CZECH UNIVERSITY OF LIFE SCIENCES IN PRAGUE

Faculty of Economics and Management

Diploma thesis

Economic Analysis of Selected Mutual Funds Performance

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Statutory Declaration

I hereby confirm that I wrote my diploma thesis “Economic Analysis of Selected Mutual Funds Performance” on my own with help of the listed bibliography.

In Prague 6.4.2012

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Signature of author

Acknowledgment

I would like to express my special thanks to Ing. Petr Procházka, MSc, Ph.D. for his professional guidance, patience and for giving me valuable advice and recommendations while working on my diploma thesis.

Also, I would like to thank to Dr. Szabolcs Ercsey, Regional Manager of Franklin Templeton Investments Inc. for his willingness and provided data.

Economic analysis of selected mutual funds performance

Ekonomická analýza výkonnosti vybraných podílových fondů

Summary

The focus of this diploma thesis is performance analyses of two selected mutual funds and their comparison. These funds are Templeton Asian Growth Fund and Templeton European Fund. Both of these funds belong to the Franklin Templeton Investments. The diploma thesis is divided into several chapters – Introduction, Goals and methodology, Literature review, Practical part, Results and discussion and Conclusion. In the literature review, the diploma thesis researches characteristics of investment locations, brief mutual funds history, the concept of investing in mutual funds and other important information for a mutual fund investor. Practical part of the diploma thesis presents selected mutual funds in detail; funds are then analyzed and compared based on their performance and macroeconomic indicators of countries in the funds' portfolios. One part is devoted to the 2008 financial crisis and its influence on the selected mutual funds. Last part of the diploma thesis summarizes the results and discuss the funds' performance and propose recommendations.

Key words

- Mutual Funds
- Diversification
- Risk
- Performance
- Long-term Investment
- Franklin Templeton Investments
- Developed Markets
- Emerging Markets
- Asia
- Europe

Shrnutí

Cílem této diplomové práce je analýza výkonnosti dvou vybraných podílových fondů a jejich srovnání. Tyto fondy jsou Templeton Asian Growth Fund a Templeton European Fund. Oba tyto fondy patří k Franklin Templeton Investments. Diplomová práce je rozdělena do několika kapitol - Úvod, Cíl a metodika, Literární rešerše, Praktická část, Výsledky a diskuse a Závěr. V literární rešerši, diplomová práce zkoumá vlastnosti investičních lokalit, krátkou historii podílových fondů, koncept investování do podílových fondů a další důležité informace o podílových fondech pro investora. Praktická část diplomové práce představuje vybrané podílové fondy v detailech, fondy jsou následně analyzovány a porovnány na základě jejich výkonnosti a makroekonomických ukazatelů zemí v portfoliích fondů. Jedna část je věnována finanční krizi z roku 2008 a jejímu vlivu na vybrané podílové fondy. V poslední části diplomové práce jsou shrnuty a diskutovány výsledky výkonnosti jednotlivých fondů a navržena doporučení.

Klíčová slova

- Podílové fondy
- Diversifikace
- Risk
- Výkonnost
- Dlouhodobé investice
- Franklin Templeton Investments
- Rozvinuté trhy
- Rozvíjející trhy
- Asie
- Evropa

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1. Introduction

In recent years, it becomes more and more important to be able to orient on financial markets and to be able to manage own financials. Facing these issues is a part of day to day life of each one of us. The times, when one could say that the government will take care of us, are long gone. Today, it is common thing to deposit money in various types of financial institutions and let them manage our finances. There are many financial tools on the financial market which promise to keep our money safe and even to give it some interest. Despite this, most of these financial tools are not even capable to keep up with inflation. Therefore, banks, insurance companies and investment companies come up with financial instruments such as life insurance or mutual funds, which are supposed to beat the inflation and make our deposits or investments grow. Then of course, it is where the well known rule applies: with higher profit comes higher risk. One of the methods to eliminate risk is investing through mutual funds. Although, this method of managing money in Czech Republic rapidly gained popularity after 1989, it still does not have such tradition compare to Western countries (e.g. Switzerland, Austria, and USA). This is primarily due to historical factors, particularly due to the long period of totalitarian rule in the Czech Republic. The development of collective investment in the Czech Republic was marked by the fact that it originated in a relatively short period of time. In addition, the problem here was that relatively rapid development of collective investment was not accompanied or followed by an equally rapid and dynamic development in the field of law. As a result of such a situation some inventible excesses happened, which severely undermined confidence in this method of investing. Investors were not sure of their money.

We all know that by investing wisely, everyone can increase his/her wealth. However, money is usually difficult subject to discuss. Emotions run deep when it comes to our finances, causing most of us to find it uncomfortable to discuss on how we save or invest. Sure, we might boast our friends about particular stock purchase that went through the roof, or tell tales of an IPO opportunity that got away, but we seldom speak honestly or openly about our overall financial experiences, even to those closest to us.

Everyone can buy stock and bonds themselves, indeed, there is certainly nothing wrong with owning few stocks. But to own broadly diversified portfolio consisting solely of individual stock and bonds, and to properly monitor and track all of them, would require an amount of money, a store of knowledge, and a commitment of time and energy that the overwhelming majority of people just do not have. Collective investment lies in the collection of funds that may come either from small investors, or companies. These funds are then invested in order to achieve increase in value of the fund. Funds have the opportunity to invest in large amounts and with spread risk. Moreover, mutual funds are also able to better access information and are managed by professional management, therefore, our money are in better hands than with individual investors. In general, then, mutual funds are the way to go.

2. Goals and methodology

2.1. Goals

One of the aims of the diploma thesis is to evaluate performance of chosen mutual funds and compare their performance, volatility and key macroeconomic indicators of countries in the funds' portfolios. Both mutual funds are from Franklin Templeton Investments. The first mutual fund invests in emerging economies in Asia and the second mutual fund invests in developed economies in Europe.

Another aim is to analyze if investing in emerging markets has been profitable in the last 5, 10 years respectively, and evaluate the risk of the investment in emerging markets. Also, the diploma thesis analyzes if the funds perform on or above its objectives in terms of return on investment. Another aim is to analyze if the financial crisis of 2008 had affected funds investing in emerging markets to a smaller extent than funds investing in developed economies.

2.2. Methodology

In the theoretical part of the diploma thesis was conducted study of literature, which was done by synthesis, deduction and induction methods from available resources.

In the practical part of the diploma thesis were used quantitative comparative analyses of data to analyze chosen mutual funds and to compare them. Standard deviation indicator was used to analyze volatility of the mutual funds. Return on investment indicator was used to analyze mutual fund performance.

Quantitative analyses (correlation analysis) of key macroeconomic indicators of countries in the fund's portfolio were used to analyze their impact upon funds performance and to compare which fund was affected to a bigger extent.

Time series

In the diploma thesis were used time horizons of past 5 (1.1.2007 – 30.12.2011) and 10 (01.01.2002 – 30.12.2011) years respectively since both mutual funds are oriented on the long-term appreciation of capital, and this time horizon will better illustrate the mutual funds development over time.

Volatility

Volatility is the price fluctuation of a security. This can be measured in various ways, most commonly by standard deviation. Standard deviation is a statistical measure of the month-to-month volatility of fund's returns.

Portfolios' return volatility (standard deviation):

$$\sigma = \sqrt{\frac{\sum_{i=1}^{n} \left(x_i - \bar{x} \right)^2}{n-1}},$$

where x_i is the value of the i-th observation, n is the number of observations and $\bar{x}$ is the average value of all observations.

Net Asset Value (NAV)

NAV is the market price of an open-end mutual fund. The NAV is the value of all assets divided by the number of outstanding shares. For open-end funds, this is the daily price at which an investor can buy or sell shares.

NAV:

- Net asset value mutual fund = total assets – liabilities
- Net asset value per share = net asset value/total outstanding shares

Fund's performance:

$$r = \frac{\left(NAVr + D - NAVb \right)}{NAVb}$$

r is the rate of return of mutual funds,

NAVr is the redemption price,

D are dividends paid,

NAVb is selling price

Return on investment:

- (Current value of units - Initial investment) / (Initial investment) X 100

Percentage change:

- (Current value – Original value) / (Original value) X 100

Arithmetic mean:

$$AM = \frac{1}{n}\sum_{i=1}^{n} a_i = \frac{a_1 + a_2 + ... + a_n}{n},$$

n numbers are given, each number denoted by x_i, where $i = 1, ..., n$, the arithmetic mean is the sum of the a_i*'s* divided by *n*.

Correlation coefficient:

$$r = \frac{n\sum xy - \left(\sum x\right)\left(\sum y\right)}{\sqrt{n\left(\sum x^2\right) - \left(\sum x\right)^2}\sqrt{n\left(\sum y^2\right) - \left(\sum y\right)^2}},$$

where *n* is the number of pairs of data.

3. Literature review

3.1. Characteristics of investment locations

As one of the main aims of this diploma thesis is to compare mutual funds performance in emerging markets compare to developed markets, it is necessary to outline what are the key differences between emerging and developed market economies.

3.1.1. Emerging markets

For many investors and for a long time, emerging markets were a strategic sideshow, largely tackled in an opportunistic way. This partly explains why many investors ended up disappointed with their profit growth. However, there have been notable exceptions and huge profits of those who have been taking emerging markets more seriously for years.

Among international funds, emerging markets funds have gained popularity in recent years because of the large gains seen in certain markets. With many countries in the early stages of economic development and with underdeveloped capital markets, there is often great opportunity for growth and profit. In recent years, some international funds posted amazing returns of 100% or more in a single year (Mobius, 2007).

Julian Marr and Cherry Reynard (2010) characterize emerging market economies as transitional, meaning they are in the process of moving from a closed economy to an open market economy while building accountability within the system. Emerging markets is a well-known expression and its origin dates back to 1981, when the term was coined by Antoine W. Van Agtmael of the International Finance Corporation of the World Bank. An emerging market economy (emerging market) is defined as an economy with low to middle per capita income. Such countries constitute approximately 80% of the global population, and represent about 20% of the world's economies. These days the term is used loosely. Some observers include only extremely low-income economies under the emerging-market umbrella; some include all countries that are not considered developed.

Generally called developing countries include Central America, Latin America, the Middle East, Africa, central and eastern Europe, and the whole of Asia apart from Hong Kong, Japan and Singapore, and Australia and New Zealand. It may not appear to make sense to include countries such as South Korea and the United Arab Emirates within emerging markets, but they are included because companies still tend to have them as part of their emerging Asia division or Middle East/North Africa division.

According to Nenad Pacek and Daniel Thorniley (2007) there have been five important developments concerning emerging markets in recent years:

- Corporate strategies designed to conquer emerging markets have been evolving rapidly and will continue to do so
- Emerging markets are becoming increasingly competitive, calling for new set of ideas on how to preserve and build business
- Emerging markets' contribution to the global economy has grown faster than most observers ever expected
- With a build-up of global economic imbalances and vast speculative flows from cash-rich developed markets into emerging markets' securities, cash and commodities; economic risks and the forces that shape them could derail good corporate plans in emerging markets
- The contribution of emerging markets business to the bottom line of international companies has been rising as more and more companies have recognized the opportunities for growth that less developed markets offer.

More and more companies are thinking of emerging markets in a strategic, systematic way and are recognizing that emerging markets must be an integral part of their long-term global strategy. Indeed, for some companies emerging markets are now central to their strategy. The reasons for this increased strategic focus on emerging markets are pointed by Pacek and Thorniley (2010):

- Achieving growth in the developed world has become harder so companies have been forced to look for growth outside the big markets of the United States, the European Union and Japan.
- More and more companies now realize that even their most opportunistic endeavors in emerging markets are yielding better sales growth than can be found in the developed world. Companies that have been taking emerging markets seriously for years say that sales and profits in absolute terms are also becoming large and interesting for the total global business. This has prompted many companies already involved in them to start talking about "step-up" efforts – how to go faster and what is needed to do that. "If we could get some good returns without doing much, thing of returns we could get if we do it more systematically," the thinking goes.
- Emerging markets are quickly becoming commercially mature despite a still much lower average standard of living than in the developed world. This is driven by booming competition as both international and domestic companies expand at unprecedented speed.
- Economic growth in emerging markets outpaced growth in the developed world by 4-5 percentage points between 2000 and 2005, and it is generally believed this trend will continue.
- Despite rising commercial maturity in emerging markets, it is still easier to capture market share more quickly in them than in the developed world. Buyers are still easier to influence than in, say, Germany or the United States, even though there is much more loyalty to brands in emerging markets that there was a decade ago. This means that it will not be long before it becomes as difficult and costly to acquire market share as in the developed world. For any company wishing to strengthen its market presence, the window of opportunity for systematic stepping up is closing fast.

Many emerging markets avoided becoming direct victims of the 2008 global financial crisis, even though, emerging markets suffered in terms of, for instance, reduced imports. This was partly because they were not so reliant on the Western banking system, which bore the full brunt of the crunch, and partly because, having suffered their own market

meltdowns, such as the Asian crisis of 1997, governments and companies had learnt some valuable survival lessons (Marr & Reynard, 2010).

Thus, Marr and Reynard (2010) argue that if a change is indeed an integral part of the emerging markets story, investors should at least consider the possibility that the global financial crisis, which began in earnest when investment bank Lehman Brothers filed for bankruptcy on 15 September 2008 and very much had its roots in the Western financial system, may have closed the credibility gap between the emerging economies and those of the developed world.

3.1.2. Developed markets

Developed markets are much like the US, they are strong opportunities that offer good return on investments. Emerging markets are those just fresh on the books. A developed country can be defined through economic growth and security. Most commonly the criteria for evaluating the degree of development is to look at gross domestic product (GDP), the per capita income, level of industrialization, amount of widespread infrastructure, general standard of living, and country's degree of development such as the Human Development Index (HDI), which reflects relative degrees of education, literacy and health. Which criteria, and which countries are classified as being developed, are a contentious issue. According to the International Monetary Fund (2011), advanced economies comprise 65.8% of global nominal GDP and 52.1% of global GDP (PPP) in 2010. Countries, which are currently considered as developed markets include Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Hong Kong, Ireland, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, United Kingdom, and the United States.

3.2. Mutual funds

3.2.1. Definition

Probably everyone has already heard so much about mutual funds that even if they do not own any, they know what they are and how they work. But just to clear up any misconceptions, here are two basic definitions:

U.S. Securities and Exchange definition:

A mutual fund is a company that brings together money from many people and invests it in stocks, bonds or other assets. The combined holdings of stocks, bonds or other assets the fund owns are known as its portfolio. Each investor in the fund owns shares, which represent a part of these holdings.

Investopedia.com definition:

An investment vehicle that is made up of a pool of funds collected from many investors for the purpose of investing in securities such as stocks, bonds, money market instruments and similar assets. Mutual funds are operated by money managers, who invest the fund's capital and attempt to produce capital gains and income for the fund's investors. A mutual fund's portfolio is structured and maintained to match the investment objectives stated in its prospectus.

3.2.2 The concept

Investing in a mutual fund, owning a share of the fund makes the investor a shareholder. Shares represent a portion of the holdings of the fund. Mutual fund shares can be redeemed at any time for the current market value. The value of the shares is determined daily based on the total value of the fund divided by the number of shares purchased. It is important to

know that values of the funds fluctuate, and when redeemed, the shares may be worth more or less than the original cost.

Thus, the concept of a mutual fund is to serve as a vehicle that holds other investments. When investors invests in a mutual fund, they are contributing to a big pool of money that a mutual fund manager uses to buy other investments, such as stocks, bonds, and/or other assets that meet the fund's investment objectives (Tyson, 2009). In other words, mutual fund is an investment company that collects money from many people and invests it in a variety of securities. The company then manages the money on an ongoing basis for individuals and businesses (Ohio State University, 2000).

Most funds allow investors to begin investing with relatively small amounts, thus allowing them to create a much more diversified portfolio than they would if they were buying individual stocks and bonds. Plus, they do not have to worry about keeping track of dozens of holdings – that is really what the fund manager's job is.

3.2.3 Types of mutual funds

Each fund has a predetermined investment objective that tailors the fund's assets, regions of investments and investment strategies. At the fundamental level, there are six basic types of mutual funds:

- **Equity fund** — invests primarily in stocks

- **Fixed-income fund** — invests in fixed income securities like government bonds and corporate bonds
- **Money market fund** — invests in money markets and cash equivalents like treasury bills

- **Index fund** — invests in equities or fixed income securities chosen to mimic a specific index

- **Balanced fund** — invests in a mix of equities and fixed income securities

- **Fund-of-funds** — invests in other mutual funds, which usually allows investors to diversify across a variety of mutual fund categories all within one fund

All mutual funds are variations of these asset classes. For example, while equity funds that invest in fast-growing companies are known as growth funds, equity funds that invest only in companies of the same sector or region are known as specialty funds (Mobius, 2007).

Open-end versus closed-end funds

Open-end funds: Open end simply means that the fund issues as many (or as few) shares as investors demand. Open-end funds theoretically have no limit to the number of investors or the amount of money that they hold. You buy and sell shares in such a fund from the fund company (Tyson, 2010)

Closed-end funds: Closed-end funds are those where the mutual fund companies decide upfront, before they take on any investors, exactly how many shares they will issue. After they issue these shares, the only way you can purchase shares (or more shares) is to buy them from an existing investor through a broker. This process happens with buying and selling stock, too. (Tyson, 2010)

Stock fund managers and their funds are further categorized by whether investments are made in growth or value stocks:

• **Growth stocks** are public companies that are experiencing rapidly expanding revenues and profits and whose stocks are relatively costly in relation to the assets and profits of the company. These firms tend to reinvest most of their earnings in the company to fuel future expansion; thus, these stocks pay low dividends (Tyson, 2009).

• **Value stocks** are public companies that are priced cheaply in relation to the company's assets and profits. Such a company could possibly be a growth company, but that is unlikely because growth company stocks tend to sell at a premium compared to what the company's assets are worth. (Tyson, 2009)

3.2.4. Brief history of mutual funds

Mutual funds really captured the public's attention in the 1980s and '90s when mutual fund investments hit record highs and investors saw incredible returns. However, the idea of pooling assets for investment purposes has been around for a long time. The evolution of this investment vehicle has its beginnings in the Netherlands in the 18th century. Nowadays, its present status is a growing, international industry with fund holdings accounting for trillions of dollars in the United States alone (Tyson, 2010).

By 1929, there were 19 open-ended mutual funds competing with nearly 700 closed-end funds. The mutual fund industry continued to expand. At the beginning of the 1950s, the number of open-end funds topped 100. The 1960s saw the rise of aggressive growth funds, with more than 100 new funds established and billions of dollars in new asset inflows.
The 1970s also saw the rise of the no-load fund[1]. This new way of doing business had an enormous impact on the way mutual funds were sold and would make a major contribution to the industry's success. With the 1980s and '90s came bull market mania and money poured into the retail investment industry at a stunning pace (Northcott, 2009).

Despite the 2003 mutual fund scandals and the global financial crisis of 2008-2009, the story of the mutual fund is far from over. In fact, the industry is still growing. In the U.S. alone there are more than 10,000 mutual funds.

[1] A mutual fund in which shares are sold without a commission or sales charge. The reason for this is that the shares are distributed directly by the investment company, instead of going through a secondary party.

3.2.5. Advantages and disadvantages of mutual funds

Advantages of mutual funds

Most ordinary investors have limited budget and may find it difficult to create an adequately diversified portfolio. This fact alone can explain why mutual funds have been increasing in popularity. Buying shares in a mutual fund can provide investors with an inexpensive source of diversification. According to Mark Mobius (2007), the most obvious advantages of mutual funds are:

- Professional management
- Diversification
- Lower cost
- Convenience
- Liquidity

Professional Management

Mutual funds enable you to give your money to the best money management firms and managers in the country (Tyson, 2009). A professional fund manager, also known as an investment adviser, carefully chooses the securities in which the fund invests. The fund manager also normally employs a team of researchers, investment analysts and strategists to provide the detailed market information that needs to be considered when choosing individual stocks and bonds. These decisions are based on variety of factors, including the fund's investment objectives and risk tolerance. The manager also has access to extensive, real-time information services. Individual investors with more limited means do not have such access. The fund manager and his team are also subjected to a wide range of professional standards and legal restrictions, such as limiting transactions between adviser and the fund he advises to prevent conflict of interest (Mobius, 2007). "Outstanding mutual fund managers make investing look easy — the same way we may watch a professional athlete make a great play or a great actor perform" (Shook, 2005).

Diversification

Diversification is one of the most powerful investment concepts. It requires investors to place their money in different investments with returns that are not completely correlated (Tyson, 2009). A mutual fund can hold several hundred stocks and/or bonds in its portfolio from different companies and, often, from different industries or regions. This greatly reduces the risk of the poor performance of any one security or business sector disproportionately reducing the value of the fund's assets (Mobius, 2007). Diversification is a risk management technique that mixes a wide variety of investments within a portfolio. The rationale behind this technique contends that a portfolio of different kinds of investments will, on average, yield higher returns and pose a lower risk than any individual investment found within the portfolio (Investopedia.com). Still, lower risk does not mean no risk. For example, if the overall stock or bond market declines, the value of the mutual fund may also drop. The key point here is that buying a unit in fund, individuals receive exposure and diversification that they would otherwise not be able to easily efficiently replicate (Mobius, 2007).

Studies and mathematical models have shown that maintaining a well-diversified portfolio of 25 to 30 stocks will yield the most cost-effective level of risk reduction. Investing in more securities will still yield further diversification benefits, although at a drastically smaller rate (O'Connel, 2011).

On the other hand, Petillo (2009) argues that mutual funds do not provide a safe haven. They provide a safer haven. By their nature, they invest broadly, whether they are actively managed or indexed, and because of that "spreading of risk," they represent something that is hard to pass on. The mutual approach to investing, often in places that are fraught with risk and just as often in places that are not, should appeal to all levels of investors (Petillo, 2009).

Lower Cost

The costs related to buying shares in a mutual fund are lower than buying individual stocks and bonds on your own to build a diversified portfolio. This is because with mutual funds the costs of accessing extensive research, as well as administrative, operating, and trading expenses, are spread among thousands of investors (Mobius, 2007).

Convenience

"Mutual funds are the ultimate couch potato investment! However, unlike staying home and watching television or playing video games, investing in mutual funds can pay you big rewards" (Tyson, 2009). With more than 55,000 mutual funds available worldwide, investors have access to a wide variety of investments vehicles that meet different investment goals. They cover many markets, industries and types of securities. The vast array of choices also ensures that investment companies compete for business and provide countless customer services, such as automatic investment plans, online purchases and sales, and asset allocation models. As a result, it is easier to make investment decisions, track performance and keep accurate records (Mobius, 2007).

Diversification reduces the volatility in the value of the whole portfolio. For these reasons and because good mutual funds take most of the hassle out of figuring out which securities to invest in, they are among the best investment vehicles ever created (Tyson, 2009).

Disadvantages of mutual funds

Like many investments, mutual funds offer also disadvantages, which are important to consider and understand before an investor decides to buy. Here are some of the drawbacks of mutual funds according to Tyson (2009) and Bogle (2010):

- **No insurance** - Mutual funds, although regulated by the government, are not insured against losses. There are only insurances against certain losses at banks, credit unions, and savings and loans, not mutual funds. That means that despite the risk-reducing diversification benefits provided by mutual funds, losses can occur,

and it is possible (although extremely unlikely) that you could even lose your entire investment.

- **Fluctuating returns** - investment in mutual funds that hold stocks and/or bonds, the value of your funds fluctuates with the general fluctuations in those securities markets.

- **Over-diversification** - when investors acquire many funds that are highly related and, as a result, do not get the risk reducing benefits of diversification

- **Costs** - Most mutual funds charge management and operating fees that pay for the fund's management expenses, which that put a real drag on returns.

- **Risks -** Mutual funds are subject to both market-related risks and asset-related risks, particularly in very concentrated portfolios, which are not as well diversified.

- **Past performance does not predict future performance** - It does not predict future returns, but it shows volatility of a fund over a period of time.

- **Risky investments** - Some mutual funds have betrayed their investors' trust by taking unnecessary risks by investing in volatile financial instruments such as futures and options (also known as derivatives). These instruments are basically short-term bets on the direction of specific security prices; they are very risky when not properly used by a mutual fund.

- **Loss of control** - The managers of mutual funds make all of the decisions about which securities to buy and sell and when to do so.

3.2.6. Investors rights

Each shareholder participates proportionally in the gain or loss of the fund. Mutual fund units, or shares, are issued and can typically be purchased or redeemed as needed at the fund's current net asset value (NAV) per share. A common shareholder is normally entitled to four basic rights of ownership:

- Claim on a share of the company's undivided assets in proportion to number of shares held
- Proportionate voting power in the election of directors and other business conducted at shareholder meetings or by proxy
- Dividends when earned and declared by the board of directors
- Preemptive right to subscribe to additional stock offerings before they are available to the general public except when overruled by the articles of incorporation or in special circumstances, such as where stock is issued to effect a merger

Shareholders' rights can vary according to the articles of incorporation or bylaws of the particular company.

Increase in fees - A mutual fund's directors annually review the management fees paid. Any change in these fees must be approved by a majority of the holders of a fund's shares and a majority of the fund's directors. Any increase in a 12b-1 fee must also be approved by shareholders.

3.2.7. Mutual funds fees

According to Mobius (2007), mutual fund fees generally fall into two categories — sales charges (fees paid directly from the investment) and fund expenses (deducted from fund assets). Information about the different charges and expenses for each mutual fund has to be published in the fund's prospectus.

Sales Charges (Loads)

Sales charges compensate financial advisors for their services. Financial advisors can help define investor's needs, narrow the search for investments, assists with lifetime planning and many other financial situations. By offering market knowledge and planning expertise,

financial advisors can help with developing a solid asset allocation plan specifically designed to meet investor's objectives.

Sales charges vary by share class - Different classes of shares[2] allow investors to pay sales charges in different ways. For example, Class A shares typically deduct the sales charge up front, at the time of investment. In comparison, Class C shares usually impose a small deferred sales charge that is paid if fund shares are sold within a short time of purchase, often one year. Class C shares will generally have higher annual fees and expenses than Class A shares.

Breakpoints - There can be sales charge discounts when you make purchases of Class A shares over a certain dollar amount. Details about where these breakpoints occur can be found in the fund's prospectus.

Letter of Intent - If an investor plan to purchase a large quantity of mutual fund shares within a 13-month period, he may qualify for a discount according to the fund's schedule of breakpoints. If so, he can sign a Letter of Intent (LOI). The LOI is not binding, but failure to complete the purchases required under the LOI will mean loss of the discount on sales charges.

Other costs that may be imposed directly on investors according to U.S Security Exchange Commission (SEC, 2007) are:

Purchase Fee - Another type of fee that some funds charge their shareholders when they buy shares. Unlike a front-end sales load, an after purchase fee is paid to the fund (no to the broker) and is typically imposed to defray some of the fund's cost associated with the purchase.

Redemption Fee – Another type of fee that some funds charge their shareholders when they sell or redeem shares. Unlike deferred sales load, a redemption fee is paid to the fund (not to a broker) and is typically used to defray funds costs associated with shareholders' redemption.

[2] More about classes of shares in Share classes section

Account Fee – A fee that some funds separately impose on investors in connection with the maintenance fee on accounts whose value is less than a certain dollar amount.

Fund Expenses

Fund expenses are fees that help pay for the ongoing costs of running a fund and other services. Fund expenses help pay for management and administration, reporting costs, taxes and legal and audit fees (Mobius, 2007).

Management fees - These fees are ongoing and are charged by the fund's investment advisor to manage the fund and select its portfolio of securities. The managers' market knowledge and expertise in selecting appropriate securities for the fund are essential to helping the fund meet its investment objectives, while not incurring undue risk. There may be circumstances in which it is appropriate to charge higher expenses, depending on the fund's investment strategy. For example, certain types of funds require more sophisticated research efforts by their managers, such as international stock funds that typically depend on research from multiple people in multiple locations.

12b-1 fees - These fees are paid by mutual funds to cover marketing and distribution expenses, such as compensating sales professionals, directly from their assets. This fee is assessed against a fund's total net assets.

Other fees may also be charged by the fund when the investor switches funds, open or close an account. Details have to be provided in the fund’s prospectus (Mobius, 2007).

3.2.8. Share classes

Many mutual funds offer more than one class of shares. Mutual fund share classes offer investors different ways to make mutual fund purchases that best meet their individual needs. Each share class has its own sales charge and expense structure (SEC, 2007). The

primary difference between share classes is the structure and timing of the sales charges and expenses. Depending on which share class you choose, you will pay a sales charge when you buy or sell your shares. The majority of this sales charge then goes to financial advisors as a compensation for their advice and expertise (Franklin Templeton Distributors Inc., 2012).

Here are some key characteristics of the most common mutual fund share classes offered to individual investors by Mobius (2007):

- **Class A Shares –** Class A shares typically impose a front-end sales load. They also tend to have a lower 12b-1 fee and lower annual expense than other mutual fund shares classes. Some mutual funds reduce the front-end load as the size of the investment increases.
- **Class B shares –** Class B shares typically do not have a front-end sales load. Instead, they may impose a contingent deferred sales load and 12b-1 fee (along with other annual expenses). Class B shares also might convert automatically to a class with a lower 12b-1 fee if the investor holds shares long enough.
- **Class C shares –** Class C shares might have a 12b-1 fee, other annual expenses, and either a front-end or back-end sales load. But the front-end or back-end load for Class C shares tend to be lower than for Class A or Class B shares, respectively. Unlike Class B shares, Class C shares generally do not convert to another class. Class C shares tend to have higher annual expenses than either Class A or Class B shares.

3.2.9. Risks

Most mutual funds are not guaranteed— investors could lose money on their investment. The level of risk in a mutual fund depends on what it invests in. For instance, stocks are usually riskier than bonds, so investors would expect an equity fund to be riskier than a fixed income fund.

Risk is by Petillo's (2009) definition a complicated and personal evaluation of market tolerance that is used to determine how much the investor is willing to "gamble" on a certain set of existing information. Often, risk is the determining factor in how much (or little) reward will come from a particular investment or event.

The main types of risks faced by the investors according to Mobius (2007) are:

- Credit risk
- Liquidity risk
- Currency risk
- Political risk
- Volatility risk
- Company risk
- Interest rate risk

Credit risk – The possibility that companies or other issuers whose bonds are owned by the fund may fail to pay their debts (including the debt owed to holders of their bonds).

Liquidity risk - The risk stemming from the lack of marketability of an investment that cannot be bought or sold quickly enough to prevent or minimize a loss. In another words, the fund cannot sell an investment that is declining in value because there are no buyers.

Currency risk – A form of risk that arises from the change in price of one currency against another. Whenever investors or investment companies have assets or business operations across national borders, they face currency risk if their positions are not hedged.

Political risk - The value of an investment's returns could suffer as a result of political changes or instability in a country. Instability affecting investment returns could stem from

a change in government, legislative bodies, other foreign policy makers, or military control.

Volatility risk – Share prices fluctuate, even the share price of a strong company that has grown well for many years will usually show many unpredictable changes over the long term. The range of these fluctuations, or volatility, can be used as a measure of the risk.

On the other hand, Mark Mobius (2007) argues that volatility is not necessarily bad for investors. Many professionals actually attempt to achieve above-average returns by exploiting volatility.

Company risk - The possibility that a company will have lower than anticipated profits, or that it will experience a loss rather than a profit. Company risk is influenced by numerous factors, including sales volume, per-unit price, input costs, competition, and overall economic climate and government regulations.

Interest rate risk - Interest rate risk affects the value of bonds more directly than stock. The value of fixed income securities generally falls when interest rates rise. Funds that invest in long-term bonds tend to have higher interest rate risk.

3.2.10. Fund organizational structure

Organization of a mutual fund and the responsibilities of each of its components make clear two important features (Hall, 2010):

- The safeguards and separation of responsibilities designed to empower certain entities and individuals to act as watch dogs for the shareholders and thus protect their interests.
- The various costs associated with its day-to-day operation, which are passed along investors as fees and expenses.

Table 1: Fund organizational structure

Shareholders

Board of Directors Oversees the fund's activities, including approval of the contract with the management company and certain other services providers.

Mutual Fund

Investment Advisor	**Principal Underwriter**	**Administrator**	**Transfer Agent**	**Custodian**	**Independent Public Accountant**

Source: Own work based on John A. Haslem (2003)

Investment advisor - Manages fund's portfolio according to the objectives and policies described in the fund's prospectus.

Principal underwriter - Sells fund shares, either directly to the public or through other firms (such as broker dealers), distributes fund publications and provides fund marketing and advertising.

Administrator – Provides management and regulatory oversight, oversees the performance of other companies that provide services to the fund and ensures the fund's operations compliance with the applicable federal requirements.

Transfer agent - Executes shareholder transactions, maintains records of transactions and other shareholders' account activities, and sends account statements and other documents to shareholders.

Custodian - Holds the fund's cash and securities in safe keeping, maintaining them separately to protect shareholder interests, settles portfolio transactions – receive cash and securities and make authorized cash payments.

Independent public accountant - Certifies the fund's financial statements.

3.3. Important terminology

In this section, main terms that are used throughout the thesis are explained. Mutual funds are often divided into size-based categories. This division is based on company market capitalization, which is the market value of a fund or stock, basically calculated by multiplying the market value of each share by the number of shares outstanding, although there are other factors that enter into the equation. On the market are these types of stock:

- **Large Cap**—Stocks with an average market capitalization greater than $5 billion. This category includes any company in the S&P 500 index. Many of these stocks are considered blue chips (Petillo, 2009).

- **Mid Cap**—Stocks with between $1 billion and $5 billion market capitalization (Petillo, 2009).

- **Small Cap**—Stocks with an average market capitalization between $500 million and $1 billion. These are considered high-risk investments because of their unpredictable growth, lack of liquidity, or thin trading (Petillo, 2009).

- **Micro Cap**—Stocks with an average market capitalization of less than $500 million. These stocks are often thinly traded and are considered a high-risk investment (Petillo, 2009).

On the stock market is often analyzed a market trend, which is a tendency of a financial market to move in a particular direction over time:

- **Bear Market**—A market that is generally experiencing negative investor sentiment. The result of such thinking is to depress the prices in that market (Petillo, 2009).

- **Bull Market**—A market that is generally experiencing positive investor sentiment. This good feeling often pushes the prices in a particular market higher in a sustainable fashion (Petillo, 2009).

Method, which is used in calculation of return on investment in the diploma thesis:

- **Dollar Cost Averaging**—A method of accumulating capital by investing equal amounts of money at regular intervals. This is an attempt to dodge the ups and downs in the markets and the feeling that an investor should react. The purchase of more shares when the trading price is low and fewer shares when the price rises has the net effect of creating an account in which the shares are bought at an average price rather than at a particular moment. This helps the investor avoid trades when the market could be skewed, and in the process reduces the need to time the market correctly (Petillo, 2009).

Major financial crises, which took place during the researched investment horizons:

- **The stock market downturn of 2002**, also known as „stock market crash" or "the Internet bubble bursting", was a sharp drop in stock prices during 2002 in stock exchanges across the United States, Canada, Asia, and Europe.

- **The 2008 financial crisis**, also known as the Global Financial Crisis (GFC) or the "Great Recession", is considered by many economists to be the worst financial crisis since the Great Depression of the 1930s (Reuters, 2009). It resulted in the collapse of large financial institutions, the bailout of banks by national governments and downturns in stock markets around the world. Significant decline in economic activity led to a severe global economic recession in 2008.
- **The European sovereign debt crisis** is an ongoing financial crisis that has made it difficult or impossible for some countries in the euro area to re-finance their government debt without the assistance of third parties. From late 2009, fears of a sovereign debt crisis developed among investors as a result of the rising

government debt levels around the world together with a wave of downgrading of government debt in some European states.

Other important definitions:

- **Dividend**—A distribution of income to holders of common or preferred stock. In a mutual fund, dividends are often reinvested, but they can create a taxable situation in some funds (Petillo, 2009).

- **Investment Company**—A corporation or trust through which investors pool their money to obtain supervision and diversification of their investments. This is a mutual fund (Petillo, 2009).

- **Macroeconomic indicator**—An indicator could be considered any piece of information that can help an investor decipher what is going on in the economy (Petillo, 2009).

- **Objective**—A clearly stated and widely published goal that describes how the manager seeks to grow capital, enhance current income, control the stability of invested capital, or any combination of these (Petillo, 2009).

- **Portfolio**—The collection of securities owned by an individual investor or an institution (such as a mutual fund); it may include stocks, bonds, and money market securities (Petillo, 2009).

- **Prospectus**—An official document that describes investment policy, fees, risks, management, and other pertinent fund information as directed. A prospectus must accompany any new offer to sell securities and should be read carefully (Petillo, 2009).

- **Registrar**—Generally, a banking institution that maintains the list of the share holders and the number of shares they hold (Petillo, 2009).

3.4. Modern portfolio theory

Modern Portfolio Theory (MPT) is a statistical method of analyzing investments by comparing their return and risk characteristics to each other rather than looking at the possible risk and return of a single stock. One of the most important and influential economic theories dealing with finance and investment, MPT was developed by Harry Markowitz and published under the title "Portfolio Selection" in the 1952 Journal of Finance. MPT says that it is not enough to look at the expected risk and return of one particular stock. By investing in more than one stock, an investor can reap the benefits of diversification - chief among them, a reduction in the riskiness of the portfolio. MPT quantifies the benefits of diversification, also known as not putting all of your eggs in one basket. Diversification lowers the overall risk in a portfolio by using offsetting investments, one risky and the other not so risky (O'Connel, 2011).

Portfolio theory has certain key assumptions which are important in order to understand the applicability of the model in a practical context. Even though, some of these assumptions appear unrealistic; the basic theory itself has validity.

Key assumptions of portfolio theory (O'Connel, 2011**)**

1) Investors are:
    - Rational i.e. wealth maximisers
    - Concerned with the same decision making time horizon i.e. it is a single period model
    - Only concerned with risk and return

2) Perfect capital markets

This means that:

- All have the same knowledge and expectations of the future
- Able to borrow and lend unlimited amounts of cash at the same riskless rate i.e. R_F
- Operating in a market free of taxes, transaction cost and other hindrances

4. Practical part

4.1. Templeton Asian Growth Fund

The main objective of Templeton Asian Growth Fund is to seek long-term capital appreciation. The fund invests at least 80% of its net assets in securities of companies located in the Asia region (excluding Australia, New Zealand and Japan). For purposes of the fund's investments, Asia region companies are companies that are organized under the laws of, or with principal offices in the Asia region; companies whose principal trading markets are in Asia region countries; or derive at least 50% of their revenues from goods or services sold or produced in Asia region countries; or companies that have at least 50% of their assets in Asia region countries (Prospectus, 2012).

Table 2: Templeton Asian Growth Fund overview as of 12/30/2011

Base currency for Fund	USD
Total Net Assets (USD)	14,784.66 million
Launch Date	30.06.1991
Number of Holdings	68
Benchmark	MSCI AII Country Asia ex Japan Index
Investment Style	Growth

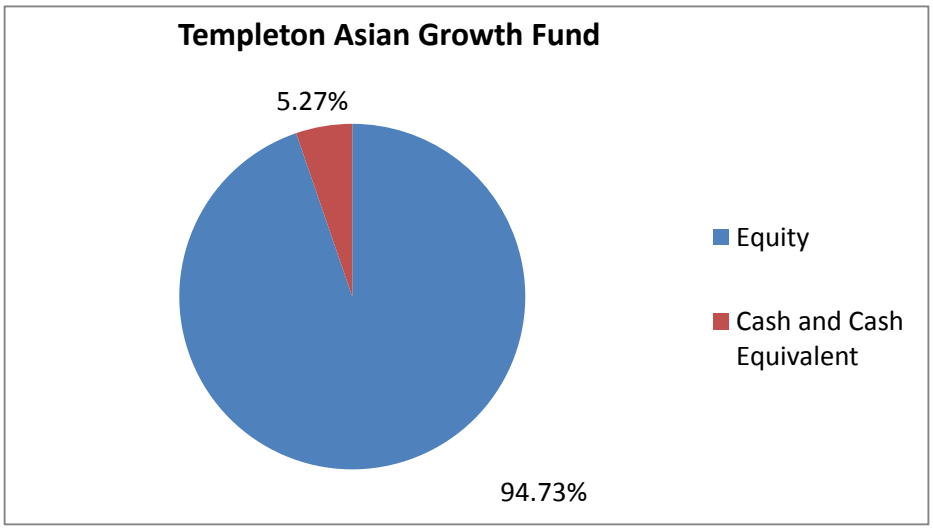
Source: Own work based on data Templeton Asian Growth Fund factsheet

As the table 2 shows, the base currency of the fund is USD. However, shares of the fund can be purchased with any currency. For example, in the Czech Republic an investor can make the purchase with Czech crowns, which are then converted to USD at the current exchange rate. The number of shares of an open-end fund varies throughout its existence, depending on how many shares are bought or redeemed by investors. Additionally, the number of holdings varies over time, depending on the fund managers' decision. The main benchmark for Templeton Asian Growth Fund is MSCI AII Country Asia ex Japan Index, which is a free float-adjusted market capitalization weighted index that is designed to

measure the equity market performance of the Far East, excluding Japan. The index consists of the following 9 developed and emerging market country indices: China, Hong Kong, Indonesia, Korea, Malaysia, Philippines, Singapore, Taiwan, and Thailand (MSCI, 2011).

4.1.1. Portfolio characteristics

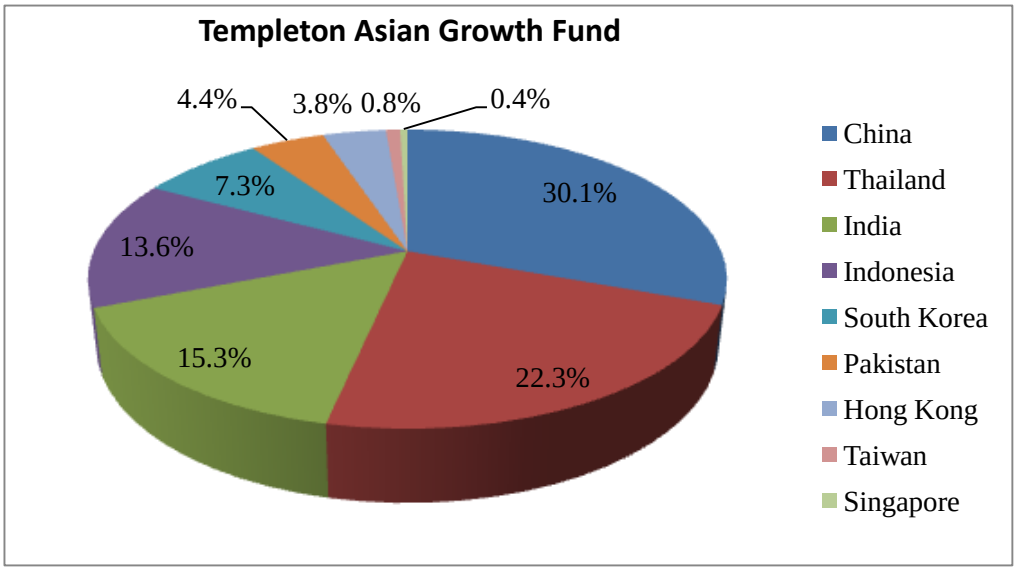
Graph 1: Portfolio allocation (%) as of 12/30/2011



Source: Own work based on data Templeton Asian Growth Fund factsheet

Graph 1 illustrates the portfolio allocation in the end of the year 2011. 94.73% of the fund asset was invested in equity of companies in the Asia region. The funds need to hold some cash in order to be able to redeem investors who want out. Therefore, in the end of the year 2011, the fund had 5.27% of the fund's assets in cash or cash equivalents.

Graph 2: Geographic breakdown (%) as of 12/30/2011

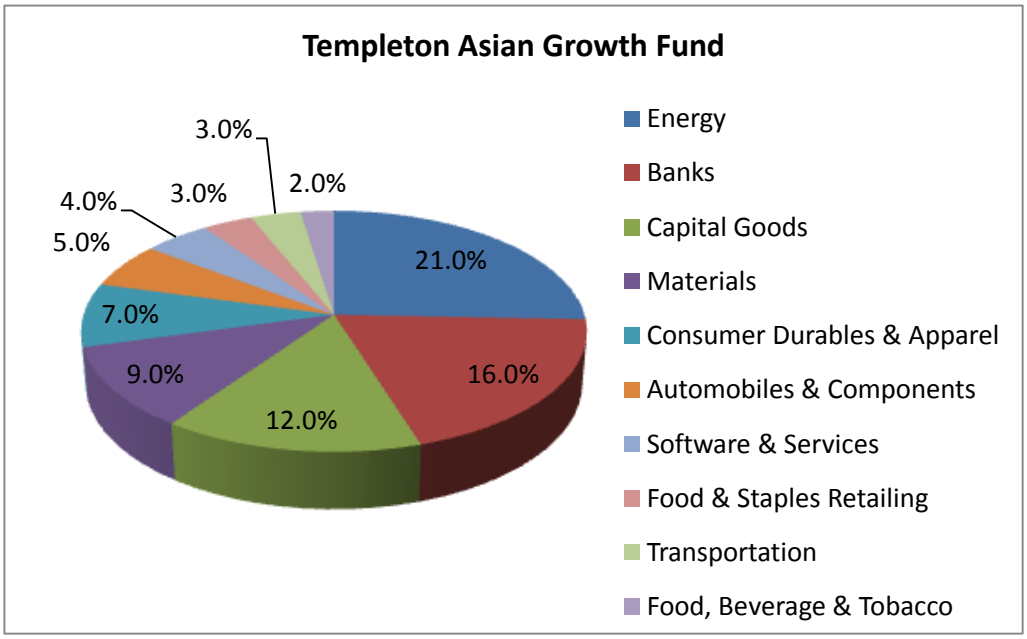


Source: Own work based on data Templeton Asian Growth Fund factsheet

Graph 2 illustrates the geographic breakdown of the fund. The biggest part of fund's assets is invested in Chinese companies, this part represent 30.1%. Second, in terms of asset size of the fund, is Thailand with 22.3% and third is India with 15.3%. According to this graph, the fund is diversified in 9 countries. All countries are considered emerging market economies except for Hong Kong and Singapore, which are considered developed market economies according to several resources.[3] They represent 3.8% and 0.4% respectively of the fund net asset investment.

[3] MSCI classifies Hong Kong and Singapore as developed markets.

Graph 3: Industry breakdown (%) as of 12/30/2011



Source: Own work based on data Templeton Asian Growth Fund factsheet

Graph 3 illustrates the industry breakdown of the fund's assets. The most assets are invested in energy (21%), banking sector (16%), and capital goods (12%). Generally, the investment strategy is to invest in commodities and consumers. Recently, the higher gross domestic product (GDP) growth, coupled with a falling population growth rate, has meant that per capita income in several emerging markets has been on the rise. This drives up the domestic demand and consumption for a range of products and services.

Table 3: Templeton Asian Growth Fund - Top Ten Equity Holdings as of 12/30/2011 (%)

Security	Percent of Total
PETROCHINA CO LTD	6.86
PT ASTRA INTERNATIONAL TBK	6.71
PTT PCL	4.60
CHINA MERCHANTS BANK CO LTD	4.32
SK INNOVATION CO LTD	4.12
SIAM COMMERCIAL BANK PCL	3.90
TATA CONSULTANCY SERVICES LTD	3.89
CHINA PETROLEUM & CHEMICAL CORP (SINOPEC)	3.81
SIAM CEMENT PUBLIC CO LTD (THE)	3.59
OIL & GAS DEVELOPMENT CO LTD	3.47
Total	**45.27**

Source: Own work based on Templeton Asian Growth Fund factsheet

Table 3 shows the largest holdings of the fund's portfolio. Both highest value of portfolio holding, which is 6.86% (Petrochina Co. Ltd.), and value of top ten equity holdings representing 45.27% indicate high diversification. Once again, table 3 shows that the portfolio concentrates on commodities and consumption (oil, gas, financial services, consulting services, etc.).

4.1.2. Fund manager

The fund is managed by a team of dedicated professionals focused on the emerging market securities. The portfolio managers of the team are as follows:

MARK MOBIUS, PH.D. *Executive Chairman of Templeton Emerging Markets Group and Portfolio Manager of Asset Management*

- The lead portfolio manager of the Fund since inception
- Primary responsibility for the investments of the Fund.
- Global investor and emerging markets fund manager, and is considered to be one of the leaders in the industry as he has been involved in these markets for over 40 years.

Mobius has been a key figure in developing international policy for emerging markets.

- In 1999, he was selected to serve on the World Bank's Global Corporate Governance Forum as a member of the Private Sector Advisory Group and as co-chair of the Investor Responsibility Taskforce.
- He has also been featured as a speaker for the World Bank in 1999 and has given seminars for many other groups, including for the Asian Development Bank in 2002 and as a motivational speaker for the London Speaker Bureau.

As a recognized industry expert, Mobius appears frequently on financial industry television shows and networks, and has given/written thousands of interviews and opinion pieces over the years.

In addition, Mobius has earned numerous accolades from the investment industry, among them are (Mark Mobius biography, 2010):

- One of "Top 100 Most Powerful and Influential People" by Asiamoney magazine. 2006.
- "Emerging Markets Equity Manager of the Year 2001" by International Money Marketing, 2001.
- "Ten Top Money Managers of the 20th Century" by the Carson Group, 1999.
- "Number One Global Emerging Market Fund" by Reuters, 1998.
- "1994 First in Business Money Manager of the Year" by CNBC, 1994.
- "Closed-End Fund Manager of the Year" by Morningstar, 1993.
- "Investment Trust Manager of the Year 1992" by Sunday Telegraph, 1992.

The following individuals have secondary portfolio management responsibilities:

ALLAN LAM *Portfolio Manager of Asset Management*

- A portfolio manager of the Fund since inception, providing research and advice on the purchases and sales of individual securities, and portfolio risk assessment.

DENNIS LIM *Co-Chief Executive Officer and Director of Asset Management*

- A portfolio manager of the Fund since inception, providing research and advice on the purchases and sales of individual securities, and portfolio risk assessment.

TOM WU *Director of Asset Management*

- A portfolio manager of the Fund since November 2011, providing research and advice on the purchases and sales of individual securities, and portfolio risk assessment.

4.1.3. Investment strategy

Templeton Asian growth fund invests with a long-term horizon in companies that the managers believe are undervalued, fundamentally strong and growing. In terms of investment themes, as mentioned before, they focus on the two C's: consumers and commodities and on stock selection process within sectors related to these themes.

Strategy

- **Search Globally -** Bargains have no borders when searching for the best investment opportunities.
- **Seek Value -** Worldwide stocks selling at prices that are low relative to their true value.
- **Perform Fundamental, Bottom-Up Research -** Conducting in-person visits and performing extensive fundamental research to model a company's potential future earnings, cash flow and asset value relative to its stock price.
- **Practice Patient, Long-Term Investing –** Evaluating a company's potential for earnings and growth over a five-year horizon.

Benefits

- **Asia Exposure –** The investment mix is designed to take advantage of dynamic growth opportunities in the Asia region, including Hong Kong, Korea, China, Taiwan and Thailand.
- **Unparalleled Emerging Markets Experience** - Lead manager Dr. Mark Mobius, a trailblazer in emerging markets investing with over 40 years of investing experience.

4.1.4. Performance analysis

Performance

Graph 4: Fund's Net Asset Value development for the years 2002-2011

Source: Own work based on data from Dr. Szabolcs Ercsey

Graph 4 illustrates the development of fund's net asset value in the 10-year investment horizon from the start of 2002 until the end of 2011. The net asset value was constantly rising until 2008. The beginning value of approximately $6 per share in 2002 rose to almost $40 per share in the end of 2007. In 2008, the global financial crisis hit the stock markets all over the world and caused the net asset value to drop to $10 per share. During the years 2009 and 2010, the fund was on rise indicating post crisis recovery and the fund's

net asset value quickly improved to its 2007 value of almost $40 per share. The year 2011 was again affected by the sovereign debt crisis in the eurozone and the net asset value declined to approximately $30 per share. Overall performance of the fund in this horizon was characterized by the rise of the net asset value from $6 per share in the beginning of the period to $30 per share in the end of the period.

Graph 5: Fund's Net Asset Value development for the years 2007-2011

Source: Own work based on data from Dr. Szabolcs Ercsey

Graph 5 illustrates the development of fund's net asset value in the 5-year investment horizon from the start of 2007 until the end of 2011. The year 2007 started at approximately $20 per share and net asset value was rising until the start of the 2008 global financial crisis, as mentioned before. Overall performance of the fund in this horizon was from $20 per share in the beginning of the period to $30 per share in the end of the period.

Table 4: Calculated fund's performance for the periods: 1. 1. 2002 – 30. 12. 2011 and 1.1.2007 – 30.12.2011

Monitored data	**Calculated value – performance (%)**
Cumulative performance in last 10 years	399.84%
Average annual performance in last 10 years	26.67%
Cumulative performance in last 5 years	45.10%
Average annual performance in last 5 years	24.05%
Performance last year	-15.23%

Source: Own work based on data from Dr. Szabolcs Ercsey

In table 4 are calculated values for the Templeton Asian Growth Fund performance for the 10-year, 5-year and 1-year investment horizon. The values were calculated by using the Microsoft Excel spreadsheet program. For the cumulative performance was used following formula: (Final NAV- Original NAV) / (Original NAV) X 100. Data were used based on the examined horizon. Average annual performance was calculated from net asset value annual growth using again the formula: (Final NAV- Original NAV) / (Original NAV) X 100 for each year and then using excel function AVERAGE to calculate the average value of annual performances in the investment horizons. The calculated values are expressed in percentage. Cumulative performance in the last 10 years was almost 400%, which is almost 40% per year. However, due to the mentioned financial crisis the average annual performance was only 26.67%. Opposite situation is with 5-year horizon where the cumulative performance of 45% would give only 9% per year, but the average annual performance is 24% caused by the fast 2009 recovery. Last year performance was very much affected by the sovereign debt crisis in eurozone and the net asset value declined by -15.23%.

Return on investment

Table 5: Calculated fund‘s return on investment for the periods: 1. 1. 2002 – 30. 12. 2011 and 1.1.2007 – 30.12.2011, lump sum investment

Monitored data	Calculated value – ROI (%)
10-year investment	373.59%
5-year investment	37.48%

Source: Own work based on data from Dr. Szabolcs Ercsey

In table 5 are calculated values of the Templeton Asian Growth Fund return on investment for the 10-year and 5-year investment horizon. In this case, a lump sum of $1,000 was invested in the beginning of the investment horizon and return on investment was calculated in the end of the horizon. Sales charges of 5.25% were included in the calculation. The values were calculated by using the Microsoft Excel spreadsheet program. To calculate return on investment, following formula was used: ROI= (Current value of units - Initial investment) / (Initial investment) X 100. Inserted values depended on the calculated investment horizon. Current value of units was calculated using the net asset value in the end of the investment and multiplied by the number of share bought in the beginning of the investment horizon with the initial investment $1,000 minus sales charge (5.25%). 10-year investment horizon made a return of almost 374%. In other words, our initial $1,000 investment grew to $4,735 in the end of the year 2011. This huge return was mainly caused by the rising trend on the stock market in the last decade. 5-year investment horizon made a return of 37.48%. In other words, our initial $1,000 investment grew to $1,374 in the end of the year 2011. The return was affected by the fact that the investment was made shortly before the start of 2008 global financial crisis.

Table 6: Calculated fund‘s return on investment for the periods: 1. 1. 2002 – 30. 12. 2011 and 1.1.2007 – 30.12.2011, annual investment

Monitored data	Calculated value – ROI (%)
10-year investment	119.10%
5-year investment	24.07%

Source: Own work based on data from Dr. Szabolcs Ercsey

In table 6 are calculated values of the Templeton Asian Growth Fund return on investment for the 10-year and 5-year investment horizons. In this case, annual investments of $100 were made in the beginning of each year and the return on investment was calculated in the end of the particular investment horizon. Sales charges of 5.25% were included in the calculation. The values were calculated by using the Microsoft Excel spreadsheet program. To calculate return on investment, following formula was used: ROI= (Current value of units - Initial investment) / (Initial investment) X 100. Inserted values depended on the calculated investment horizon. Current value of units was calculated for each year using the net asset value in the end of the whole investment horizon and multiplied by the number of shares bought in the particular year with $100 minus sales charge (5.25%). 10-year investment horizon made a return of 119.1%. In other words, the cumulated investment of $1,000 grew to $2,191 in the end of the year 2011. 5-year investment horizon made a return of 24.07%. In other words, the cumulated investment of $500 grew to $620 in the end of the year 2011. The returns were smaller than in the lump sum investment, but with a lower risk.

Table 7: Calculated fund‘s return on investment for the periods: 1. 1. 2002 – 30. 12. 2011 and 1.1.2007 – 30.12.2011, monthly investment

Monitored data	Calculated value – ROI (%)
10 year investment	99.95%
5-year investment	16.74%

Source: Own work based on data from Dr. Szabolcs Ercsey

In table 7 are calculated values of the Templeton Asian Growth Fund return on investment for the 10-year and 5-year investment horizons. In this case, monthly investments of $100 were made in the beginning of each month and return on investment was calculated in the end of the particular investment horizon. Sales charges of 5.25% were included in the calculation. The values were calculated by using the Microsoft Excel spreadsheet program. To calculate return on investment, following formula was used: ROI= (Current value of units - Initial investment) / (Initial investment) X 100. Inserted values depended on the calculated investment horizon. Current value of units was calculated for each month using the net asset value in the end of the whole investment horizon and multiplied by the number of shares bought in the particular month with $100 minus sales charge (5.25%). 10-year investment horizon made a return of 99.95%. In other words, the cumulated investment of $12,000 grew to $23,994 in the end of the year 2011. 5-year investment horizon made a return of 16.74%. In other words, the cumulated investment of $6,000 grew to $7,005 in the end of the year 2011. Again, the returns were smaller than in the lump sum and annual investment, but with a lower risk.

4.1.5. Risk analysis – volatility measures

Table 8: Calculated fund's volatility for the period: 2002-2011

Monitored data	Calculated value
10-year annual volatility	21.75%
Average share price in last 10 years	$ 19.25
10-year average share price deviation	$ 8.31
10-year median share price	$ 17.31
5-year annual volatility	26.86%
Average share price in last 5 years	$ 26.89
5-year average share price deviation	$ 5.48
5-year median share price	$ 27.83
1-year volatility	22.95%
Average share price last year	$ 34.01
1-year average share price deviation	$ 2.24
Last year median share price	$ 34.70

Source: Own work based on data from Dr. Szabolcs Ercsey

Table 8 shows calculated data of the Templeton Asian Growth Fund volatility for the 10-year, 5-year and 1-year investment horizons. The values were calculated by using the Microsoft Excel spreadsheet program. Annual volatility was estimated on the basis of following steps. First step was to calculate logarithmic price change of daily NAV values using LN excel formula. Second step was to calculate daily average standard using STDEV excel formula. Final step was multiplication of the daily average standard deviation by 252[4]. The result is the value of annualized volatility. Average share price was calculated using AVERAGE, average share price deviation using AVEDEV, and median share price using MEDIAN excel formulas. Inserted values depended on the calculated investment horizon.

[4] Number of trading days in a year

4.1.6. Quantitative analyses

GDP annual growth

Table 9: Fund's NAV growth (%) vs. portfolio weighted GDP annual growth (%) for the period: 2002 - 2011

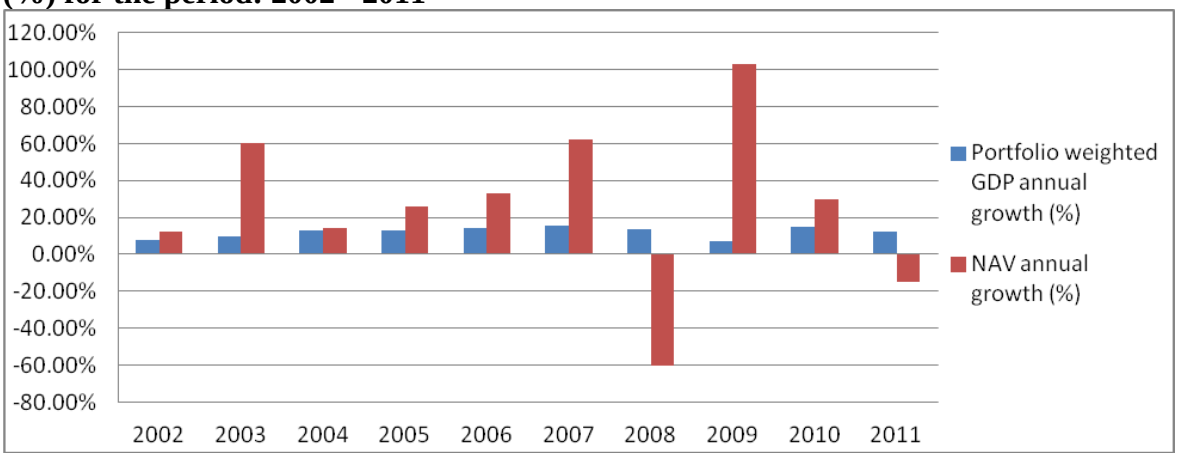
	Portfolio weighted GDP annual growth (%)	NAV annual growth (%)
2002	7.97%	12.52%
2003	9.69%	60.18%
2004	12.98%	14.35%
2005	13.14%	26.20%
2006	14.05%	33.18%
2007	15.34%	62.22%
2008	13.83%	-60.20%
2009	7.38%	103.11%
2010	15.00%	30.01%
2011	12.53%	-14.89%
10-year cumulative	233.30%	399.84%
5-year cumulative	85.60%	45.10%
Correlation	-0.372	

Source: Own work based on data from Dr. Szabolcs Ercsey, International Monetary Fund and Templeton Asian Growth Fund factsheet

Table 9 illustrates the comparison of GDP developments of countries in the Templeton Asian Growth Fund portfolio and the fund's performance in the 10-year and 5-year investment horizons, and how this macroeconomic indicator is related to the fund's performance. The annual growth rate was calculated from GDP denominated in national currencies and in current prices. The values were calculated by using the Microsoft Excel spreadsheet program. NAV annual growth was calculated using formula (Final NAV-Original NAV) / (Original NAV) X 100 for each year. The values of GDP annual percentage change in the table are combined weighted values of each country based on the portfolio geographic breakdown. From these values was calculated the annual change using the formula: ($Year_X$ weighted GDP – $Year_{X-1}$ weighted GDP)/ ($Year_{X-1}$ weighted GDP) x 100. Correlation coefficient between these two variables is -0.372, it means weak negative correlation. In other words, the relationship between fund's performance and

GDP annual growth is weak. This is illustrated by the year 2008, when the global financial crisis negatively affected the fund's performance, but portfolio weighted GDP increased. Similar situation for the GDP was predicted in the year 2011. Even though, the portfolio weighted GDP annual growth is positive during the whole period, the fund's NAV performed better in the 10-year investment horizon. The 10-year cumulative growth of the fund reached 399.84% versus the GDP growth of 233.30%. GDP growth was higher in the 5-year horizon, which was affected by already mentioned 2008 global financial crisis, where the countries' GDP was still rising while the fund's NAV declined. The results are graphically processed in the graph 7 below.

Graph 7: Fund's NAV annual growth (%) vs. portfolio weighted GDP annual growth (%) for the period: 2002 - 2011



Source: Own work based on data from Dr. Szabolcs Ercsey, International Monetary Fund and Templeton Asian Growth Fund factsheet

GDP per capita annual growth

Table 10: Fund's NAV growth (%) vs. portfolio weighted GDP per capita annual growth (%) for the period: 2002 - 2011

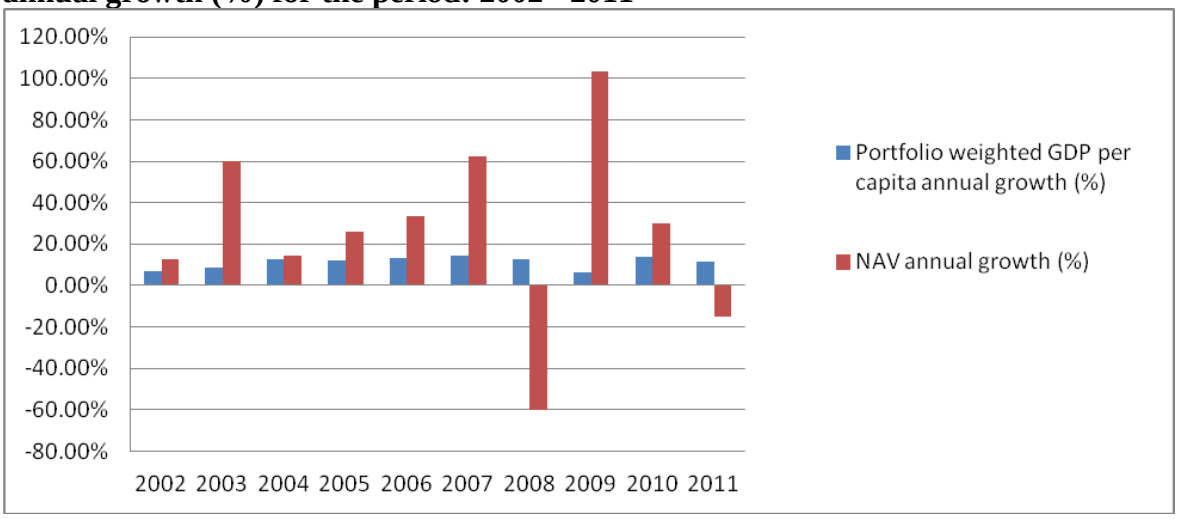
	Portfolio weighted GDP per capita annual growth (%)	NAV annual growth (%)
2002	6.99%	12.52%
2003	8.74%	60.18%
2004	12.57%	14.35%
2005	12.09%	26.20%
2006	13.06%	33.18%
2007	14.44%	62.22%
2008	12.90%	-60.20%
2009	6.45%	103.11%
2010	13.85%	30.01%
2011	11.61%	-14.89%
10-year cumulative	204.52%	399.84%
5-year cumulative	77.39%	45.10%
Correlation	-0.378	

Source: Own work based on data from Dr. Szabolcs Ercsey, International Monetary Fund and Templeton Asian Growth Fund factsheet

Table 10 illustrates the comparison of GDP per capita development of countries in the Templeton Asian Growth Fund portfolio and the fund's performance in the 10-year and 5-year investment horizon, and how this macroeconomic indicator is related to the fund's performance. The annual growth rate was calculated from GDP per capita denominated in national currencies and in current prices. The values were calculated by using the Microsoft Excel spreadsheet program. NAV annual growth was calculated using formula (Final NAV- Original NAV) / (Original NAV) X 100 for each year. The values of GDP per capita annual percentage change in the table are combined weighted values of each country based on the portfolio geographic breakdown. From these values was calculated the annual change using the formula: ($Year_X$ weighted GDP per capita – $Year_{X-1}$ weighted GDP per capita)/ ($Year_{X-1}$ weighted GDP per capita) x 100. Correlation coefficient between these two variables is -0.378, it means weak negative correlation. In other words, the relationship between fund's performance and GDP per capita annual growth is weak. This is mainly caused by the year 2008, when the global financial crisis negatively affected the fund's

performance, but portfolio weighted GDP per capita increased. Similar situation for the GDP per capita was predicted in the year 2011. Even though, the portfolio weighted GDP per capita annual growth is positive during the whole period, the fund's NAV performed better in the 10-year investment horizon. The 10-year cumulative growth of the fund reached 399.84% versus the GDP per capita growth of 204.52%. GDP per capita growth was higher in the 5-year horizon, which was affected by already mentioned 2008 global financial crisis, where the countries' GDP per capita was still rising while the fund's NAV declined. The results are graphically processed in the graph 8 below.

Graph 8: Fund's NAV annual growth (%) vs. Portfolio weighted GDP per capita annual growth (%) for the period: 2002 - 2011



Source: Own work based on data from Dr. Szabolcs Ercsey, International Monetary Fund and Templeton Asian Growth Fund factsheet

4.2. Templeton European Fund

The fund's investment objective is long-term capital appreciation and growth, which it seeks to achieve through a policy of investing in equity and debt obligations issued by European corporations and governments. The fund invests primarily in common stocks. Since the investment objective is more likely to be achieved through an investment policy that is flexible and adaptable, the fund may seek investment opportunities in other types of

securities, such as preferred stock, securities convertible into common stock, and fixed income securities, including debt obligations issued by European governments (Prospectus, 2012).

4.2.1. Portfolio characteristics

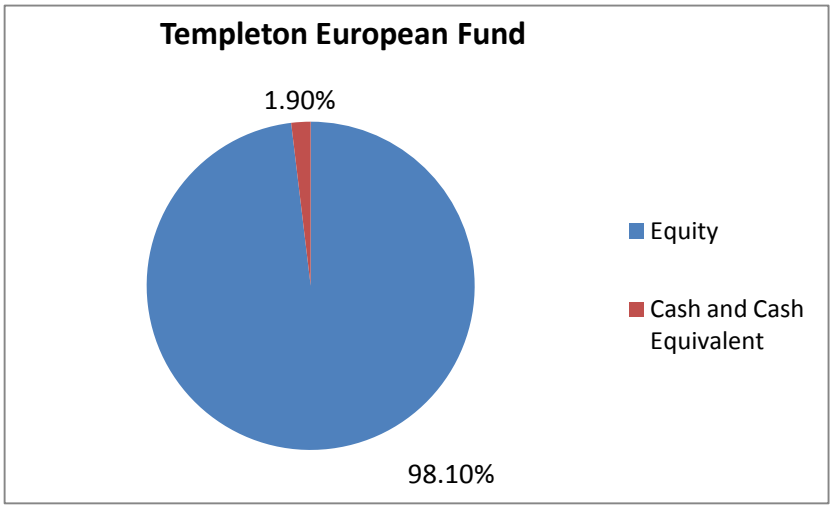
Table 11: Templeton European Fund overview as of 12/30/2011

Base currency for Fund	EUR
Total Net Assets (EUR)	111 million
Launch Date	17.04.1991
Number of Holdings	78
Benchmark	MSCI Europe Index
Investment Style	Value

Source: Own work based on Templeton European Fund factsheet

As the table 11 shows, the base currency of the fund is EUR. However, for the analyses was used data in USD to make the analyses comparable. Shares of the fund can be purchased with any currency. For example, in Czech Republic the investor can make the purchase with Czech crowns, which are then converted to USD (or EUR, depending on the purchased share class) at the current exchange rate. The number of shares of an open-end fund varies throughout its existence, depending on how many shares are bought or redeemed by investors. Additionally, the number of holdings varies over time, depending on the fund managers' decision. The main benchmark for Templeton European Fund is MSCI Europe Index, which is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of the developed markets in Europe. The MSCI Europe Index consists of the following 16 developed market country indices: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom (MSCI, 2011).

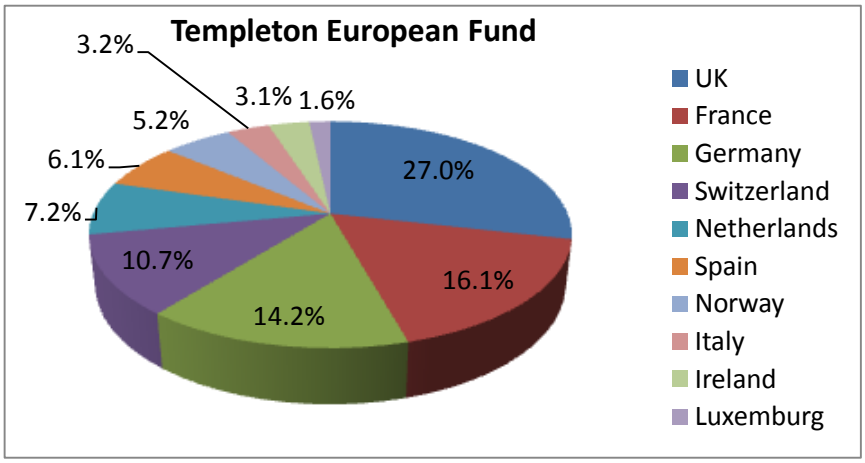
Graph 9: Portfolio allocation (%) as of 12/30/2011



Source: Own work based on Templeton European Fund factsheet

Graph 9 illustrates the portfolio allocation in the end of the year 2011. 98.10% of the fund asset was invested in equity of companies in Europe. The funds need to hold some cash in order to be able to redeem investors who want out. Therefore, in the end of the year 2011, the fund had 1.90% of the fund's assets in cash or cash equivalents.

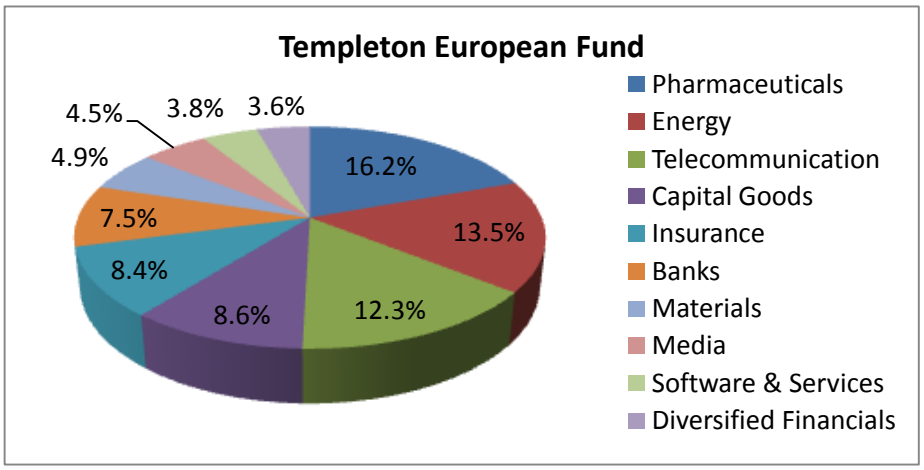
Graph 10: Geographic breakdown (%) as of 12/30/2011



Source: Own work based on Templeton European Fund factsheet

Graph 10 illustrates the geographic breakdown of the fund. The biggest part of fund's assets is invested in United Kingdom companies, this part represents 27%. Second, in terms of asset size of the fund, is France with 16.1% and third is Germany with 14.2%. According to this graph, the fund is diversified in 8 countries. All countries are considered developed market economies (MSCI, 2011).

Graph 11: Industry breakdown (%) as of 12/30/2011



Source: Own work based on Templeton European Fund factsheet

Graph 11 illustrates the industry breakdown of the fund's assets. The most assets are invested in pharmaceuticals (16.3%), energy (13.5%), and telecommunication (12.3%). At current price levels European equity fundamentals suggest attractive future earnings and total return potential. The ability of the fund's holdings to generate excess returns is becoming increasingly important.

Table 12: Templeton European Fund - Top Ten Equity Holdings as of 12/30/2011 (%)

Security	Percent of Total
ROCHE HOLDING AG	3.99
SANOFI	3.13
ROYAL DUTCH SHELL	2.89
VODAFONE GROUP PLC	2.59
TOTAL SA	2.15
GLAXOSMITHKLINE PLC	1.98
SWISS RE LTD	1.97
MERCK KGAA	1.93
ELAN CORP PLC	1.92
SAP AG	1.88
Total	**24.43**

Source: Own work based on Templeton European Fund factsheet

Table 12 shows the largest holdings of the fund's portfolio. Both highest value of the portfolio holding, which is 3.99% (Roche Holding AG) and the total value of top ten equity holdings representing only 24.43% indicate high diversification. Second biggest holding is Sanofi (3.13%) and third Royal Dutch Shell (2.89%).

4.2.2. Fund managers

Heather Arnold - Executive Vice President and Portfolio Manager for the Templeton Global Equity Group - London, United Kingdom,

Dylan Ball - Vice president and Portfolio manager- Edinburgh, United Kingdom,

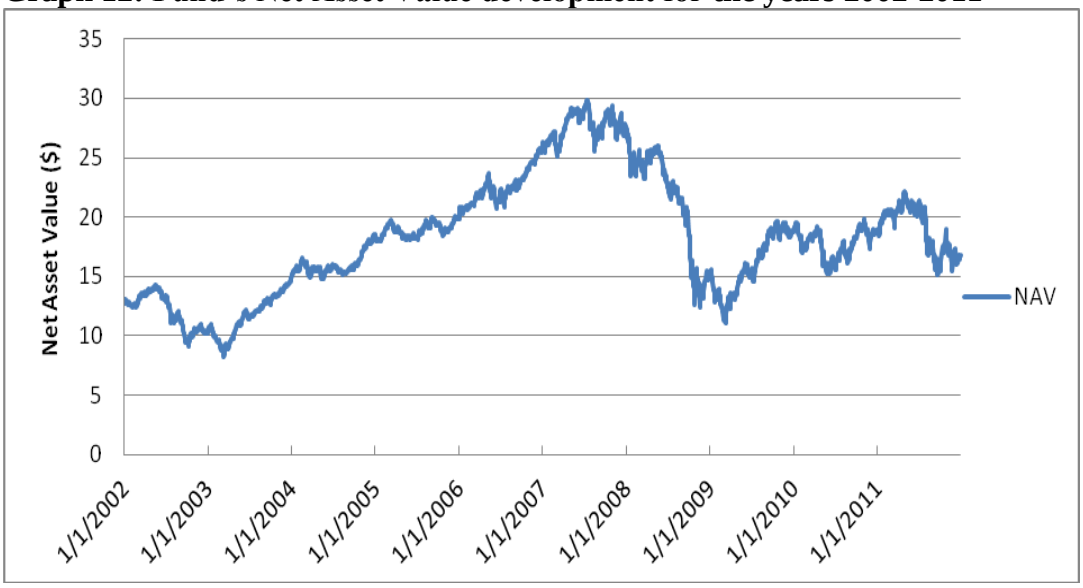
Peter M. Moeschter - Portfolio manager/ Research analyst - Toronto, Canada

4.2.3. Investment strategies

The Fund's investment objective is to seek long-term capital appreciation, which it seeks to achieve through a policy of investing at least 80% of its net assets in equity and debt obligations issued by European corporations and governments and to seek capital appreciation by investing in undervalued securities of any European country. The Fund invests primarily in common stocks and to companies with the earnings and cash flow potential to grow independently. These companies should be well positioned to gain market share in an uncertain future.

4.2.4. Performance analysis

Graph 12: Fund's Net Asset Value development for the years 2002-2011



Source: Own work based on data from Dr. Szabolcs Ercsey

Graph 12 illustrates the development of fund's net asset value in the 10-year investment horizon from the start of 2002 until the end of 2011. Fund's net asset value was affected by the 2002 stock market downturn, when sharp drop in stock prices spread in stock exchanges across the United States, Canada, Asia, and Europe, and then was on the rise

from the year 2003 until the year 2008. The beginning value of approximately $13 per share in 2002 rose to almost $30 per share in the end of 2007. In 2008, the global financial crisis hit the stock markets all over the world and caused the net asset value drop to almost $10 per share. During the years 2009 and 2010, the fund was on rise indicating post crisis recovery and the fund's net asset value slightly improved to $22 per share, but never gained back its position before the financial crisis. The year 2011 was again affected by the sovereign debt crisis in the eurozone and the net asset value declined to approximately $15 per share. Overall performance of the fund in this investment horizon was characterized by the rise of the net asset value from $13 per share in the beginning of the investment to approximately $17 per share in the end of the investment horizon.

Graph 13: Fund's Net Asset Value development for the years 2007-2011

Source: Own work based on data from Dr. Szabolcs Ercsey

Graph 13 illustrates the development of fund's net asset value in the 5-year investment horizon from the start of 2007 until the end of 2011. The year 2007 started at approximately $26 per share and net asset value was slightly rising until the start of the 2008 global financial crisis, as mentioned before. Overall performance of the fund in this

investment horizon was a decline from $26 per share in the beginning of the investment to approximately $17 per share in the end of the investment horizon.

Table 13: Calculated fund's performance for the periods: 1. 1. 2002 – 30. 12. 2011 and 1.1.2007 – 30.12.2011

Monitored data	**Calculated value – performance (%)**
Cumulative performance in last 10 years	31.90%
Average annual performance in last 10 years	6.20%
Cumulative performance in last 5 years	-34.92%
Average annual performance in last 5 years	-4.93%
Performance last year	-11.19%

Source: Own work based on data from Dr. Szabolcs Ercsey

In table 13 are calculated values for the Templeton European Fund performance for the 10-year, 5-year and 1-year investment horizons. The values were calculated by using the Microsoft Excel spreadsheet program. For the cumulative performance was used following formula: (Final NAV- Original NAV) / (Original NAV) X 100. Data were used based on the examined horizon. Average annual performance was calculated from net asset value annual growth using again the formula: (Final NAV- Original NAV) / (Original NAV) X 100 for each year and then using excel function AVERAGE to calculate the average value of annual performances in the investment horizons. The calculated values are expressed in percentage. Cumulative performance in the last 10 years was almost 31.9%, which is 3.2 % per year. However, due to the mentioned financial crisis, periods of recovery and high volatility, the average annual performance was 7.5%. Similar situation is with 5-year horizon where the negative cumulative performance of -34.92 % gives -6.8% per year, but the average annual performance is positive 4.36% caused by the recovery periods . Last year performance was very much affected by the sovereign debt crisis in eurozone and the net asset value declined by -11.19%.

Return on investment

Table 14: Calculated fund's return on investment for the periods: 1. 1. 2002 – 30. 12. 2011 and 1.1.2007 – 30.12.2011, lump sum investment

Monitored data	Calculated value – ROI (%)
10-year investment	24.97%
5-year investment	-38.34%

Source: Own work based on data from Dr. Szabolcs Ercsey

In table 14 are calculated values of the Templeton European Fund return on investment for the 10-year and 5-year investment horizons. In this case, a lump sum investment of $1,000 was made in the beginning of the investment horizon and return on investment was calculated in the end of the horizon. Sales charges of 5.25% were included in the calculation. The values were calculated by using the Microsoft Excel spreadsheet program. To calculate return on investment, following formula was used: ROI = (Current value of units - Initial investment) / (Initial investment) X 100. Inserted values depended on the calculated investment horizons. Current value of units was calculated using the net asset value in the end of the period and multiplied by the number of shares bought in the beginning of the period with the initial investment $1,000 minus sales charge (5.25%). 10-year investment horizon made a return of 24.97%. In other words, our initial $1,000 investment grew to $1,249.72 in the end of the year 2011. 5-year investment horizon made a negative return of - 38.34%. In other words, our initial $1,000 investment fell to $ 616.64 in the end of the year 2011. The return was affected by the fact that the investment was made shortly before the start of 2008 global financial crisis, and by the 2011 sovereign debt crisis in eurozone.

Table 15: Calculated fund's return on investment for the periods: 1. 1. 2002 – 30. 12. 2011 and 1.1.2007 – 30.12.2011, annual investment

Monitored data	Calculated value – ROI (%)
10-year investment	-5.37%
5-year investment	-21.25%

Source: Own work based on data from Dr. Szabolcs Ercsey

In table 15 are calculated values of the Templeton European Fund return on investment for the 10-year and 5-year investment horizons. In this case, annual investments of $100 were made in the beginning of each year and return on investment was calculated in the end of the particular investment horizon. Sales charges of 5.25% were included in the calculation. The values were calculated by using the Microsoft Excel spreadsheet program. To calculate return on investment, following formula was used: ROI= (Current value of units - Initial investment) / (Initial investment) X 100. Inserted values depended on the calculated investment horizon. Current value of units was calculated for each year using the net asset value in the end of the whole period and multiplied by the number of shares bought in the particular year with $100 minus sales charge (5.25%). 10-year investment horizon made a negative return of – 5.37%. In other words, the cumulated investment of $1,000 fell to $946.29 in the end of the year 2011. 5-year investment horizon made a negative return of 21.25%. In other words, the cumulated investment of $500 fell to $393.77 in the end of the year 2011. Taking advantage of the dollar cost averaging strategy positively influenced the 5-year loss, which is lower than in the lump sum investment.

Table 16: Calculated fund's return on investment for the periods: 1. 1. 2002 – 30. 12. 2011 and 1.1.2007 – 30.12.2011, monthly investment

Monitored data	Calculated value – ROI (%)
10-year investment	-5.53%
5-year investment	-17.94%

Source: Own work based on data from Dr. Szabolcs Ercsey

In table 16 are calculated values of the Templeton European Fund return on investment for the 10-year and 5-year investment horizons. In this case, monthly investments of $100 were made in the beginning of each month and return on investment was calculated in the end of the particular investment horizon. Sales charges of 5.25% were included in the calculation. The values were calculated by using the Microsoft Excel spreadsheet program. To calculate return on investment, following formula was used: ROI= (Current value of units - Initial investment) / (Initial investment) X 100. Inserted values depended on the calculated investment horizon. Current value of units was calculated for each month using the net asset value in the end of the whole period and multiplied by the number of shares bought in the particular month with $100 minus sales charge (5.25%). 10-year investment horizon made a negative return of -5.53%. In other words, the cumulated investment of $12,000 fell to $11,335.99 in the end of the year 2011. 5-year investment horizon made a negative return of -17.94%. In other words, the cumulated investment of $6,000 fell to $4,923.61 in the end of the year 2011. The 5-year loss was slightly reduced by taking advantage of the dollar cost averaging strategy compare to 5-year lump sum investment.

4.2.5. Risk analysis – volatility measures

Table 17: Calculated fund's volatility for the period: 2002-2011

Monitored data	Calculated value
10-year annual volatility	22.92%
Average share price in last 10 years	$ 18.31
10-year average share price deviation	$ 3.99
10-year median share price	$ 18.23
5-year annual volatility	28.63%
Average share price in last 5 years	$ 20.38
5-year average share price deviation	$ 4.01
5-year median share price	$ 19.15
1-year volatility	31.22%
Average share price last year	$ 19.02
1-year average share price deviation	$ 1.75
Last year median share price	$ 19.88

Source: Own work based on data from Dr. Szabolcs Ercsey

Table 17 shows calculated data of the Templeton European Fund volatility for the 10-year, 5-year and 1-year investment horizons. The values were calculated by using the Microsoft Excel spreadsheet program. Annual volatility was estimated on the basis of following steps. First step was to calculate logarithmic price change of daily NAV values using LN excel formula. Second step was to calculate daily average standard using STDEV excel formula. Final step was multiplication of the daily average standard deviation by 252[5]. The result is the value of annualized volatility. Average share price was calculated using AVERAGE, average share price deviation using AVEDEV, and median share price using MEDIAN excel formulas. Inserted values depended on the calculated investment horizon.

[5] Number of trading days in a year

4.2.6. Quantitative analyses

GDP annual growth

Table 18: Fund's NAV growth (%) vs. portfolio weighted GDP annual growth (%) for the period: 2002 - 2011

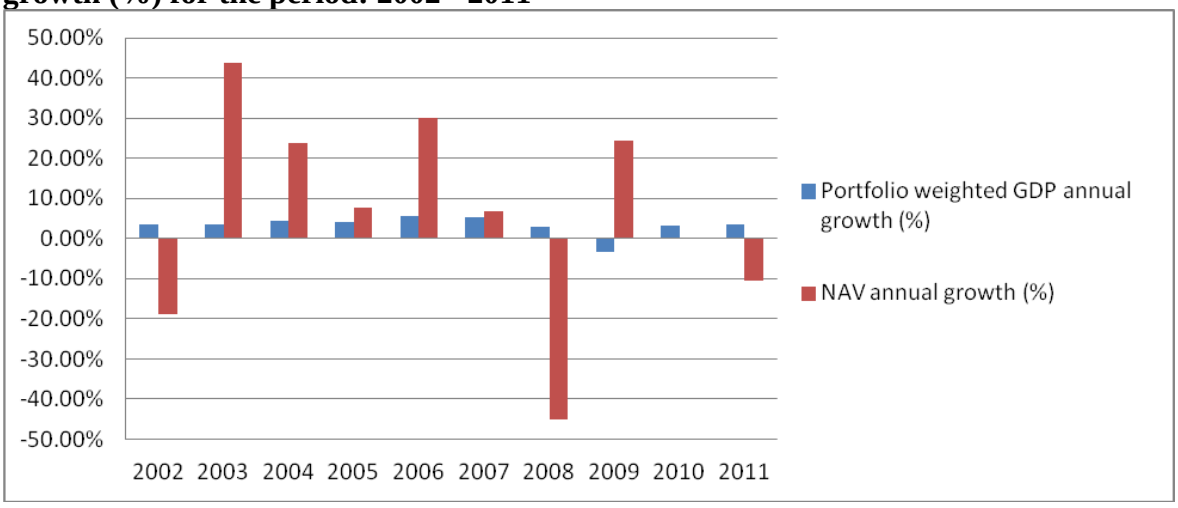
	Portfolio weighted GDP annual growth (%)	NAV annual growth (%)
2002	3.50%	-18.81%
2003	3.55%	43.82%
2004	4.39%	23.83%
2005	4.19%	7.75%
2006	5.63%	30.02%
2007	5.33%	6.81%
2008	2.92%	-45.22%
2009	-3.39%	24.26%
2010	3.19%	0.11%
2011	3.66%	-10.57%
10-year cumulative	38.75%	31.90%
5-year cumulative	12.12%	-34.92%
Correlation	-0.0418	

Source: Own work based on data from Dr. Szabolcs Ercsey, International Monetary Fund and Templeton European Fund factsheet

Table 18 illustrates the comparison of GDP development of countries in the Templeton European Fund portfolio and the fund's performance in the 10-year and 5-year investment horizons, and how this macroeconomic indicator is related to the fund's performance. The annual growth rate was calculated from GDP denominated in national currencies and in current prices. The values were calculated by using the Microsoft Excel spreadsheet program. NAV annual growth was calculated using formula (Final NAV- Original NAV) / (Original NAV) X 100 for each year. The values of GDP annual percentage change in the table are combined weighted values of each country based on the portfolio geographic breakdown. From these values was calculated the annual change using the formula: ($Year_X$ weighted GDP – $Year_{X-1}$ weighted GDP)/ ($Year_{X-1}$ weighted GDP) x 100. Correlation coefficient between these two variables is -0.0418, it indicates weak negative correlation. In other words, the relationship between fund's performance and GDP annual growth is

very weak. Fund's NAV was affected by the 2002 stock market downturn. GDP growth was negative in 2009. 2008 global financial crisis negatively affected the fund's performance, but portfolio weighted GDP increased. Similarly, the GDP positive growth was predicted in the year 2011 against the fund's net asset value decline. Overall, the portfolio weighted GDP annual growth was higher in both investment horizons than the fund's NAV annual growth. The 10-year cumulative growth of the fund was 31.9% versus the GDP growth of 38.75%. GDP growth was positive in the 5-year horizon, where the fund reached negative growth, which was affected by already mentioned 2008 global financial crisis. The results are graphically processed in the graph 14 below.

Graph 14: Fund's NAV annual growth (%) vs. portfolio weighted GDP annual growth (%) for the period: 2002 - 2011



Source: Own work based on data from Dr. Szabolcs Ercsey, International Monetary Fund and Templeton European Fund factsheet

GDP per capita annual growth

Table 19: Fund's NAV growth (%) vs. portfolio weighted GDP per capita annual growth (%) for the period: 2002 - 2011

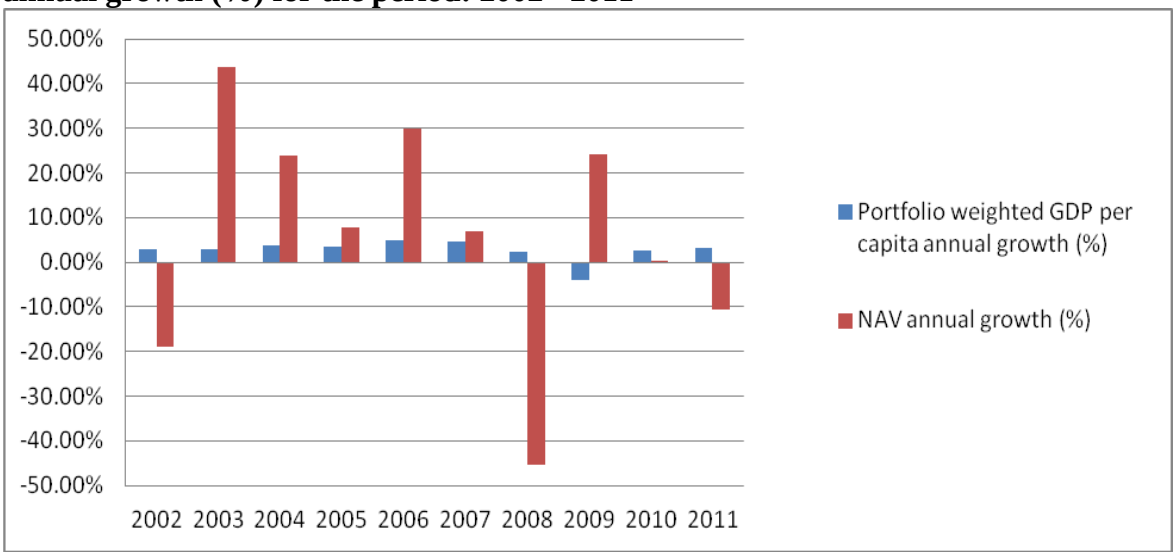
	Portfolio weighted GDP per capita annual growth (%)	NAV annual growth (%)
2002	2.97%	-18.81%
2003	2.97%	43.82%
2004	3.78%	23.83%
2005	3.53%	7.75%
2006	4.99%	30.02%
2007	4.66%	6.81%
2008	2.20%	-45.22%
2009	-3.97%	24.26%
2010	2.68%	0.11%
2011	3.13%	-10.57%
10-year cumulative	30.56%	31.90%
5-year cumulative	8.87%	-34.92%
Correlation	-0.0383	

Source: Own work based on data from Dr. Szabolcs Ercsey, International Monetary Fund and Templeton European Fund factsheet

Table 19 illustrates the comparison of GDP per capita development of countries in the Templeton European Fund portfolio and the fund's performance in the 10-year and 5-year investment horizon, and how this macroeconomic indicator is related to the fund's performance. The annual growth rate was calculated from GDP per capita denominated in national currencies and in current prices. The values were calculated by using the Microsoft Excel spreadsheet program. NAV annual growth was calculated using formula (Final NAV- Original NAV) / (Original NAV) X 100 for each year. The values of GDP per capita annual percentage change in the table are combined weighted values of each country based on the portfolio geographic breakdown. From these values was calculated the annual change using the formula: ($Year_X$ weighted GDP per capita – $Year_{X-1}$ weighted GDP per capita)/ ($Year_{X-1}$ weighted GDP per capita) x 100. Correlation coefficient between these two variables is -0.0383, it indicates weak negative correlation. In other words, the

relationship between fund's performance and GDP annual growth is very weak. Fund's NAV was affected by the 2002 stock market downturn. GDP per capita growth was negative in 2009. 2008 global financial crisis negatively affected the fund's performance, but portfolio weighted GDP increased. Similarly, the GDP per capita growth was predicted in the year 2011 against the fund's net asset value decline. Overall, the portfolio weighted GDP per capita annual growth was lower in 10-year investment horizon than the fund's NAV annual growth. The 10-year cumulative growth of the fund was 31.9% versus the GDP per capita growth of 30.56%. GDP per capita growth was positive in the 5-year horizon, where the fund reached negative growth, which was affected by already mentioned 2008 global financial crisis. The results are graphically processed in the graph 15 below.

Graph 15: Fund's NAV annual growth (%) vs. Portfolio weighted GDP per capita annual growth (%) for the period: 2002 - 2011



Source: Own work based on data from Dr. Szabolcs Ercsey, International Monetary Fund and Templeton European Fund factsheet

4.3. Analyses and comparison

4.3.1. Funds' annual performance

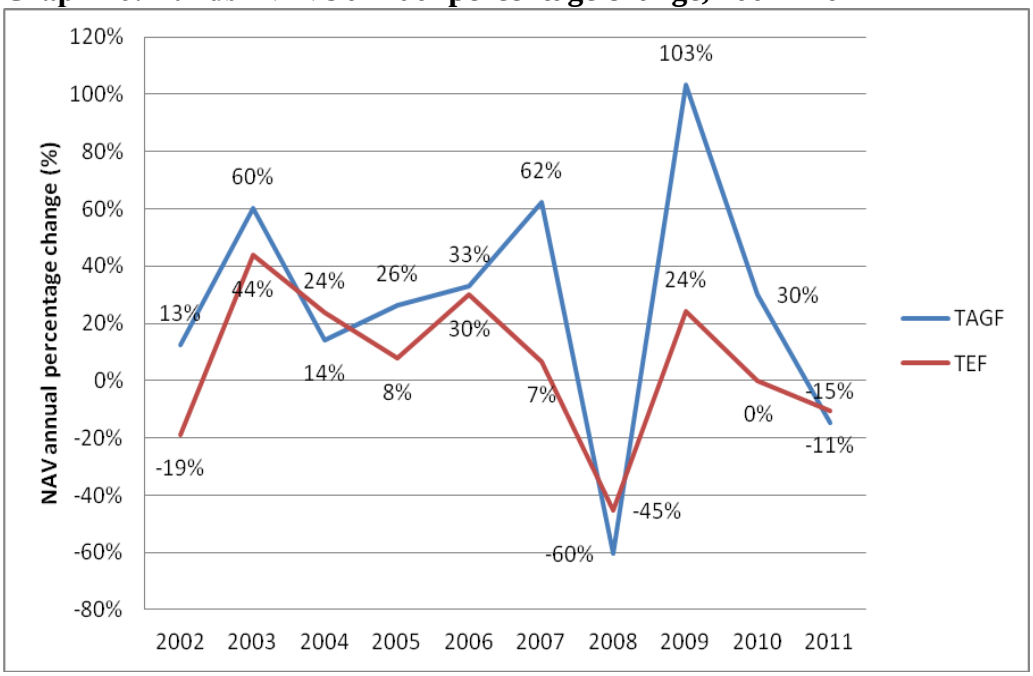
This section summarizes and compares performance of Templeton Asian Growth Fund (TAGF) and Templeton European Fund (TEF) in the determined investment horizons. Following table contains calculated data for both funds:

Table 20: Funds' annual performance comparison summary, 2002 – 2011

Measured period	TAGF	TEF
2002	12.52%	-18.81%
2003	60.18%	43.82%
2004	14.35%	23.83%
2005	26.20%	7.75%
2006	33.18%	30.02%
2007	62.22%	6.81%
2008	-60.20%	-45.22%
2009	103.11%	24.26%
2010	30.01%	0.11%
2011	-14.89%	-10.57%
10-yr cumulative	399.84%	31.90%
10-yr average annual performance	26.67%	6.20%
5-yr cumulative	45.10%	-34.92%
5-yr average annual performance	24.05%	-4.93%
Annual performance correlation coefficient	0.496	

Source: Own work based on data from Dr. Szabolcs Ercsey

Graph 16: Funds' NAVs annual percentage change, 2002 - 2011



Source: Own work based on calculated data and data form Dr. Szabolcs Ercsey

4.3.2. Key macroeconomic indicators

Economic indicators are some of the most valuable tools investors can use to analyze potential investment opportunities. In this section, both funds macroeconomic indicators are compared. Indicators provide very useful information to individual investors. There is valuable information in macroeconomic data releases, but information needs to be put into context.

Economic indicators are among the most closely watched pieces of news in the investment world. Important indicators for investors, which are used in this section, are indicators such as rate of economic growth, inflation, foreign trade, employment or national income. When the economy is growing, it is a good signal that there are investment opportunities and possibilities for employing free capital. Following table contains the summary of macroeconomic indicators comparison analysis for the selected mutual funds in the years 2002 to 2011. The GDP weighted growth rate was calculated from GDP nominated in national currencies and in current prices. The GDP and GDP per capita weighted averages were calculated from countries' GDP values converted to USD.

Table 21: Portfolio weighted macroeconomic indicators comparison, 2002-2011

Indicator descriptor	Scale/units	10-yr weighted average		5-yr weighted average	
		TAGF	TEF	TAGF	TEF
GDP, current prices	Billions USD	1432.63	1673.68	2014.96	1896.13
GDP growth	Percent change	12.19%	3.30%	12.82%	2.34%
GDP per capita, current prices	USD	4713.27	39998.87	5763.05	45657.52
Inflation, average consumer prices	Percent change	4.30%	1.86%	5.06%	1.98%
Unemployment rate	Percent of total labor force	5.03%	6.49%	4.74%	6.71%
Volume of imports of goods and services	Percent change	10.86%	3.12%	8.52%	1.28%
Volume of exports of goods and services	Percent change	10.96%	2.99%	7.97%	1.55%
Population	Millions persons	625.26	44.96	638.35	45.50
Population growth	Percent change	0.81%	0.59%	0.87%	0.59%

Source: Own work based on data from International Monetary Fund

4.3.3. Correlation coefficient – Fund's NAVs

Table 22: Correlation matrix between selected funds' NAV, 2002-2011

	TAGF	TEF
Templeton Asian Growth Fund	1	
Templeton European Fund	0.637087546	1

Source: Own work based on data from Dr. Szabolcs Ercsey

Coefficient value 0f 0.64 indicates that relationship between the selected funds is strong. The funds share something in common or are related in some way. In other words, both are influenced by the world stock market development and were affected by the 2008 global financial crisis and 2011 sovereign debt crisis in the eurozone.

4.4. Global financial crisis

During the 2008 global financial crisis around the world stock markets have fallen, large financial institutions have collapsed or have been bought out, and governments in even the wealthiest nations have had to come up with rescue packages to bail out their financial systems. Table 23 provides a more detailed comparison of the funds development during the crisis, and its effect on the funds' portfolio.

Table 23: Mutual funds' comparison during the global financial crisis, 2008-2009

Indicator	Units	2008		2009		2008-2009	
		TAGF	TEF	TAGF	TEF	TAGF	TEF
ROI, lump sum	Percent change	-62.29%	-48.10%	92.45%	17.73%	-23.41%	-35.51%
ROI, monthly	Percent change	-41.61%	-32.10%	43.84%	16.10%	31.22%	0.24%
Performance	Percent change	-60.20%	-45.22%	103.11%	24.26%	-19.16%	-31.93%
GDP growth	Percent change	13.83%	2.92%	7.38%	-3.39%	22.60%	-0.57%
Unemployment	Percent of total labor force	4.44%	5.64%	5.13%	7.26%		
Inflation	Percent change	6.69%	3.01%	3.06%	0.72%		

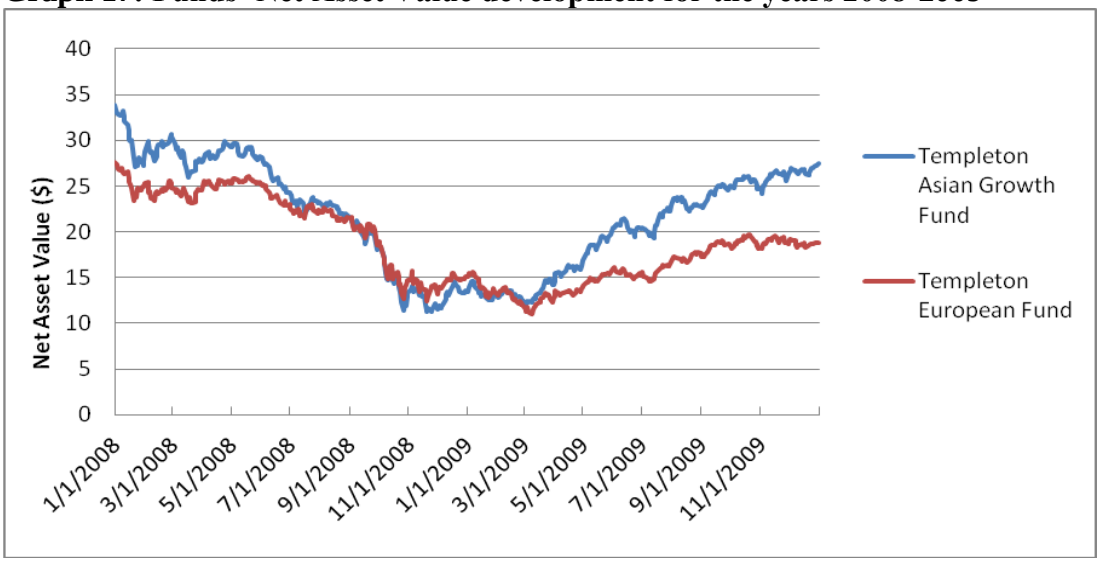
Source: Own work based on data from Dr. Szabolcs Ercsey and International Monetary Fund

Table 23 shows that both funds very heavily affected by the crisis in 2008. Surprisingly, Templeton Asian Growth Fund (TAGF) was affected to a larger extent and its NAV declined by -60.2% in 2008 against -45.22% decline of the Templeton European Fund (TEF). However, the recovery in 2009 was faster for the TAGF, which NAV increased by 103% versus only 24.26% increase of the TEF. Overall, in this two-year period TAGF's NAV declined by -19.16% against TEF -31.93% decline. In terms of return on investment, TAGF performed better, in case of taking advantage of the dollar cost averaging strategy,

investors investing regularly in TAGF were able to make return on investment of 31.22% against only 0.24% in TEF. GDP growth was higher in Asia and stayed positive in both years, whereas, European GDP growth was negative in 2009. Also unemployment was higher in TEF countries.

Graph 17 below illustrates the NAV development during the 2008 financial crisis and the recovery period 2009. Neither fund reached its NAV before the period. But TAGF performed better during the year 2009.

Graph 17: Funds' Net Asset Value development for the years 2008-2009



Source: Own work based data Dr. Szabolcs Ercsey

Overall, the 2008 crisis, which was triggered by the western world, has shown that in an increasingly inter-connected world there are always knock-on effects. As a result, TAGF had more exposure to problems coming from the West. Asian stock markets suffered. Asian products and services are also global, and a slowdown in wealthy western countries means increased chances of a slowdown in Asia. However, the recovery of the TAGF was faster, supported by the stronger economic growth of the countries in the portfolio.

5. Results and discussion

The purpose of this chapter is to summarize data from the analyses and to compare the development of both funds. The conducted analyses showed that both funds' portfolios are allocated overwhelmingly in equity. More than 95% of funds' asset is invested in companies in particular region. Templeton Asian Growth Fund invests most of its capital into emerging countries in Asian region and Templeton European Fund invests most of its capital into developed market economies in Europe, which is basic, but the main difference between these two funds. Emerging market economies in Asia were growing faster than the developed markets in western world. The average portfolio weighted GDP growth for Templeton Asian Growth Fund was 12.19% in the 10-year investment horizon and 12.82% in the 5-year investment horizon compared to Templeton European Fund growth of 3.30% and 2.34% respectively. Moreover, after the 2008 global financial crisis, the Asian emerging economies were growing by 7.38% in 2009 and by 15% in 2010, while the European economic growth shrank in 2009 and posted a negative growth of -3.39%, followed by a 3.19% growth in 2010. Overall, the Asian emerging economies were growing faster every year during the whole monitored time period.

In addition, the sizes of these markets in terms of population are disproportional. The average weighted population size of the Templeton Asian Growth fund portfolio was 625.26 million persons compare to only 44.96 million persons of the Templeton European Fund. This logically affects GDP per capita, where European economies have better results. Templeton European Fund average weighted GDP per capita was $39,998.87 in last 10 years and $45,657.52 in last 5 years. Templeton Asian Growth Fund average weighted GDP per capita was $4,713.27 in last 10 years and $5,763.05 in last 5 years. However, the weighted GDP per capita cumulative growth for Asian emerging economies was 204.52% in last 10 years and 77.39% in last 5 years compare to 30.56% growth in last 10 years and 8.87% growth in last 5 years for the European developed economies. Once again, the emerging economies in Asia are growing faster.

Regarding foreign trade, Templeton Asian Growth Fund has again a higher annual percent growth in terms of exports and imports of goods and services than Templeton European

Fund. Asian emerging economies imports grew by 10.86% on average in last 10 years and by 8.52% on average in last 5 years compare to European developed economies average growth of 3.12% in last 10 years and 1.28% in last 5 years. Similarly, Asian emerging economies exports grew by 10.96% on average in last 10 years and by 7.97% on average in last 5 years compare to European developed economies average growth of 2.99% in last 10 years and 1.55% in last 5 years.

Unemployment rate was also lower in the Asian emerging economies than in European developed economies. Calculated weighted 10-year average for Templeton Asian Growth Fund is 5.03% and 6.49% for Templeton European Fund; calculated weighted 5-year average is 4.74% and 6.71% respectively. On the other hand, inflation was much higher in the Asian emerging economies with 4.30% 10-year weighted average and 5.06% 5-year weighted average compare to European developed economies 1.86% and 1.98% respectively.

Performance of the funds itself showed a higher potential of the Asian emerging economies. Even though, the development trends are similar for both funds, cumulative performance of the Templeton Asian Growth Fund in the 10-year investment horizon was almost 400% compare to only 31.90% of the Templeton European Fund. Consequently, other calculated values showed similar results, Templeton Asian Growth Fund average annual performance in last 10 years was 26.67% compare to 6.20% of the Templeton European Fund. Cumulative performance in the last 5 years was 45.10% and -34.92% and average annual performance in last 5 years was 24.05% and -4.93% respectively.

Templeton Asian Growth Fund displayed better results also in terms of return on investment. The fund returned 373.59% on investment in last 10 years and 37.48% in last 5 years. Using the dollar cost averaging strategy with annual payments, Templeton Asian Growth Fund returned 119.10% in last 10 years and 24.07% in last 5 years and with monthly payments, the fund returned 99.95% on investment in last 10 years and 16.74% in last 5 years. Templeton European Fund returned 24.97% on investment in last 10 years and -38.34% in last 5 years. Using the dollar cost averaging strategy with annual payments, Templeton European Fund returned -5.37% in last 10 years and -21.25% in last 5 years and

with monthly payments, the fund returned -5.53% on investment in last 10 years and -17.94% in last 5 years.

In both investment horizons, the slightly more volatile fund is the Templeton European Fund with annual volatility of 22.92% compare to 21.75% of Templeton Asian Growth Fund in last 10 years and 28.63% compare to 26.86% in last 5 years. Average share price deviation is higher for the Templeton Asian Growth Fund since the fund reaches higher net asset values per share.

Another important factor and advantage to mention is that Templeton Asian Growth Fund is managed by Mark Mobius, recognized industry expert and leader with 40 years experience of investing in the emerging markets.

6. Conclusion

The aim of this diploma thesis was to evaluate performance of the selected mutual funds and compare these funds' performance, volatility and key macroeconomic indicators of countries in the funds' portfolio. As I expected, better results were achieved by the Templeton Asian Growth Fund investing in Asian emerging economies. Templeton Asian Growth Fund performed above its objective and achieved significant return on investment for its investors in both monitored investment horizons. Investment in emerging markets has been profitable in the last 5 and 10 years. Even though, there was a high volatility and with badly timed investment, it was possible to lose money, if an investor complied with the fund's recommended investment horizon, the fund generated remarkable profit in terms of return on investment for investors. On the other hand, Templeton European Fund did not prove to be a good investment opportunity and performed below its objectives. The fund has been profitable in the last 10 years, but posted a loss in the last 5 years.

Another aim was to analyze if the financial crisis of 2008 had affected funds investing in emerging markets to a smaller extent than funds investing in developed economies. The 2008 global financial crisis, which was triggered by the developed economies, has affected both funds and has shown that in today's global and inter-connected world such crisis has effects on the markets all around the globe. Templeton Asian Growth Fund net asset value had more exposure to the crisis as Asian stock markets suffered. Asian products and services are also global, and a slowdown in wealthy western countries meant increased chances of a slowdown in Asia. However, the recovery of the Templeton Asian Growth Fund net asset value was faster, supported by the stronger economic growth of the countries in the portfolio.

The whole idea for this diploma thesis was very interesting and can serve as an important tool for personal as well as professional interests; this diploma thesis can serve as a guide to investors or financial advisors. In my opinion, the main goals determined at the beginning of the diploma thesis were achieved, and I hope that the analyses will help investors to choose the right investment strategy. Collective investment is currently a dynamically developing area of financial investments and is used increasingly by wider

range of investors. Investors know that mutual funds are an interesting way to increase the value of their money with lowered risk of losing all of them. Mutual funds offer cost saving, time saving, convenience, diversification and expert knowledge of funds' managers.

Based on the conducted analyses, I would recommend investment in the Templeton Asian Growth fund and Asian emerging economies in general. Asian emerging economies provide large consumer base and improving fundamentals. My predictions for the Asian markets are positive for a number of reasons such as high economic growth, high foreign exchange reserves, low debt levels, and changing demographics. Demand for consumer products and services have been on steady rise given Asia's large consumer base and accelerating economic growth. Moreover, the Asian middle class is projected to increase rapidly over the upcoming years and this will result in even greater consumer demand. Asian emerging economies are expected to continue growth in much faster pace than developed economies.

In the end of my diploma thesis, I would like to say that the overall results of the individual mutual funds were negatively affected by the 2008 global financial crisis, which has started in the U.S. and the 2011 sovereign debt crisis in the eurozone. These crises in today's globalized world caused instability in the global capital markets, and greatly influenced my measured results. Despite this, the Templeton Asian Growth Fund cumulative performance over the last 10 years was almost 400%. I hope that the current situation in the capital markets will settle down soon and there will be further positive growth of the funds' net asset values and greater investment opportunities.

7. Literature

BOGLE, John C. *Common sense on mutual funds*. Fully updated 10th anniversary ed. Hoboken, N.J.: Wiley, c2010, 622 s. ISBN 978-0-470-13813-7.

HALL, Alvin D. *Getting started in mutual funds*. 2nd ed. Hoboken, N.J.: Wiley, c2011, 224 p. ISBN 04-705-2114-7.

HASLEM, John A. *Mutual Funds : Risk and Performance Analysis for Decision Making*. Malden : Blackwell Publishing Ltd, 2003. 578 p. ISBN 0-631-21561-1.

MARR, Julian; REYNARD, Cherry. *Investing in Emerging Markets : The BRIC economies and beyond*. Chichester : John Wiley & Sons Ltd, 2010. 246 p. ISBN 978-0-470-74825-1.

MOBIUS, Mark. *Mutual Funds : An Introduction to the Core Concepts*. Singapore : John Wiley & Sons Pte Ltd, 2007. 194 p. ISBN 978-0-470-821435.

MOBIUS, Mark. *Equities : An Introduction to the Core Concepts*. Singapore : John Wiley & Sons Pte Ltd, 2007. 234 p. ISBN 0-470-82144-2.

NORTHCOTT, Alan. *The Mutual Funds Book : How to Invest in Mutual Funds & Earn High Rates of Return Safely*. Ocala : Atlantic Publishing Group, Inc., 2009. 284 p. ISBN 978-1-60138-001-2.

O'CONNELL, Vincent. *Financial Management*: *M.Sc in CULS*. Dublin, c2011. Study block material. Czech University of Life Sciences Prague.

PACEK, Nenad; THORNILEY, Daniel. *Emerging Markets : Lessons for business success and the outlook for different markets*. 2nd ed. London : Profile Books Ltd, 2007. 230 p. ISBN 9781861978431.

PETILLO, Paul. *Mutual funds for the utterly confused*. New York: McGraw-Hill, c2009, 284p. ISBN 978-007-1641-838.

SHOOK, R.J. *The winner's circle*: *Wall Street's best mutual fund managers*. Hoboken, N.J.: John Wiley, c2005, 238 p. ISBN 04-716-7914-3.

TYSON, Eric. *Mutual Funds For Dummies*. Indianapolis: Wiley Publishing, Inc., 2010. 6th ed. ISBN 978-0-470-62321-3.

Internet resources:

Franklin Templeton Investments Czech Republic
Franklin Templeton Investments [online]. 1999, 2011 [cit. 2012-02-29]. Available from WWW: <http://www.franklintempleton.cz/>.

Franklin Templeton Investments Luxembourg
Franklin Templeton Investments [online]. 1999, 2011 [cit. 2012-02-29]. Available from WWW: <http://www.franklintempleton.lu/lux/index.jsp>.
Prospectus. In: *Franklin Templeton Investments* [online]. [cit. 2012-03-25]. Available from WWW:
https://www.franklintempleton.com/retail/jsp_app/products/fund_literature_view.jsp?familyID=2&name=Templeton

Franklin Templeton Investments UK
Fund Manager Biography: Mark Mobius. In: *Franklin Templeton Investments* [online]. c2010 [cit. 2012-03-25]. Available form WWW:
http://www.franklintempleton.co.uk/documents/en/UK/pdf/managerBios/markmobius.pdf

Franklin Templeton Investments USA
Franklin Templeton Distributors Inc. Share classes options [online]. 2012 [cit. 2012-02-29]. Available from WWW:
<https://www.franklintempleton.com/retail/pages/generic_content/education/fund_basic/about/share_cl_options.jsf.>

Investopedia.com
Investopedia [online]. c2011 [cit. 2011-10-03]. Diversification. Available from WWW: <http://www.investopedia.com/terms/d/diversification.asp#axzz1ZjC6dF3p>.
Investopedia [online]. c2011 [cit. 2012-02-15]. Developed Economy. Available from WWW: <http://www.investopedia.com/terms/d/developed-economy.asp#axzz1legO8olO>.

MSCI
Index definitions. In: *MSCI*: *A clear view of risk and return* [online]. [cit. 2012-03-25]. Available from WWW: http://www.msci.com/products/indices/tools/

Ohio State University
All about money: Start with mutual funds. In: [online]. 2000 [cit. 2012-02-25]. Available from WWW: http://ohioline.osu.edu/mm-fact/0001.html

Reuters
Three Top Economists Agree 2009 Worst Financial Crisis Since Great Depression. *Reuters* [online]. 2009[cit. 2012-03-25]. Available from WWW: http://www.reuters.com/article/2009/02/27/idUS193520+27-Feb-2009+BW20090227

Templeton Asian Growth Factsheet
Franklin Templeton Investments. Templeton Asian Growth Fund. In *Templeton Asian Growth Fund* [online]. London : The McGraw-Hill Companies, Inc, 2011 [cit. 2012-02-29]. Available from WWW:<http://www.franklintempleton.co.uk/documents/en/UK/pdf/factsheet/0805_en_public_factsheet.pdf>.

Templeton European Fund Factsheet
Franklin Templeton Investments. Templeton European Fund. In *Templeton European Fund* [online]. London : The McGraw-Hill Companies, Inc, 2011 [cit. 2012-02-29]. Available from WWW: <http://www.templeton.lu/pdf/funds/fdata/0773_lu_en.pdf>.

U.S. Securities and Exchange commission
Mutual Funds. In: *U.S. Securities and Exchange Commission* [online]. [cit. 2012-03-25]. Available from WWW: http://www.sec.gov/answers/mutfund.htm
Invest Wisely: An Introduction to Mutual Funds. In: *U.S. Securities and Exchange Commission* [online]. [cit. 2012-03-25]. Available from WWW: http://www.sec.gov/investor/pubs/inwsmf.htm