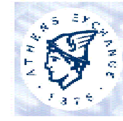


EXCHANGE TRADED FUNDS – ETFs

Exchange Traded Funds (ETFs) are open-ended mutual funds, which are issued by Mutual Fund Management Companies (AEDAK) and are admitted to trading on the Stock Exchange. Just like shares, ETFs can be traded at any time-during open trading hours-by Members-Brokerage Firms. An ETF offers to investors the benefits of a diversified portfolio, i.e. the risks involved are reduced by spreading them across a wide portfolio, while its main investment objective is to reproduce the performance of a specific index.

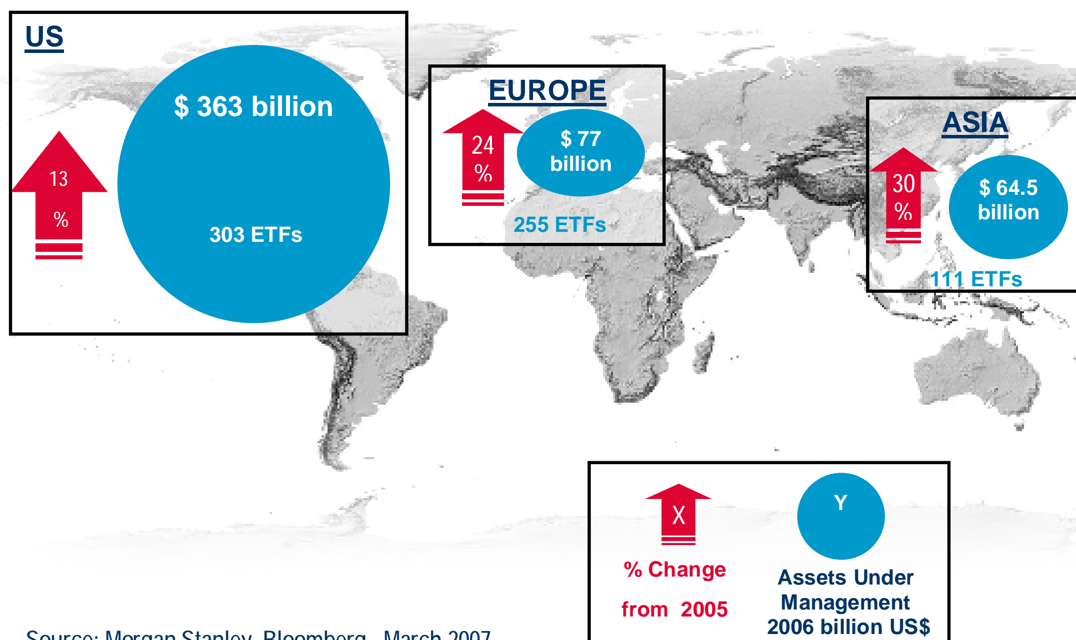
Introduction

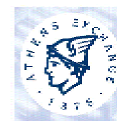
The first ETF in the Greek stock market will be issued with reference to the FTSE/ATHEX 20 Index and is expected to take place by the end of 2007 (cf. Relevant Press Releases-Announcements). In the following pages a general description and the characteristics of ETFs is presented so that readers can familiarize themselves with their operational framework.

Brief Historical Background

ETFs were introduced for the first time to the financial markets of the United States and Canada in early 1990s. Since then their number, on international scale, as well as the value of assets under management increased considerably.

Next, European and Asian markets followed the example set by the American and Canadian markets, with the year 2000 marking the introduction of the first ETF in Europe. In March 2007, the total number of assets under management amounted to 604 billion dollars, on international scale.





What are Exchange Traded Funds (ETFs)?

ETFs are portfolios of shares designed to track the performance of a specific index or a specific group of shares (basket of shares). In this way, ETFs offer investors the chance to buy or sell a diversified portfolio of shares by investing in the shares of a country, a sector or a specific geographical region through a single transaction.

ETFs are traded just like ordinary stocks, however the following features distinguishes them from the classical mutual funds:

- **Low Risk**: As ETFs represent investments in a 'basket' of shares (i.e. an index), a greater spread of the risks involved is achieved through a diversified portfolio compared to investing in individual stocks.
- **Low Cost**: The cost involved for buying or selling an ETF is much smaller from the cost involved for buying or selling the constituents of a specific index (by way of indication, smaller number of orders and consequently, less commission, etc.). Also, in the case of an ETF, investors do not have to monitor corporate actions which might affect the index's composition, as this obligation is undertaken by the ETF Issuer.
- **Flexibility**:
    1. ETFs offer an easy form of investment to retail investors, who otherwise wouldn't have the funds or perhaps the knowledge to form a diversified portfolio of shares (based on a local or international index).
    2. ETFs offer an alternative form of investment to institutional investors giving them thus the chance for greater risk exposure and better performance in the shares, which comprise an index (local or international).

Advantages and Characteristics of ETFs versus Ordinary Unit Trusts

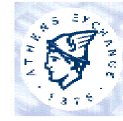
The key benefits and characteristics of ETFs compared to Ordinary Unit Trusts are presented in the table below:

Characteristics	ETFs	Ordinary Unit Trusts	Stocks
Portfolio Diversification	Yes	Yes	No
Trading in Secondary Market	Yes	No	Yes
Index Tracking	Yes	Yes	No
Information Dissemination – Price Valuation	Continuous[1]	End of the Day	Continuous[2]
Management	Passive	Active	Active
Management Costs	Low	High	Depending on the case
Transactions Costs (buy/sell)	Low	High	Low
Possible Liquidation	Yes	Yes	Yes [3]

[1] During trading session.

[2] During trading session.

[3] The case of illiquid shares or shares which are traded without Market Makers is not included.



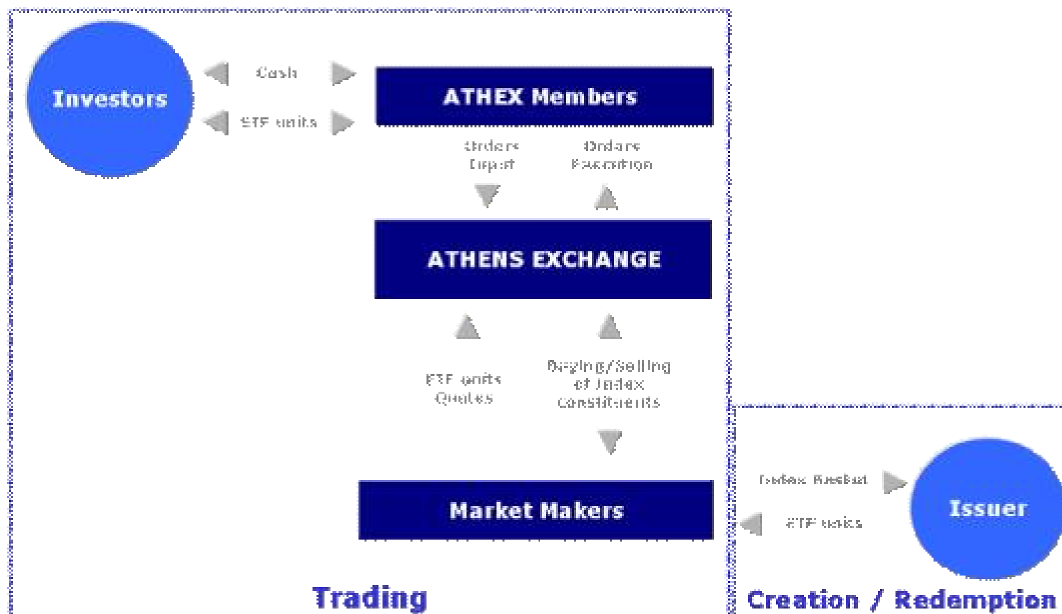
Characteristics	ETFs	Ordinary Unit Trusts	Stocks
Margin Account	No	No	Yes
Short Selling / Lending - Borrowing	Yes	No	Yes
Voting Rights in General Meetings	No	No	Yes
Number of products	Small	Large	Large

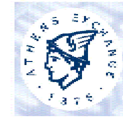
ETFs Operational Framework

The operation of ETFs is carried out in two market levels:

- **Primary Market Level** -The main activity which takes place at this level is the **creation/redemption of ETFs**, whilst the participants involved in the procedure are Market Makers, Institutional Investors and the ETF Issuer. ETF units are created (redeemed) by the issuer, who in return receives the 'basket' of shares which compose the underlying index (ETF units) or cash. The creation/redemption of ETF units is carried out in block trades and their multiples known as 'Creation Units' (usually 1 Creation Unit=50,000 ETF units), while the frequency of the specific process depends on the ETFs demand in the market.

- **Secondary Market Level** - The main activity which takes place at this level is the **trading of ETF units**, whilst the participants who are involved in the procedure are the stock exchange, Members, Market Makers and investors. Transactions in ETF units are concluded via the electronic trading system (OASIS) of ATHEX while continuous liquidity is achieved by the presence of at least one Market Maker.



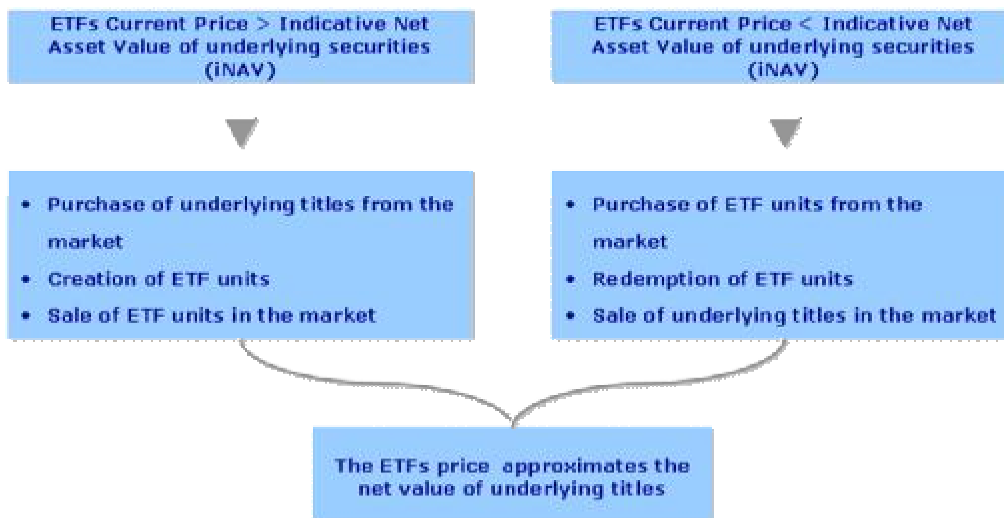


The Role of the Market Maker

At the time an ETF is traded at the stock exchange, the Mutual Fund Management Company (AEDAK) is obliged to appoint at least one (1) Market Maker.

The ETFs Market Maker, apart from his classic role of providing liquidity on the units, will be the key participant in formulating prices in the market, in order to squander any variances between the market price of the ETF unit and the indicative net asset value (iNAV), via arbitrage mechanisms: by way of indication, if an ETF unit is traded at a price higher than the iNAV price (premium), the Market Maker will buy the underlying titles of the index at the price which corresponds to the Indicative NAV of the ETF and then, will exchange these titles for the new overvalued ETFs (via the creation of new units). On the contrary, if an ETF is traded at a price that is lower than the iNAV (discount), then the Market Maker will buy the "undervalued" ETF units and will exchange them with the corresponding shares (via redemption).

The following depicts the arbitrage mechanism:



ETF Terminology

The basic terms, which are used for ETFs are the following:

- **Net Asset Value (NAV/unit)**: Value of a fund's investments: The net value – per unit - of the ETFs assets, which is announced by the issuer at the end of each business day. The NAV is calculated as follows:

  $$\text{NAV/unit} = \frac{\text{Current Portfolio Value+Cash-Liabilities}}{\text{Total Number of ETF units}}$$

- **Indicative Net Asset Value (iNAV)**: The iNAV is the indicative net asset value - per unit - of ETF and is calculated in real-time during trading (usually every 30'').
- **Unit's Initial Trading Price**: This is the unit's trading price on the ETFs start date of trading and is derived as a ratio of the index's price which the ETF reproduces (usually in terms: 1/10, 1/100 of the index's price, etc.).
- **Unit's Trading Price**: This price is determined according to the laws of supply and demand, which are formed in real-time at the market.
- **Creation/Redemption Unit**: The minimum quantity of units on the basis of which the creation/redemption of ETF units is carried out. It usually amounts to 50,000 units per Creation Unit.