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Master's thesis



**Analysis of investment products of domestic and foreign
banks**

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Declaration:

I declare that the master's thesis "Analysis of investment products of domestic and foreign banks" was written individually and any usage of literature or other sources are appropriately quoted and their list is attached.

In Prague,

.....

Signature

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I would like to thank prof. Ing. Petr Musílek, Ph.D. for his advice and recommendations during the writing of this thesis.

Annotation

The objective of this thesis is to show different types of investment opportunities that an individual small investor has on a standard banking market which will be followed by their evaluation. They will be described and subsequently analyzed from both theoretical and practical aspect. The reader will be able to see pros and cons of for example savings products, mutual funds and many more. Products will also be assessed from the international aspect which is very important because of the barrier-free capital flow. This analysis will result into specific recommendations that should give a lead to the small investor.

Anotace

Cílem této práce je ukázat různé druhy investičních příležitostí, které drobný investor má na standardním bankovním trhu, po kterých bude následovat jejich zhodnocení. Budou popsány a následně analyzovány z teoretické i praktické stránky. Čtenář bude mít možnost vidět klady a zápory např. tradičních úsporných produktů, podílových fondů a mnoho dalších. Služby budou také hodnoceny z mezinárodního hlediska, což je velmi důležité mimo jiné díky bezbariérovému toku kapitálu. Tato analýza bude mít za následek konkrétní doporučení, která by měla dát vodítko drobným investorům.

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1. Introduction

In this thesis readers will acquire information about investment possibilities in both Czech Republic and other chosen countries where investment banking is developed.

The main objectives of the following research are to determine whether it is rational and advantageous to invest our resources or savings into the products of commercial banks which are offered to the retail consumer. I would like to emphasize that one of my main assumptions is that if I am talking about a consumer, then it is somebody who is not proficient in this type of business and does not have advanced knowledge of products, risks, regulations or any other threats which are naturally connected with investing on the capital markets.

The reason for this approach is that my findings of the further performed analysis should give a lead to the above described consumer and tell us if investments in the average offered banking products pay off or if we should rather try to search for some type of alternative. This is the main motive and line of thought around which all other themes of this text will be structured.

The first part of thesis will deal with history of investing and banking. This theme will be followed by development of commercial and investment banking (the separated and universal model). Further will be explained types of investment products and instruments or number of risks which we must face in this type of activity. Accent will also be given to costs or taxation.

The core of the practical part will lie in describing particular offered products. They will be analyzed, shown their weaknesses and strengths. Secondly I will demonstrate historical performance of such products and try to show if the profit or loss made in such period corresponds with risks and various investment horizons which we approved when entering into agreement with the bank.

There will also be applied different types of approaches to investing. Shown will be results of conservative based investors (mostly people in or before retirement), aggressive investors

(probably young people who have a longer investment horizon) and finally investors using foreign products.

Results of analysis will be compared with various types of alternatives such as shares, precious metals or real estate.

Important is to note that the main objective of this thesis is not to compare products, but to find those that should be invested into, where is a potential and also is accessible to the small investor.

In the end of the analytical part will be formulated specific recommendations which should be helpful in our asset management decisions.

2. Theoretical part

2.1. Milestones in history of investing

Our brief history of investing and banking will focus on the development in the United States because that is the place where the most important theories and brightest minds developed their ideas. In the next paragraph I want to mention some of the selected biggest names in investing and most important legislative acts that formed this industry for decades.

The very first name to mention is Charles Dow who lived in the second half of the nineteenth century. He is the founder of the Wall Street Journal and technical analysis which rules are used to this date. Next is Harry Markowitz who brought some new and key features to investing such as diversification principles and how this strategy can lower the total amount of undergone risk. He greatly contributed to asset management development and is the Nobel Memorial Prize in Economic Sciences winner.

We can continue with William Sharpe who among other theories invented the Capital asset pricing model and is also the Nobel Prize winner. Another very important idea discussed till today is the efficient-market theory which is a subject to many disputes. It tells us that we are not able to generate higher than average profits in long term and that capital markets are perfect “machines” for information processing.

The predecessor of the today’s form of institutional investing is John Meriwether. He founded the basics of technique which we call today as high frequency trading. It is based on low latency computer executed trades with extremely short investment horizons.

The first important non-American mentioned economist is Alexandre Lamfalussy. He is a Hungarian native and a former central banker known for the Lamfalussy process named after him. The process is based on four steps of financial legislative implementation determined for the European Union as new financial infrastructure regulation.

We could continue with many other names but that is not the purpose of this thesis. Further will be described the fundamental elements of chosen regulatory acts¹.

¹ Source of information for this part are lectures of prof. Ing. Petr Musílek, Ph.D.

Brief history of banking acts

Glass-Steagal act

The Glass-Steagal act has been formed in 1933 as a reaction to the world financial crisis which started in 1929. The main objectives of this legislative were to decrease the amount of risks which were connected with banking, restore confidence in public and stabilize the whole industry in general. One of the biggest changes that this act brought was the separation of investment and commercial banking². This separation was not only institutional but also personal. It meant that commercial banks could not trade with traditional instruments such as bonds, shares and other securities on their own account. One of the main reasons for this was that commercial banks used the public deposits for their own speculative trades which turned out mostly unsuccessful in the economic recession and secondary there have been many problems with conflicts of interest between the two industries.

Critics of this act point out that it is an essential restriction of free entrepreneurship and it also highly disadvantageous the domestic banks against foreign competitors.

Gramm-Leach Bliley Act

After several decades the above described regulation of the financial industry needed to evolve. The natural tendency of financial institutions to merge or create for example holding corporations couldn't have been pushed back any further because it started to hold the USA banks back. The answer was the Gramm-Leach Bliley Act which came into action in 1999 and replaced the Glass-Steagal Act after 66 years. The core of this legislation was to remove the restriction between commercial and investment banking and from that year the banks and insurance companies could consolidate again³. The purpose was to bring back competitiveness and improve their position in comparison with non-USA banks⁴.

² Federal Reserve [online]. [cit. 2014-10-03], accessible from:
<http://www.federalreservehistory.org/Events/DetailView/25>

³ Federal Reserve [online]. [cit. 2014-10-03], accessible from:
<http://www.federalreserve.gov/boarddocs/Speeches/2003/20030206/default.htm>

⁴ The conflict of interest between the commercial and investment banking should be treated with China walls in the institutions. They should guarantee transparency and independence but critics emphasize that any wall could be overcome.

Dodd Frank act

In connection with currently fading financial crisis I must not forget the Dodd-Frank Wall Street Reform and Consumer Protection Act which came as a response to the recession which started in 2008⁵. This Act greatly changes the view and approach to the way how the markets are regulated. It brings many new obligations for the institution in connection with informing their clients and explaining them risks related to this type of business. The law emphasizes information asymmetry and understands the client as a weaker partner in the relationship bank - client. It also aims on financial stability, transparency or demands on liquidity indicators. The act itself is very complex and this thesis does not have the ambition to review it in detail.⁶

The critics of this reform point out that it tries to solve systematic debt problems with more regulation which will not help, it hugely decreases the freedom of market competition and that the solution lies in less precise rules and openness to new competitors.

2.2. Key events in the Czech Republic from the investing aspect

We can talk about investing in the Czech Republic only after year 1989. Until that time there was no place for free capital markets because of the communist regime. In the early nineties the investing is closely connected with the voucher privatization where people could participate on company's equity through bought vouchers (in several rounds). This period is associated with many tunneling affairs mostly caused by lack of legislation and also by the fact that this type of action was never done in this country before.

Another important event is the establishment of the Prague Stock Exchange which goes back to the nineteen century. After communism the exchange was officially re-opened on the 24th of November 1992 and the trading began on the 6th of April 1993 with seven emissions of securities⁷. Today it is a member of CEE Stock Exchange Group (CEESEG) together with exchanges in Vienna, Budapest and Ljubljana.

⁵ Most economist refer to the fall of Lehman Brothers (15th September 2008) as to the day when the recession started

⁶Dodd-Frank [online]. [cit. 2014-10-04], accessible from: <http://dodd-frank.com/>

⁷ Prague Stock Exchange [online]. [cit. 2014-10-04], available from <http://www.bcpp.cz/dokument.aspx?k=historie-burzy>

Another crucial date is the 1st of May 2004 when the Czech Republic became one of the member states of the European Union. This step brought many new conditions connected with free movement of capital or services. The competition on the market increased (which is a beneficiary for the clients). Banks who want to expand into other EU countries just notify the foreign regulator and can freely start their business⁸. The rules under which banking and insurance industry operates were harmonized so all the institutions compete in same conditions.

There are also for example greater demands for payment method systems which are going towards decreasing of costs and faster transfers (such as SEPA⁹) and others.

From the 1st of April 2006 the banks, insurance companies, capital markets, pension funds and other parts of the financial market are supervised by the Czech National Bank. We have this type of arrangement together with Slovak Republic and Ireland.

The history of investing globally and in the Czech Republic was described very briefly but there were mentioned the main milestones of the evolution.

2.3. Universal and separate model of investment and commercial banking

Banking is traditionally divided into two basic categories - separated commercial and investment banking and on the other hand universal banking model. Obviously the second mentioned model is currently applied in the Czech Republic and is also widely spread throughout the world.

It has several benefits for both clients and the financial institutions. The client gets all necessary financial services on one place from basic transactions to asset management which is very convenient and it also lowers the total amount of cost which he has to pay in comparison with many different accounts located in other institutions.

This is also an advantageous arrangement even from the bank perspective. Because it provides complex services it can collect much more fees connected with these operations and also generate economies of scale (again cost optimization).

⁸ Unified banking license.

⁹ Single Euro Payment Area

I would also like to point out that this model is relatively more stable than the separated arrangement. This is because the bank has the possibility to compensate for example losses received in trading with gained profits from the commercial part of the business and vice versa.

Typical is that in this model there are only a few main subjects in the economy which dominate the whole market¹⁰. That means that on the other hand we have a very serious threat in terms of financial stability and a huge impact on the economy in case of default which would often jeopardize the whole savings of clients precisely from the fact that it offers complex products and people use them as a whole. Another potential threat lies in exceedance of the china wall built between these two segments which should guarantee that the information from one segment will not be used or even abused in the other one.

The separated model is currently suppressed but it also has its pros and cons.

In this arrangement the traditional services such as wire transfers, saving products or loans are provided by commercial banking. They profit specifically from interest rates and the main source of liquidity are primary deposits. The major risk they are facing is definitely the credit risk resulting from potential default of the counterparty.

On the other hand transactions based on capital markets are executed by investment banking. They deal mostly with different types of shares and derivatives and the origin of their gains are in successful trades. Their main threat is associated with market risk which in case of unprofessional risk management can lead even for example to solvency problems.

The benefits of this model are higher specialization, better offer of products for demanding clients and possibly higher profits.

2.4. Investment instruments

This chapter will describe typical instruments that are offered to us by Czech traditional banks. We can basically classify them into three categories.

- products connected with short term or long term savings
- various types of collective investing products

¹⁰ Because there are not many competitors we can refer to them as oligopolies.

- direct investing where the role of the bank is in advisory and also brokerage services

2.4.1. Savings

Even though some investors would not consider savings as an investment, in the conditions of Czech Republic savings form a huge part of the investment market and are also a very traditional way of dealing with funds. On the other hand it surely is a very conservative way of handling our financial resources. It can be recommended for people who have a very low tolerance to risk¹¹. It is also very popular among seniors who often do not dispose with full financial awareness and this type of investing represents a very safe type of deal where they don't need any type of special knowledge.

Savings can be generally divided into:

a) term deposits

For a term deposit is characteristic that it is formed on a single deposit basis and we give up our claim to withdraw funds for a certain period. Because of that our counter party has to pay a higher interest for this inconvenience.

b) saving deposits

The bank offers us an account where we periodically store the same amount of money usually on a monthly basis. Typically there is a financial (interest) motivation not to use these funds prematurely or before reaching some kind of target amount.¹²

A key product on the Czech savings market is the so-called building savings. This is a massively spread instrument partly because of it's relatively high rate of return but the tradition will also play a significant role.

This product is mostly provided by banks which often specialize only on this type of service¹³. It is a typical way of financing construction of a new house or buying an apartment but it's usage is not limited for financing properties and can be used for anything we find necessary. The popularity illustrates fact that the building savings has circa one half of the domestic population.¹⁴

¹¹ People who are so-called risk averse

¹² Půlpánová, Stanislava: Komerční bankovníctví v České republice, Oeconomica, Praha, 2007, page 259

¹³ They are a part of multinational financial institutions – e.g. KBC Group, Erste Group, Raiffeisen etc.

¹⁴ Asociace českých stavebních spořitelů, [online]. [cit. 2014-10-05], accessible from: <http://www.acss.cz/cz/prakticke/slovník-pojmu/celkový-pocet-uzavřených-smluv/>

The current government support for this product is 10% of our monthly savings with the maximum limit of 2000 crowns per year¹⁵ (in case that our yearly deposit is 20 000 crowns). When combining this support with the bank offered interest we can get an attractive possibility of investing¹⁶. On the other hand we must not forget about bank fees and also taxes which we have to deduct from our profits¹⁷.

The building savings are closely bound with a favorable loan which we can get when meeting some conditions set by legislation – time spent in the system, saved amount etc.

The loan usually has low interest which also is a tax deductible item¹⁸.

To summarize, economists agree that it pays off to invest into this product but we have to bear in mind that if we need our deposits too early and withdraw them, then we lose money from the state support as well as we will most likely be charged an early termination fee.

At this point I would like to emphasize that all our financial means which are allocated in banks are in accordance with the harmonized EU legislation insured up to 100 000 euro.¹⁹

That means that in case of our bank's default we will get our money back up to this amount.

The fund from which will potentially deposits be paid from is managed by the Deposit insurance fund to which the financial institutions pay premiums on a quarterly basis²⁰.

Here is a big difference in comparison for example with the competition in the field of life insurance, which can also be understood as a form of long-term saving and where this kind of state guarantee is not present²¹.

To demonstrate the amount of savings in the Czech Republic, let's look at the following chart:²²

¹⁵ In previous years the government support was even higher. It reached 4500 crowns. The profits were also not included into taxable income.

¹⁶ Ceskomoravská stavební spořitelna, [online]. [cit. 2014-10-05], accessible from: <https://www.cmss.cz/stavebni-sporeni>

¹⁷ Taxes are described in chapter 1.8.

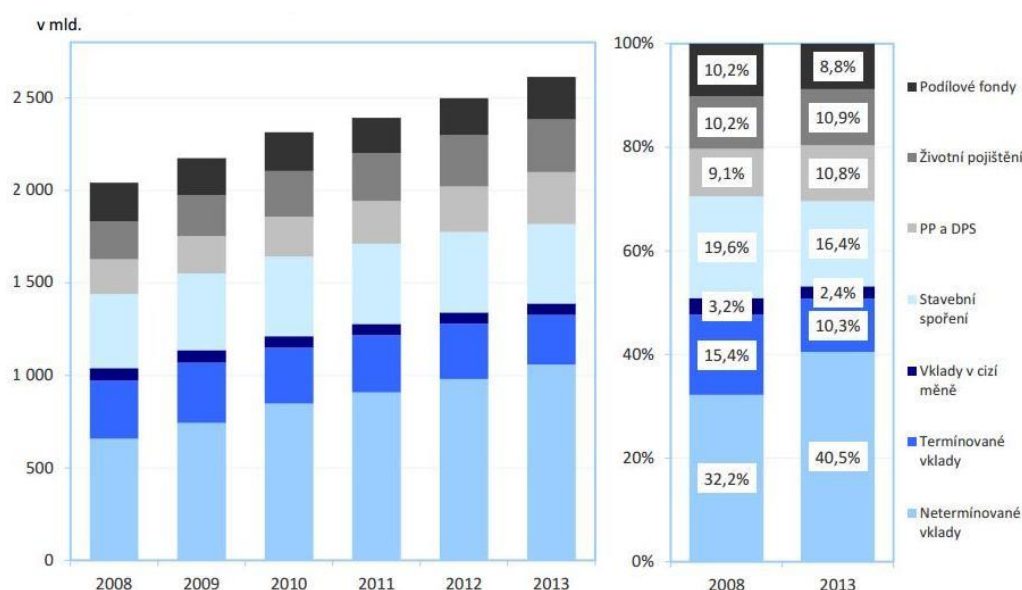
¹⁸ Vančurová, Alena, Láčková, Lenka: Daňový systém ČR 2012, VOX a.s., page 157

¹⁹ Fond pojištění vkladu, [online]. [cit. 2014-10-07], accessible from: <http://www.fpv.cz/cs/otazky-a-odpovedi.html>

²⁰ In the future the premiums will be most likely paid according to the risk that the financial institution represents.

²¹ State guarantee is also not present in pension funds or brokerage services.

Chart 1 - structure of savings



Source: MFCR, own preparation

Very interesting is that the amount of money that is not invested and people have it on their bank account forms around 40%. That means that there is a huge potential for banks to provide clients additional investment services.

2.4.2. Collective investing products

Collective investing is another traditional way of managing our assets.

It has several benefits when compared with individual investing in many aspects.

We can define collective investing as activities which are aimed at gathering funds and their investing on the principle of risk diversification against the issuance of a type of security.²³

There are pros of this business for both parties.

The fund manager is able to collect a large amount of money (the more funds we have the usually better investing opportunities we are able to achieve) and he can afterwards make profit on various types of fees and also capital gains of the fund.

²² MFCR, [online]. [cit. 2014-10-20], accessible from: <http://www.mfcr.cz/cs/soukromy-sektor/monitoring/vyvoj-financniho-trhu/2013/zprava-o-vyvoji-financniho-trhu-v-roce-2-17959>

²³ Veselá, Jitka: Investování na kapitálových trzích, Wolters Kluwer, Praha, 2011, page 708

The client himself does not have to come up with his own investing strategy. He entrusts his money into the hands of the professional manager and does not have to take care of any other aspects. That means this type of investing is very convenient and easy. It is also a very good way of diversifying our portfolio onto markets where we could not have invested because of our limited resources.

On the other hand we have to pay some fees connected with the funds management and the rate of return is often also questionable.²⁴ We must be prepared for a possible capital loss in case our portfolio underperforms.²⁵

Basically we can divide funds from many aspects. Banks usually offer the following categories (perspective from the invested instrument):

- Money market funds
- Bond-based funds
- Equity-based funds
- Funds of funds
- Mixed-based funds

Money market fund

This type of fund is characteristic for its investments into short term securities. With short term we mean such securities that have their maturity up to one year from their emission. Typically these are short term bonds and treasury notes which the government issues in order to cover the state budget deficit and subsequently they are used as liquidity management instrument on the secondary market.

These funds are considered as conservative because of their low potential profit which is the result of the very low risk that the investors undertake²⁶.

Bond funds

²⁴ The profits are derived from type of the fund, skills of the portfolio managers etc.

²⁵ As I mentioned earlier, our capital in these funds are not insured against default

²⁶ We must also understand that inflation risk is also a serious threat to our profits. In case of low rate of returns can our overall performance be in negative numbers when inflation is included.

Funds based on investments into bonds are little more risky than the money market funds. This is due to the long term feature of the underlying assets.

The amount of risk which is connected with the bond is mostly determined by its maturity and credit risk of the issuer. The longer maturity a bond has the greater risk it represents (in the long term there is a higher probability of a default to occur). The issuer's credit risk is stated by his credit rating which is mostly done by a credit rating agency or it can also be evaluated internally (of course this is not the case of an individual investor).

Equity funds

On a risk scale equity funds are on the opposite side than the money market funds.

They represent a relatively high risk which is naturally compensated by high potential profits. In this case the portfolio manager tries to identify undervalued shares and picks them into his portfolio. It also brings the possibility of international investing, where there could be chosen foreign shares and the portfolio itself can be diversified more widely.²⁷ If we invest into foreign securities we must not forget also about currency price risk.

I must emphasize that when investing into high risk instruments, the success of the fund more and more depends on the experience of the manager.

Mixed funds

As the reader would guess, in this case the manager combines the above described instruments and tries to mix them in order to make a combined best profit. Because under fund investments we usually understand long term investing, the portfolio manager generally tries to fit the instrument ratio to the current market situation. That means he rearranges the capital allocation in each group of instruments in order to obtain higher profit.

²⁷ In case of international investing there is an effect of lowering the systematic risk of the particular portfolio.

Real estate funds

From the title we would tell that this type of fund invests mostly into residences, buildings, flats, lands etc. The main pros of this type of investment is in the low correlation²⁸ between the financial and real estate market and also contributes to wider diversification. This industry is also much better resistant to inflation risks which can be a serious danger to classic financial returns.

Funds of funds

Finally we have funds where the strategy is investing into other types of funds. Their main advantage is a very high level of diversification.²⁹

2.4.3. Other classification of funds

Close and open ended fund

Relating to Czech legislation we must strictly define two following categories of funds.

A close-ended investment fund is represented with these characteristics.

It is founded only for a specific period of time after which it has to end its activities. Secondly the securities that it issues are traded on the secondary market. There is only a limited number of them and the fund has no obligation of buying them back whatsoever.

On the other end of the line is the open-ended fund. It can carry on this business for a indefinite time. Although the issued securities are not publically traded, the fund has the commitment to buy them back. It can also issue as many securities as the entity finds useful³⁰.

Investment company

An investment company is in the conditions of Czech legislation a terminus technicus and it represents a legal entity which purpose is mainly to manage funds that are invested into a

²⁸ Where correlation is calculated by formula: $\rho_{x,y} = \frac{\text{cov}(X,Y)}{\sigma_x \sigma_y}$ where ρ is correlation, σ is standard

deviation and cov is covariance

²⁹ Veselá, Jitka: Investování na kapitálových trzích, Wolters Kluwer, Praha, 2011, page 723

³⁰ Veselá, Jitka: Investování na kapitálových trzích, Wolters Kluwer, Praha, 2011, page 715

mutual fund. Subsequently it can provide additional services such as accounting, advisory and so on.

We must understand that this type of company is founded as a joint – stock company and every investor is also a share holder with all rights that are associated with such status.³¹

To start this type of business we also need to obtain an authorization from the Czech capital market regulator which is the Czech National Bank.

It also has to fulfill several requirements like minimum capital (125 000 EUR), personnel qualification requirements or business strategy plan.

Mutual fund

As a result of the above mentioned, a mutual fund is a subject managed by an investment company. It is important to emphasize that it is not a legal entity and is not eligible for rights and obligations.

It issues participation certificates that do not have any connected rights similar to shares, which means that we do not have a share on the company's equity.

It can be both open-ended and close-ended and therefore there is a variety of legal possibilities as mentioned above.

Investment fund

An investment fund is an alternative to mutual funds. The big difference is that when investing into an investment fund, we become shareholders. This implies that this type of fund is a joint-stock company.

To establish this fund, one has to get an approval from the Czech regulator and the minimal stated capital is 300 000 EUR³².

In our law system, this entity can be established only as a close – ended fund and therefore is founded for a limited time and also issues a limit number of shares.³³

One of the most important documents that this entity has to prepare is the so-called brochure. There we can find the most essential information about the company and its

³¹ The right to have a share on profits, voting right, right to participate on the liquidation value of the company and the preferential right for newly issued shares (there are several other minor rights).

³² Harmonized for the whole European union.

³³ Veselá, Jitka: Investování na kapitálových trzích, Wolters Kluwer, Praha, 2011, page 712

strategy which are needed in order to evaluate possible potential and make an investment decision.

The last type of classification that I want to mention is the division into standard and special fund.

Standard fund

This type of fund has already been described because the Czech collective investment act understands the standard fund as an open – ended mutual fund. It's properties and features were explained.

Special fund

The special fund can according to the legislation be an investment fund or a close – ended mutual fund. According to the new legislation³⁴, the special fund can be a special securities fund or real estate fund (special fund of funds is no more included).

Additionally I would like to mention the so-called fund of qualified investors. This type of fund is intended for such investors that are financially educated, have experience with investing and also have substantially higher capital for investing. The fund of qualified investors has a lower level of regulation and client protection which is the result of fact that the investors are mostly professionals or corporations.

The minimum entering investment sum is 1 250 000 EUR, other conditions are stated by the fund's brochure.³⁵

2.5. Alternative forms of investments

2.5.1. Shares

First alternative which I see is that we take our financial future more in our hands and less rely on financial institutions. This means that we don't entrust our money to an institution

³⁴ Act no. 240/2013 Coll.

³⁵ Earlier regulation limited the number of investors in one fund of qualified investors. This has been amended in August 2013.

but we invest on our own. Of course if people choose this path, the first thing they will have to do is to first invest into knowledge and gaining some experience before “going live”. There are many stories about people that have seen investing as a fast and easy way of making a lot of money but the truth is mostly the opposite.

So if we first take enough time and effort to educate ourselves then there is a possibility of investing without a bank. This can have many pros like not being limited by any conservative and rigid strategy which can result into several times higher profit. On the other hand we do not have access to as many instruments (because of our limited capital) and we also for example do not have any professional advisory.

The main instruments that individuals prefer are usually stock market shares. They are widely spread in the modern western economies and they are also easy to buy to due to many types of brokers on the market.

The problem is that without any deeper financial analysis this instrument can be extremely risky. Without adopting and obeying basic risk management rules, we can lose most of the invested funds.

Speaking about shares, we can also come with a much more active approach then just “buy and hold” which could also bring a much higher rate of return. On the other hand the more often we open and close our positions the more sophisticated strategy we need. In these cases we talk about swing trading³⁶ where the investor tries to swing with the rise and decline of the market. Other types of trading like day trading or margin trading or other exotic instruments are not relevant approaches for the small investor so this possibility will not be analyzed.

2.5.2. Real estate

Real estate is a very popular alternative to bank products and is also a very recommended opportunity because of several aspects.

The pros of real estate investing are when compared to stock markets in³⁷

³⁶ WILLIAMS, Larry R.: Long-term secrets to short-term trading, John Wiley & Sons, USA 1999, st 21

³⁷ Veselá, Jitka: Investování na kapitálových trzích, Wolters Kluwer, Praha, 2011, page 293

- Protection against inflation – the returns from real estate are correlated with inflation so the profit is not influenced (as has been already stated, the profit consists of primarily rent and capital gains).
- Diversification – it is a very useful way of additional diversification
- The property is tangible and therefore is less possible to commit a crime with
- Less volatile market prices – when compared to stocks, the overall profits are more stable despite the fact that this market has suffered a high volatility in the currently fading recession

On the other hand there are several considerable cons as

- High transaction cost – if we need to buy or sell a property the cost of this act is relatively high due to fees to the real estate agency and also property transfer tax from selling flat, house or other. This tax is currently 4% from the price of the property³⁸ and seller is the one who should pay it (the buyer is the guarantor of the transaction)
- Low liquidity of the market – it takes relatively long to find an appropriate counterparty. If we need to sell our property quickly then we usually have to lower our price
- There are some natural costs connected with real estate – for example repairs, maintenance and so on
- High correlation of price on economic cycle – in this case real estate investing is not a good hedging instrument and we should seek for alternatives in downturn

2.5.3. Precious metals

This category consists of gold, platinum, palladium and silver.

Initially I have to discuss forms in which we can buy these metals. We have several options. Firstly I would like to mention the possibility of owning them physically. This means that we have some type of bars which weight is counted in troy ounces³⁹. Secondly we can buy

³⁸ In fact we compare the price with the estimated price of the tax office and for the purpose of this tax we take the higher amount (this measures should prevent the buying and selling party to agree on a low price in order to pay lower tax and the rest is paid outside the official transaction).

³⁹ One troy ounce = 31,1g.

stocks of companies that mine or trade with gold (there is an assumption that when the metal price rises, the companies have higher profit which should result in the rise of their stocks). We can also invest as individuals directly into derivatives of these metals which are publically traded on stock market exchanges (for example on the Chicago Mercantile Exchange). There are even funds that can provide us the possibility of metal investments.

So as we can see there are many approaches to this issue. I would like to point out that metals (speaking mostly about gold and silver) are a relatively risky investment. For example the price of gold changed from 1200 USD to 1800 USD in the period from 2010 to 2012 but fell back approximately to 1200 in the two subsequent years. These are evident big changes which make gold risky from my point of view despite some analytics claim opposite.

The price of silver has an analogical evolution (because of its high correlation with gold). Silver had even higher percentage price changes with a growth of more than 100% and subsequently fall more than 50% in the same time period.

So as we can see metals don't have to be a safe bet as someone could say. It always depends on the period for which we invest our money and the form that we choose.

2.5.4. Precious stones

Precious stones are a very specific type of alternative investment including mainly diamonds and then sapphires, rubies and some other semi – precious stones.

This market is in my opinion not as clear and transparent as other due to several arguments. First of all diamonds are not publically traded. One of the reasons is that diamonds are very hardly standardized and so can't be traded like for example gold. Diamonds need more individual approach and must be examined carefully.

The whole diamond market is controlled by the De Beer company that represents a group of entities that mine, process and sell them. In fact we could call it as a type of a monopoly.

2.5.5. Art collections

The last alternative I want to mention are art collections. These contain paintings, sculptures, antiques or stamps.

Even though the trades that we make can be very profitable and the asset itself does not lose its value, there is a very high risk of falsifications. Even specialists can't always detect a fake and therefore we can have a master piece in one day and a worthless painting in the other. Therefore, if we are not an enthusiast in this field, we should rather not invest in these assets.

2.6. Risks

Investing on the capital market is always connected with several risks which the investor needs to be aware of.

We define risk as quantifiable uncertainty. In the field of investing we rather say that it is a possibility of not reaching expected results with a certain probability⁴⁰. It is useful to point out that by risk we mean both positive and negative deviations (i.e. even higher profit than planned).

In the described risks I will focus on those that impact a small investor⁴¹.

First of all let's start with the so-called market risks, specifically equity risk.

Most offered funds are a particular mix of instruments. They usually contain some types of shares and how many depends on the risk profile of the fund. The more shares they have the more risky the fund mostly is.

The equity risk represents a risk that the stock price of shares will significantly drop and therefore we will suffer a loss. This can be caused by many types of events such as low profits that surprise the market analytics. The movement of the price is closely bound to expectations of the market analytics. If they expect a low quarterly profit and the company announces corresponding results, the price will probably not move much because the expectations are already in the current price. So the sudden movement is the result of surpassing these expectations (either good or bad).

It much depends on the skills of the fund manager to avoid these declines and appropriately restructure the portfolio in the right time.

⁴⁰ Ducháčková, Eva, Principy pojištění a pojišťovnictví, Ekopress, 2009, page 15

⁴¹ For example I will not deal with operational risk which is more typical for financial institutions.

But in general we can say that this risk is considerably lowered with sufficient diversification so the growth and declines are compensated. That is the type of portfolio that a consumer should pick if he does not want to undertake high risk.

One of the monetary tools of the market regulator is the interest rate. The National Bank can for example lower this rate in order to support the economy and such step is reflected into all other rates on the market. This means that it highly influences all deposit and saving products where our rate of return is derived from such interest rate.⁴² This is connected with the interest rate risk.

Another instrument which is highly correlated (negatively) with these interest rates are bonds. They are also a substantial part of most portfolios and their sensitivity to changes of interest rates is calculated by duration. This indicator tells us how much is a bond sensitive⁴³. The higher the duration is, the higher the sensitivity. It also represents a weighted average time until the maturity of the bond⁴⁴.

The price change is most commonly calculated by so-called Macaulay duration:

Equation 1 - duration

$$\Delta P \approx -DUR_{MAC} * \frac{\Delta IR}{1 + IR} * P$$

where

P - price, Δ - change, $-DUR_{MAC}$ - Macaulay duration, IR – interest rate

Of course many funds use a strategy of international investing. It provides us a wider diversification, new and attractive instruments and also a diversification of systematic risk.

In spite of many benefits it also brings disadvantages such as currency price risk.

If we have foreign instruments in our portfolio we are also exposed to the changes of foreign exchange rates. Generally there are techniques how to hedge ourselves with for example

⁴² Of course if our contract does not have a stated fixed interest rate.

⁴³ Jílek, Josef: Finanční trhy a investování, Grada, 2009, page 352

⁴⁴ Highest sensitivity have bonds with no payable coupons (zero-bond, their duration is equal to their maturity) and vice versa.

financial derivatives but as I said in the beginning, that is mostly not a possibility for the retail investor. Therefore we should choose those funds that appropriately diversify particular currencies (ideally with negative correlation to compensate profits and losses), or funds that are automatically hedged against this type of risk.

Apart from market risks I would like to mention Inflation risk which is another serious threat to our profits. It can often be forgotten when evaluating our yearly profits but it is necessary to take it into our calculations to make them trustworthy.

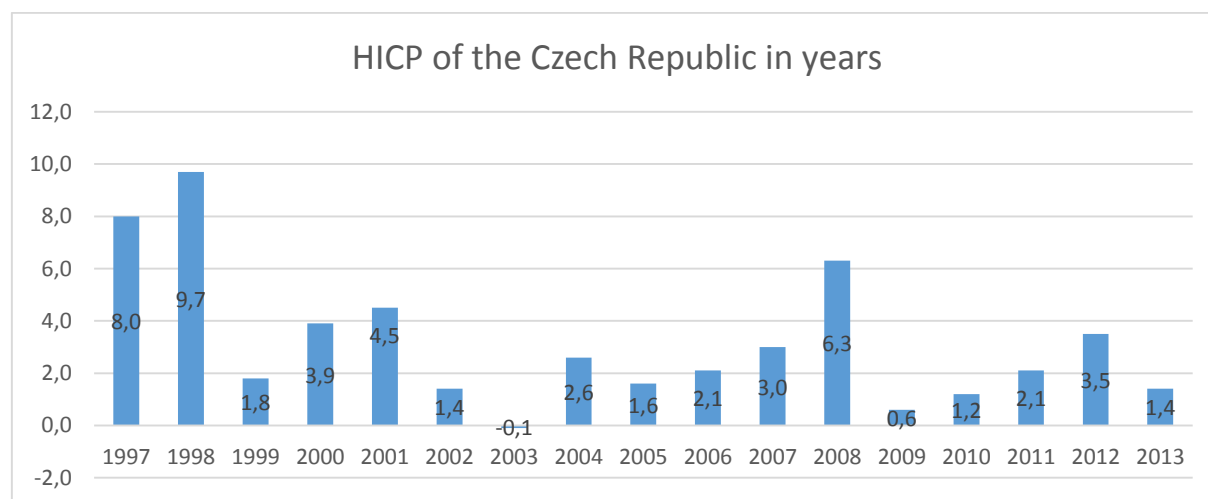
In the time of writing this thesis the current inflation situation in EU is opposite than usually. States are afraid of deflation and possible postponing of consumption that theoretically follows, which would have a devastating impact on the economy.

On the other hand if there is a high level of inflation then it mostly causes very negative economic downturns and impoverishment of the population.

To avoid this risk, we can invest into instruments that are not sensitive to inflation like real estate investments which are accessible for most of investors.

To see the development in the last years we can look at the following chart:

Chart 2 - inflation



Source: Own preparation based on Eurostat data

Another important risk is connected with creditworthiness – credit risk.

From the aspect of an ordinary investor the credit risk represents a situation where the institution to which we have entrusted our funds does not provide them back in the agreed

deadline – situation known as default. There are many reasons why this situation is – from insolvency problems to fraud.

The government tries to stabilize the industry by establishing the Deposit Insurance Fund where we should have our money guaranteed up to 100 000 EUR. We must be aware that this amount is stated only in banks, other institutions like insurance companies or brokerage houses are not included. As has already been mentioned, the banks pay quarterly insurance that is collected in this fund.

On the other hand this system contributes to the effect called moral hazard. In it's result, bank's clients do not have to evaluate the creditworthiness of the institution because their deposits and even interests are guaranteed. The banks are well aware of this and in case of their default, the government has to meet their commitments.

Despite the fact that liquidity risk is more connected with huge institutions then with individuals, even those often need immediate cash and in that case we can talk about liquidity risk.

It is a risk of not being able to pay our debts in a specific time for several reasons like having our money invested in long term products (where the possibility of deposit early withdrawal is limited or highly penalized). Therefore we must think carefully about the contract conditions when depositing or investing our funds.

2.7. Investment behavior

When an individual decides to invest his money, he needs to consider several aspects that will greatly affect his results.

First of all he needs to know, how much funds does he want to invest. The more he has available the better possibilities are offered. The banks are able to compile more individual portfolios that would suit better our preferences.

On the other hand most people do not have millions available and therefore usually use deposit products and various types of funds.

Secondly, we have to know our investment horizon – for how long do we want to invest. The shorter period we choose the lower the potential profit usually is (or if there is also a possibility of great profit then it is outweighed by extreme risk). Of course the opposite is applied in the long term which corresponds with the increasing character of the yield curve as the relationship of time and interest rate.

Next criterion is the level of diversification that we would like to achieve. Again, if we do not have our portfolio diversified then our P/L is derived from just a few instruments. This can be very risky but also very profitable if we bet on the right “horse”. Most analytics recommend a high level of diversification that would be robust enough against external shocks.

If an investor relies on the products of institutions then the instrument composition tends to be very wide. The more the individual chooses instruments on his own, the less titles he usually has. This is another criterion – that means how much time and effort is the entity willing to spend on it’s own education. Important is to first gain appropriate knowledge before doing these types of long term individual decisions.

Lastly I would like mention risks. An investor needs to know how much risk does he want to undertake. From this decision are derived his possible future profits. If the individual decides to be too conservative then he can end up with profits that are automatically erased by inflation.

The opposite is taking too much risk. When combined with insufficient experience and low financial education then the result can be deadly.

2.8. Taxation

This theme is widely discussed in academic and practical sphere. The level of taxation is highly connected with the current political party that won elections and it’s preferences.

The current conditions in the Czech Republic have slightly changed and in my opinion with a negative impact on the investor.

We can divide capital gains into two groups. The first one is pure capital gain which is the result of the difference between the price at which we bought the underlying asset and the

selling price. The second type of gain is the interest, coupon or generally a payment that is paid on a periodical basis.

These two types of gains differ in their taxation. According to the Czech legislation that deals with income tax, the taxation of capital gains is defined in paragraph 8 – income from capital property. Here we find the rules for taxation of periodic interest payments from our capital property. These payments are usually already taxed by the time they are paid by a tax in the amount of 15%. The inconsistency that some economist may see, is that dividends are paid from taxed profit of the company and then taxed again when paying the interest to investors. This double taxation is according to some specialists against general tax principles.

The second type of profit as mentioned is in the difference between the buying and selling price. If we speak about individuals then their tax rate is 15% and the final paid tax is derived from their tax base. The current legislation also defines the so-called time test. If we hold our position longer than this defined time test, then we are liberated from paying taxes from this type of profit. The current legislation has prolonged this period from six months to three years ⁴⁵for all investments that have been made after 1. November 2014.

These measures should prevent accumulation of speculative trades. Such decision is definitely a discussable theme and many economists would disagree with this act.

2.9. Cost analysis

Savings

There are not many costs connected with saving accounts. Most of the traditional fees have been canceled due to relatively high competition⁴⁶.

Establishing the account and its maintenance is usually free of charge. The physically sent account balances are also free or they can also be sent only electronically.

We could find fees that are characteristic for term deposits. There often is a fee for early withdrawal and typically is around 2%⁴⁷ from the withdrawal amount.

⁴⁵Patria, [online]. [cit. 2014-10-15], accessible from:

<http://www.patria.cz/zpravodajstvi/2522822/zmena-danoveho-testu-nakup-s-pulrocnim-na-prazske-burze-naposledy-23-prosince.html>

⁴⁶ Currently there are 45 banks in the Czech Republic up to the date of writing this thesis.

Overall saving accounts can't be considered as accounts with high costs. As will be explained and calculated their real rate of return is mostly negative. That is why I think that their highest cost are opportunity costs because there are many ways how to gain a reasonable profit which most of them will be shown in this thesis⁴⁸.

Collective investing

Generally there are two basic types of commissions - entrance fee and management fee. These are connected with almost every portfolio. Their amount is calculated from the invested sum and are usually nearby one percent.⁴⁹

Then there is a commission related to a change of portfolio structure from our initiative (portfolio restructuring, for example when we want to have a higher risk profile).

Its calculation is mostly based on the difference between fees in these two funds.

Last possible fee is the exit fee associated with closing all our positions and leaving the fund. This last fee is very rare though and is not charged frequently.

There also exists an indicator that computes the total operational costs associated with the fund. This indicator is called Total Expense Ratio (TER).⁵⁰

Equation 2- TER

$$\text{TER} = \frac{\text{Total fund costs}}{\text{Total fund assets}}$$

The costs include management fees, legal fees, auditor fees, trading fees and other. The more the asset manager is active and restructures the portfolio often, the more the fund has to pay in order to buy and sell assets. Therefore an active manager has higher TER.

⁴⁷ Principally can go up to 5%.

⁴⁸ We are still talking only about profits resulting from capital markets or financial products, not business.

⁴⁹ Specific numbers can be found in the funds analysis section.

⁵⁰ Education portal, [online]. [cit. 2014-11-14], accessible from: <http://education-portal.com/academy/lesson/total-expenses-ratio-formula-quiz.html>

Shares

Commissions that are associated with trading on the stock market are from the small investors aspect linked to brokerage fees. No matter who the intermediary is, it is a standard through the whole world to pay a bank or other financial institution a fee for mediating deals between us and the exchange itself.

The amount that we pay depends on several factors according to services that we use. There is a big difference when we execute our orders through the internet or we have so-called full service.

We can divide types of services as follows:

- Trading via internet platforms – broker gives us software through which we can enter the market
- Trading via phone call, mails
- Trading via personal banker or broker – he is able to help us with decisions or technical problems.

The possibilities are sorted according to their price. Internet is the cheapest way of trading because there are no high costs involved in forms of employees etc.

The most expensive form is personal advisory where we in fact pay the person that assists us.

The total commission does not only depend on the services but also on the traded amount. The lower amount we trade the higher fees we have to pay and vice versa. Trader with higher capital has greater investing opportunities and brokers need to offer better prices. Fees are in conditions of the Czech Republic generally in tenths of percent of the invested amount.

In practice the combination of two approaches is mostly applied. So we have to pay a percentage of the invested amount + fix amount mostly in hundreds of CZK.⁵¹

Usually there is also stated a minimum fee. For example if our traded volume is too low then we have to pay at least this minimum.

⁵¹ For example 0,4% + 200 from the total sum.

The conclusion is that we need a serious amount for individual stock market trading⁵² otherwise fees could become a significant cost if we restructure our portfolio too often. If our profits are for example in thousands and we pay fees in hundreds than it is easily too much.

Real estate

Real estate investing has several non-negligible fees that have to be considered.

First of all there are taxes. The real estate transfer tax is currently 4% from the tax base. Secondly we must not forget about the income tax that is derived from the difference between the buying and selling price. The amount then again enters into the calculation of the tax base⁵³. On the other hand here exists the so-called time test which is 2 years in case of living in the property and 5 years when just owning it.

Thirdly there is the property tax. The calculation of it is quite complicated and depends on several factors such as the size of our land/garden, size of our house, number of floors it has but even pricing policy in our city.

Of course not only taxes are present. If we sell a property through the services of a real estate agency, their remuneration is around 5% from the selling price.

Then we can't forget about fee for the estimation of the property price. This goes to the estimator who has to say if the price is appropriate.⁵⁴ Fees also have to be paid to a lawyer or notary that is involved in the transaction and supports it from the legal aspect (preparation of contracts etc.)

New legislation requests adding an energy intensity certificate that indicates how much energy efficient the property is so we can assume how much we will have to pay for it. This certificate costs several thousand depending on the type and size of the building.

⁵² My opinion is at least 100 000 CZK.

⁵³ Income tax in the Czech Republic for individuals is 15%.

⁵⁴ This has to be done in order to prevent the buyer and seller to arrange a low selling price in order to pay less on taxes and the remaining amount is paid of unofficially.

Overall as we can see, there are many types of transactional costs that we have to consider when investing. It always pays out to do an online research before we chose the right institution. Basically transactional costs can become too big if our invested amounts are low because there usually is a minimum absolute fee a part from a percentage one.

On the other hand these fees must not be something that will prevent us from investing because there usually is a way how to adequately reduce them and make a reasonable profit.

According to the study Stock Exchange Competition in a Simple Model of Capital Market Equilibrium⁵⁵ the transactional costs on the capital market are decreasing due to high competition. This can be definitely observed also in the condition of the Czech Republic. Because our main goal in this thesis is to identify products that have potential and is generally reasonable to invest into, we will not further consider these costs. This is because this information often isn't public and it wouldn't significantly change our results in terms of selecting products that makes sense in long term investing.

⁵⁵ Swiss Financial Institute, [online]. [cit. 2014-11-17], accessible from: <http://www.swissfinanceinstitute.ch/rp109.pdf>

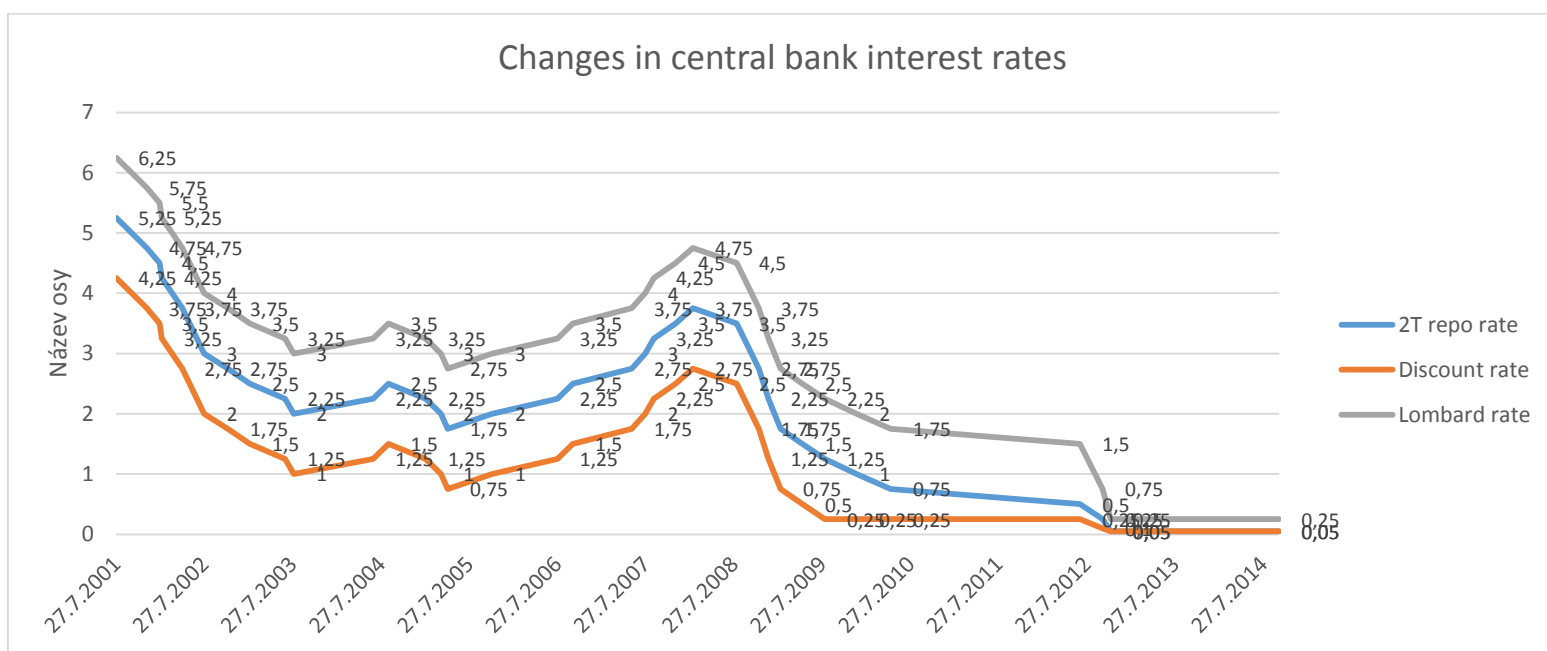
3. Evaluating potential of specific products on the capital market

The goal of this section is to present previously described products in a practical manner. They will be analyzed on specific offers of the biggest financial institutions in the Czech Republic and chosen foreign countries in order as they were shown in the theoretical part. If possible, there will be shown different types of investors from conservative to aggressive. We will also be able to see the results of alternative products to give us a big picture.

3.1. Interest rates

Factor that has a massive impact on the market are the adjustments of interest rates. The market interest rates are highly correlated with the central interest which is set by the regulator and it is considered as a very strong instrument of monetary policy.

Chart 3 - interest rates



Source: Own preparation based on CNB data

As we can see we are in time of extremely low rates and the investing results on the following pages must be understood with respect to this fact.

3.2. Overview and classification of products on the Czech market.

The following banks will be brought into account in our analysis:

- Česká Spořitelna (member of Erste Group)
- Komerční banka (member of Société Générale Group)
- ČSOB (member of KBC Group)

These banks were chosen because they form the core of the banking system in the Czech Republic and are considered as systematically important.

Data will be taken preferably from the banks websites.⁵⁶

Investing example

On the following pages several products will be described. To make them more explanatory there will always be joined an investment example. I will try to show results of the investment on a typical investor that invests for a recommended time period and has an amount of 100 000 CZK.

3.2.1. Savings products

As has been said I will provide information basically about three types of savings products – saving deposits, term deposits and building savings. The provided practical examples are representative products of the chosen banks.

➤ ČSOB savings products

ČSOB offers generally two types of saving accounts named:

- Saving account – this account is constituted for continuous deposits with the option of withdrawal at any time. According to the description, it's purpose is to make a financial reserve

Result of investment:

⁵⁶ If the necessary data are not available, they will be taken from a different server if possible.

Table series - series of saving products and their results

Source – Own preparation based on particular banks data

Interest rate	0,55%
Interest counted	is monthly
Fees	no fees

years	1	3	5
amount	100 000	100 000	100 000
result	100 551	101 663	102 788
profit per year	551	554	558
avg % profit per year	0,551%	0,554%	0,558%

- Saving account with premium – combination of saving account and term deposit

interest rate (p.a.)	0,40%
premium (p.a.)	0,5% paid semi-annually from the minimum account balance in premium period
interest counted	is quarterly
fees	no fees

years	1	3	5
amount	100 000	100 000	100 000
result	100 401	101 207	102 019
premium	502	1526,093	2576,786
profit per year	903	911	919
avg % profit per year	0,903%	0,911%	0,919%

ČSOB also offers two types of term deposits:

- Term deposit (there exists a penalty for early withdrawal – we do not consider)

interest rate (p.a.)*	0,35%
interest is counted**	N/A
fees	no fees
*the interest depends on the length and amount of deposit for this calculation we are using maximum interest	
** maximum length of deposit is 1 year	

years	1
amount	100 000
result	100 350
profit per year	350
avg % profit per year	0,350%

- Term deposit Plus – is constructed for two or three years

interest rate (p.a.)*	0,4%
interest is counted**	N/A
fees	no fees
<i>*the interest depends on the length and amount of deposit, for this calculation we are using maximum interest</i>	
<i>** product is for two or three years</i>	

years	3
amount	100 000
result	101 205
profit per year	402
avg % profit per year	0,402%

➤ Česká spořitelna savings products

Česká spořitelna does not have an extensive offer of saving products and keeps offerings simplified.

- Saving product

interest rate (p.a.)	1,00%
interest is counted	monthly
Fees	no fees

years	1	3	5
amount	100 000	100 000	100 000
result	101 005	103 044	105 125
profit per year	1 005	1 015	1 025
avg % profit per year	1,005%	1,015%	1,025%

- Term deposits

	1Y	2Y
interest rate (p.a.)	0,10%	0,3%
interest is counted	at the end of term	at the end of term
fees	no fees	no fees

years	1	3
amount	100 000	100 000
result	100 100	100 903
profit per year	100	301
avg % profit per year	0,10%	0,30%

➤ **Komerční bank savings products**

- Saving account Bonus – primary interest is up to 0,2% with a bonus of 0,3% (thus we will consider 0,5% interest).

interest rate (p.a.)	0,20%
premium	0,3% paid semi-annually from the minimum account balance in premium period
interest is counted	quarterly
fees	no fees

years	1	3	5
amount	100 000	100 000	100 000
result	100 200	100 602	101 005
premium	301	908,3628	1524,577
profit per year	501	503	506
avg % profit per year	0,501%	0,503%	0,506%

- Perfect saving:

Perfect saving	
interest rate (p.a.)	0,35%
interest is counted	quarterly
Fees	no fees

	1	3	5
amount	100 000	100 000	100 000
result	100 350	101 055	101 765
profit per year	350	352	353
avg % profit per year	0,350%	0,352%	0,353%

Guaranteed deposit – has very similar and analogical conditions as product Perfect saving (including interest).

Term deposit – has also similar conditions – interest up to 0,35% (there are some other conditions that can rise the interest by 0,2%).

Summary

As we can see from the previous pages the advantages of the term deposits and saving accounts is questionable. The interest is usually up to one percent p.a. If we consider the average inflation in the past 10 years which reaches approximately 2,4% then we can see that the real return will mostly be negative.

These products are consequently in my opinion for people that are extremely risk averse and do not believe any type of investing and refuse markets as a whole. Their money will be 100% safe⁵⁷ but their purchase power will be every year slightly lower.

The conclusion from this part is that there is no way that we can make any serious money with this type of investing and if there will be some real profits then they will be symbolic.

3.2.2. Building savings

As has been said, building savings are a very traditional product in the Czech Republic and according to most financial analytics should be relatively profitable when compared with other savings offers. The goal of this section is to verify these statements.

The three mentioned banks, as they have been described before, have their own subsidiary companies which have building savings as their main product and that is why these subsidiaries will be the object of our investigation. Chosen are typical representative products that characterize this business. Their performance will be preferably shown atypically on the time period of 6 years. The reason for this is that 6 years is an obligatory minimum period to be entitled to obtain a government financial contribution.

When I analyzed the current offers, I found out that they are very similar and do not have significant differences that would hugely impact our final results. The simplified summary follows:

ČSOB – Českomoravská stavební spořitelna – product Variant

- primary interest 1,5%⁵⁸
- fee when signing contract – 1% calculated from our target amount
- account fee – 290 CZK/year

⁵⁷ Of course there always is a possibility of government default but it is highly improbable.

⁵⁸ The offered interest varies and depends on individual factors.

Komerční banka – Modrá pyramida – product Wise building savings

- primary interest 1% (+ possible 0,7% interest bonus)
- fee when signing contract – 1% calculated from our target amount
- account fee – 300 CZK/year

Česká spořitelna – Stavební spořitelna České spořitelny – product Building savings

- primary interest 1%
- fee when signing contract – 1% calculated from our target amount
- account fee – 310 CZK/year

As I found out, these products are extremely alike and have similar returns. Our primary goal is not to compare products but to find those that we should invest into. That is why I will try to show typical results of an individual entrusting his money into this product.

The following example will show the outcome of a person that saves only as much money to get maximum state support - cca 1670 CZK (must save at least 20 000 CZK per year) with following conditions

- state support currently is 2000 CZK
- we must stay in this system for minimally 6 years
- interest that we count with is 1,5% (interest is counted monthly)

Table 1 - building savings

year	month	amount	total
1	1	1670	1672
1	2	1670	1674
1	3	1670	1676
1	4	1670	1678
1	5	1670	1680
1	6	1670	1683
1	7	1670	1685
1	8	1670	1687
1	9	1670	1689
1	10	1670	1691
1	11	1670	1693
1	12	3670	3725
2	13	1670	1697
2	14	1670	1699
2	15	1670	1702
2	16	1670	1704

year	month	amount	total
4	37	1670	1749
4	38	1670	1751
4	39	1670	1753
4	40	1670	1756
4	41	1670	1758
4	42	1670	1760
4	43	1670	1762
4	44	1670	1764
4	45	1670	1767
4	46	1670	1769
4	47	1670	1771
4	48	3670	3897
5	49	1670	1775
5	50	1670	1778
5	51	1670	1780
5	52	1670	1782

2	17	1670	1706
2	18	1670	1708
2	19	1670	1710
2	20	1670	1712
2	21	1670	1714
2	22	1670	1717
2	23	1670	1719
2	24	3670	3782
3	25	1670	1723
3	26	1670	1725
3	27	1670	1727
3	28	1670	1729
3	29	1670	1732
3	30	1670	1734
3	31	1670	1736
3	32	1670	1738
3	33	1670	1740
3	34	1670	1742
3	35	1670	1745
3	36	3670	3839

Source: Own preparation

5	53	1670	1784
5	54	1670	1787
5	55	1670	1789
5	56	1670	1791
5	57	1670	1793
5	58	1670	1795
5	59	1670	1798
5	60	3670	3956
6	61	1670	1802
6	62	1670	1804
6	63	1670	1807
6	64	1670	1809
6	65	1670	1811
6	66	1670	1814
6	67	1670	1816
6	68	1670	1818
6	69	1670	1820
6	70	1670	1823
6	71	1670	1825
6	72	3670	4015

Overall performance

Table 2 - overall performance

Total profit	138 542,42
our savings	120240
profit%	15,2%
avg yearly profit	2,5%

Source: Own preparation

As we can see the overall results are much better than in case of traditional savings. On the other hand they are not as high as somebody could expect because we will still be struggling with inflation.

The reason is in currently very low interest rates and also the state support used to be higher. But still when we consider very low risks and also a low interest on a possible buildings savings loan, it is a product that we can recommend.

3.2.3. Funds

Methodology

Funds are an alternative that give us an easy possibility of investing and having a better chance of beating inflation. The research will be done in these steps:

- analyzing historical development of the particular fund prices
- testing the average results on fixed periods
- making a conclusion that will tell us if funds are a good possibility to invest

The banks have many types of funds in every fund category. Therefore I had to come up with a method where I would choose a particular set of funds for closer research.

From each category of funds (such as bonds funds, stock market funds etc.) I always picked three types. The first one had a maximum annual profit, the second had a minimum annual profit and the third had an average annual profit across all funds in the specific section⁵⁹. They will always be summarized in one table in order to get a general overview about the possibilities in the category (analyzing e.g. fifteen similar funds that have similar results has no sense).

Only the average performance fund will then be brought into further analysis. The reason is again to obtain only representative samples throughout categories and entities and reduce the total amount of described funds.

If the chosen fund will have insufficient historical data because of his date of establishment, then I will select a similar one in terms of return rate but with enough of history.

Another aspect that we have to take into consideration is the length of our investment. Not all funds have the same recommended investment period. Their analysis must be done with respect to their composition or structure because the underlying assets have different characteristics. The following table summarizes this aspect:

⁵⁹ By annual profit it is meant one year from observation date.

Table 3 - recommended investment period

Type of fund	Expected return	Volatility	Recommended investment period (years)
Secured	medium	medium	2 - 6
Money market	low	low	1 - 2
Bond	medium	medium	3 - 5
Stocks	high	high	7 and more
Mixed	medium high	- medium - high	- 3 - 7

Source: Own preparation based on CSOB data

Last thing that must be set is the observation and outcome date. By the outcome date we will understand the date to which we evaluate or calculate our return in a certain period. Mostly I will demonstrate multiple outcome dates as it will correspond with several tested periods. The last outcome date will always be the date to which I have collected data – 17.10.2014. Because this is an incomplete month, I will present the results till 30.9.2014.

On the other hand we have to set an observation date as a date where our investment begins. This date can't be fixed because of different recommended investment periods as described above.

Both dates will be noted before every detailed analysis. A test will be then provided starting in the observation date and ending at the outcome date.

For example if I need to test a two year period then I will count from 09/2014 two years back and so on. This is because I need to have the investment closed every time at the outcome date in order to comply with the recommended periods.

My sources of data are publicly available databases which particular banks or their subsidiaries offer. That is why my primary reference variable is the current price of the fund because that is an information that is stored in the long term and therefore, we can obtain long time series. Dividends are not included in the return analysis (their dates and amounts are often not public, their amount changes in time and makes the analysis less comparable). If the fund is established in a foreign currency then all profits will be recalculated into Czech crowns.

➤ **ČSOB funds portfolio**

The amount of funds that ČSOB offers is very wide and in my research I have included over 240 funds that had the following structure (KBC funds included as KBC is the parent company).

Table 4 - ČSOB portfolio structure

Name	Number of observations
Stock market funds	75
Secured funds	59
Bond funds	39
Money market funds	5
Mixed funds	13
Mixed funds with limited price decrease	12
Structured funds	40

Source: Own preparation based on ČSOB data

ČSOB has all funds divided into seven product scores according to several criteria such as rate of return, credit risk, concentration risk, volatility, currency price risk, liquidity.

The higher the score, the generally higher risk the client undertakes.

The scale is from one to seven where one represents a conservative fund and seven a dynamic fund.

The following funds have been chosen into the sample:

- **Stock market funds sample**

Table 5 – stock market fund sample

	Horizon Access Russia Fund	Horizon Access Fund Vietnam	KBC Equity Fund Industrials and Infrastructure
Type	Stock market fund	Stock market fund	Stock market fund
Equity (in mil.)	11,96 EUR	11,70 EUR	
Established	6.6.2006	1.2.2008	28.2.2011
Currency	EUR	EUR	EUR
Price	323,89	485,84	248,91
Updated	16.10.2014	16.10.2014	16.10.2014
ISIN	BE0946256212	BE0948066858	BE6216682490
Entrance fee	0,03	0,03	0,03
Minimum investment	5.000,- CZK	5.000,- CZK	5.000,- CZK

Management fee	0,016	0,016	0,015
1 year (p.a.) in fund currency	-25,69	24,14	3,3
3 year (p.a.) in fund currency	-5,19	16,49	14,42

Source: Own preparation based on CSOB data

This sample provides us common information about the possibilities of this category. A minimum, maximum and average rate of return funds are presented based on a one year p.a. profit.

As has been explained only the average fund will be further discussed in order to show representative funds and eliminate too extensive and similar analysis.

Therefore I pick the KBC Equity Fund Industrials and Infrastructure fund. On the other hand this fund has its origin in 2011 and therefore it is not appropriate for our analysis because we need to see also the pre-crisis term. That means, as I mentioned in methodology, I will choose a similar fund (in terms of return) that has a longer history – in this case KBC Equity Fund Belgium.

Detailed analysis

The KBC Equity Fund Belgium was founded 1.10.1991. It is managed by KBC Asset Management. Its product score is six, that means the second highest.

99% of the funds compositions are shares. The fund targets to invest around 75% of their money in Belgium (in accordance with its name).

Currently it has 82% share of Belgium investment, 7% in Netherlands, 6,4% in France and the rest are classified as other.

Diversification: 30% are invested in Finance, 25% in consumer goods, 15% Information technology and 30% other.

All other aspects are similar as in the sample (3% entrance fee, 5 000 CZK minimum investment).

Chart 1 - KBC Equity Belgium

KBC Equity Fund Belgium



Source: Own preparation based on CSOB data

The suggested investment period for stock-based funds is according to CSOB seven and more years. The pre-crisis and downturn period must be assessed with respect to this fact.

Backtest parameters:

Investment period	7 years
Amount	100 000 CZK
1st test	10 ⁶⁰ /2000 ⁶¹ - 09/2007
2nd test	10/2007 - 09/2014

Results⁶²:

Test	Buy EUR	Buy CZK	Date	Sell EUR	Sell CZK	Date	Balance CZK	Profit/Loss CZK	% P/L CZK	% P/L EUR
1st test	435,8	15496	1.10.2000	696,84	19236	30.9.2007	124 137,14	24 137,14	24,1%	59,9%
2nd test	699,9	19273,9	1.10.2007	532,72	14650	30.9.2014	76 008,61	-23 991,39	-24,0%	-23,9%

Source: Own preparation based on CSOB data

⁶⁰ The first trading day of the month will be taken as a starting point.

⁶¹ Even though there theoretically could be a third test (1993 – 2000) because the fund was established in 1991 but despite this fact the available detailed data are publically available only from 04/1996 and therefore this potential test is not done.

⁶² Taxes, dividends, fees not included – will be discussed further

These two periods represent both economic growth and downturn. The results correspond with the expectations.

If we look at the chart above then we can see that our first investment went through a huge price increase. After seven years our investment had an overall profit nearly 60% in EUR which is approximately 8,5 % per year which seems as interesting numbers. Recomputed to CZK the profit is not so high because the Czech crown appreciated significantly.

On the other hand the second test ended up with a total loss of nearly 24 000 CZK.

This arises questions connected with money management which will be discussed later.

- **Bonds based funds sample**

Table 6 - bond fund sample

	KBC Bonds Corporates USD	KBC Renta Long EUR	Optimum fund ČSOB Státních dluhopisů 2
Type	Bond fund	Bond fund	Bond fund
Equity (in mil.)	70,96 USD	2,67 EUR	659,92 CZK
Established	4.2.2000	6.10.2000	6.11.2009
Currency	USD	EUR	CZK
Price	1034,65	1165,74	11,76
Updated	16.10.2014	15.10.2014	30.6.2014
ISIN	LU0106101842	LU0117159151	BE0948865119
Entrance fee	0,01	0,01	0,03
Minimum investment	5000 CZK	5001 CZK	Before maturity 3 %
Management fee	0,0075	0,007	5 000 CZK
1 year (p.a.) in fund currency	7,64	16,93	0,17
3 year (p.a.) in fund currency	5,37	11,57	2,16
5 year (p.a.)	5,94	8,11	-

Source: Own preparation based on CSOB data

A fact to mention is the difference between the maximum and minimum annual profit.

The range in bond funds varies from 0,17% to cca 17% return. The stocks vary from -25% to 24%. Here we can see the big differences in the risk profile of these instruments which are reflected in this type of volatility.

Detailed analysis

For the detailed analysis I have chosen the fund with average results (has appropriate history) – KBC Bonds Corporates USD – Product score 4.

The portfolio manager of this fund invests solely into bonds (98%), particularly into corporate bonds that are denominated in USD (there is an assumption that corporate bonds have a higher yield than government bonds).

There is a slightly lower management fee – only 0,75% and the minimum investment is same as in stock market funds.

The recommended period for bond based funds is 3 – 5 years so for our purposes I will choose the period of four years.

Table 7 - KBC bonds corporates USD

KBC Bonds Corporates USD



Source: Own preparation based on CSOB data

Parameters

Investment period	4 years
Amount	100 000 CZK
1st test	10/2010 – 09/2014
2nd test	10/2006 - 09/2010
3rd test	10/2002 - 09/2006

Result

Test	Buy USD	Buy CZK	Date	Sell USD	Sell CZK	Date	Balance CZK	Profit/Loss CZK	% P/L CZK	% P/L USD
1st test	608,8	18755,6	1.10.2002	705,06	15776	30.9.2006	84 112,09	-15 887,91	-15,9%	15,8%
2nd test	706	15746,1	1.10.2006	873,38	15743	30.9.2010	99 978,22	-21,78	0,0%	23,7%
3rd test	873,1	15541,5	1.10.2010	1019,3	22276	30.9.2014	143 329,70	43 329,70	43,3%	16,7%

Source: Own preparation based on CSOB data

My opinion is that the price development in years is almost ideal. The price has a very stable growth which is something that investors are looking for. Even the losses in 2008 were not as devastating and were overcome in a short period (first test is negatively influenced by the currency price changes).

The results of our test are analogical to this description. The fund is able to produce constant gains in a very long term. This indicates very good asset managers.

On the other hand if we compute the return in one year, then the profit is not so tremendous. Overall this fund seems to me attractive because its long term stable results (the tests are again very influenced by currency rate changes).

- **Multi-asset funds sample**

Table 8 - multi asset funds sample

	KBC Master Fund CSOB Balanced	KBC Master fund CSOB Multi Invest	KBC Master Fund Low
Type	mixed	mixed	mixed
Equity (in mil.)	1747,36 CZK	1074,64 CZK	50,76 EUR
Established	30.6.2000	7.3.2011	
Currency	CZK	CZK	EUR
Price	1146	1018,2	1062,55
Updated	16.10.2014	16.10.2014	16.10.2014
ISIN	BE0174401928	BE6210265342	BE0149027352
Entrance fee	0,015	0,005	0,015
Management fee	0% from KBC funds, from other 1 %	0	0% from KBC funds, from other 1 %
1 year (p.a.) in fund currency	3,29	0,57	6,11
3 year (p.a.) in fund currency	5,36	1,19	7,32

Source: Own preparation based on CSOB data

Detailed analysis

For the detailed analysis I have picked the KBC Master Fund CSOB Balanced. Because its product score is 3, it has a lower level of undergone risk.

Diversification - the fund has 37% of money allocated in stocks, 49% in bonds and 14% in cash.

If the fund has assets that are denominated in a different currency than CZK then this position is hedged appropriately against currency price risk.

There is a specific period for which this fund should be used. According to the description it is three years.

Chart 2 - KBC Master fund CSOB balanced



Parameters

Investment period	3 years
Amount	100 000 CZK
1st test	10/2011 – 09/2014
2nd test	10/2008 - 09/2011
3rd test	10/2005 - 09/2008

Results

Test	Buy CZK	Date	Sell CZK	Date	Balance	Profit/Loss	% P/L
1st test	996	1.10.2005	936	30.9.2008	93 975,90	-6 024,10	-6,0%
2nd test	937	1.10.2008	966	30.9.2011	103 094,98	3 094,98	3,1%
3rd test	959	1.10.2011	1179	30.9.2014	122 940,56	22 940,56	22,9%

Source: Own preparation based on CSOB data

This fund is rated as a lower risk fund. But if we analyze the price development, in my opinion it seems quite volatile especially in the downturn. This is not reflected in our 2nd test because the difference between the observation date and the outcome date absorbs the

worst price drop. The third test represents a high gain which is in accordance with the strong bullish trend that is present since that time.

➤ **Komerční banka fund portfolio**

Komerční banka primarily offers five types of different funds. Funds for short term investments (here we can find six specific funds that vary in their diversification – not material for our purpose), profile funds (no offered at the date of writing this thesis), bond funds, mixed and stock market funds. The core structure is summarized in the table below:

Table 9 - types of funds

Type	quantity
Stock market funds	38
Bond funds	17
Mixed funds	9

Source: Own preparation based on KB data

As the reader can see, the majority of offered funds are based on investing into stocks. They are subsequently divided into funds that focus on quickly growing markets, on different sectors and finally on developed markets.

The recommended investment horizons according to KB are:

Table 10 - recommended horizons

Type of fund	Horizon
Stock market fund	5 Y and more
Bond fund	2 Y and more
Mixed fund	According to fund strategy

Source: Own preparation based on KB data

- **Bond funds sample**

Table 11 - bond funds sample

Fund	Amundi Funds Bond Global Emerging (USD)	Amundi Funds Bond US Opportunistic Core Plus (USD)	Amundi Funds Bond Europe (EUR)
Type	Bond	Bond	Bond
Date	16.10.2014	16.10.2014	16.10.2014
NAV	301 020 000	461 800 000	159 130 000
NAV/PL	25,81	114,51	184,52
Currency	USD	USD	EUR
Risk	5	3	4
Horizon	3	3	3
Return 1Y	-6,55	5,25	12,3
Return 2Y	-8,7	4,38	17,01
Return 5Y	13,7	29,71	33,02

Source: Own preparation based on KB data

Detailed analysis

For this purpose I selected the Amundi Funds Bond US Opportunistic Core Plus (USD).

This fund has a majority of its assets invested in bonds and it targets mostly government bonds, corporate bonds but also collateralized debt instruments such as CDO or MBS⁶³. The region of investments is USA and the main currency is of course USD.

The entrance fee is 1% and management fee reaches 0,8%. Its risk classification is three on a scale of seven.

There is a specifically recommended investment horizon three years.

Chart 3 -Amundi funds bond US opportunistic core plus - price development



Source: Own preparation based on KB data

⁶³ Collateralized Debt Obligation and Mortgage-backed security

Invested amount stays 100 000 CZK.

Test	Buy USD	Buy CZK	Date	Sell USD	Sell CZK	Date	Balance CZK	Profit/Loss CZK	% P/L CZK	% P/L USD
1st test	75,9	1321,42	1.10.2008	100,3	1838,6	30.9.2011	139 138,25	39 138,25	39,1%	32,1%
2nd test	100,3	1872,1	1.10.2011	113,8	2486,87	30.9.2014	132 838,63	32 838,63	32,8%	13,5%

Source: Own preparation based on KB data

This fund was established in January 2007. If we study the price evolution in time we can observe that it is pretty stable. It more or less copies the stock market indices. The first test again was able to overcome the price decrease and ended in more than +32% (39% when calculated in CZK) which in three volatile years is not a bad result.

- **Stock market fund sample**

Table 12 - stock market fund sample

Fund	Amundi Funds Equity Latin America (USD)	Amundi Funds Equity US Relative Value (USD)	Amundi Funds Equity India (EUR)
Type	Stock market	Stock market	Stock market
Date	16.10.2014	16.10.2014	16.10.2014
NAV	812 850 000	653 220 000	315 560 000
NAV/PL	518,99	140,86	98,37
Currency	USD	USD	EUR
Risk	7	6	7
Horizon	5	5	5
Return 1Y	-9,71	4,09	37,41
Return 2Y	-13,84	30,21	28,3
Return 5Y	-17,89	65,7	

Source: Own preparation based on KB data

Detailed analysis

The Amundi Funds Equity US Relative Value (USD) targets investing into undervalued shares in the United States. The minimum share of stocks is 67%. It is suitable for investors that have a higher tolerance to risk and are able to manage higher volatility.

The risk category is six which means high risk. Its entrance fee is 3% and management fee is 1,7%. The recommended investment period is five years.

Chart 4 - Amundi funds equity US - price development



Source: Own preparation based on KB data

Test	Buy USD	Buy CZK	Date	Sell USD	Sell CZK	Date	Balance CZK	Profit/Loss CZK	% P/L CZK	% P/L USD
1st test	92,50	2355,79	1.10.2004	82,3	1413,75	30.9.2009	60 011,69	-39 988,31	-40,0%	-11,0%
2st test	82,3	1438,03	1.10.2009	152,3	3328,21	30.9.2014	231 442,79	131 442,79	131,4%	85,1%

Source: Own preparation based on KB data

This stock based fund has a relatively long history. If we study the price, we will find out that the low in 2009 is also the lowest price in the funds history which emphasizes the pessimism that was present.

The first shown test is interesting because our virtual five year position had a price high at almost 140 USD (from buying price 92 USD) which is more than 50% gain. This position still ended in more than 10% loss (40% if calculated in CZK).

On the other hand, the second test made more than +85% (131% in CZK). The main reason is that our purchase price was in its lowest territory.

- **Mixed funds sample**

Table 13 - mixed fund sample

Fondy	IKS Balancovaný - dynamický	First Eagle Amundi International Fund (USD)	KB Konzervativní profil
Type	Mixed	Mixed	Mixed
Date	16.10.2014	16.10.2014	16.10.2014
NAV	2 348 139 355	7 291 190 000	350 777 583

NAV/PL	2,3637	5 636,4900	1,1467
Currency	CZK	USD	CZK
Risk	5	5	2
Horizon	5	5	2
Return 1Y	-3,36	-0,25	3,88
Return 2Y	-3,11	9,8	5,32
Return 5Y	2,08	34,43	11,01

Source: Own preparation based on KB data

Detailed analysis

The First Eagle Amundi International Fund (USD) is a fund targeting investors that prefer higher diversification of assets but still want a high potential profit. That is why it has approximately 75% of its possessions allocated in stocks. The remaining 25% is divided into bonds, cash and gold cca equally. In contrast with many previously described funds, this one does not focus only on USA and has a wide global portfolio reaching from South America to Japan.

Entrance fee is 2% as well as the management fee. The risk profile is set to five.

The recommended investment horizon is also five years.

Chart 5 - Amundi international fund - price development



Source: Own preparation based on KB data

Test	Buy USD	Buy CZK	Date	Sell USD	Sell CZK	Date	Balance CZK	Profit/Loss CZK	% P/L CZK	% P/L USD
1st test	2866,90	73014,2	1.10.2004	4105,7	70527,7	30.9.2009	96 594,51	-3 405,49	-3,4%	43,2%
2st test	4076	71219,9	1.10.2009	5910	129151	30.9.2014	181 341,37	81 341,37	81,3%	45,0%

Source: Own preparation based on KB data

Because the price growth is very stable (again the exception is downturn after 2008) the both tested results are in accordance with this trend. The fund has good rates of return even in the long term (first test is negative because CZK appreciated from 25,5 to 17,1 per USD). One of the reasons may be the high concentration of geographically distributed stocks and probably good asset managers.

➤ Česká spořitelna fund portfolio

Česká spořitelna as one of the major banks on the Czech market has its own entity that manages funds called Investiční společnost České spořitelny. It is a part of Erste Bank and its mission is to manage mutual funds and investments. Additionally it provides follow-up advisory and technical services.⁶⁴

This company provides secured mutual funds, bonds funds, stocks-based funds, secured funds and then others.⁶⁵ As an interesting fact I would point out that each fund has a portfolio-manager that is presented on their web pages. That means that the potential client can have additional decision criteria and that could be the skills of the manager⁶⁶. In western developed financial centers it is more common that the managers are known and clients know who manages their money. Investing in Czech Republic stays most of the time anonymized in terms of who is administrates the fund.

I think that for the purpose of this thesis it would be interesting to see results of funds that are managed exclusively managed by Czechs.

Their structure of funds managed by Investiční společnost ČS is as follows:

Table 14 - structure of funds

Fund	Number
Stock based fund	3
Bond Fund	6
Funds of funds	8
Money market funds	1
Mixed funds	10

Source: Own preparation based on Ceska Sporitelna data

⁶⁴ISCS, [online]. [cit. 2014-10-20], accessible from: <http://www.iscs.cz/web/onas/>

⁶⁵ These are provided by third parties.

⁶⁶ He could be for example a medially known person, or respected financial analyst. This could help us in our deciding.

- **Bond fund sample**

Table 15 - bond funds sample

Name	ČS korporátní dluhopisový	High Yield dluhopisový	TREND BOND
Investment company	ISČS	ISČS	ISČS
Type	Bond fund	Bond fund	Bond fund
Regional orientation	emerging markets - Europe	global	emerging markets - Europe
Currency	CZK	CZK	CZK
Entrance fee	0,01	0,01	0,01
Management fee	0,015	0,012	0,015
1Y	-0,0213	0,0268	0,0902
3Y	0,1005	0,2748	0,2211
5Y	0,1713	0,2321	0,2063
Property	1.300.320.040,00 CZK	1.288.210.097,00 CZK	890.572.568,00 CZK
Established	1.4.2004	28.8.2006	29.10.2001

Source: Own preparation based on Ceska Sporitelna data

Detailed analysis

The procedure will be the same as in previous banks. We will take the average fund and analyze its development in time.

The High Yield dluhopisový fund aims at a little more risky investments than traditional funds do. It primarily invests into corporate bonds which are classified in the speculative band (therefore high yield because of higher risk). The fund is actively managed so that the manager can take advantage of current market opportunities. It is also fully hedged against currency price risk.

The manager invests globally with the highest participation in Italy, France and Luxemburg. It involves companies such as Telecom, Arcelor Mittal or Fiat.

One half of the portfolio are funds with rating BB (speculative rating band), 36% has rating B and 7% CCC.

The instrument is evaluated as four on a one to seven scale (seven represents the highest risk). The recommended investment horizon is at least three years.

The complete history is presented below:

Chart 6 - high yield dluhopisovy fund - price development



Source: Own preparation based on Ceska Sporitelna data

Backtest results:

Test	Buy	Date	Sell	Date	Balance	Profit/Loss	% P/L
1 st test	1,003	2.10.2006	1,138	30.9.2010	113 385,83	13 385,83	13,4%
2 nd test	1,139	2.10.2010	1,278	30.9.2014	112 225,54	12 225,54	12,2%

Source: Own preparation based on Ceska Sporitelna data

We will follow the recommended horizon and set the length of each backtest to four years.

The price of this fund starts on 100% as it was established. Our investment begins a little longer and so our buying price is 100,3%.

The fund caught the downturn approximately one year after it was founded and the price dropped below 65% of its original price. We stayed in our position until September 2010 and we ended up with +13%.

The second test also survived a price drop which was not so intense but more surprising because the global financial markets did not have a corresponding evolution. Still the investment ended up with +12,2% in four years.

- **Stock-based funds sample**

Table 7 - stock market funds sample

Name	SPOROTREND	Top Stocks	GLOBAL FF	STOCKS
Investment company	ISČS	ISČS	ISČS	

Type	Stock based fund		Stock based fund	Stock based fund
Regional orientation	Emerging Europe	markets -	Developed countries	Global
Currency	CZK		CZK	CZK
Entrance fee	0,03		0,03	0,03
Management fee	0,02		0,025	0,018
1Y	-0,0535		0,0848	0,1347
3Y	-0,1156		0,6514	0,5576
5Y	-0,4226		1,0492	0,5611
Property	2.604.495.903,00 CZK		3.546.408.594,00 CZK	443.231.504,00 CZK
Established	31.3.1998		28.8.2006	4.9.2000

Source: Own preparation based on Ceska Sportelna data

Detailed analysis

The portfolio of this fund is constructed by the manager that tries to pick the best shares with a high potential profit. The fund has a minimum of 80% stocks composition at all time.

82% of the fund's investments are in USD, on the other hand only 0,2% in EUR.

If we analyze the structure of shares then over 26% of the property is in biotechnology which is the dominant segment (others have less than 15%).

The funds risk is rated as six (again from scale one to seven) so it is evaluated as very risky.

The ISČS warns the investors before high short-term volatility

The recommended investment horizon is at least five years.

Chart 8 - Top stocks - price development



Source: Own preparation based on Ceska Sportelna data

Backtest results:

Test	Buy	Date	Sell	Date	Balance	Profit/Loss	% P/L
1st test	0,84	1.10.2009	2,011	30.9.2014	239 385,64	139 385,64	139,4%

Source: Own preparation based on Ceska Sporitelna data

This fund contains only one backtest because of its date of establishment. Year 2009 was generally a very good year to enter a long position and at our outcome date the price has more than doubled.

The downturn generally had a higher impact on this fund than on the ISČS bond fund which would correspond with its nature.

- **Mixed funds sample**

Table 16 - Mixed fund sample

Name	CERTIFIKÁTOVÝ FOND	Konzervativní Mix FF	Akciový Mix FF
Investment company	ISČS	ISČS	ISČS
Type	Mixed	Mixed	Mixed
Regional orientation	Global	Global	Global
Currency	CZK	CZK	CZK
Entrance fee	0,025	0,01	0,03
Management fee	0,006	0,005	0,017
1Y	-0,0007	0,0277	0,046
3Y	-9,9999	0,1092	0,3173
5Y	-9,9999	0,1517	0,2589
Property	105 566 556	11.097.671.080,00 CZK	691.630.126,00 CZK
Established		1.6.2005	1.12.1999

Source: Own preparation based on Ceska Sporitelna data

Detailed analysis

The fund Konzervativní Mix FF is composed of low risk bonds, money market instruments (which together create nearly 90% of the portfolio) and shares (which create about 10%). The fund is fully hedged against currency price risk.

The assigned risk category is three and its recommended investment horizon is at least three years.

Chart 9 - Conservative Mix FF funds - price development



Source: Own preparation based on Ceska Sportelna data

Backtest results:

Test	Buy	Date	Sell	Date	Balance	Profit/Loss	% P/L
1 st test	1,01	1.10.2005	0,98	27.9.2008	97 039,31	-2 960,69	-3,0%
2 nd test	0,959	3.10.2008	1,003	30.9.2011	104 555,88	4 555,88	4,6%
3 rd test	0,998	4.10.2011	1,125	30.9.2014	112 641,49	12 641,49	12,6%

Source: Own preparation based on Ceska Sportelna data

The chart shows us that downturn period had an approximately 15% overall price drop to 85% of the initial value. This is the smallest impact from the three analyzed funds of ISČS (bond fund lost about cca 36%, stock fund around 60%). On the other hand the overall profits at the outcome date are the lowest – slightly above 110% (bond fund nearly 130% and stock fund around 180%).

3.3. Selected products of foreign countries

To obtain a complex overview, we must also look at products in foreign countries.

In the following part I will show the results of selected services in order to see if it would be better to invest there.

3.3.1. Chosen foreign savings accounts

When I was trying to analyze international saving accounts I found out that there are several obstacles which make this analysis less reliable.

The big international banks have different information policies than in the Czech Republic.

Here are mostly all necessary information publically available and easy to acquire.

When studying foreign banks, I found out that they mostly refer to individual appointments where they give you all required information. That means that specific details of these accounts are not public.

Therefore I had to pick those banks and countries where these information are accessible.

My assumption was that it has to be a western developed economy with a recognizable financial institution. I also must note, that the ambition here is isn't to name all accounts but to get a general understanding of our return possibilities.

Table 17- Foreign saving accounts⁶⁷

Country	Account	Currency	APY ⁶⁸	Effect of exchange rate	Overall profit in CZK	Date
UK	HSBC UK Savings Account	GBP	0,75%	16,5%	17,4%	Nov, 2014
Finland	Nordea Finland Savings Account	EUR	0,85%	7,5%	8,4%	Nov, 2014
France	Societe Generale Savings Account	EUR	1,25%	7,5%	8,8%	Nov, 2014
Netherlands	ING Savings Account	EUR	1,40%	7,5%	9,0%	Nov, 2014
Luxembourg	Banque de Luxembourg Savings Account	EUR	0,25%	7,5%	7,8%	Nov, 2014
Switzerland	Raiffeisen Switzerland Savings Account	CHF	0,10%	9,8%	9,9%	Nov, 2014

Source: Own preparation based on external data

As we can see the interest varies from nearly zero percent to almost 1,5%. These numbers give us a lead of what the opportunities are. The conclusion is similar as in the case of Czech

⁶⁷ Morningstar, Funds [online]. [cit. 2014-11-05], accessible from <http://www.morningstar.com/Cover/Funds.aspx>

⁶⁸ The profit is measured in the so-called Annual percentage yield (it is based on a compounding period of one year)

savings products. Because of inflation and additionally currency price risk, there is no high motivation in investing into these products because our rate of return will mostly be again negative. The overall result are massively influenced by the currency rates and our profits are positive only because Czech crown was in depreciation during the observed period.

On the other hand we can't state that this would be a permanent situation. Europe is currently in a very exceptional time because of extremely low interests. Moreover, the deposit rate of the European Central Bank is negative⁶⁹ which has never been before.⁷⁰ The reason for this approach is according to the ECB the fact that if commercial banks will not be able to allocate surplus resources to the central bank then they will most likely use them for cheap financing of other entities. The assumption of the ECB is that the banks will not hold these funds because keeping them is connected with several non-negligible costs (e.g. securing them, transport etc.)⁷¹

3.3.2. Chosen funds overview

When we are talking about foreign collective investment products (mostly mutual funds) then we have to understand that in international environment there is an almost indefinite number of them. Moreover, they are classified into many subcategories and sometimes there isn't an exact way of determining their correct category according to our classification.

Therefore every shown category which will be demonstrated will show a group of sub-categories. For example the Allocation funds consists of tens sub-categories such as conservative, aggressive, world category and so on. Subsequently each sub-category has commonly hundreds of specific funds that form this sub-category.

Therefore the table below must be understood as aggregated data which generally show rough capabilities:

⁶⁹ ECB, Interest rates [online]. [cit. 2014-11-08], accessible from: <https://www.ecb.europa.eu/home/html/index.en.html>

⁷⁰ Effective from 10th of September 2014.

⁷¹ ECB, FAQ [online]. [cit. 2014-11-08], accessible from: <https://www.ecb.europa.eu/home/html/faqinterestrates.en.html>

Table 18 - international funds overview⁷², returns are annualized

	1 Year(%) average USD	1 Year(%) average CZK ⁷³	3 Year(%) average USD	3 Year(%) average CZK	5 Year(%) average USD	5 Year(%) average CZK
Allocation Funds	7,28%	24,67%	12,34%	30,55%	9,33%	27,05%
Alternative Funds	-1,49%	14,48%	-1,55%	14,41%	-2,94%	12,80%
Commodities	-6,58%	8,57%	-6,24%	8,96%	-3,65%	11,97%
International Equity Funds	4,01%	20,87%	11,84%	29,97%	6,53%	23,80%
Municipal Bond Funds	7,50%	24,92%	4,18%	21,07%	4,41%	21,33%

Source: Own preparation based on external data

From this table we can state that the overall results are worse in case of commodities and better in equity-based funds. Mixed and debt-based funds are somewhere in the middle. The results of banks are mostly similar due to the fact that all try to diversify their portfolio across different regions and industries and therefore e.g. mixed funds will have comparable outcomes because of their similar composition (of course it also depends on the portfolio manager and his focus).

There probably isn't any point in analyzing any specific fund because it would have to be chosen more or less randomly (practically thousands and thousands of funds are available). Specific results will always be an outcome of our portfolio. It will be about our own preferences and risks that we are willing to undertake.

3.4. Alternative forms of investments

In this part I will try to show other possibilities that we have if we don't want to rely on a financial institution and rather try to invest on our own. I will follow and describe the practical aspect of these possibilities in order which have been shown in the theoretical part.

⁷² Morningstar, Funds [online]. [cit. 2014-11-09], accessible from <http://www.morningstar.com/Cover/Funds.aspx>

⁷³ The one year observation period corresponds with time from the beginning of November 2013 till November 2014.

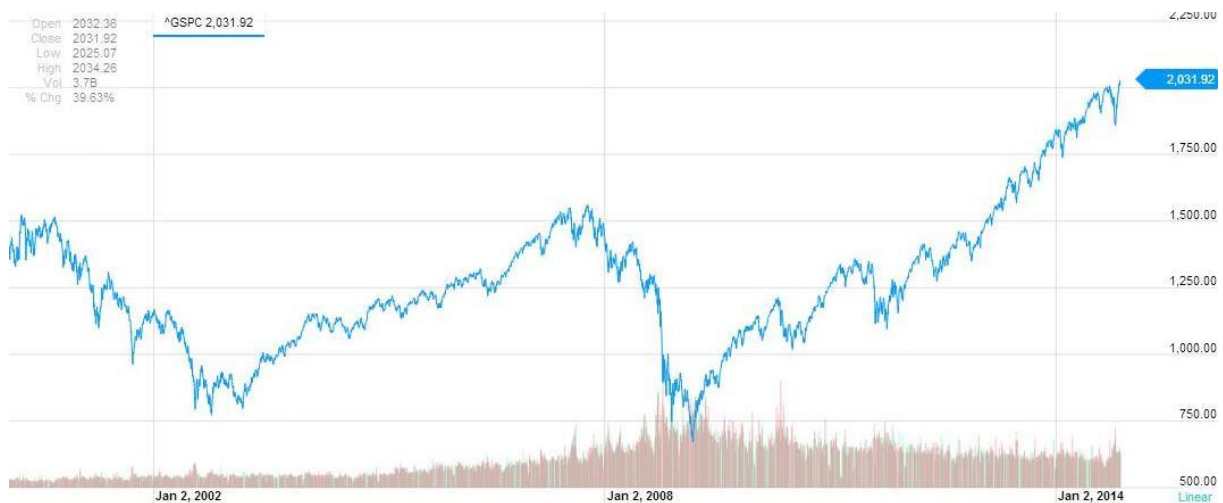
3.4.1. Stock market investments

Individuals that decide to test their skills in the environment of financial markets on their own usually have minimally a general understanding about how markets work and what they can achieve. They have their broker and with his advisory or under individual selection they choose specific shares into which they invest.

The possibilities are in this case endless. We can combine as many shares as we want including different industries, different geographic regions or different risk profile. Because of these reasons we have to come up with a general reference benchmark that would approximate the average returns. Obviously these roles globally play stock market indexes. Universally we can state that the US indexes are a respected benchmark – particularly Standard & Poor's 500 (S&P 500), Nasdaq Composite and the Dow Jones Industrial Average.

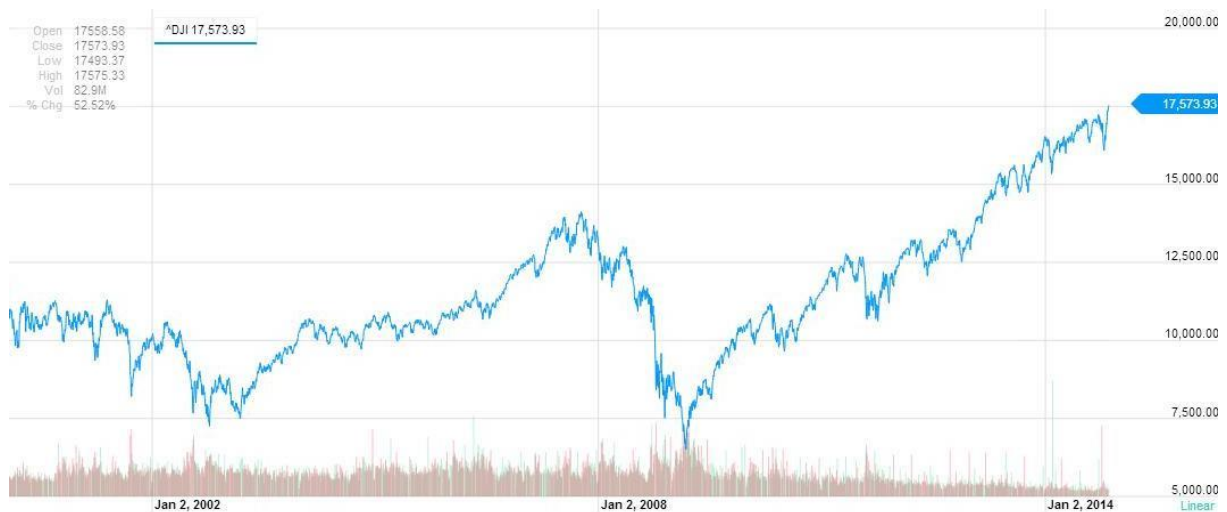
Let's take a brief look at the charts of these indexes (beginning is set to 1st of January 2000):

Chart 10- S&P 500



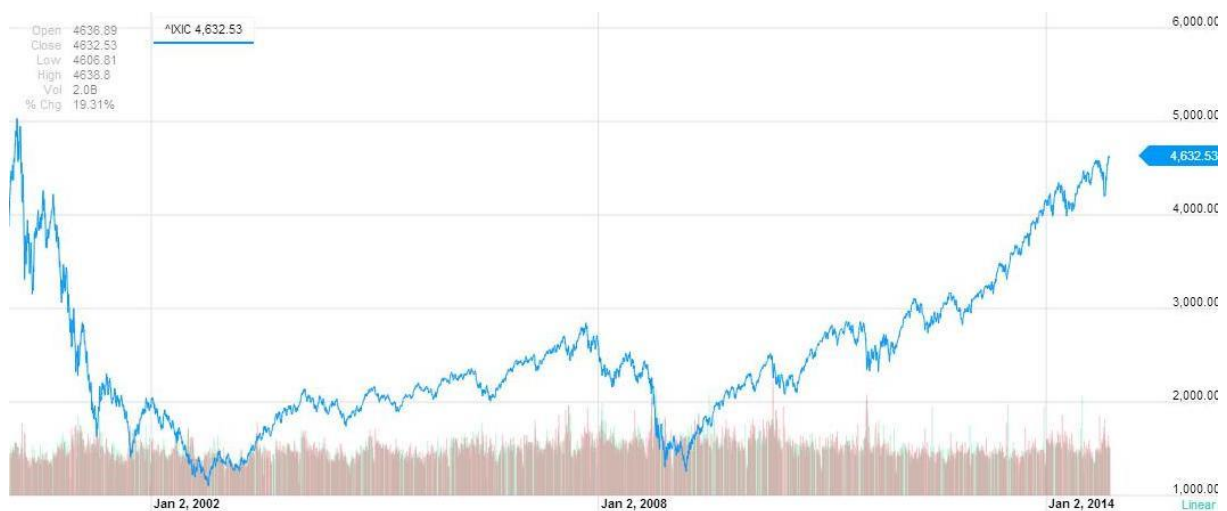
Source: Yahoo Finance, own preparation

Chart 11 - Dow Jones



Source: Yahoo Finance, own preparation

Chart 12 - Nasdaq Composite



Source: Yahoo Finance, own preparation

As we can see the markets are currently having a quite long price growth.

In order to assess the possible price change I will proceed likewise as in mutual fund analysis. Some investors use stocks for short term trading, some understand it as an alternative saving method for their pension despite the fact that it is risky. But generally the recommended time horizon to invest is usually more than five year. Because of that I will show result in 5, 10 and 15 years horizon.

Table 13 - P/L of indexes

S&P 500										
Test	Buy	Buy CZK	Date	Sell	Sell CZK	Date	Balance CZK	Profit/Loss CZK	% P/L CZK	% P/L USD
15 Y test	1 363	45 621	1.10.1999	1 972	43 094	30.9.2014	94 461	-5 539	-6%	45%
10Y test	1 130	28 779	1.10.2004	1 972	43 094	30.9.2014	149 742	49 742	50%	75%
1st 5Y test	1 363	45 621	1.10.1999	1 114	28 420	30.9.2004	62 297	-37 703	-38%	-18%
2nd 5Y test	1 130	28 779	1.10.2004	1 057	18 157	30.9.2009	63 092	-36 908	-37%	-6%
3rd 5Y test	1 030	17 997	1.10.2009	1 972	43 094	30.9.2014	239 449	139 449	139%	91%

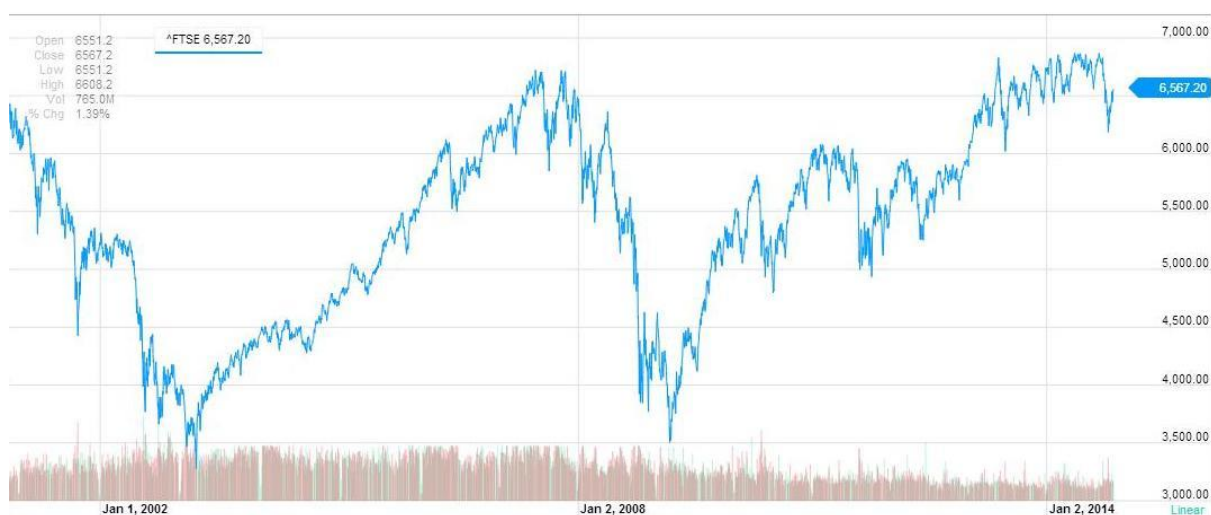
Dow Jones										
Test	Buy	Buy CZK	Date	Sell	Sell CZK	Date	Balance CZK	Profit/Loss CZK	% P/L CZK	% P/L USD
15 Y test	10 273	343 848	1.10.1999	17 043	372 441	30.9.2014	108 316	8 316	8%	66%
10Y test	10 193	259 595	1.10.2004	17 043	372 441	30.9.2014	143 470	43 470	43%	67%
1st 5Y test	10 273	343 848	1.10.1999	10 080	257 161	30.9.2004	74 789	-25 211	-25%	-2%
2nd 5Y test	10 193	259 595	1.10.2004	9 712	166 833	30.9.2009	64 266	-35 734	-36%	-5%
3rd 5Y test	9 509	166 151	1.10.2009	17 043	372 441	30.9.2014	224 158	124 158	124%	79%

Nasdaq comp										
Test	Buy	Buy CZK	Date	Sell	Sell CZK	Date	Balance CZK	Profit/Loss CZK	% P/L CZK	% P/L USD
15 Y test	2 737	91 610	1.10.1999	4 493	98 186	30.9.2014	107 178	7 178	7%	64%
10Y test	1 942	49 459	1.10.2004	4 493	98 186	30.9.2014	198 520	98 520	99%	131%
1st 5Y test	2 737	91 610	1.10.1999	1 897	48 396	30.9.2004	52 829	-47 171	-47%	-31%
2nd 5Y test	1 942	49 459	1.10.2004	2 122	36 452	30.9.2009	73 701	-26 299	-26%	9%
3rd 5Y test	2 057	35 942	1.10.2009	4 493	98 186	30.9.2014	273 178	173 178	173%	118%

Source: Own preparation based on Yahoo Finance data

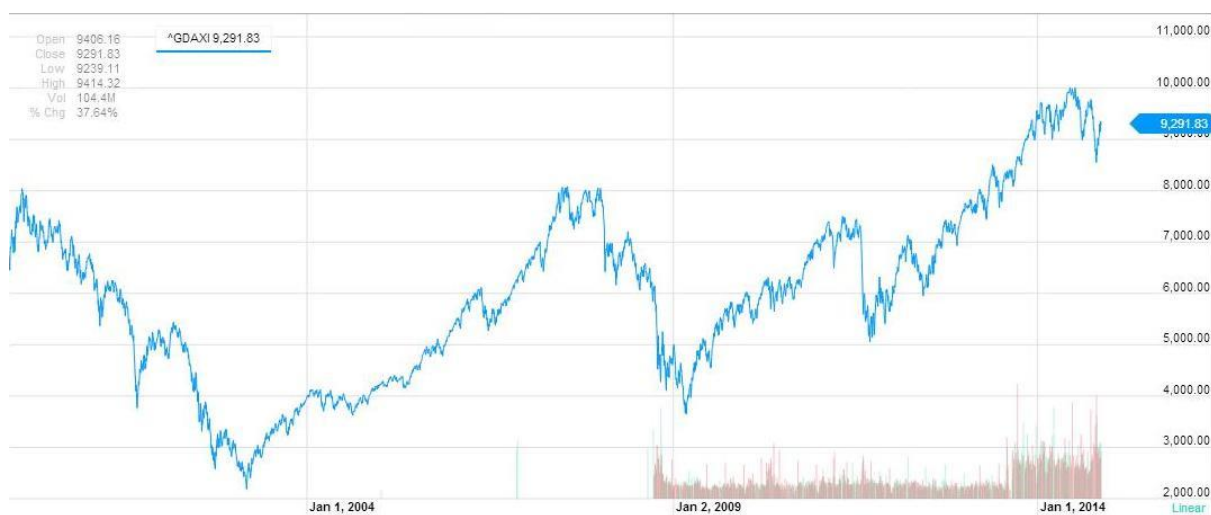
These three indexes are globally respected but we should also study the prices in Europe. These are mostly Financial Times Stock Exchange (FTSE, England) and the Deutscher Aktienindex (DAX, Germany).

Chart 14 - FTSE



Source: Yahoo Finance, own preparation

Chart 15 - DAX



Source: Yahoo Finance, own preparation

Their results are summarized as follows:

Table 19 - P/L results

FTSE										
Test	Buy	Buy CZK	Date	Sell	Sell CZK	Date	Balance CZK	Profit/Loss CZK	% P/L CZK	% P/L GBP
15 Y test	5 971	213 344	1.10.1999	6 623	182 133	30.9.2014	85 370	-14 630	-15%	11%
10Y test	4 660	147 326	1.10.2004	6 623	182 133	30.9.2014	123 626	23 626	24%	42%
1st 5Y test	5 971	213 344	1.10.1999	4 571	144 718	30.9.2004	67 833	-32 167	-32%	-23%
2nd 5Y test	4 660	147 326	1.10.2004	5 134	129 197	30.9.2009	87 695	-12 305	-12%	10%
3rd 5Y test	5 048	128 270	1.10.2009	6 623	182 133	30.9.2014	141 992	41 992	42%	31%

DAX										
Test	Buy	Buy CZK	Date	Sell	Sell CZK	Date	Balance CZK	Profit/Loss CZK	% P/L CZK	% P/L EUR
15 Y test	5 125	183 116	1.10.1999	9 474	260 535	30.9.2014	142 278	42 278	42%	85%
10Y test	3 995	126 302	1.10.2004	9 474	260 535	30.9.2014	206 280	106 280	106%	137%
1st 5Y test	5 125	183 116	1.10.1999	3 893	123 252	30.9.2004	67 308	-32 692	-33%	-24%
2nd 5Y test	3 995	126 302	1.10.2004	5 675	142 811	30.9.2009	113 071	13 071	13%	42%
3rd 5Y test	5 555	141 153	1.10.2009	9 474	260 535	30.9.2014	184 577	84 577	85%	71%

Source: Source: Own preparation based on Yahoo Finance data

And lastly we must not forget about the Prague stock market index PX.

Chart 16- PX price development



Source: Patria, own preparation

Table 20 - PX results

PX							
Test	Buy	Date	Sell	Date	Balance	Profit/Loss	% P/L
15 Y test	492	1.10.1999	991	30.9.2014	201 422,76	101 422,76	101%
10Y test	872	1.10.2004	991	30.9.2014	113 646,79	13 646,79	14%
1st 5Y test	492	1.10.1999	875	30.9.2004	177 845,53	77 845,53	78%
2nd 5Y test	872	1.10.2004	1157	30.9.2009	132 683,49	32 683,49	33%
3rd 5Y test	1152	1.10.2009	991	30.9.2014	86 024,31	-13 975,69	-14%

Source: Source: Own preparation based on Patria data

As was done in mutual funds, the test always ends at our outcome date.

The ten and fifteen years tests have relatively good results but we must bear in mind that the reached price change is in many years. The first and second five year test ended up with losses or low profits. This is because of decreasing price from approximately 2000 till 2002 (started as dot-com bubble). The second 5Y period is of course influenced by the crisis.

The PX index did not suffer such great losses which could be connected with fact that even though we had a recession, it was not as critical in comparison with some countries in south Europe.

The results of performed tests show the same trends in all foreign indexes. This is due to their high correlations.

If we observe the outcomes we can make some general conclusions.

We can't state that the markets will always increase in the recommended horizon. Our funds can be on the same level even after a decade (for example from 2000 to 2010 on US indexes in USD).⁷⁴ My opinion is that if someone wants to generate higher profits than average then he has to be much more active and a strategy "buy and hold" will not guarantee profits.⁷⁵

3.4.2. Precious metals

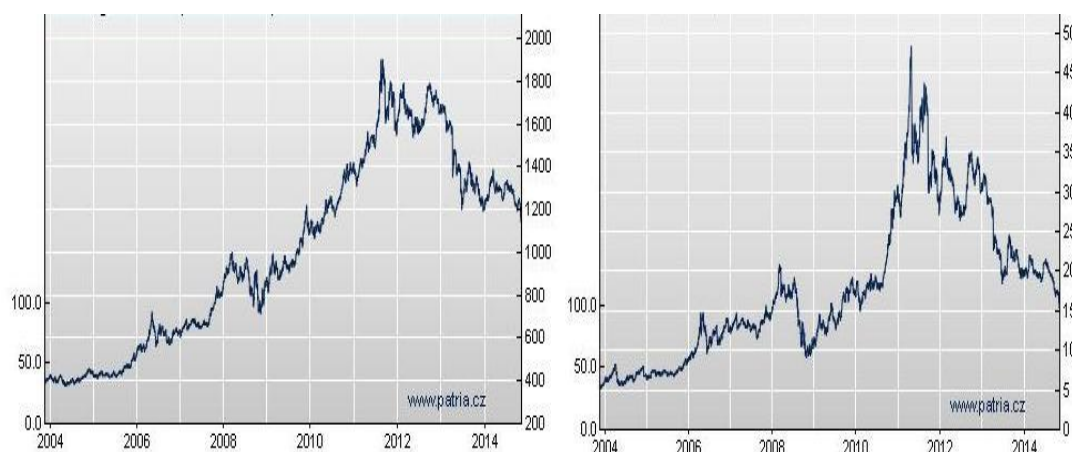
As I described in the theoretical part, precious metals consist of gold, silver, platinum and palladium. Metals are often understood as a safe bet when stocks are experiencing a price decrease. Because the small investor usually comes into contact with the first two mentioned, the platinum and palladium is taken as an outlier and will not be further analyzed.

The price developments of gold and silver are shown in the charts below.

⁷⁴ In addition there is no inflation considered.

⁷⁵ On the other hand if someone invests in his youth and collects his profits after many decades, than we can assume that he will make a profit which will correspond with the development of the global economy. Of course we are not able to avoid events that would have massive impact such as world wars etc.

Chart 21 – gold, silver



Source: Patria, own preparation

Table 22 - gold and silver P/L results

gold										
Test	Buy USD	Buy CZK	Date	Sell USD	Sell CZK	Date	Balance CZK	Profit/Loss CZK	% P/L CZK	% P/L USD
15 Y test	308	10 309	1.10.1999	1 206	26354,72	30.9.2014	255 646	155 646	156%	292%
10Y test	422	10 747	1.10.2004	1 206	26354,72	30.9.2014	245 217	145 217	145%	186%
1st 5Y test	308	10 309	1.10.1999	419	10689,53	30.9.2004	103 691	3 691	4%	36%
2nd 5Y test	422	10 747	1.10.2004	1 006	17281,07	30.9.2009	160 792	60 792	61%	138%
3rd 5Y test	1044	18 242	1.10.2009	1 206	26354,72	30.9.2014	144 474	44 474	44%	16%

silver										
Test	Buy USD	Buy CZK	Date	Sell USD	Sell CZK	Date	Balance CZK	Profit/Loss CZK	% P/L CZK	% P/L USD
15 Y test	5,58	187	1.10.1999	16,85	368,2231	30.9.2014	197 155	97 155	97%	202%
10Y test	6,87	175	1.10.2004	16,85	368,2231	30.9.2014	210 455	110 455	110%	145%
1st 5Y test	5,58	187	1.10.1999	6,90	176,0328	30.9.2004	94 252	-5 748	-6%	24%
2nd 5Y test	6,87	175	1.10.2004	16,62	285,4984	30.9.2009	163 174	63 174	63%	142%
3rd 5Y test	16,31	285	1.10.2009	16,85	368,2231	30.9.2014	129 208	29 208	29%	3%

Source: Patria, own preparation

In the theoretical part was already mentioned that metals are quite volatile and I would not recommend it as a single instrument for a retail investor.

Interesting is the result of the second 5Y test. This is the period where the stock based instruments usually failed but metals show very good results. This relates with what has

been said – that metals are understood as a safe investment in crisis and therefore its price rises.

Overall it has extreme price changes that can't be recommended for general investing. In my opinion one has to perfectly know the instrument and have good risk management in order to profit from such instrument in the long term.

3.4.3. Real estate

Real estate is one of the very traditional investments. Individuals often use mortgages to finance their own housing which could be also understood as a type of savings and can serve as a source of income when people retire.

There are many macroeconomic indicators which measure movements on the real estate market. We can mention for example:

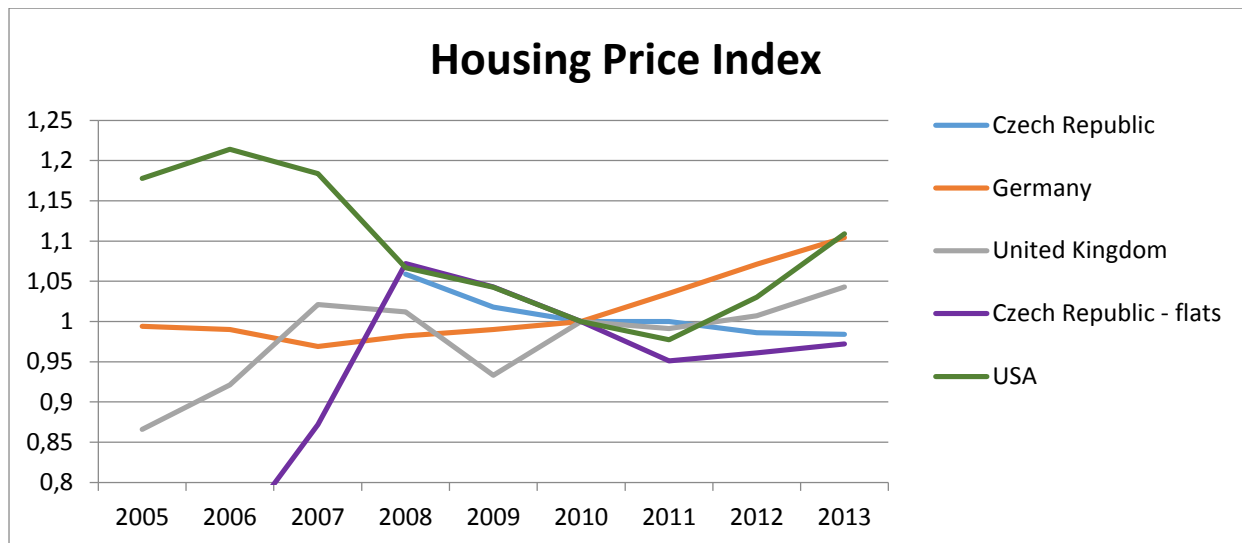
- Building permits - this should very closely tell us the amount of buildings that will be constructed in the futures
- New Home Sales – amount of sold homes sold during a previous period
- Pending Home Sales – number of homes under contract that will be sold but still awaiting the closing transaction, new homes are excluded
- House Price Index

Further I will analyze the House Price Index that is widely used to monitor current prices.

The below presented data have been taken from Eurostat, Federal Housing Finance Agency (US) and Czech Statistical Office.

Data are relative with year 2010 taken as 100%. The Czech Republic housing price index is available only from 2008. It is also possible to compare Czech Republic houses with flats (blue and purple line).

Chart 23 - HPI for particular countries



Source: Own preparation

What I find interesting is that the trends are actually ambiguous. In other words the correlation is quite low. As we can see the USA housing market declined from 120% in 2006 to 98 % where it had its low. On the other hand, housing prices in United Kingdom are relatively stable and Germany even has a constant growth of prices.

This means that impact of the crisis onto the housing market was not the same in all countries.

The prices of flats and housing in the Czech Republic have a very similar development. The correlation coefficient in this period is almost 90%.

If we invested 100 thousand CZK into a flat in 2005 (Czech Republic), we would theoretically be gaining approximately 46% by now. If it would be into a house and the investment started in 2008⁷⁶ we would be loosing circa 7% (9% in case of a flat).

3.5. Risk management

If somebody is seriously thinking about investing then one of the first spheres that he should study is risk management and money management.

The point is to protect our money before foolishly burning them on investments that are not rational from the aspect of our strategy, risk profile or financial possibilities.

⁷⁶ The data are only available from this date.

This next part will try to explain some easy management techniques that a normal consumer can use.

One key instrument that I want to point out here which is connected with investing on financial markets is the technique of Stop Loss⁷⁷. This is a special market order which closes our position with a loss at a previously defined price. There is an obvious question. Why should we close a position if it is loosing?

Let's demonstrate on an example and assume that we invested our money before the financial crisis in 2007 into some financial institution.

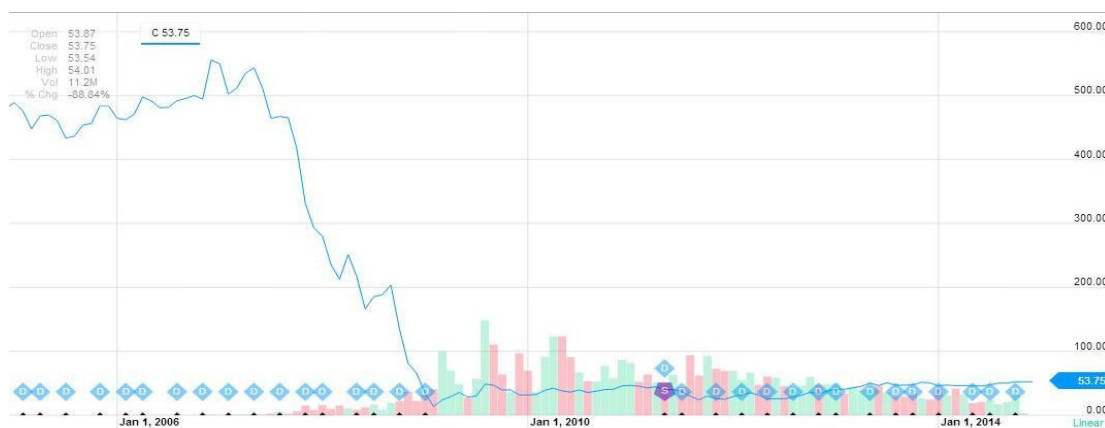
Nobody knew what was coming and most analytics forecasted continuing growth. One day we find out that our stocks are -5% - normal price fluctuation. Then -10% - the individual thinks that it is a big drop but his broker calms him down that now the market must turn upwards.

-20% - some investor can start panicking, others can recommend buying more stocks because the price is so low. -40% - investor thinks that the loss is now too huge to exit the position. -60% - the investor is desperate and loses hope.

Let's pretend that in our fictitious example the interim bottom is -70%. Here it can be one day and then go back or it can stay here for a decade.

How would the individual feel if he lost e.g. 7% instead of 70%? He would probably feel like if he won in a lottery. Because somebody could argue that this example is too far from reality I'm attaching the chart of CitiGroup from the last decade.

Chart 17 - Citigroup price development



⁷⁷ NESNÍDAL Tomáš, PODHAJSKÝ Petr: Money management a risk management, Financnik.cz, 2011, st 37

Before crisis the stocks was traded for 500 dollars, today for 50 dollars.

Nobody in the world likes closing a losing position. It is demotivating and it hurts.

Everybody thinks they will be the winner because nobody enters a position with an intention to lose. Closing with a loss means that we have to admit that we were wrong and that could be uneasy.

For me a stop loss is an essential part of investing. With this tool I know that I am safe and I know what worst thing can happen to me (the predefined amount of loss) and I am mentally prepared for it. With this I know that the next trade I make can't ruin my account and even if things go really bad I will have no problems.

Not using a stop loss means that I think that my investments will never go wrong and I will always make a profit. If somebody really thinks that then he rather shouldn't invest.

My recommendation is to cut off the losing positions effectively⁷⁸ and move on to new trades.

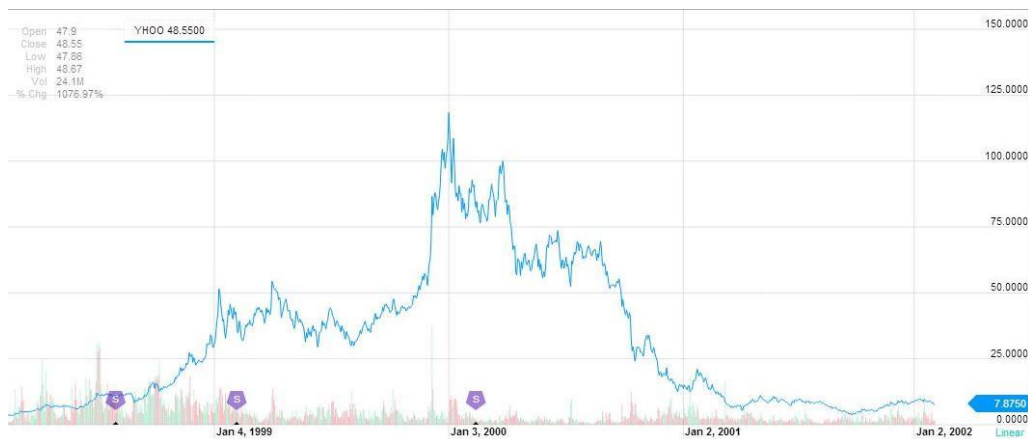
All coins have two sides and in this case the second side is a market order called Profit Target. This order closes our position on a predefined price with a profit.

Again the reader could argue that we could close our position too early and lose many of the long trends which doesn't make sense.

Let's start again with an example and pretend that we bought Yahoo Inc. before year 2000.

⁷⁸ Of course not all losing position should be closed. A detailed analysis must tell us to what extent can we let the losing position let go and what is too much.

Chart 18 - Yahoo price development



Source: Finance Yahoo, own preparation

The company was one of the leaders of the internet revolution and the stock price corresponded. Let's assume that we entered into position in January 1999 and now we are +100%. If we didn't set a profit target and we don't have any exit strategy either, then the following can happen. Our +100% profit started to shrink to 80%, 60%, 30% and at the end of year 2000 we are in a loss. And again the lack of any strategy would let us go into a loss despite the fact that we were making +100%. As everybody knows the so called Dot-com bubble came and the stocks of all technology-internet based companies dropped.

Because investing is very emotional, one can just very hardly let the profits go and the investor still hopes that if he was making +100% then it just has to get back. Of course it can but it could take many years or it doesn't have to happen at all. In case of mentioned Yahoo, it didn't and today is traded for cca 50 USD (its historical high is around 108 USD).

With a wisely set ⁷⁹profit target we will exit our position on time and will never leave a profitable position without making an actual profit.

The counter argument could be that we will never participate on a long term trend, but this could be avoided with some advanced techniques like trailing stop loss etc.

⁷⁹ As in case of stop loss, the height of a profit target must be the result of a detailed analysis.

In connection with these targets we should also consider the relationship between our intended stop losses and profit targets. In long-term investing we should always have our targets several times higher than our potential losses but never lower.

If I should summarize this part then I would say that we have to know, where our limits are and if our investing makes sense. We can't only rely on our counter party – financial institution and their advisory. We have to spend some time with our own research if we would like to achieve higher profits than the average.

4. Conclusion

Throughout this thesis I have tried to show different types of investment opportunities with respect to their risk profile.

We must understand that in the time of writing this text we are in conditions of low interest rates and therefore the current products are greatly influenced by this factor.

On the other hand we also currently have very low inflation which moderately lowers the effect of the interest rate.

Main savings products of the dominant banks in the Czech Republic have been presented. Generally they do not show good results in terms of rate of return and should be understood as a product with negative real profits. In case of foreign banks the conclusion is analogical.

An alternative is building savings. It is able to beat the inflation and can be recommended to the public as an advantageous product mostly because of the state support despite the fact that is continuously decreasing. On the other hand it will definitely not bring high profits in terms of gains in tens of percent.

One of the core parts of this thesis was the presentation of funds that the banks offer. It is important to note that in my opinion they constitute a relevant form of investing that is appropriate for the retail investor. It is also necessary to understand that they actually bring serious potential unlike the previous products. Their results vary according to their investment horizon, composition or riskiness.

We can state that all presented funds were significantly affected by the downturn and practically no portfolio has been able to eliminate the crisis.

We can also state that no type of fund (stock, bond, mixed) was able to achieve better results than the rest across different banks. One aspect that occurred (which was supposed and thus confirmed) was that the more stocks the fund has in its composition the higher volatility has been observed.

When correct risk management techniques are implemented, I would recommend investing into an appropriate fund that will suit our expectations.

Stocks have analogical trends as funds (or vice versa). The results of presented key global indexes have commonly higher returns which are compensated by higher risk. On the other hand there are long periods where for example even after a decade we might not be profiting on our position. Therefore we can't assume that we will always gain in the long term. Hence, this product is for people that have higher financial awareness and are able to sustain a loss.

Precious metals are in my opinion not an appropriate instrument for individuals. They are characteristic for their high volatility which is hard to predict. I understand metals as an outlier and if used, than as a marginal fraction of our portfolio.

Probably most common serious investments are our own houses or flats. This can be understood as a type of savings. Its price grows in time and also can be rented. Most people realize that this is a long term activity that pays out especially in retirement. There is a general consensus in positive recommendations regarding real estate investing.

My personal suggestion is that people should try to understand and spend time or even money on their own financial education in order to understand at least fundamentals of capital gains. This is so important because of demographic changes that our society faces. There is no doubt that we will have serious problems with financing our retired in the future. The only way according to my view is to prepare ourselves and invest through our whole life in order to maintain our living standards.

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