shareholders are somewhat mitigated by the role played by fund management companies, who sit between the principals and the agent, providing the former with some degree of coordination.

In the US, for example, roughly half of the publicly traded companies' shares are held through investment or pension funds. Essentially, investors have a contractual relationship with the fund that provides them with exposure to returns offered by firms (appreciation, dividends, etc.) in exchange for fees. However, the fund retains the political (voting) rights. Consequently, the asset manager has "some" degree of control and may actually use it, as an agent of the participants in the fund.

An active mutual fund makes decisions as to what shares to hold in its portfolio and, consequently, is perceived to exert some influence of the relative prices of stocks in the market. The larger the fund, the greater its perceived potential impact should be. Paraphrasing a vintage TV add from the late 1970s in the US, "when a large fund management company talks, people listen"⁴¹.

However, it is not necessarily the case that an active mutual fund, no matter how large the assets under management or its particular stake in a given firm, would want to give any guidance to the management of the company or participate in any other way in its decision making. That the fund in question is active means only that it decides what companies is convenient to hold in its portfolio, in what quantities and when is the right time to dispose of them. This is the extent of what active means in the context of asset management.

While the political rights that a fund has because it holds stocks entitle it to vote at Annual General Meeting (AGM) and to be an **activist**, trying to influence the firm's management, it is clearly beyond its "call of duty". Being an active manager and an activist manager are two very different things.

The heterogeneity in the universe of investable shares is huge and funds invest in hundreds or thousands of firms, often dispersed in many countries. It is simply not possible for them to assume the functions (make decisions) that only the deep, specialised knowledge and skills of the companies' management may have.

⁴¹ The add actually said "*When E F Hutton talks, people listen*". E F Hutton was one of the largest companies in Wall Street in the 70s and 80s.



For passive index funds, be they ETFs or not, the incentives for **activism** are even harder to fathom. Engaging with any single firm, with the aim to improve its efficiency or profitability, can -if it is successful- have the perverse effect of deteriorating the competitive position of other firms in the same sector, companies in which the index fund necessarily has stakes. Furthermore, the very approach to management associated with this type of funds precludes any attempt at understanding what are the merits of one company versus another. Virtually no effort is devoted to that by passive managers. The incentives to invest in stewardship are meagre in the best of circumstances. Even for the largest funds, the stakes held in a single firm are not large enough to warrant incurring the costs associated with any form of stewardship. The fund would have to incur the full costs of trying to steer the company in any given direction but could only capture a small fraction (proportional to its stake) of the potential benefits of its actions. The remaining shareholders -the vast majority- would free ride, incur no costs and capture the lion's share of the benefits.

Paradoxically, unlike active managers, passive index trackers cannot walk away from a firm they dislike, as long as it remains in the index. This, by itself, should be an incentive for passive managers to engage with the firm and try to improve its fortune. However, as said earlier, the near impossibility of capturing a meaningful share of the benefits prevents such a liaison⁴².

This is not to say that passive managers have no influence at all on the decision-making of public firms. It is indeed the case that they vote at AGMs and that it is there that most momentous resolutions for the firms' future are taken. Naming directors and the remuneration, deciding on mergers or acquisitions and other all-important choices can be tilted one way or another by the votes held by large fund managers. However, as Lucian Bebchuk and Scott Hirst convincingly argue, "*index funds have strong incentives to (i) under-invest in stewardship, and (ii) defer excessively to the preferences and positions of corporate managers*"⁴³. Investors who buy passive funds do not expect the asset managers to do anything but to hold a diversified basket of shares as dictated by the reference index. Furthermore, given that passive ETFs can be structured synthetically, as they are of-

⁴² According to Bebchuk and Hirst (2019) the Big Three index tracking companies (BlackRock, Vanguard and SSGA) spend less than 0.2% of their management fees on stewardship.

⁴³ Lucian Bebchuk and Scott Hirst (2019) "Index Funds and the Future of Corporate Governance: Theory, Evidence and Policy".



ten done in the European markets, investors actually do not care if the fund holds the shares of the companies that compose the index. The fund investors do not expect the fund managers to meddle with the companies' management on their behalf and since such interaction is costly for the fund, they have no incentive to do it.

There is perhaps a more fundamental reason for the buyers of passive funds not to care about stewardship or steering by their fund managers: they attach no importance at all to "alfa". Their expected return is exclusively "beta" based. Thus, if company performs poorly (with no systemic risk consequences) it is no concern. The lagging performance of one firm is likely to be compensated by the better performance that its competitors will experience.

Take into consideration that Alphabet, the parent company of Google, has three classes of shares (A, B and C). Class B shares are supercharged with political rights and allow Sergei Brin and Larry Page to control 51% of the votes in the company. This far exceeds their economic rights (of about 10%). This type of multiple share-classes structure is not totally unusual. Facebook, Amazon, and many other firms have them as well. Tesla's Elon Musk controls the company even with only 22% of its shares, given the supermajority voting rules in place, which requires nearly 90% of the votes to approve key changes. Corporate governance is a far more complex and controversial issue than usually thought. None of these issues trouble the passive investor.

The fund management industry can be characterised as one of monopolistic competition. No two funds, even if operating in the same market segment (e.g. US equities), when provided by different asset managers, can be thought of as identical products. While the investment universe of the funds may be the same, differences in the investment approach, the techniques and technology, the managers' skills, the marketing and the distribution of the fund, *inter alia*, make for them to be perceived by the investor as different products. With passive index funds tracking the same index, many of the funds' fundamental differences disappear, but not all. If the investor's objective is to track the S&P500 it matters little if the fund manager is State Street, Blackrock or Vanguard. It is the costs of the fund what matter most⁴⁴. Yet, they are not identical and we are still in a world of monopolistic competition. The important point to bear in mind is that the size of

⁴⁴ This assertion should not be interpreted literally. We are aware that some degree of product differentiation may remain, but it is of second-order importance.



the fund is of utmost importance. First movers setting up funds tracking a particular index, reduce their unitary costs as the size of the fund grows, because they can divide the fixed costs among a larger number of investors. That explains, for example, why SPDR, the fund tracking the S&P500, exceeds US\$317 billion of assets⁴⁵.

8.4 ETFs: Passive Investment, Governance and Activism.

Even in the rare occasions in which ETF make a stance on corporate governance issues the impact on corporate behaviour is muted. These tend to be relatively bland, general purpose statements meant to convey ideas about the good practices of social behaviour, concerns about environmental degradation and the now fashionable regard for all stakeholders of firms (employees, suppliers, customers, the community and -of course- shareholders).

We have argued that passive investors in an index have no incentives to participate in the management of the firms in which they invest. This includes bland forms of guidance or stewardship.

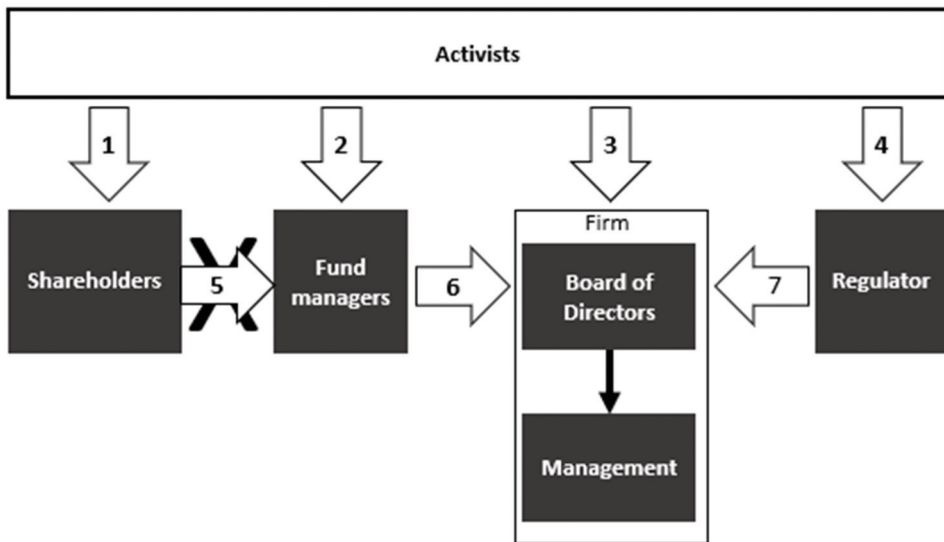
What follows should not be interpreted as a form of disregard on our part for the importance of these issues. What we find questionable is the channel chosen by activists, particularly of those not linked to firms through shareholdings, to pursue their objectives. The list of pursuits could be very long: a clean environment, stopping global warming, disposing of nuclear energy, social inclusion, equal treatment of women in the workplace (and beyond), fairness in trade, abolition of child labour, respect for intellectual property, arms production, genetically modified crops, abortion medical practice, etc. You may find yourself at one side or the opposite on any of these concerns. The specific question that we are dealing with now is what role, if any, should passive asset managers play in this regard.

⁴⁵ As of 16 January 2020. Source: etf.com.



Graph 8.4

Mapping the democratic channels for activism. What should the role of Passive ETFs be?



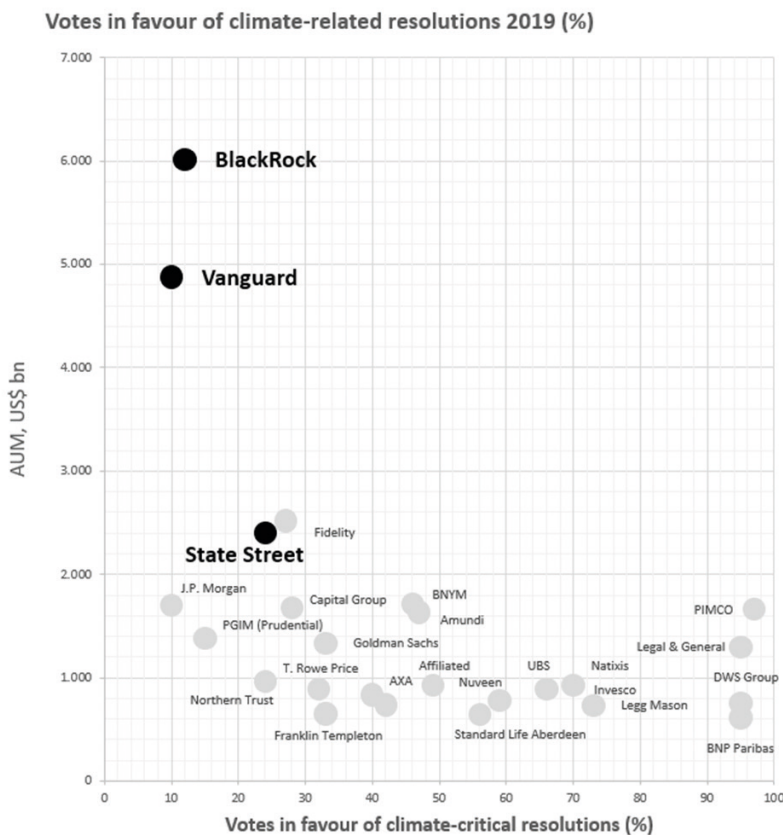
Source: own elaboration

The chart presents the various channels that activists can use to push forward their views in trying to steer the firms' actions and make them change to mitigate their concerns. They can try to persuade shareholders ①. Whether that is a useful strategy for activist depends on degree of control or involvement that they may have with the firm. If a fund management the company sits between the shareholders and the company, it is very unlikely that shareholders could shape, in any meaningful way, the views of either the fund managers or the directors of the company. When a fund is constituted it defines its objectives and it is distributed (sold) to investors on that basis. After that, no engagement between the fund and its participants takes place regarding the investment policy of the fund. This is even more so for a passive fund, whose sole objective is to track a set index. If an investor subsequently finds himself at odds with the aims of the fund his only choice is to walk away, selling his shares. Any hope that activists may have about influencing a firm through route ⑤ should be deemed ill founded.



If shareholders are convinced of the merits of the activists’ initiatives, asset managers are likely to come up with **new** funds that take these perceived concerns into account, and index providers would come with the appropriate adjustment to facilitate the emergence of index tracking funds that cater to the new demand. This is why we have seen the proliferation of green funds or others that exclude firms that produce arms. We will come back to this route shortly, because this is where, in our view, the controversy rests. Additionally, activists may approach the firm directly ③ or lobby for changes in the regulation that would consider and correct any perceived shortcomings that create “perverse” incentives or behaviour by firms ④ ⑦.

Graph 8.5



Source: Majority Action, Financial Times, own elaboration



Where does the problem with these channels of activism lie? While it is legitimate that activists use all available routes to make their views known, we find odd that activism would exert pressure on asset managers, particularly on passive asset managers ② ⑥. We have explained that neither the passive funds' shareholders nor the managers of the fund have any incentives to be engaged in the participated firms' decision making. The fact that the funds may be large and potentially very influential does not alter those incentives. Given that the funds' shareholders and the activists constituencies may not be overlapping, it may be viewed as “undemocratic” that activists bypass shareholders in their quest to alter firms' behaviour to begin with.

The following recent event will help to clarify the issue. The voting record of passive asset managers regarding ESG issues was recently denounced as poor by Majority Action, an activist organisation in the US⁴⁶.

They highlight the fact that the three of the largest fund managers (BlackRock, Vanguard and State Street) are among the fund managers least supportive in their voting on what they regard as climate-critical resolutions. The graph, with data from Majority Voting and the Financial Times, is quite eloquent. Should the Big Three have voted differently? Our view is that they did what they were supposed to do. If they are big (in terms of assets under management) is because of their dominant role in the passive funds (ETFs) segment. Passive means passive.

Be as it may, the ETF promoters are “feeling the heat”. In its annual letter to chief executives, Larry Fink, CEO of BlackRock, showed concern for the potential critical impact of climate change. Meaningfully, he pledged a series of actions to be adopted in the future. Among others, it will remove from its active funds some coal companies, it will report on the environmental footprint of its funds and increase the number of sustainable funds.

Read carefully and you will realise that BlackRock is keen in not changing the non-activist stance of its passive (ETF) funds.



9. A FEW OBSERVATIONS ON ETFs AND MARKET STABILITY

Can ETFs have a negative impact on the stability of financial markets? Some market observers have repeatedly raised this question ever since this type of funds gained notoriety, some 15 years ago. Most frequently it is argued that their market presence may foster speculative behaviour, amplifying market swings, upward and downward. However, from a theoretical point of view, the use of ETFs to place leveraged bets on the direction of a market is very similar to the use of futures contracts to that end.

As time went by and ETFs market share grew, these observers expressed anxiety about wild market swings and bouts of herd behaviour being triggered by these investment vehicles. If we assume, for example, that the views on the market turn bearish, it is natural to assume that investors will sell their index-linked ETFs. But it must also be the case that they will sell most of their individual stock holdings. Indeed, they are likely to sell investment funds generally, be they passive or active. In any case, in the past decade and with ETFs growing tenfold during that period, none of these potential worries proved to be meaningful.

More specific issues were raised by the Financial Stability Board (FSB)⁴⁷ as early as 2011. At that time, they showed concern about potential risks associated with the rapid expansion of ETFs⁴⁸. Their apprehension was focused on three broad

⁴⁷ The FSB is a member-driven organisation that advises the Heads of State and Governments and the Finance Ministers and Central Bank Governors of the G20. It is hosted by the Bank for International Settlements (BIS).

⁴⁸ FSB (2011) “Potential financial stability issues arising from recent trends in Exchange-Traded Funds (ETFs)” .



areas: (1) the reliance of synthetic ETFs on derivatives (swaps), (2) their investments in illiquid assets and (3) their extensive use of securities lending.

Synthetic ETFs have a significant presence in Europe and Asia but not in the US. This is a consequence of the regulation relating to the use of derivatives by investment funds. As we explained earlier in this report, the swaps involved in the construction of a synthetic ETF bring along the need for a collateral and counterparties and their associated risks.

Conceivably, if the parties to the swap contract belong to the same financial group, there could be an undue concentration of exposure to a market downturn. To make this point clearer let us imagine the following situation. A bank may want to finance a portfolio of illiquid assets that sits in its balance sheet and uses it as collateral for a swap in the construction of an ETF. In the absence of regulation as to what are acceptable assets and the degree of collateralisation that they offer the bank may be unduly shifting risk from its balance sheet to the ETF investors. However, from the outset, that possibility has been precluded by a tight regulatory regime. Our view is that the rules that govern the selection of collateral and its extent and valuation have proven adequate to deal with that potential problem. Limits have also been imposed on the use of derivatives.

Admittedly, ETFs have branched out from investments in mainstream indices into bonds, fixed-income, commodities, emerging markets and real estate, among others. In these markets the assets may be harder to price on a continuous basis and that may induce a transitory divergence in the INAV of the ETF and the value of the underlying assets. However, it has been rightly observed that the very existence of the corresponding ETFs has improved the pricing efficiency in the markets of the underlying assets. Investors seeking exposure to these segments are probably aware of the associated risks, including those associated with the corresponding ETFs. Thus, ETFs might well be the most efficient way to get a diversified exposure to otherwise hard-to-access or distant markets.

Securities lending presents the same type of risks (counterparty, collateral) that synthetic ETFs have and is naturally subject to regulatory requirements. Indeed, ETFs based on broad indices may be used to take short positions on a market, but they are clearly no different from the possibilities already offered by futures contracts. The never-ending debate about the impact of short-sellers on market stability is clearly not the subject of this essay. However, we do not see any dif-



ferentiated role for ETFs in this regard. It should also be remembered that short positions are key as a risk management tool for many economic agents.

Most of the aforementioned attention has focused on the possibility of ETFs intensifying downward market movements in times of stress. However, there is no good reason to believe that the manager of a mutual fund should play a more stabilising role in such circumstances. A coordinated action of thousands upon thousands of the ETF's shareholders appears to be less likely than the decision of a single fund manager.



10. FINAL REMARKS

In Section 2 of this report we put forward an investment model that may be used to make the most of both active and passive investments. This model was designed almost twenty years ago, a time in which ETFs were not as popular as they are nowadays. This model emphasizes that purposeful financial investment should combine long-term exposure to broad markets risk with shorter-term search for alpha.

At present there is a proliferation of ETFs that facilitate taking exposure to almost any imaginable financial market in a fairly inexpensive and liquid way. They can charge very low commissions because they do not need to invest in expensive research and they do not pick up the phone to answer questions from individual clients. All this results in very low operational costs. Basic, index-tracking ETFs investing in the same market are mostly chosen based on their costs. However, the simple difference in names and managers places them, no matter how lightly, in a monopolistic competition context.

Active managers are more purposely embedded in the world of monopolistic competition: they strive to differentiate themselves from their competitors claiming that they have superior market intelligence because of better research, and/or more efficient cost structures resulting in fairer commissions. And they do need to pick the phone to call their clients to keep them happy. And, on top of all that, there is the cost of regulation that may be heavier than the one experienced by passive managers. All this results in high operational costs that have to be justified by superior performance.



The wide availability of inexpensive ETFs has put a lot of pressure on actively managed investment funds. As seen in Section 7, the expense ratios of mutual funds have declined noticeably in the last fifteen years and there is no good reason to believe that the competitive pull of passive management on the cost structure of active managers will spontaneously fade away. Is this heralding the disappearance of active management as a relevant tool in financial markets? We believe that it should not and will not.

There are two broad kinds of investors. On the one hand there are those who do not particularly enjoy participating in the financial investment decision processes. They would rather ignore the small print of the periodical performance reports they get and go straight to the losses and gains number in bold at the bottom. These investors are probably well served by the inexpensive passive investment industry.

But, on the other hand, there are many investors who like to be privy to the investment decisions of their fund managers. Or, rather, they may want to make these decisions themselves. There are no decisions made in ETFs, so these investors should be clients of active managers and they should be told that active management has, necessarily, higher costs: they should pay for market intelligence and for the time investment officers spend with them.

The spirit of our investment model calls for a mix of passive and active investment strategies. The weights of each of them should reflect the degrees of risk aversion of investors. There is no a priori reason for not considering the search for alphas, but investors should be aware that they would have to pay the higher fees of active management and hope that this extra cost will be justified by superior performance.



GLOSSARY

Active management

A process in which a manager or group of managers use their acquired knowledge and forecasts to take a view on whole markets or on individual securities to make investment decisions (buy, hold and sell).

AGM (Annual general meeting)

A yearly meeting of a company's shareholders. At it, directors inform shareholders about the company's performance and strategy. In turn, shareholders vote on issues such as appointments to the board of directors, compensation and dividends.

Alpha

A measure that indicates whether the manager has superior market intelligence at the micro or individual stock or bond level.

Alt-A

An alternative asset is one that does not fall into one of the conventional investment categories (stocks, bonds or cash). Most have complex structures, lack regulation and have a higher degree of risk. Consequently, they tend to be held by institutional investors.

AUM (Assets under management)

It is the market value of the investments that a fund manages on behalf of clients.

Authorised participant (AP)

APs are registered broker-dealers that clear and settle the transactions for ETF promoters.



Beta

A measure that indicates whether the manager has superior market intelligence at the macro level: sectors, countries, etc.

Closet-tracker

A fund that is run in passively and has returns very similar to those of a real tracker fund when it is supposed be managed actively.

Creation Unit

A block of new issued by an exchange-traded fund (ETF) to a broker-dealer for sale on the market.

ESG Environmental, Social and Governance

A set of principles for a company's operations used by investors to screen investments. These are guided by considerations of the impact of the companies' actions on nature, its relationships with employees, customers, and other stakeholders and with companies' leadership, executive pay, shareholder rights, etc.

ESMA

It is the European Securities and Markets Authority, the European Union's (EU) securities markets regulator.

Exchange Traded Fund (ETF)

An investment vehicle that holds securities—such as stocks, bonds, real estate and others—that tracks an underlying index. An ETF resembles a mutual fund but it is listed on an exchange and its shares trade just like any other stock.

Expense ratio

Is the part of a fund's assets used for administrative and other operating expenses.

Intraday Net Asset Value (INAV)

INAV gives an intraday indicative value of an ETF based on the market values of the securities that it holds.

IOSCO

IOSCO is the International Organization of Securities Commissions



KIID (Key investor information document)

It contains the essential information about a fund. It is meant to allow investors to understand the risks of the fund and its main characteristics.

Load

It is the sales charge paid by investors to the brokers or agents who sell the fund to them.

MIFID (Markets in financial instruments directive)

A European Union regulation to foster transparency in financial markets and to set standards on the regulatory disclosures across the EU. It also sets conduct standards for financial intermediaries.

Monopolistic competition and other market structures

Monopolistic competition is, together with perfect competition, oligopoly and monopoly, one of the basic product market structures studied in microeconomics. Its main features are: (1) a large number of buyers and sellers, (2) unimpaird entry and exit of firms, (3) product differentiation, (4) selling costs (advertising), (5) imperfect knowledge (there are many products that are close substitutes of one another but buyers do not know them all), (6) imperfect mobility and (7) the demand for the product displays some degree of elasticity (to sell more, the producer must reduce the price). Most markets for products and services fall within this category

NAV (Net Asset Value)

It is the (unit) price of the fund at a given moment, based on the value of its underlying securities.

Non-transparent Active ETFs

An ETF that has managers that decide on the underlying portfolio allocation, not adhering to a passive investment strategy. Unlike other ETF, the composition of its portfolio is not disclosed publicly.



OCF Ongoing Charges Figure

A modified definition of the Expense Ratio that includes additional items. It must be published annually by investment companies, according to EU regulation (MIFID). It shows the weight imposed on a fund's performance caused by operational expenses.

Open-end fund

A diversified portfolio that can issue an unlimited number of shares.

Passive investment

A process in which a manager or group of managers track a pre-established set of securities or assets without holding any view on the future evolution of their prices.

Portfolio Composition File (PCF)

A list of securities and their quantities, and or cash that the sponsor of an ETF needs for the creation of shares.

PRIIPS (Packaged retail investment and insurance-based products)

A category of financial assets that are regularly provided to consumers in the EU through banks or other financial institutions as an alternative to savings accounts.

Synthetic ETF

A synthetic ETF is an asset structured to reproduce the performance of an underlying index using derivatives and swaps rather than physical securities.

Tracking-error

Is the difference between the evolution of the price of a portfolio and the price behaviour of its benchmark.

UCITS (Undertakings for the Collective Investment in Transferable Securities)

A regulatory framework of the EU that creates unique regime for the management and sale of mutual funds.



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