INDEX FUNDS IN CAPITAL MARKETS

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Paging through professional financial publications or regular press nowadays we see analysts split over their opinions and recommendations regarding investments in different types of funds marked by varying degrees of risk and return. However, both analyses and experience from collective investments overseas, especially in the U.S., give evidence that, in the long run, index funds replicating the market portfolio yield approximately the same return as the best-performing and most profitable risk equity funds or hedge funds, which often focus on a specific market segment. Latest trends in the fund industry around the world show an increasing number of investors turning their attention to index funds, which limit the risk to investors by diversification.

Index funds are based on Markowitz's market portfolio theory, which says that a market portfolio represents a risk weighted average return of the entire market assuming the existence of a risk-free asset. This important conclusion has led to the construction of index funds in the early 1970s, initially open to institutional investors only. The first index portfolio was set up in 1971 by the bank Wells Fargo, followed in 1976 by the introduction of the first public index fund by the investment company Vanguard and its renowned manager J. C. Boglem. This facilitated access to capital market investments to the lay public as well.

Index funds are a special type of equity mutual funds whose portfolio contains all shares included in a relevant market index, both in terms of structure and value. In other words, an index fund is a perfect copy of its benchmark index. This sort of funds combine the best virtues of open-end mutual funds (UCITS) and investment funds (Open End Investment Companies – OEICs, or investment trusts). Dividends earned on individual constituent equities are reinvested into portfolio equities, while respecting their share based on weights in the index. This ensures that the fund and the benchmark index perform along the same lines.

An index fund may sometimes fall short of the returns posted by the index it mirrors. It is due to a so-called tracking error, which gauges the deviation from the index performance. Where does the deviation come from? It is mostly from various broker fees and the funds' operating expenses or other technical factors.

What are the advantages of index funds?

- The biggest asset of index funds is their passive management and, consequently, low operating costs. The only operations carried out by fund managers are those required to preserve the appropriate portfolio structure. This means they only purchase securities which are added to the index, or sell those which drop out.
- Index funds have small staff, and since there is no need to analyse securities, there are no analyst bills.
- Empirical and statistical data shows that index funds actually outperform a number of actively managed funds.
- Since their costs are low, customers pay minimum or no fees (e.g. the Vanguard 500 index funds charges a mere 0.18%).

Index funds are distinguished by the type of index they track. Many target or copy a broad market – market-wide indices (Wilshire 5000 Index, S & P 500, and the like). Some funds mirror the dynamics of a particular sector, industry (DJ U.S. Financial Sector Index), or international indices (MSCI Europe Index).

Exchange traded funds

This form of investments, known to investors as exchange traded funds (ETF), experienced a boom in the 1990s. Their securities became tradable in secondary markets as well. The first exchange traded funds appeared and received their name in 1993 on the AMEX market (American Stock Exchange). It was mainly in the 1990s that they attracted growing interest from investors, yet the trend has continued after 2000. Investments in ETFs totalled USD 87 billion in 2002, but exceeded the USD 187 billion mark by 2004.

Exchange traded funds are open-ended. They have general meetings, a board of directors, executive officers (unlike classic mutual funds) and an obligation to audit their assets every year. Apart from that, there is another essential difference between classic open-end mutual funds and ETFs. Since open-end mutual funds have their asset management costs to cover, their buy and sell rates are different. The spread (premium) pays for management and trading fees. An ETF issues no unit certificates, but rather regular shares which an investor is free to buy or sell at any time.

ETFs are valued much in the way shares are rated at a stock exchange on a trading day. Their price is derived from the value of the benchmark index, or its components. Gaps, if any, between the index value and the fund price resulting from the interaction of supply and demand are offset by arbitration. The value of individual ETFs does not precisely reflect that of the benchmark index. It is determined as a percentage of the benchmark index value. For a fund replicating, for instance, the NASDAQ 100, whose value is set to $^{1}/_{4}$ of index, if the index scores 1,200 points, the ETF will be worth USD 30 per share.

An investor may thus take long or short positions, or buy on margin from a broker. Daytrading allows institutional investors in particular to conduct arbitration operations. The very composition of ETF makes it possible. Investors take advantage of the difference between the price of ETF securities and their net asset value (NAV). Stock brokers handling arbitration transactions seek out and buy cheaper ETF shares and trade them for more expensive securities included in ETF portfolios. As the demand for ETF securities rises, their price begins to grow and near the NAV. As soon as the price of ETF securities exceeds the NAV, the arbitrators carry out a counter operation. However, these operations are only affordable to institutional investors, as they require a large number of securities. That is the reason why the greatest interest in exchange traded funds also comes from hedge funds, which among other things deal in arbitration and other speculative trade. The development of ETFs is illustrated in the chart below.

ETFs offer investors a wide variety of investment opportunities. As with index funds, investors can invest in the whole market, a single sector, in bonds, international equities, etc.

Among the first ETFs emerging in 1992 were SPDRs (Standard & Poor's Depositary Receipts) which tracked the S&P 500 index. Traded on AMEX since 1993, they still rank among the most popular exchange traded funds today. SPDR issue deposit certificates the value of which mirrors that of equities pooled in the S&P 500 index. Investors are paid a regular quarterly dividend. Unlike early index funds, SPDRs have a lifespan till 31 December 2099. SPDRs currently copy sector indices as well, allowing investors to diversify their portfolios in certain economic sectors. They also played a special role in the technological sector investment spree in the late 1990s.

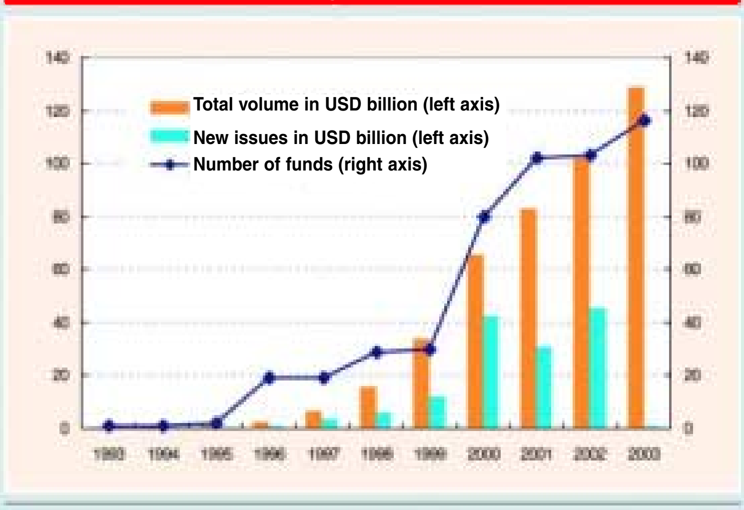
Also enjoying great popularity among investors are EFTs based on the Dow Jones Industrial Average and NASDAQ 100 family. Known as DIAMONDS and QQQs, they entered AMEX in the late 1990s. AMEX is considered the "cradle" of exchange traded funds today. In mid-2004 it listed 139 ETFs (out of 159 registered in the U.S. at that time).

The table below gives an overview of the biggest exchange traded funds and their basic characteristics.

Title	S&P Depositary Receipts Trust Series 1	DIAMONDS Trust Series 1	NASDAQ 100 Index Tracking Stock
Acronym	SPY	DIA	QQQ
Slang name	Spiders	Diamonds	Cubes
Index	S&P 500	DJIA	NASDAQ 100
Price/index ratio	1/10	1/100	1/40
Trading launch	29/1/1993	20/1/1998	10/3/1999
Assets (as at 26/7/2004)	USD 41.07 billion	USD 7.55 billion	USD 23.08 billion
Daily trading volume*	USD 43 million	USD 6.7 million	USD 106 million

* 3-month average as at 26/7/2004.

Issues of exchange trade funds in the U.S.



Source: Investment Company Institute, U.S.

The market is still dominated by Spiders and Cubes, which make up 80% of total trading volume in exchange traded funds.

In 2002 practically all indices were already occupied by ETFs. Many analysts were sceptical about the future of these funds, in particular those linked to equity indices.[1] In response to that, new ETFs emerged, this time referring to indices of fixed-income securities. Branded as bond exchange traded funds, they were rolled out in the U.S. market on 26 July 2002 by Barclay's Global

[1] Jim Shirley (a well-known Lipper analyst) says that "the emergence of too many new exchange traded funds investing in equities may have a negative impact."

Investor. Their indices follow price trends in corporate and government bonds. They are traded similarly as ETFs tied to equity indices. Trademarked iShares[2], the Barclay's Global Investor ETF brought larger trading opportunities for those seeking short-term profits. The new iShares allowed investors to focus on the yield curve, taking both long and short positions in bonds with different returns and maturities responding to interest rate movements.

Bonds index funds are a risk-hedging tool appealing to conservative investors above all. There are only 10 bond index funds in the U.S. at present. To some extent, this appears to be related to the tightening of the Fed's monetary policy. The most popular bond fund among investors is Lehman 20+ Year Treasury (TLT).

Since 2000 ETFs have gone through some innovation in equity indexed funds. The index fund pioneer Vanguard introduced what it called VIPER ETFs – Vanguard Index Participation Equity Receipts. VIPERs can be traded like any other stock. But rather than a stand-alone ETF, they are a distinct class of shares in Vanguard index funds. The company did not stop there and went on to launch Extended Market VIPERs, later followed by Total Stock Market VIPERs. In January 2004, it unveiled a VIPER fund based on sector indices and indices clustering large-capitalisation firms. In doing so, the company broke away from traditional indices such as S&P, Russell and Barra, and switched to Morgan Stanley Capital International (MSCI) indices. ETFs based on MSCI indices emerging since 1996 cover a larger number of world regions and sectors.

Barclay's followed suit with its new iShares MSCI EAFE Index ETF which replicates an international equity index. Another application is the iShares MSCI Japan Index ETF.

Holding company depositary receipts (HOLDS) are a specific ETF category. Introduced in 1998 by Merrill Lynch, they are known for the Semiconductor HOLDRs Trust securities. Each portfolio is a package of 20 equities, their number decreasing whenever a merger or acquisition happens. The structure of depositary receipts implies that the holder owns all shares included in the package. Bank of New York acts as the holder's agent and can be approached by investors to trade HOLDRs for shares featured in the portfolio (in lots of hundreds). Investors may also choose to sell unprofitable shares and keep the most profitable ones.

ETF took some time before arriving in Europe in April 2000, when they started trading on the London and Frankfurt stock exchanges. In London, ETFs are set up mostly by Barclay's and investment banks Merrill Lynch

Market-wide indices	Dow Jones U.S. Total Market, Russell 3000
Large-capitalisation (Large-Cap) indices	Dow Jones Industrial Average, Russell 1000, S&P 500
Medium-capitalisation (Mid-Cap) indices	Russell Mid-Cap, S&P Mid-Cap 400
Low-capitalisation (Small-Cap) indices	Russell 2000, S&P Small-Cap 600
Sector indices (technological, internet, Multi-Cap)	Nasdaq 100, Nasdaq Composite
Fixed-income instrument indices	Lohman Aggregate Bond, Goldman Sachs $ Inves Top Corporate Bond
International indices	MSCI EAFE, S&P Europe 350
Emerging market indices	MSCI Emerging Markets
Specialised indices	Intellidex Indexes, S&P 500 Equal Weighted Index

and Bloomberg. The London Stock Exchange created a special trading platform for ETFs called extraMARK.

The major indices currently tracked by exchange traded funds are listed in the following table:

Large-Cap ETFs track indices pooling companies with high market capitalisation (over USD 4 billion) such as General Electric, Microsoft, IBM, Johnson and Johnson, 3M Co, Boeing Co, Procter and Gamble and the like. These ETFs are marked by relatively lower volatility compared to others and have also paid higher returns in recent years.

Mid-CAP ETFs cover the market segment comprising firms with market capitalisation of USD 1-4 billion. They are typical for seeking value growth. They already fall into the higher-risk category, and their portfolios feature corporations such as Washington Post, Coach Inc, XTO Energy Inc, Tyson Foods, or JeBlue Airways Corp.

Small-CAP ETFs monitor the performance of firms with market value of up to USD 1 billion. Since they primarily seek rising equity value, they entail higher volatility. Notwithstanding that, in the past few years we have seen these funds perform better than those mentioned above. They list companies such as IDEX Corp, First Midwest Bancorp Inc, Valeant Pharmaceuticals, Human Genome Sciences Inc, etc.

Innovation in the ETF market

In the past five years, the number of exchange traded funds shot up and, apart from bond ETFs and many other innovations, ETFs have been looking for ways to other segments as well. Specialised ETFs are set up, with assets linked to commodity prices.

In 2003 the first gold-backed securities had their market debut, introduced by the Gold Bullion Securities fund under the label GOLD. The Gold Bullion Securities shares represent 1/10 of troy ounce of gold. Their issue was supported by the World Gold Council and the Australia-based Gold Bullion Ltd. In December 2003 they entered the London Stock Exchange under the acronym GBS. In

[2] The company uses the same trademark for its equity ETFs.

the same year, the World Gold Council asked the SEC for permission to trade them on the U.S. market as GLD. The first license for a "gold fund" was granted to Barclay's Global Investors, whose iShares COMEX Gold Trust trade on AMEX as IAU. One indisputable quality of this sort of funds in the high credibility enjoyed by their financial intermediaries (e.g. Barclay's is regarded the top player in index trading).

The successful takeoff of gold ETFs set the example for other funds in other countries. Today they relate not only to gold, but to oil as well.

The interest in stock exchange operations in the U.S. has been largely fuelled by the regulation policy. The SEC discarded restrictions to the volume of investments in ETFs imposed by the Investment Company Act, whereby a fund was not allowed to invest more than 5% of its assets in a single firm.

Another change in the world of ETFs is a move to actively managed ETFs which, rather than tracking an index, would modify their portfolios depending on market situation. Such funds, however, require active management and would therefore lose their competitive edge in the form of low fees. ETFs using leverage can borrow funds.

In 2002 the European Central Bank allowed mutual funds to invest a part of their assets in exchange traded funds. Certain limitations remain in Europe, as EU legislation does not allow mutual funds to borrow in the market.

Forecasts envision the assets managed by ETFs to swell to one billion dollars by 2007, posing serious competition to mutual funds. As a result, mutual funds will likely be forced to cut their management fees.

Advantages of ETFs

In a nutshell, the advantages of exchange traded funds can be described as follows:

1. The prices of securities in capital markets develop according to the "random walk" theory, meaning that an investor cannot earn returns above market average in the long run. This implies that at a given point his return can be higher or lower than the market average. ETFs always pay the long-term market average.

2. Unlike other mutual funds, they let investors trade throughout the stock exchange trading day, using short selling, margin trading as well derivatives. It is this high flexibility that has contributed to ETFs being used not only for long-term investments, but for daytrading as well.

3. ETFs cost less. So from the investor's perspective, they are also attractive for low fees. There is no initial fee. The only fee charged is for asset management, withheld from dividend payouts, which usually does not exceed 0.5% of assets annually. As opposed to ETFs, non-index funds often charge investors not only higher initial fees, but also management fees and exit fees. Since these fees are included in reported returns, the investor's actual net (real) gain may be much lower. ETFs usually ask no initial or exit fees.

4. Unlike non-index funds, index funds hardly trade, only if they need to realign their portfolios. An ETF buys or sells securities only if a new security is added or one removed from the benchmark index to reflect the new index composition. This results in low portfolio turnover as a ratio of total transactions to total assets held by the fund. ETFs can thus avoid the high costs involved in trading, such as all kinds of broker fees, analyses, etc.

5. The low portfolio turnover also implies tax savings. While high turnover rates in non-index funds often generate considerable capital gains, which is subject to taxation, ETF can save on taxes with their lower turnover.

Disadvantages of ETFs

1. Each purchase and sale involves broker fees which reduce return. This is in particular true for daytrading, where the investor needs to trade a large bulk of securities to cover fees when price movements and gains are small. That is why daytrading involves the application of margin systems, where the investor pays down only a margin (a fraction of the original price) and takes advantage of the leverage effect to earn higher gains.

2. Disadvantages can also be seen for investors using the dollar cost averaging technique, investing certain sums at regular intervals to eliminate and average rate fluctuations. The broker fees incurred naturally reduce the bottom line.

3. As normal index funds, ETFs also encounter tracking errors, meaning that they not always mirror the net value of assets held. In case of a more substantial tracking error, arbitrators intervene by purchase or sale, as necessary.

4. Professionals start to appreciate ETFs in particular for the flexibility they offer in portfolio diversification. As a consequence of ongoing globalisation and rapid technological progress in financial market trading, risk diversification is becoming increasingly problematic.