Comparison of UK and CZ Banking Accounts
Srovnání Britských a Českých bankovních účtů

Student: Václav Baron
Vedoucí bakalářské práce: Ing. Miroslav Čulík, Ph.D.

Ostrava/Huddersfield 2013
VŠB - Technical University of Ostrava
Faculty of Economics
Department of Finance

Bachelor Thesis Assignment

Václav Baron

Study Programme: B6202 Economic Policy and Administration
Study Branch: 6202RO10 Finance
Specialization: 00 Finance
Title: Porovnání britských a českých bankovních účtů
The Comparison of British and Czech Banking Accounts

Description:
1. Introduction
2. Literature Review: B2C Banking
3. Banking Systems: UK and CZ
4. Research Methods
5. Analysis, Findings and Conclusion
Bibliography
List of Abbreviations
Declaration of Utilization of Results from the Bachelor Thesis
List of Annexes
Annexes

References:

Extent and terms of a thesis are specified in directions for its elaboration that are opened to the public on the web sites of the faculty.

Supervisor: Ing. Miroslav Čulík, Ph.D.

Date of issue: 23.11.2012
Date of submission: 10.05.2013

Ing. Iveta Ratmanová, Ph.D. Head of Department
prof. Dr. Ing. Dana Dluhošová Dean of Faculty
Prohlašuji, že jsem celou práci, včetně všech příloh, vypracoval samostatně.

Podpis a Datum odevzdání:

[Signature]

v Ostravě, dne 18. 6. 2013
Abstract

The dissertation main goal is to compare basic banking products of Czech and British banks from investor’s and regular client’s point of view.

The ‘Literature review – B2C Banking’ chapter introduces researched banks from their business appearance and their brief history of their operation on the market. The ‘Banking Systems: UK and CZ’ chapter underlines the fundamental parts of banking systems such as basic functions of a bank and difference in banking systems. Also it will cover the banking products concerning regular client of the bank and it will also address the important factor influencing the costs and yield of a banking product such as inflation and interest rate.

The ‘Research Methods’ chapter addresses the methodological approach to the topic of the dissertation in a term of philosophy, approach and the way how the data were collected.

The main research is described in the chapter ‘Analysis, Findings and Conclusion’, also the formulas used for calculations are described and main research is conducted by using different scenarios for calculation of the Future value and Monthly annuity. The results of the research are discussed and evaluated in the same chapter and the section ‘Conclusion’ presents recommendations.
Acknowledgement

I would like to thank my British personal tutor Olu Aluko for useful advice and new insight and also I would like to thank my Czech personal tutor Ing. Miroslav Čulík, Ph.D., for his great help with my research. Last thanks go to my family for their moral support and help.
## Table of Content

Abstract ...................................................................................................................................... 4  
Acknowledgement ...................................................................................................................... 6  
Table of Content ......................................................................................................................... 7  
List of Graphs ............................................................................................................................. 9  
List of Tables ............................................................................................................................ 10  
1. Introduction ...................................................................................................................... 12  
2. Literature review: B2C Banking ...................................................................................... 13  
3. Banking Systems: UK and CZ ............................................................................................. 15  
   3.1. Banks and banking systems in Czech Republic and United Kingdom ......................... 15  
      I. The basic function of banks ....................................................................................... 16  
      II. The Banking Systems ............................................................................................ 18  
   3.2. The Banking Products ............................................................................................... 20  
      3.2.1. Deposit banking products .................................................................................... 21  
   3.3. Inflation ......................................................................................................................... 24  
   3.4. Interest rate and its taxation............................................................................................ 25  
4. Research Methods ............................................................................................................ 26  
   I. Philosophy ..................................................................................................................... 26  
   II. Approach ....................................................................................................................... 26  
   III. Data Collection and Analysis Method ....................................................................... 27  
5. Analysis, Findings and Conclusion .................................................................................. 29  
   5.1. Analysis of collected data ............................................................................................. 29  
      5.1.1. Collection of data ................................................................................................... 29  
      5.1.2. Term account, bank bonds and current account formulas - calculation of the yield 31  
   5.2. Findings ......................................................................................................................... 34  
      a. Term account and bank bond overview ......................................................................... 34  
         i. Czech Term accounts – The research ........................................................................ 36  
         ii. British Bank bonds – The research ............................................................................. 40  
         iii. Liquidity of Term account and Bank bond ............................................................ 44  
      b. Current account research ............................................................................................... 45  
      c. Current accounts overview ............................................................................................ 46
<table>
<thead>
<tr>
<th></th>
<th>Current account research – observation of annual development – Czech accounts</th>
<th>48</th>
</tr>
</thead>
<tbody>
<tr>
<td>ii.</td>
<td>Current account research – observation of annual development – British accounts</td>
<td>53</td>
</tr>
<tr>
<td>iii.</td>
<td>Current account research – observation of development of monthly annuity – Czech current accounts</td>
<td>56</td>
</tr>
<tr>
<td>iv.</td>
<td>Current account research – observation of development of monthly annuity – British current accounts</td>
<td>65</td>
</tr>
<tr>
<td>5.3.</td>
<td>Evaluation of research</td>
<td>69</td>
</tr>
<tr>
<td>5.3.1.</td>
<td>Term account and bank bonds – evaluation</td>
<td>69</td>
</tr>
<tr>
<td>5.3.2</td>
<td>Current account - evaluation</td>
<td>71</td>
</tr>
<tr>
<td>I.</td>
<td>Future value scenario</td>
<td>71</td>
</tr>
<tr>
<td>II.</td>
<td>Monthly annuity scenario</td>
<td>72</td>
</tr>
<tr>
<td>5.4.</td>
<td>Conclusion</td>
<td>73</td>
</tr>
<tr>
<td>Reference List</td>
<td>74</td>
<td></td>
</tr>
</tbody>
</table>
List of Graphs

Graph 5.1 - Future Value not including inflation and tax – Czech term accounts ................. 36
Graph 5.2 - Future Value including tax – Czech term accounts ............................................ 37
Graph 5.3 - Future Value including inflation – Czech term accounts ..................................... 38
Graph 5.4 - Real Future Value including tax and inflation – Czech term accounts ............... 39
Graph 5.5 - Future Value not including inflation and tax – British Bank bonds .................. 40
Graph 5.6 - Future Value including tax – British Bank bonds .............................................. 41
Graph 5.7 - Future Value including inflation – British Bank bonds ...................................... 42
Graph 5.8 - Real Future Value including inflation and tax – British Bank bonds ................ 43
Graph 5.9 - Future Value not including inflation and tax – Czech current accounts ............ 49
Graph 5.10 - Future Value including tax – Czech current accounts ....................................... 50
Graph 5.11 - Future Value including inflation – Czech current accounts ............................. 51
Graph 5.12 - Real Future Value including tax and inflation – Czech term accounts ............ 52
Graph 5.13 - Future Value including tax – British current accounts ....................................... 54
Graph 5.14 - Real Future value including inflation and tax – British current account ........... 55
Graph 5.15 - Monthly Cm not including inflation and tax – Czech current accounts ........... 58
Graph 5.16 - Monthly Cm not including inflation and tax - last third of the year – Czech current accounts ................................................................. 58
Graph 5.17 - Monthly Cm including tax – Czech current accounts ........................................... 60
Graph 5.18 - Monthly Cm including tax - last third of the year – Czech current accounts ...... 60
Graph 5.19 - Monthly Cm including inflation – Czech current accounts ............................... 62
Graph 5.20 - Monthly Cm including inflation - last third of the year – Czech current accounts ........................................................................................................ 62
Graph 5.21 - Monthly Cm including inflation and tax – Czech current accounts .................... 64
Graph 5.22 - Monthly Cm including inflation and tax - last third of the year – Czech current accounts ........................................................................................................ 64
Graph 5.23 - Monthly Cm including inflation and tax – British current accounts ................. 68
Graph 5.24 - Percentage difference development - term accounts and bank bonds ................. 65
Graph 5.25 - Percentage difference development of Future Value - current accounts .......... 67
Graph 5.26 - Percentage difference development of monthly annuity - current accounts .... 69
List of Tables
Table 5.1 - The overview of Czech term accounts 34
Table 5.2 - The overview of British term accounts 35
Table 5.3 - Simple calculation of Future Value and Percentage difference – Czech term accounts 36
Table 5.4 - Calculation of Future Value and Percentage difference including tax – Czech term accounts 37
Table 5.5 - Calculation of Future Value and Percentage difference including inflation – Czech term accounts 38
Table 5.6 - Calculation of Future Value and Percentage difference including inflation and tax – Czech term accounts 39
Table 5.7 - Simple calculation of Future Value and Percentage difference – British bank bonds 40
Table 5.8 - Calculation of Future Value and Percentage difference including tax – British bank bonds 41
Table 5.9 - Calculation of Future Value and Percentage difference including inflation – British bank bonds 42
Table 5.10 - Calculation of Future Value and Percentage difference including inflation and tax – British bank bonds 43
Table 5.11 - The overview of Czech current accounts 46
Table 5.12 - The overview of British current accounts 47
Table 5.13 - Simple calculation of Future Value and Percentage difference – Czech current accounts 49
Table 5.14 - Calculation of Future Value and Percentage difference including tax – Czech current accounts 50
Table 5.15 - Calculation of Future Value and Percentage difference including inflation – Czech current accounts 51
Table 5.16 - Calculation of Future Value and Percentage difference including inflation and TAX – Czech current accounts 52
Table 5.17 - Calculation of Future Value and Percentage difference including tax – British current accounts 54
Table 5.18 - Calculation of Future Value and Percentage difference including inflation and tax – British current accounts 55
Table 5.19 - The overview of Czech current account monthly annuity 56
Table 5.20 - Simple calculation of $C_m$ of each month and percentage difference - first half of the year – Czech current accounts 57
Table 5.21 - Simple calculation of $C_m$ of each month and percentage difference – second half of the year – Czech current accounts 57
Table 5.22 - Calculation of $C_m$ of each month and percentage difference including tax - first half of the year – Czech current accounts 59
Table 5.23 - Calculation of $C_m$ of each month and percentage difference including tax - second half of the year – Czech current accounts 59
Table 5.24 - Calculation of $C_m$ of each month and percentage difference including inflation - first half of the year – Czech current accounts 61
Table 5.25 - Calculation of $C_m$ of each month and percentage difference including inflation - second half of the year – Czech current accounts

Table 5.26 - Calculation of $C_m$ of each month and percentage difference including inflation and tax - first half of the year – Czech current accounts

Table 5.27 - Calculation of $C_m$ of each month and percentage difference including inflation and tax - second half of the year – Czech current accounts

Table 5.28 - The overview of British current account monthly annuity

Table 5.29 - Calculation of $C_m$ of each month and percentage difference including tax - first half of the year – British current accounts

Table 5.30 - Calculation of $C_m$ of each month and percentage difference including tax - second half of the year – British current accounts

Table 5.31 - Calculation of $C_m$ of each month and percentage difference including inflation and tax - first half of the year – British current accounts

Table 5.32 - Calculation of $C_m$ of each month and percentage difference including inflation and tax - second half of the year – British current accounts
1. Introduction

The issue of maintaining ‘healthy’ personal finances and finding the right balance of risk and yield is ever-lasting and is important especially in a light of uncertainty brought by recent recession which, still influences the modern world economy according to many economists. As an example of a high-risk investment the recent emergency taxation in Cyprus may be used. With very high interest rates, as reported by TRADING ECONOMICS (2012): ‘Cyprus Interest Rate averaged 2.6 Per cent reaching an all-time high of 4.8 Per cent in October of 2000’, current state of Cyprus economy started to be untenable at the beginning of 2013 and as Wearden (2013) reported, there is an increasing pressure put on the Cyprus to reform its banking system and decreasing of high interest rates.

Personal investments are a very important part of our economical existence in our life. There have been many researches and financial surveys dedicated to the search for the best investing option for the clients of the banks. However after extensive research of the author of the dissertation it was observed that many of the surveys, webpages and researches exploring financial investments and storage of money have lacked international comparison between different facets of the most basic banking products.

Nevertheless the spectrum of all the European banking products is too broad and to be meaningfully compared it is necessary to focus on a representative candidates from Western Europe and Eastern Europe. The United Kingdom, as a representative of more mature market of the Western Europe, and Czech Republic, as one of the most developed Eastern European country, seems to be a fitting choices for candidates.

Also it is acknowledged that Czech banks charge their customers for many services that are usually free in the UK although Czech banks offer interest on the current account while British banks have zero appreciation and therefore the dissertation will research if the interest rates offered by Czech banks on current account can cover the costs of current accounts.

The aim of the dissertation will be objective comparison of the basic banking products – the current account, the term account and bank bonds of the three most distinguished banks in each country and thereby point out the more advantageous market for either saving money or investing into term account or bonds. The goal is to compare the costs, fees, interest rates and overall yield or the loss that will happen to the client of the bank while using the formulas for time value of money and taking into account extra benefits and liquidity of term accounts and baking bonds.
2. Literature review: B2C Banking

In this section individual banks are described, particularly their brief history. The British banks are listed first followed by Czech banks.

First examined bank is Lloyds TSB. This bank belongs to Lloyds Banking group nowadays but started in 1810 in Scotland as a part of TSB (Trustee Savings Banks) group.

In 1995 TSB group merged with Lloyds bank and created Lloyds TSB bank – modern bank as we now know it.

Lloyds TSB Group plc. was renamed Lloyds Banking Group plc. on 19 January 2009, following the acquisition of HBOS plc. It is one of the largest Banking groups in UK and their brands are well known, e.g. Lloyds TSB, Halifax, Bank of Scotland and St. James’s Place Bank.

The next bank is NatWest. On NatWest History page there are 2 main events worth of notice; ‘In 1968 National Provincial Bank (est.1833) and Westminster Bank (est.1836), merged as National Westminster Bank.

NatWest is now part of one of the world’s largest financial services groups’. This group is called ‘RBS Group’. The Royal Bank of Scotland (RSB) provides banking and financial services to over 40 countries. The Group operates retail and commercial businesses with a focus on the United Kingdom, Republic of Ireland and Unites States (NatWest’s History page).

Last of the British bank is Barclays. The history of Barclays bank is described at their History page. In 1690 John Freame and Thomas Gould started to participate in trade with gold in London and so they set foundation of Barclays bank. Since then Barclays grew and began to establish subsidiaries all across the world in over 50 countries e.g. China, USA, Egypt, Ireland [although not in central Europe] (Barclays’s History page).

In the summary of the British banks it is noticeable that British banks tend to have long business history (between 200 and 350 years approximately). Also many of these banks experienced mergers with other banks and these merges influenced their modern names. Also NatWest and Barclays have subsidiaries in almost every continent and so they spread the business risk. Lloyds TSB and NatWest (NatWest just recently decided to change its focus priority) focus more on the UK market.

First of the examined Czech banks is ČSOB – Československá Obchodní Banka. In English: Czechoslovak Trade Bank. ČSOB works as universal bank in Czech Republic. According to ČSOB History web page it was established by state in 1964 as a bank for providing services in the area of financing foreign trades and in the area of convertible currency. In June 1999 ČSOB was privatized and its major owner became KBC Bank, which is a part of group KBC and by buying up the minor shares it became the only stockholder in 2007. ČSOB operated on the Czech and Slovak market until the end of year 2007 and Slovak branch was separated at the beginning of year 2008.

ČSOB is one hundred per cent subsidiary company of KBC Bank (ČSOB’s History page).
The next examined bank is Raiffeisen Bank. Raiffeisenbank a.s. provides large spectrum of financial services in Czech Republic since year 1993. Raiffeisenbank’s main clients are individuals and entrepreneurs. These dates were consulted with Reiffesien’s bank History page.

The main shareholder with 75 per cent is Austrian financial institution Raiffeisen Bank International AG (RBI). Raiffeisen Bank International was established in 2012 by merger of Raiffeisen International and part of Raiffeisen Zentralbank.

The majority shareholder of Raiffeisen Bank International is Raiffeisen Zentralbank with approximately seventy eight percent. (Raiffeinsen’s History page)

Last examined Czech bank is GE Money Bank. The parent company GE (General Electric) was founded more than a hundred years ago, in 1892, by the ingenious inventor Thomas Alva Edison.

GE Money bank is part of GE Money Group which operates in Czech Republic since year 1997 (GE Money’s Information page).

To summarize examined Czech banks it is necessary to underline one aspect of history of Czech Republic and that is the influence of Communistic governments. It is well established fact that a Communistic government was opposed to admit any ‘Western’ companies into domestic market and was very strict on regulatory rules regarding financial institutions. The era of communism ended in Czech Republic in 1990 resulting in opening borders to new western companies. This is the reason why most of the banks operating in Czech Republic have to deal with relatively young market (It is only 22 years from fall of communism in Czech Republic) and most of their parent companies are from ‘Western’ Europe. Also noticeable fact is that although there were cases of mergers they are not very common in Czech Republic. Also most of the parent companies are mostly concentrating on Central and Eastern Europe’s markets. The reason might be the common history events (The Iron Curtain) and different customer values in Central and Eastern Europe.
3. Banking Systems: UK and CZ

This section describes the basic layout of function of banks and banking system. Also this section analysis various banking accounts – namely current accounts and term accounts. Likewise the factors influencing banking incomes and expenses such as inflation, interest rate and tax on interest rate are mentioned.

3.1. Banks and banking systems in Czech Republic and United Kingdom

Banks are essentially enterprises which have many different attributes compared to the other businesses in different industries. These attributes differentiate the banks on basis of significance and function in economy and are the reason why the economic activities of banks are much more specifically defined compared to common businesses. However the fundamental goal of banking enterprises is the same as any other regular business – to either maximize market value of shares or maximize profits. (Revenda, 2012)

From the functional point of view banks can be defined as a financial intermediary. Its main activity is to accept deposits, provide loans and execution of payment transactions. Whereas the economic activity of banks is much different from regular companies in other industrial areas there must be a uniquely legal definition of the ‘BANK’. These definitions are included in special banking laws.

These laws are based upon Directive of the European Parliament and of the Council 2000/12/ES from 20. March 2000 and they are adjusted by respective governments. The Czech law that deals with banks is law no. 21/1992 ‘about banks’ and British law that defines activity of banks is called Banking Act 2009.

However there are four common principles that banks must comply.

Firstly the banks must be legal entity established as a joint-stock company with its registered office in the respective country.

Secondly the banks must accept deposits from public subjects. The deposits are entrusted finances which represent commitment to the depositor to pay off. Accepting of deposits from public subject is legal only by banks in EU.

Thirdly they provide loans, which are considered as any form of temporarily provided finances.
Finally the banks are obliged to obtain ‘banking license’ in order to engage in banking activities. These licenses are generally issued by National banks. In order to obtain the license the banks must satisfy the requirements of the national bank. (Revenda, 2012)

The environment for activity of banks (Banking environment) is primarily regulated by banking laws which will set the conditions of creating a bank and its activity. It will also set the regulatory framework of banks. The banking environment is also significantly determined by measures and decree of a national bank. These measures and decrees concretise some conditions for banking activities and they greatly influence banking environment and operational tools of national bank’s monetary policy. (Revenda, 2012)

I. The basic function of banks

Goacher (1999) and Revenda (2012) both agree that banks fulfil many functions in the conditions of a market economy, although four main functions are recognised by many economists: the bank as a financial mediator, emission of noncash money (the emission of the cash can be only done by national bank), implementation of cashless payments and intermediation of financial investment on financial and capital markets.

The banks are the most important element of financial mediation providing movement of a capital from surplus units to deficit units. As entrepreneurial subjects the banks provide this service on profit principle and so they attempt to allocate the obtained resources to the most lucrative areas with highest interest rate while taking into account the risk of such an investment. This principle creates conditions for the transfer of finances to industries, businesses or common people with the highest rate of appreciation (with taking into account the risk) and so the most effective.
An additional function is emission of cashless money. The central bank is the only institution that can create bank notes and coins although the noncash money (the money in a form of an account entry) can be emitted by regular banks. Therefore it is logical that banks can offer the credit which is not only covered by the deposits made by their customers but the banks can also offer loans that are beyond the amount of money deposited by the customers as a result of an emission of cashless money. This is one of the reasons for strict rules for banking industry.

Next important function is providing cashless payment transactions. Because of large amount of its customers the banks can provide mutual cashless payments transactions from and to customer’s accounts without the need to use cash money. Effective payment transaction is perhaps one of the most important conditions for proper function of market economy.

The final important function is intermediation of financial investment. Banks bring the emissions of securities for their clients and on the other hand they intermediate purchasing of the securities for their investing clients. Moreover the banks also intermediate other investing trades such as keeping and managing of assets, trades with derivative financial instruments and so on.
II. The Banking Systems

The banking system in certain country is formed by central bank and a net of commercial banks and their mutual relations and relations with environs such as other businesses, households, the state etc. The function and method of operation of the banking system depend mainly on the existing economic environment of the particular country. However the banking system may be also dependant on tradition and participation of the particular country in international organisations etc.

Modern banking systems are based upon the ‘two-layer principle’. The two-layer principle is based on division of macro economical function conducted by central bank (emission of cash) and micro economical function conducted by a net of commercial banks (providing loans to common clients). The main goal of central bank is to secure monetary and/or price stability. On the other hand the activities of commercial banks are based upon entrepreneur principle – to achieve profitability.

The universal banking system is certainly the most expanded system up to the present day. The universal system is based upon the freedom of banks to offer a large spectrum of banking products. These banking products may have their foundation in classical commercial banking acts such as providing loans, accepting deposits and providing financial transactions or the banking products might have investment nature, such as trades with securities, deposit trades, property management and so on. (Revenda, 2012)

Not only Czech Republic and United Kingdom belong to the two-layer system (the central banks of Czech Republic and United Kingdom hold the macro economical functions and the commercial banks hold the micro economical functions) but they also belong to the universal banking system – it is common knowledge that the Czech and British banks offer many different services to their customers. Goacher (1999) affirms that Bank of England’s (UK central bank) top priority is ‘maintaining integrity and value of sterling’ and stability of domestic and international financial system while ensuring the effectiveness of the UK’s financial services.

The effectiveness of the financial services and their communication with small and medium enterprises (SMEs) is discussed by Binks and Ennew (1997) who explained that the SME’s contribution to the British economy is fundamental and therefore the easily accessible resources for SMEs should be the priority. One of the key elements of resources needed for function of SME is financing the SME. The finances used by SMEs are usually provided by banks (Binks and Ennew, 1992). Binks and Ennew (1997) confirm that it is unrealistic for ‘young and small’ business to finance their growth from internal sources. They offer two realistic solutions.

First solution is acquiring external funding by emitting shares or IOU (bonds) covered by company assets. However this solution might not be accessible or desirable by small businesses which do not have enough capital. Also as Binks and Ennew pointed out, the major cost of this solution consists of collecting, monitoring and evaluating of information about SMEs.
Second solution is to obtain external financing in a form of a loan (or a debt) which is usually provided by a bank. Of course the negative side of this solution is endangered liquidity of the SME’s and as Bunks and Ennew pointed out the issue of valuation of the bought assets (amortization). Also Binks and Ennew add that the banks have two criteria which can be combined or used separately by the banks in order to determine suitability of the SME’s liquidity (ability to repay debt). The criteria are ‘The Income Gearing’ (In this case the bank is interested in income of the debtor) and ‘The Capital Gearing’ (The bank takes interest in total asset of the debtor however the information is usually easily obtain from balance sheet).

So the clear informational canal between banks and SMEs is very important. However Edwards and Turnbull (1994) claimed ‘Evidence in the U.K. suggests that the cooperation and co-ordination of banks, businesses and their accountants is often lacking’. Therefore both sides ‘operate in an environment of mutual ignorance’ which may have very negative impact on their economic function. In their conclusion Binks and Ennew (1997) suggested a solution: ‘banks and their small business customers could benefit from closer more informed relationships’.
3.2. The Banking Products

Probably the most important activity of the banks is to provide services to their customers. The service has immaterial nature and the most common naming of this service is banking products. The banking products have some specifics related to their immaterial nature. However in recent times the technological advancements (internet banking services) and innovations can influence and develop the traditional characteristics of banking products. This technological progress presents a possibility to introduce digital banking products and new ways of distribution of banking products in contrast to the traditional way of distribution by ‘face-to-face’ contact of customers and banks.

Půlpanová (2007) describes four main traits of banking products. The first important facet of banking products is their intensive mutual interlinking. This means that the realization of first banking products is conditioned by acquisition of a second banking product. As an example Půlpanová presents the concept that the client cannot use the ‘payment transaction’ banking product without possession of another banking product – ‘current account’. The banks are using this facet of banking products especially to create ‘product packages’ which introduce certain combination of linked banking products to the customer. Also the price of the included products in these product packages tends to be lower than if the products were purchased separately.

Another aspect of the banking products is that they cannot be patented. Therefore they may be taken by competition and so the comparative advantage of introduction of a new product to the financial market can be relatively short-timed.

Next trait of banking products is the great influence of marketing and promotion. The goal of marketing and promotion is not only to attract attention but also to explain the positives and negatives. The aim of modern promotion is to put more emphasis on creating and strengthening the need of a client for a certain product or service rather than offering an easy way of meeting the needs of a customer.

Last characteristic suggested by Půlpanová is that the traditional separation of creation of a banking product from its distribution is being modified by the new technologies. Nowadays the banks are concentrating vast scale of banking products digitalisation and their multichannel distribution into one point therefore the capacity problem influencing the activities of bank in certain time range is diminishing.

As a result of large vast numbers of banking products it is convenient to form a ‘structure of product spectre’. Půlpanová (2007) maintain there are two main approaches in the division of banking products which are used in the common banking practice.

The traditional approach is based upon the point of view of the banks. In other words it reflects on impact of a banking product on banking balance sheet. So the banking products are divided into active, passive and neutral. By offering the active products the bank is getting into the role of a lender and the product will influence banking assets. On the other hand by offering the passive product the bank is put into position of a debtor and the product will influence the liabilities. The last category is neutral products which do not influence the assets or liabilities of balance sheet.

The other approach prefers the client’s point of view and it divides the products according to the way of using the products into three self-explaining categories: securing the financing (obtaining funds), financial investment and realisation of payment transaction.
3.2.1. Deposit banking products

In terms of bank point of view the deposit products represent acquisition of external capital. The deposit products are influencing the liabilities of bank balance sheet and the bank is in a position of a debtor by providing them.

The banks are acquiring their financial resources based on loans to the customer by providing many different products. According to Revenda (2012) there are two basic forms of products. The first form is accepting deposits in a form of demand deposits, term and savings deposits and so on. Second form is emission of bank bonds. This form includes whole range of debt securities. These debt securities are varies in maturities, way of interest-bearing, their marketability and many other attributes.

I. Current account

Both Půlpanová (2007) and Revenda (2012) agree that the current account is the most common banking product. It is the most fundamental part of relationship between banks and clients and it allows clients to use many other banking products which are conditioned by the existence of current account. As an example the payment transaction product cannot be used without owning the current account. Current account creates a positive connection between the bank and its partner who becomes the client by opening an account. The banks have clear intention to acquire as many clients as they can. This behaviour brings economical advantage to the banks as large base of customers represent vast financial resources for the bank. The resources earned from their customers allow banks to increase their investment activities as a result of a condition and supposed certain quantity dimension.

The purpose of current account is to allow performing payment transactions to its owner. The cashless transaction is universally only possible if two or more subjects of payment transaction have current accounts. However the payment is condition by existence of credit balance (which means there is some form of finances remain on the current account) unless there is a contract between bank and its client confirming existence of overdraft. According to Půlpanová (2007) these facts classify the current account as a deposit account.

The finances kept on a current account exhibit high amount of liquidity as a result of a transaction purpose of a current account and they are accessible at any time and so client’s disposition of his finances on current account is no limited. Půlpanová (2007) describes them as ‘transactional money’ in contrast to the deposit money which is tied with term accounts and saving accounts.

Půlpanová (2007) and Šenkýřová (2010) confirm that it is assumed that the debit balance will not be formed in current account. If for any reason the debt balance arises the bank will evaluate this as a drawing of not-contracted funds and it can apply rather high penalty lending rates to the clients newly acquired funds. Overdrafts are not wanted by the banks because the banks gets more money bounded to the client and the banks need more ‘standby’ finances which cannot be invested ergo rather high lending rates. Půlpanová (2007) suggests to the client who has high intensity of turnover to arrange more suitable account – Overdraft account which allows client to gain usually short term ‘loan’.

Šenkýřová (2010) observed that in order to acquire the current account clients need to prove their identity with ID when signing a contract. Banks cannot create anonymous current account.
accounts. Also the contract needs to be written with every requisite such as name of client, name of bank etc. Very important part of the contract is specimen signature. Specimen signature is required as a confirmation of identity needed from client in order to issues orders concerning current account. Specimen signatures can be issued not only to the owner of the account but also another person who is authorized by the owner. The owner of the current account can terminate the contract anyway he wants to and without giving a reason. The bank must handle the rest of the finances on the current account according to the client's wishes.

Balance on the current account usually bears interest per annum. The bank is authorised to change interest rate however the change must be announced. Šenkyřová (2010) puts forward that amount and method of pricing of services provided to the client are not directly listed in the contract. They are listed on the ‘schedule of fees’ and the banks is obliged to present it publicly.

II. Term deposits and bank bonds

The term deposits are not currently offered by UK banks. However UK banks offer ‘bank bonds’ and their characteristics are very similar and their purpose is essentially the same. Also their interest rate is mostly similar. Therefore the Czech term deposits are comparable to the British bank bonds.

Revenda (2012) and Šenkyřová (2010) define term deposits as deposits at a fixed time and usually greater financial value. The interest rate on term deposits are usually higher than on current accounts however client will not be able to manipulate the finances on term deposits.

Revenda (2012) divides term accounts according to restriction of disposition of finances held in the account into two categories.

The first kind of deposits is ‘deposit to fixed deadlines’. Deposits to fixed deadlines are term deposits deposited in a bank for pre-arranged fixed period. Usually the maturity of the deposits ranges between a week and several months moreover the due date can be fixed on the exactly defined day.

The second kind is ‘deposit redeemable at notice’. Deposit redeemable at notice represent term deposits whose financial disposition is restricted by pre-agreed notice period.

The financial size of deposit and longer maturity are directly proportional to the interest rates of term deposits – the higher the size of deposit – the higher the interest rate. The same applies to the longer maturity. Deposits to fixed deadlines have usually fixed interest rate for the entire maturity. On the other hand the interest rate of deposits redeemable at notice usually changes during the maturity of the deposit. As Weberman (1992) agrees: ‘price [of bonds] can fluctuate between now and maturity’.

Revenda (2012) presumes that the term deposits are mainly used by households and enterprise sector. Term deposits will allow them to effectively optimize their finances and also term deposits present form of a balance between certain interest income and relatively small risk while keeping the liquidity of the finances.

Revenda (2012) also points out that the term deposits are very essential financial source. The utility costs of term deposits are much lower compared to the cost of current
accounts. Although the term accounts tend to be rather short-termed and overall amount of finances on term account can change over time the majority of finances are left for the disposition of the bank and it can be used for investment.

The term accounts or bank bonds can also serve as a reliable form of a low-risk short-term investment as Snider (2011) reported. However she also pointed out that the income from bank bonds investment can be endanger by lowering an economic rating of the certain country as happened in USA in 2011. Snider also noted that the ‘the bond market hasn't suffered from the S&P rating shoker, mainly because economic weakness keeps interest rates low’. She concluded that as long as the national level of interest rates are low the banking bonds should remain to be low-risk and profitable.
3.3. Inflation

‘Inflation is always and everywhere a monetary phenomenon in the sense that it is and can be produced only by a more rapid increase in the quantity of money than in output.’

Friedman (1970)

The function of modern world economy is mostly connected with the pace of growth of the ‘price level’. General decline in prices is usually only short-termed and it usually occurs only in the time of economic recession (Revenda, 2012). Revenda also commented that economists of different economical views and economic schools are arguing about the primary cause of the long-term growth in the price level (inflation) and also about uniform definition of term ‘inflation’. In the view of Revenda the most frequently accepted definition of inflation is ‘long-term growth of price level caused by excessive emission of money’.

However many other economists believe that inflation is caused by unbalanced economic relationship between overall supply and demand. The Times (2007) noted that ‘The rate of inflation, …, is primarily determined by the overall balance of supply and demand in the economy’. With rising demand the inflation also tends to rise as a result of a exceeding amount of money offered for less products and services. Logically with lowering demand inflation also tends to lower. The Times also pointed out that ‘Movements in interest rates work mainly by influencing the overall level of demand in the economy’ and so interest rate can have large effect on inflation rate. The Times confirms that changes in the interest rates may have immediate effect as a result of a variation of business and consumer confidence in the investments. Nevertheless The Times adds that it can take a year or two to completely influence the interest rate and demand and the delays in cannot be fully predicted.

To summarise the basic function of inflation it increases ‘price of money’ and therefore devalue the value of money as Miller (2002) confirms. Inflation also influences money invested into current accounts and term accounts therefore it needs to be included in financial calculations. For example if the interest rate is the same or lower than inflation there is no economic reason to invest finances into accounts with the mentioned interest value as there would be no or negative profit.

Due to the nature of inflation many bond marketers tend to ignore it or just accept it as ‘inflation-is-not-a-problem’ thesis as Shairp (2011) claims and he adds that the sudden inflation were not kind to bonds or equities. Shairp also speculates that the next crisis should happen in emerging economies such as Chinese and.

The value of inflation in this dissertation is used for January 2013. According to RateInflation (2013) the inflation in UK was 2.7 per cent. Inflation seems to be steady in UK moving around 2.7 per cent from the year 2012. Czech National Bank (2013) reported that inflation in Czech Republic was 2 per cent in January 2013. The inflation in Czech Republic was little bit higher than in UK at the beginning of 2012 although it slowly dropped to its current value.
3.4. Interest rate and its taxation

"The higher a people’s intelligence and moral strength, the lower will be the prevailing rate of interest."
—Eugen von Bohm-Bawerk (Austrian economist, Capital and Interest)

The term ‘Interest rate’ names two slightly different terms in English language. The most elementary meaning of interest rate is ‘The amount [of money] charged, expressed as a percentage of principal by a lender to a borrower for the use of assets’ (Investopedia). However there is a difference between interest rate charged by banks and interest raid paid by banks to their clients. The main obvious difference is the interest raid paid by banks is as a general rule much lower (especially concerning current accounts) than interest rate charged by the bank as the banks make a large portion of a profit on the difference between the two interest rates. The interest rate paid by bank and received by client is more relevant to the research however the interest rate charged by bank has more macro-economic impact on the economy and so they are both mentioned.

From a more practical point of view the interest rate is probably most influencing in terms of investments. If the interest rate is low the businesses are more likely to ‘borrow money’ and use them in their investing projects.

Mansill (2000) argues that by raising the interest rates the reserve bank is ‘penalising’ the investments in capital projects which ‘are more likely to produce on going employment and exports’. Brimelow (1999) concurs by reflecting upon highest interest rates in USA at that time and by comparing USA to slowly ‘decaying empires’ such as ‘Babylonia, Greece and Rome’.

Kruglinski (2002) suggested that it is worth utilize low interest rates and tax bonuses when they are available to invest into the new technology and new assets suitable for the entrepreneurs business.

Gordon and Young (2007) observed that the businesses might use corporate debt in a form of emission of companies’ securities as a substitute to the borrowing from banks. They also present another possible cause of reconsidering the loan: ‘the term structure of interest rates can affect a firm’s choice of the maturity of its debt structure’.

The interest rate is considered to be part of income (as they yield some form of earnings to the lender) and therefore it is taxed by government.

Feldstein (1983) stated: ‘Income taxes are a central feature of economic life’. Feldstein also confirmed that taxes influence the ‘cost of capital’ and ‘rate of return to savers’ and therefore they are important factor in investment planning. Feldstein also pointed out that ‘The existence of such taxes also in general changes the effect of inflation on the rate of interest and on the process of capital accumulation’.

The actual tax on interest rates is according to GOV.UK (2013) 20 per cent in the United Kingdom with certain exceptions such as citizens older 75 years with Maximum taxable income under £10,660. However this dissertation will not include these exceptions as the complexity of the research would be too high and therefore the dissertation is oriented towards regular user who cannot claim any benefit. According to Akcie.cz (2013) the tax on interest rate in Czech Republic is 15 per cent.
4. Research Methods

In this methodology section of the dissertation the justification and explanations of the choice of the methodologies employed in the research are presented. The methodology section is divided into four specific chapters each describing different elements of research. The sections are listed chronologically and they discuss the most important facets of the research in the following order: the context of researched problem and paradigm, approach to the researched problem, limitations of the research and discussion of the method of obtaining the data and used models and a method of evaluations. The methodology section should therefore outline the overall research and explain the issue to the reader.

I. Philosophy

As evidence in the Literature section many entrepreneurs are rather dependent on finances provided by the banking industry. Also the products offered by banks seem to be a reliable form of short investment. Consequently the topics of financial investment and saving finances without unnecessary costs should be relevant to any SME’s, large corporation or individual with smart financial perspective. With growing rate of globalization and free movement of capital and work force in the EU the more interesting business settings conditions in one country might be used by more advantageous businesses or individuals in pursuit of their main business goal – in this case to make higher profit by lowering financial costs. The business conditions between western and east part of European Union are probably different from each other although the same basic set of conditions given by European Union apply to each country. As a result the research of the most usually banking products might be lucrative from informational point of view.

II. Approach

In order to conduct research of investing and saving aspects of financial element of British and Czech business environment the method of computational model is used by inserting acquired data concerning the elementary information of each of the selected banks current accounts and term accounts into pre-set formulas and calculating the yield while taking into account possible costs and fees of the current account and liquidity of finances invested into current account and bank bonds.

The research is conducted for the purpose of critical evaluation of financial relationship between banks and their clients in Czech Republic and United Kingdom and to present possible investment proposals to the clients of Czech and British banks. All data collected are classified into year 2013 and therefore are up to date and relevant to any uncertain investor or clients who wish to lower some of their banking costs.

The limitations of the research arise from two main economic factors which are probably interconnected by certain economic aspects.

The first factor is very broad spectrum of banks operating in Czech and British financial markets. There are approximately 40 banks operating on Czech financial market (Businessinfo.cz, 2011) and more than 150 banks active on British financial market (FSA,
with slightly different products. However most of the banks operating in the UK do not have any business connection with Czech Republic market and vice versa. Also the banks operating in both markets are mostly owned by international mother company and it cannot be certainly determined if their marketing strategies and tactics are similar for each country (this information is usually kept as a company secret). The ideal comparison would be comparing the same banks operating on both markets. After extensive research the comparison of the similar banks could not be done due to the small number of similar banks operating on both markets. Therefore the most similar subjects of comparison proved to be most dominant banks in Czech Republic and United Kingdom.

The second factor results from different histories of financial markets of both countries. While United Kingdom enjoyed undisturbed development of capitalism since second world war the Czech Republic market was extremely regulated by communist government and the modern free financial market as we know it was established after Velvet Revolution in 1989 (fall of communism). Therefore the Czech financial market is relatively young and Czech customer’s preferences and customs are probably different from UK client’s preferences and customs. As a result of different needs and preferences the banks operating in more similar markets such as Austria (Raiffeisen bank) used this opportunity and managed to penetrate the new emerging Czech financial market. Also the external factors influencing both financial markets are slightly different. The main factors (the inflation and tax on interested rate) are taken into the account and are incorporated into the calculations.

The last non-economic factor is the factor of time and how current the research is. The input data will be different next year and the results of the current research will become obsolete. However the advantage is the formulas used are universal and can be used again with current input consequently proving to be useful informational tools of investments. Also next advantage of this research is that the input data are always accurate since they are based upon official statements of the banks and not on subjective opinion that are used

III. Data Collection and Analysis Method

The data collection was conducted by collection of secondary data provided by web addresses of the researched banks. This approach of acquisition of data was chosen due to the fact that all the banks have to provide their list of charges and rates and the easiest way of presenting and obtaining the data is by using the bank’s website. The fact that the acquired data is secondary is not to be viewed in a negative way as most of the data in the financial sector is inherently secondary and they are on the same level as primary data. The input data are by their nature are consisted from information of fees, charges and interest rates connected with current account and information about liquidity, interest rates and fees and chargers linked to the term account and bank bonds (in case of British banks).

Although Czech banks offered several kinds of current account only the most basic current accounts were chosen as they seem to be most similar to current accounts offered by British banks. Also as British banks do not offer ‘term accounts’ the most similar way of investing finances was chosen – the bank bonds. The brief overview turned out that the interest rate of bank bonds and term accounts seem to be similar and closer analysis is for more in depth insight. The collected data are divided into two groups sorted out into two categories – the data concerning current account and data concerning term account and bank bonds because of slightly different formulas used to conduct research.
To analyse the data collected from websites the analytical method of applying the data into realistic conditions presented by pre-set formulas and calculating the outcome.

The deposits and the investments are proportionally close as the starting deposit will be 10 000 and £10 000.

For the reason of more possible bank operation and possible application of payments the formulas will be adjusted for several scenarios consisting of keeping the finances on the current accounts without any interference and other cases of withdrawing finances and depositing new finances. There are two scenarios for term accounts (and bank bonds) presented and that is calculation of regular yield of the investment and premature withdrawing of the investments. Every formula incorporates the inflation rate and tax on interest rate (if there is any interest rate available to the account). Resulting sum is then transformed into percentage difference and therefore there is no need to recalculate the deposits using the exchange rate. The percentage results are then compared while taking into the account the liquidity and other important factors influencing the investment decision (e.g. risk of the investment).

The analysis method used should be very reliable as is does not work with information based on subjective opinions (as these information might be inaccurate, flawed or false) as many questioners provide and it works only with proven numerical data which should not be false as the data provided by banks are closely overseen by governmental authorities and providing of false list can be persecuted. Also the data should clearly show the outcome as the numerical results are easily interpreted and can be simply compared between themselves.
5. Analysis, Findings and Conclusion

In this section of the dissertation the collected data is presented and the data is applied to the pre-set universally recognized financial formulas of Future Value. This section is also divided between research of current accounts and term accounts and bank bonds for more transparent presentation of the topic.

5.1. Analysis of collected data

This section analysis the manner of collection of the input data and it introduces the financial formulas used in the main research.

5.1.1. Collection of data

The data was collected primarily from publicly available bank webpages or downloadable Adobe reader files provided by surveyed banks. The secondary nature of data has minimal impact on quality of research as there the banks and the information they provide are supervised by regulatory authorities and therefore the provided data should be at the utmost correctness. Although the term accounts and current accounts may vary in their focus either on ‘natural person’ or ‘legal person’, for the purpose of this dissertation the data concerning natural persons was collected.

The data required for term account and bank bonds were the interest rate applied to the bank bond and term account, the possibility of early termination of term account or bank bond and the possible length of the duration of term account and bank bond. The data for term accounts and bank binds were acquired by using these webpages: Barclays’s Bank bonds rates and charges (2013), Lloyds’s Banking bond page (2013), NatWest’s Bank bonds page (2013), ČSOB’s interest rate web (2013), GE Money’s interest rates page (2013) and Raiffeinsen’s term account rates and fees page (2013). As can be seen all particular information concerning term accounts or bank bonds was founded on only one webpage of certain bank. This is probably the result of low number of variable necessary for computation of future value of term account and banking bond.

The acquisition of the data for current account was little bit more complex as more information is required for the research and calculation. The information required was consisting of knowledge if there are any: charges for opening a current account, charges for closing an account, ATM (cash machine) withdrawals fees, charges for incoming and ongoing transactions, charges for management of account, credit card fees and interest rates. The data for current account were provided by following web pages: Barclays’s Current account rates and charges (2013), Barclays’s Debit Card page (2013), Lloyds’s Current account Interest rates page (2013), Lloyds’s Banking Charges page (2013) NatWest’s Rates and Charges page (2013) GE Money’s fees page (2013), GE Money’s interest rates page (2013), ČSOB’s Interest rate web (2013), ČSOB’s Tariff rate web (2013), Raiffeinsen’s Interest rate page (2013) and Raiffeinsen’s current account rates and fees page (2013).
As it can be seen there are several webpages used per bank than in the case of term account. Not all the fees may be described in the Banking charges leaflet as happened in the case of Barclay’s bank which presented chargers for debit card on different webpage. However the major fees and charges are presented in either the Banking charges webpage or electronic leaflet provided by the bank.

The findings are listed in greater detail in following section. Also the inflation and interest rates were explained in the literature review section.
5.1.2. Term account, bank bonds and current account formulas - calculation of the yield

The method of investigation used for this research is based upon creating a predetermined situation and then applying the collected data into the formula. The financial formula for the term account and bank bond is Future Value of money (FV).

The formula is used according to Radová (2009) however different abbreviation was used (Radová uses K as Capital and K_0 as basic capital; for clarity the K is replaced by FV and K_0 is replaced by PV as this will not influence the formula at all).

\[
FV = PV \times (1 + i)^N
\]

FV stands for Future Value
PV stands for Present Value
i stands for interest rate
N stands for number of year.

In this case the number of years is one and therefore it will not influence the formula as one year duration is measured. Present value is set to 100,000 CZK and £ 5,000 as this sum of money fits into the first range of each surveyed bank. However the taxation and inflation needs to be taken into account.

The taxation and inflation are reflected upon by mathematically adjusting the interest rate and therefore adjusting the whole formula of FV by taxation and inflation. For more inside into the issue of comparing the costs and yields the interest rates are separately adjusted by inflation and tax.

The following formula is used for calculation of interest rate adjusted by a charge of tax:

\[
I_t = i \times (1 - t)
\]

I_t stands for Interest rate adjusted by a charge of tax
i stands for interest rate
t stands for tax rate

The tax is applied in percentage in the formula and the I_t expresses the value of interest rate with deduced taxation.
The next adaptation of formula of interest rate takes into account inflation and is based upon following formula of expressing the nominal interest rate as a multiple of real interest rate and inflation:

\[(1 + I_r) = (1 + I_R) \times (1 + I)\]

\(I_r\) stands for nominal interest rate
\(I_R\) stands for real inflation
\(I\) stands for rate of inflation

By mathematically adjusting this formula the \(I_R\) may be expressed:

\[I_R = \frac{1 + I_r}{1 + I} - 1\]

The real interest rate (IR) adjusted by tax and inflation can be expressed by replacing \(I_{\text{nominal}}\) with \(I_t\):

\[IR = \frac{1 + I_t}{1 + I} - 1\]

The real interest rate should provide the most accurate information of yield as it calculates with taxation and inflation. Nevertheless for more precise measurement every formula for interest rate is used for a better comparison.

The percentage difference for term account and bank bond is mathematically computed from following formula and it will be expressed as a percentage number:

\[Percentage \ difference = \frac{FV - PV}{PV}\]
It is also necessary to re-calculate inflation and interest rate into their monthly form when they are used in the calculation of monthly annuity. The similar formula is used as for computation of interest rate although adjusted to count with monthly rate:

\[ Monthly\ interest\ rate = (1 + i)^\frac{1}{m} - 1 \]

\[ Monthly\ inflation = (1 + I)^\frac{1}{m} - 1 \]

\( i \) stands for annual interest rate expressed in percentage

\( I \) stands for annual inflation expressed in percentage

\( m \) stands for number of times the account bears interest (in this case it is 12 as per every month)

The last formula used for calculation of Future value used in calculation of monthly annuity can be used by slightly adjusting formula of Radová (2009) for Capital (Future value):

\[ C_m = (C_0 + Monthly\ Income - Monthly\ withdrawal - Monthly\ costs - Additional\ costs) \times \left(1 + \frac{i}{m}\right)^m \]

\( C_m \) stands for Capital calculated monthly

\( C_0 \) stands for Capital from previous month

\( m \) stands for number of times the account bears interest (in this case it is 12 as per every month)

In the case of scenario of monthly annuity the percentage difference is calculated by comparing ideal state of deposited finances with the final state of finances on the current account.

\[ Percentage\ difference = \frac{the\ final\ state\ of\ current\ account - Ideal\ state}{Ideal\ state} \]
5.2. Findings

a. Term account and bank bond overview

The data has been presented in the chart and are divided according to two categories for more transparent presentation: surveyed banks that are active on the Czech market and surveyed banks active on the British market. As the nature of term account and bank bond if more investment based than current account and therefore more easier to observe the research of term account and bank bond is based upon observation of the situation when investor puts his finances into term account (or buy bank bond) and keeps it there for a year.

Table 5.1 - The overview of Czech term accounts

<table>
<thead>
<tr>
<th>Name of the Bank</th>
<th>Interest rate on deposit (for 1 year deposit) (%)</th>
<th>Maximum length of duration of term account/Bank bond (years)</th>
<th>Possibility to prematurely terminate the contract</th>
<th>Inflation (%)</th>
<th>Tax on interest (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raiffeisen bank</td>
<td>0.10</td>
<td>4</td>
<td>YES – with 2% fee on withdrawal</td>
<td>2.0</td>
<td>15.0</td>
</tr>
<tr>
<td>ČSOB</td>
<td>0.55</td>
<td>3</td>
<td>YES – with 1.5% fee on withdrawal</td>
<td>2.0</td>
<td>15.0</td>
</tr>
<tr>
<td>GE Money Bank</td>
<td>0.50</td>
<td>5</td>
<td>YES – with variable fee on withdrawal</td>
<td>2.0</td>
<td>15.0</td>
</tr>
</tbody>
</table>

I. Additional note to Czech term accounts

The Czech banks usually support a specific interest rate for different interest rates ranges according to length of the deposit on term account. These ranges may start from 7 days (ČSOB’s interest rate web, 2013) to 60 months (GE Money’s interest rates page, 2013). As a general rule the longer the duration of a deposit the higher the interest rate. However the difference between months is negligible if existent at all so it can be safely assumed that the main difference in interest rate is between whole years. The inflation and tax on interest are also logically same for every examined bank.

Also the term account usually allows premature withdrawals and many banks offer fee-free withdrawal to certain per cent of deposit. As is it stated in the Raiffeinsen’s term accounts rates and fees page (2013) the Raiffeinsen bank offers fee-free withdrawal if the amount of finances being withdrawn is lower than 20% of remaining deposit. This withdrawal policy positively influences the liquidity of deposited finances.

Another interesting fact is that the interest rate is lower than the level of inflation. However the inflation can be only estimated to a certain point of probability and may be actually different at the end of the year although the difference between estimated inflation and real inflation is generally only minor.
II. Additional note to British bank bonds

The bank bonds offered by British bank tend to have more investment nature than the term account offered by the Czech banks. This is given by the fact that the finances bounded to the bank bonds cannot be withdrawn and therefore they have much lower liquidity than term accounts. On the other hand the lower liquidity is balanced by the higher interest rate set on bank bonds as there is no risk of investor withdrawing finances as may happen in the case of term account.

The interest rate for bank bonds is also lower than the inflation nevertheless the difference between bank bonds interest and inflation is lower than interest of Czech term accounts.

The examined British banks also offer several ranges of interest rates and mostly there are only divided according to one, two or three years of duration. Same general rule applies for bank bonds as for the term account – the longer the duration of a deposit the higher the interest rate.

In order to conduct the research and measurement in the correct manner the most similar external conditions must be set. Therefore the lowest duration of bank bond from Barclays of 1 year will be used in order to measure the yield and costs of all the bank bonds and term accounts.

<table>
<thead>
<tr>
<th>Name of the Bank</th>
<th>Interest rate on deposit (1 year deposit (%))</th>
<th>Maximum length of duration of term account/ Bank bond (years)</th>
<th>Possibility to prematurely terminate the contract</th>
<th>Inflation (%)</th>
<th>Tax on interest (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lloyds TSB</td>
<td>1.65</td>
<td>3</td>
<td>NO</td>
<td>2.7</td>
<td>20.0</td>
</tr>
<tr>
<td>NatWest</td>
<td>1.75</td>
<td>2</td>
<td>NO</td>
<td>2.7</td>
<td>20.0</td>
</tr>
<tr>
<td>Barclays</td>
<td>1.80</td>
<td>1</td>
<td>NO</td>
<td>2.7</td>
<td>20.0</td>
</tr>
</tbody>
</table>
i. **Czech Term accounts – The research**

All available information is sorted into tables and graphs. The research starts chronologically with the most simplified calculation of Future value and it will continue with separately taking into account taxation, inflation and lastly the real interest rate by putting together all the conditions given by taxation and inflation.

I. **Simple calculation of Future Value – Czech term accounts**

<table>
<thead>
<tr>
<th>Name of the bank</th>
<th>Interest rate (%)</th>
<th>Present Value (CZK)</th>
<th>FV=PV*(1+i) (CZK)</th>
<th>Percentage difference (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raiffeisen bank</td>
<td>0.10</td>
<td>100,000</td>
<td>100,100</td>
<td>0.10</td>
</tr>
<tr>
<td>ČSOB</td>
<td>0.55</td>
<td>100,000</td>
<td>100,550</td>
<td>0.55</td>
</tr>
<tr>
<td>GE Money Bank</td>
<td>0.50</td>
<td>100,000</td>
<td>100,500</td>
<td>0.50</td>
</tr>
</tbody>
</table>

As it can clearly be seen from the Table 3 the Interest rate equals to the Percentage difference as there is no other factor influencing the Future value. The highest value ČSOB’s term account seems to be the most profitable so far following by GE Money bank and Raiffeisen bank.
II. Calculation of Future value adjusted by tax – Czech term accounts

Table 5.4 - Calculation of Future Value and Percentage difference including tax – Czech term accounts

<table>
<thead>
<tr>
<th>Name of the bank</th>
<th>Interest rate (%)</th>
<th>Tax (%)</th>
<th>Interest rate Iₜ (%)</th>
<th>Present Value (CZK)</th>
<th>FV=P𝑉*(1+Iₜ) (CZK)</th>
<th>Percentage difference (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raiffeisen bank</td>
<td>0.10</td>
<td>15</td>
<td>0.09</td>
<td>100,000</td>
<td>100,085.00</td>
<td>0.09</td>
</tr>
<tr>
<td>ČSOB</td>
<td>0.55</td>
<td>15</td>
<td>0.47</td>
<td>100,000</td>
<td>100,467.50</td>
<td>0.47</td>
</tr>
<tr>
<td>GE Money Bank</td>
<td>0.50</td>
<td>15</td>
<td>0.43</td>
<td>100,000</td>
<td>100,425.00</td>
<td>0.43</td>
</tr>
</tbody>
</table>

Graph 5.2 - Future Value including tax – Czech term accounts

The value of interest rate Iₜ was calculated by using previously mentioned formula for calculation of Iₜ. In this case the Future value represents the actual sum of physical finances that will be present at the end of the deposit term. With the application of tax it is logical that Future value is lower than before application of tax. The order of banks remains unchanged nevertheless the percentage difference between them is slightly lower as taxation influences in greater volume higher interest rates of ČSOB and GE Money.
III. Calculation of Future value adjusted by inflation – Czech term accounts

Table 5.5 - Calculation of Future Value and Percentage difference including inflation – Czech term accounts

<table>
<thead>
<tr>
<th>Name of the bank</th>
<th>Interest rate (%)</th>
<th>Inflation (%)</th>
<th>Interest rate ( I_r ) (%)</th>
<th>Present Value (CZK)</th>
<th>FV=PV*(1+I_r) (CZK)</th>
<th>Percentage difference (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raiffeisen bank</td>
<td>0.10</td>
<td>2</td>
<td>-1.86</td>
<td>100,000.00</td>
<td>98,137.25</td>
<td>-1.86</td>
</tr>
<tr>
<td>ČSOB</td>
<td>0.55</td>
<td>2</td>
<td>-1.42</td>
<td>100,000.00</td>
<td>98,578.43</td>
<td>-1.42</td>
</tr>
<tr>
<td>GE Money Bank</td>
<td>0.50</td>
<td>2</td>
<td>-1.47</td>
<td>100,000.00</td>
<td>98,529.41</td>
<td>-1.47</td>
</tr>
</tbody>
</table>

Qěčé Graph 5.3 - Future Value including inflation – Czech term accounts

The value of interest rate \( I_r \) was calculated by using previously mentioned formula for calculation of \( I_r \). The Future value in this scenario expresses ‘real’ value of finances (the actual worth of money) at the end of the deposit term. The application of inflation caused a negative percentage difference as the rate of inflation is larger than interest rate. As a result the Future value in this model is lower than Present value. The order of yields of banks is still unchanged and the difference in the percentage different seems to be steady.
IV. Calculation of Future value adjusted by inflation and tax – Czech term accounts

Table 5.6 - Calculation of Future Value and Percentage difference including inflation and tax – Czech term accounts

<table>
<thead>
<tr>
<th>Name of the bank</th>
<th>Interest rate (%)</th>
<th>Inflation (%)</th>
<th>Tax (%)</th>
<th>Real interest rate ( I_R ) (%)</th>
<th>Present Value (CZK)</th>
<th>FV=PV*(1+I_R) (CZK)</th>
<th>Percentage difference (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raiffeisen Bank</td>
<td>0.10</td>
<td>2</td>
<td>15</td>
<td>-1.88</td>
<td>100,000.00</td>
<td>98,122.55</td>
<td>-1.88</td>
</tr>
<tr>
<td>ČSOB</td>
<td>0.55</td>
<td>2</td>
<td>15</td>
<td>-1.50</td>
<td>100,000.00</td>
<td>98,497.55</td>
<td>-1.50</td>
</tr>
<tr>
<td>GE Money Bank</td>
<td>0.50</td>
<td>2</td>
<td>15</td>
<td>-1.54</td>
<td>100,000.00</td>
<td>98,455.88</td>
<td>-1.54</td>
</tr>
</tbody>
</table>

Graph 5.4 - Real Future Value including tax and inflation – Czech term accounts

The value of interest rate \( I_R \) was calculated by using previously mentioned formula for calculation of \( I_R \). The Future value in this scenario expresses ‘real’ value of finances (the actual worth of money) adjusted by charge of tax at the end of the deposit term. The real yield of this investment proved to be negative (and therefore it is a loss) mainly due to the influence of the inflation. The best investment with the least loss for the investor is ČSOB’s term account closely followed by GE Money. In this scenario the least attractive investment in a form of a term account with highest loss proved to be Raiffeisen bank.
ii. British Bank bonds – The research

The research of the British bonds was conducted in the same way as research of term accounts - all available information is sorted into tables and graphs. The research will start chronologically with the most simplified calculation of Future value and it will continue with separately taking into account taxation, inflation and lastly the real interest rate by putting together all the conditions given by taxation and inflation.

I. Simple calculation of Future Value – British bank bonds

Table 5.7 - Simple calculation of Future Value and Percentage difference – British bank bonds

<table>
<thead>
<tr>
<th>Name of the bank</th>
<th>Interest rate (%)</th>
<th>Present Value (£)</th>
<th>FV=PV*(1+i) (£)</th>
<th>Percentage difference (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lloyds</td>
<td>1.65</td>
<td>5,000</td>
<td>5,082.50</td>
<td>1.65</td>
</tr>
<tr>
<td>NatWest</td>
<td>1.75</td>
<td>5,000</td>
<td>5,087.50</td>
<td>1.75</td>
</tr>
<tr>
<td>Barclays</td>
<td>1.80</td>
<td>5,000</td>
<td>5,090.00</td>
<td>1.80</td>
</tr>
</tbody>
</table>

This scenario represents the ‘perfect’ case of investment without any costs to the investment. The percentage difference equals to the Interest rate presented by British banks. The highest yield is offered by Barclays followed by NatWest and Lloyds.
II. Calculation of Future Value adjusted by tax – British bank bonds

Table 5.8 - Calculation of Future Value and Percentage difference including tax – British bank bonds

<table>
<thead>
<tr>
<th>Name of the bank</th>
<th>Interest rate (%)</th>
<th>Tax (%)</th>
<th>Interest rate ( I_t ) (%)</th>
<th>Present Value (£)</th>
<th>FV(=PV*(1+I_t)) (£)</th>
<th>Percentage difference (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lloyds</td>
<td>1.65</td>
<td>20</td>
<td>1.32</td>
<td>5,000</td>
<td>5,066.00</td>
<td>1.32</td>
</tr>
<tr>
<td>NatWest</td>
<td>1.75</td>
<td>20</td>
<td>1.40</td>
<td>5,000</td>
<td>5,070.00</td>
<td>1.40</td>
</tr>
<tr>
<td>Barclays</td>
<td>1.80</td>
<td>20</td>
<td>1.44</td>
<td>5,000</td>
<td>5,072.00</td>
<td>1.44</td>
</tr>
</tbody>
</table>

Graph 5.6 - Future Value including tax – British Bank bonds

The value of interest rate \( I_t \) was calculated by using previously mentioned formula for calculation of \( I_t \). This scenario represents the final sum of finances received after the end of deposit term with deduced taxes. The yield, logically, is smaller after applying the tax. The order of yields of banks is still the same however the difference between them is smaller.
III. Calculation of Future Value adjusted by inflation – British bank bonds

Table 5.9 - Calculation of Future Value and Percentage difference including inflation – British bank bonds

<table>
<thead>
<tr>
<th>Name of the bank</th>
<th>Interest rate (%)</th>
<th>Inflation (%)</th>
<th>Interest rate ( I_r ) (%)</th>
<th>Present Value (£)</th>
<th>( FV=PV*(1+I_r) ) (£)</th>
<th>Percentage difference (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lloyds</td>
<td>1.65</td>
<td>2.7</td>
<td>-1.02%</td>
<td>5,000</td>
<td>£4,948.88</td>
<td>-1.02%</td>
</tr>
<tr>
<td>NatWest</td>
<td>1.75</td>
<td>2.7</td>
<td>-0.93%</td>
<td>5,000</td>
<td>£4,953.75</td>
<td>-0.93%</td>
</tr>
<tr>
<td>Barclays</td>
<td>1.80</td>
<td>2.7</td>
<td>-0.88%</td>
<td>5,000</td>
<td>£4,956.18</td>
<td>-0.88%</td>
</tr>
</tbody>
</table>

Graph 5.7 - Future Value including inflation – British Bank bonds

The value of interest rate  \( I_r \) was calculated by using previously mentioned formula for calculation of  \( I_r \). The Future value in this scenario expresses ‘real’ value of finances (the actual worth of money) at the end of the deposit term. As happened in the Czech scenario the application of inflation caused a negative percentage difference as the rate of inflation is larger than interest rate. As a result the Future value represented in this model is lower than Present value. The order of yields of banks is still unchanged. The difference between percentage differences of each bank is almost negligible at this moment.
IV. Calculation of Future Value adjusted by inflation and tax – British bank bonds

Table 5.10 - Calculation of Future Value and Percentage difference including inflation and tax – British bank bonds

<table>
<thead>
<tr>
<th>Name of the bank</th>
<th>Interest rate (%)</th>
<th>Inflation (%)</th>
<th>Tax (%)</th>
<th>Real interest rate $I_t$ (%)</th>
<th>Present Value (£)</th>
<th>FV=PV*(1+$I_t$) (£)</th>
<th>Percentage difference (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lloyds</td>
<td>1.65</td>
<td>2.7</td>
<td>20</td>
<td>-1.34</td>
<td>5,000</td>
<td>4,932.81</td>
<td>-1.34</td>
</tr>
<tr>
<td>NatWest</td>
<td>1.75</td>
<td>2.7</td>
<td>20</td>
<td>-1.27</td>
<td>5,000</td>
<td>4,936.71</td>
<td>-1.27</td>
</tr>
<tr>
<td>Barclays</td>
<td>1.80</td>
<td>2.7</td>
<td>20</td>
<td>-1.23</td>
<td>5,000</td>
<td>4,938.66</td>
<td>-1.23</td>
</tr>
</tbody>
</table>

Graph 5.8 - Real Future Value including inflation and tax – British Bank bonds

The value of interest rate $I_R$ was calculated by using previously mentioned formula for calculation of $I_R$. The Future value in this scenario expresses ‘real’ value of finances (the actual worth of money) adjusted by charge of tax at the end of the deposit term. As happened in the Czech scenario the real yield of this investment proved to be negative (and therefore it is a loss) mainly due to the influence of the inflation. The best investment with the least loss for the investor is Barclays’s bank bond closely followed by NatWest. In this scenario the least attractive investment in a form of a term account with highest loss proved to be Lloyds bank.
iii. Liquidity of Term account and Bank bond

Taking into account the liquidity of term accounts and bank bonds is necessary for any investor considering investment into banking products. The Bank bonds have lower level of liquidity as a result of no possibility to prematurely withdraw finances from the bank bonds. On the other hand the term accounts usually offer a withdrawal of a certain percentage of a deposit and therefore are more liquid than bank bonds. However this fact is incorporated into lower interest rate of the term account.

The withdrawal of the portion of finances may be fined. There is no general rule that banks must follow and therefore they set the fines and conditions according to their own policy. There are three examples listed to illustrate the fees.

According to Raiffeisen’s term account rates and fees page (2013) the client may prematurely withdraw money from term account, however he will be fined by 2 per cent of amount withdrawn and the minimum is 1000 CZK. ČSOB’s Tariff rate web (2013) explain that the premature withdrawal is also possible with a fee. If the withdrawal is made within 6 months of its opening the fee is only 0.75 per cent of the sum withdrawn. If the withdrawal is made after 6 months the fee is 1.5 per cent of the sum withdrawn.

Therefore the investor should consider his options and preferences and if he needs his finances to be more liquid or making higher interest.
b. Current account research

The research of the British and Czech current accounts is conducted in the same way as the research of term accounts. However the current account is mostly used to provide a possibility of payments and transfer of finances. Consequently the research creates and observes two scenarios.

Research of the first scenario ‘Current account research – observation of annual development’ is similar to the term account research as it observes a situation when investor puts certain amount of finances into the bank account and leaves it there for a year. It also uses previously mentioned formulas for calculation of future value and formulas for specific interest rates adjusted by tax and inflation although these formulas are adjusted by deducing the annual costs. In this case the annual cost is only the charge for account management as there are no other fees applicable.

Research of the second scenario ‘Current account research – observation of development of monthly annuity’ observes a situation when investor puts continuously his wage into the banking account for a whole year while withdrawing half of his wage for daily use. This scenario puts more emphasis on many different charges imposed on Czech current account in the area of transaction of finances. The similar formula of Future value is used in this research adjusted by COSTS (such as charge for ATM withdrawal).

Also as this research employs monthly annuity (adding certain amount of finances in a certain period) the interest rate and inflation are converted into interest rate and inflation per mensem (they are monthly applied and therefore it is required to adjust them to their monthly form).
c. Current accounts overview

Table 5.11 - The overview of Czech current accounts

<table>
<thead>
<tr>
<th>Name of the Bank</th>
<th>Interest rate on deposit (%)</th>
<th>Inflation (%)</th>
<th>Tax on interest (%)</th>
<th>Monthly cost – account management fee (CZK)</th>
<th>Credit Card fees (CZK)</th>
<th>ATM withdrawal charge (CZK)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raiffeisen bank</td>
<td>0.01</td>
<td>2</td>
<td>15</td>
<td>250</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>ČSOB</td>
<td>0.01</td>
<td>2</td>
<td>15</td>
<td>60</td>
<td>45</td>
<td>6</td>
</tr>
<tr>
<td>GE Money Bank</td>
<td>0.01</td>
<td>2</td>
<td>15</td>
<td>59</td>
<td>59</td>
<td>15</td>
</tr>
</tbody>
</table>

I. Additional note to Czech current accounts

The Czech banks provide very low Interest rate on current account as its main function is to manage financial transactions and there is no certainty that client will leave his finances on the current account in the long term. In addition many Czech banks charge account management fee and even fees for withdrawal from the ATM machine of the certain bank (usually Czech banks have higher charges for withdrawing from ATM of a different bank) or monthly fee for providing a credit/debit card. Nevertheless Czech banks in most cases do not charge for opening current account, closing current account, accepting a payment and making a payment in shops.

The Czech banks do not offer a possibility of an overdraft as a part of a basic account as overdraft facility is needed to be purchased for additional fees.

Also there is a difference between Raiffeinsen bank and other banks. The Raiffeinsen bank offers according to Raiffeinsen’s current account rates and fees page (2013) flat rate of 250 CZK per month however other fees are included in the fee therefore the higher account management fee. The Raiffeinsen bank offers a discount on this fee (the fee is lowered to 125 CZK) however the conditions cannot be met in this research as they require multiple transactions per month at a certain value which probably cannot be met by many clients and therefore the higher fee is taken into account.
II. Additional note to British current account

The British banks usually do not charge for account management or credit cards used in ATM withdrawal, even from ATM of a different bank. The British banks, as well as Czech banks, do not charge for opening current account, closing current account, accepting a payment or making a payment in shops. As these acts do not influence the balance on the current account they are not reflected upon in the following research.

However the British banks offer zero interest rate on the current account. The zero interest rate therefore makes tax on interest irrelevant and this fact is taken into account in following research.

According to Lloyds’s Current account Interest rates page (2013) Lloyds bank offers 3 per cent interest rate if the deposit ranges between £3,000 and £5,000. However when the deposit reaches £5,000 Lloyds bank immediately stops paying interest on the deposit. As the first deposit into the current account in the research is £5,000 there will be no interest paid and the interest rate is therefore effectively 0 per cent.

The only fees charged by British banks apply to overdrafts. The overdrafts are usually part of British current accounts and are charged extra. As a result of non-existence general rule for charging for overdrafts the British banks have different rules and fees for overdrafts. However following results does not take into account overdrafts (as it is usually necessary to purchase overdraft service extra in Czech Republic) and therefore this facet of British current account is only mentioned.

Table 5.12 - The overview of British current accounts

<table>
<thead>
<tr>
<th>Name of the Bank</th>
<th>Interest rate on deposit (%)</th>
<th>Inflation (%)</th>
<th>Tax on interest (%)</th>
<th>Monthly cost – account management fee (£)</th>
<th>Credit Card fees (£)</th>
<th>ATM withdrawal charge (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lloyds</td>
<td>0</td>
<td>2.7</td>
<td>20</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>NatWest</td>
<td>0</td>
<td>2.7</td>
<td>20</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Barclays</td>
<td>0</td>
<td>2.7</td>
<td>20</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
i. Current account research – observation of annual development – Czech accounts

The research is conducted in a similar way as the research of term accounts. The research starts chronologically with the most simplified calculation of Future value and it will continue with separately taking into account taxation, inflation and finally the real interest rate by putting together all the conditions given by taxation and inflation. In this scenario the client deposits a certain amount of finances (100,000 CZK) into current account and leaves it there without any further intervention.
I. Simple calculation of Future Value – Czech current accounts

Table 5.13 - Simple calculation of Future Value and Percentage difference – Czech current accounts

<table>
<thead>
<tr>
<th>Name of the Bank</th>
<th>Present Value (CZK)</th>
<th>Interest rate (%)</th>
<th>Monthly cost (CZK)</th>
<th>Annual cost (CZK)</th>
<th>FV=PV*(1+i) - Annual cost (CZK)</th>
<th>Percentage difference (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raiffeisen bank</td>
<td>100,000</td>
<td>0.01</td>
<td>250</td>
<td>3000</td>
<td>97,010.00</td>
<td>-2.990</td>
</tr>
<tr>
<td>ČSOB</td>
<td>100,000</td>
<td>0.01</td>
<td>60</td>
<td>720</td>
<td>99,290.00</td>
<td>-0.710</td>
</tr>
<tr>
<td>GE Money Bank</td>
<td>100,000</td>
<td>0.01</td>
<td>59</td>
<td>708</td>
<td>99,302.00</td>
<td>-0.698</td>
</tr>
</tbody>
</table>

Graph 5.9 - Future Value not including inflation and tax – Czech current accounts

The monthly cost in this scenario consists of account management fee as it is applied automatically every month. The annual cost consists of monthly cost transformed into its annual form by multiplying monthly cost by twelve (twelve months). The Future value is summarized by using the formula for Future Value and then deducting annual costs. As can be seen from the Table 13 and Graph 9 the yield from interest is lower than cost of current account and therefore the percentage difference is negative. The Raiffeisen bank has the lowest percentage difference as a result of higher account management fee which benefits cannot be accounted in this research but are accounted for in the following research.
II. Calculation of Future value adjusted by tax – Czech current accounts

Table 5.14 - Calculation of Future Value and Percentage difference including tax – Czech current accounts

<table>
<thead>
<tr>
<th>Name of the Bank</th>
<th>Present Value (CZK)</th>
<th>Interest rate on deposit (%)</th>
<th>Tax on interest (%)</th>
<th>Interest rate $I_t$ (%)</th>
<th>Annual cost (CZK)</th>
<th>FV=PV*(1+$I_t$) – Annual cost (CZK)</th>
<th>Percentage difference (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raiffeisen bank</td>
<td>100,000</td>
<td>0.01</td>
<td>15</td>
<td>0.009</td>
<td>3000</td>
<td>97,008.50</td>
<td>-2.992</td>
</tr>
<tr>
<td>ČSOB</td>
<td>100,000</td>
<td>0.01</td>
<td>15</td>
<td>0.009</td>
<td>720</td>
<td>99,288.50</td>
<td>-0.712</td>
</tr>
<tr>
<td>GE Money Bank</td>
<td>100,000</td>
<td>0.01</td>
<td>15</td>
<td>0.009</td>
<td>708</td>
<td>99,300.50</td>
<td>-0.700</td>
</tr>
</tbody>
</table>

Graph 5.10 - Future Value including tax – Czech current accounts

The value of interest rate $I_t$ was calculated by using previously mentioned formula for calculation of $I_t$. In this case the Future value represents the actual sum of physical finances that will be present at the end of the deposit term. As a result of a low interest rate the application of tax on interest rates makes very small difference in the actual outcome as can be seen from the percentage difference which is only minimally changed. The order of the bank’s percentage difference stays the same.
III. Calculation of Future value adjusted by inflation – Czech current accounts

Table 5.15 - Calculation of Future Value and Percentage difference including inflation – Czech current accounts

<table>
<thead>
<tr>
<th>Name of the Bank</th>
<th>Present Value (CZK)</th>
<th>Interest rate on deposit (%)</th>
<th>Inflation (%)</th>
<th>Interest rate ( I_r ) (%)</th>
<th>Annual cost (CZK)</th>
<th>FV=PV*(1+( I_r )) – Annual cost(CZK)</th>
<th>Percentage difference (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raiffeisen bank</td>
<td>100,000</td>
<td>0.01</td>
<td>2</td>
<td>-1.95</td>
<td>3000</td>
<td>95,049.02</td>
<td>-4.95</td>
</tr>
<tr>
<td>ČSOB</td>
<td>100,000</td>
<td>0.01</td>
<td>2</td>
<td>-1.95</td>
<td>720</td>
<td>97,329.02</td>
<td>-2.67</td>
</tr>
<tr>
<td>GE Money Bank</td>
<td>100,000</td>
<td>0.01</td>
<td>2</td>
<td>-1.95</td>
<td>708</td>
<td>97,341.02</td>
<td>-2.66</td>
</tr>
</tbody>
</table>

Graph 5.11 - Future Value including inflation – Czech current accounts

The value of interest rate \( I_r \) was calculated by using previously mentioned formula for calculation of \( I_r \). In this case the Future value represents the sum of ‘real value’ of finances that will be present at the end of the deposit term. The application of inflation logically devaluated the finances deposited on the current account and therefore percentage difference proved to be negative as a result of interest rate being lower than inflation and annual costs.
IV. Calculation of Future value adjusted by inflation and tax – Czech current accounts

Table 5.16 - Calculation of Future Value and Percentage difference including inflation and TAX – Czech current accounts

<table>
<thead>
<tr>
<th>Name of the Bank</th>
<th>Present Value (CZK)</th>
<th>Interest rate on deposit (%)</th>
<th>Inflation (%)</th>
<th>Tax on interest (%)</th>
<th>Interest rate IR (%)</th>
<th>Annual cost (CZK)</th>
<th>FV=PV*(1+IR) – Annual cost (CZK)</th>
<th>Percentage difference (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raiffeisen bank</td>
<td>100,000</td>
<td>0.01</td>
<td>2</td>
<td>15</td>
<td>-1.952</td>
<td>3000</td>
<td>95,047.55</td>
<td>-4.952</td>
</tr>
<tr>
<td>ČSOB</td>
<td>100,000</td>
<td>0.01</td>
<td>2</td>
<td>15</td>
<td>-1.952</td>
<td>720</td>
<td>97,327.55</td>
<td>-2.672</td>
</tr>
<tr>
<td>GE Money Bank</td>
<td>100,000</td>
<td>0.01</td>
<td>2</td>
<td>15</td>
<td>-1.952</td>
<td>708</td>
<td>97,339.55</td>
<td>-2.660</td>
</tr>
</tbody>
</table>

Graph 5.12- Real Future Value including tax and inflation – Czech term accounts

The value of interest rate IR was calculated by using previously mentioned formula for calculation of IR. The Future value in this scenario expresses ‘real’ value of finances (the actual worth of money) adjusted by charge of tax at the end of the deposit term. The real yield of this investment proved to be negative (and therefore it is a loss) mainly due to the influence of the inflation and in the case of Raiffeisen bank due to the high flat rate account management fee. The bank with the lowest loss proved to be GE Money bank as a result of mainly the lowest annual cost.
ii. Current account research – observation of annual development – British accounts

The research is conducted in a similar way as the research of term accounts. The research starts chronologically with the most simplified calculation of Future value and it will continue with separately taking into account taxation, inflation and lastly the real interest rate by putting together all the conditions given by taxation and inflation. In this scenario the client deposits a certain amount of finances (£ 5,000) into current account and leaves it there without any further intervention.
I. Calculation of Future Value adjusted by tax – British current account

Table 5.17 - Calculation of Future Value and Percentage difference including tax – British current accounts

<table>
<thead>
<tr>
<th>Name of the Bank</th>
<th>Present Value (i=I_t) (£)</th>
<th>Interest rate (%)</th>
<th>Tax on interest (%)</th>
<th>Interest rate I_t (%)</th>
<th>Annual cost (£)</th>
<th>FV=PV*(1+i) – Annual cost (£)</th>
<th>Percentage difference (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lloyds</td>
<td>5,000</td>
<td>0</td>
<td>20</td>
<td>0</td>
<td>0</td>
<td>5,000</td>
<td>0</td>
</tr>
<tr>
<td>NatWest</td>
<td>5,000</td>
<td>0</td>
<td>20</td>
<td>0</td>
<td>0</td>
<td>5,000</td>
<td>0</td>
</tr>
<tr>
<td>Barclays</td>
<td>5,000</td>
<td>0</td>
<td>20</td>
<td>0</td>
<td>0</td>
<td>5,000</td>
<td>0</td>
</tr>
</tbody>
</table>

Graph 5.13 - Future Value including tax – British current accounts

As a result of the zero value of interest rate the taxation does not influence the yield of British current accounts and as a result the calculation and outcome of ‘i’ and I_t is the same and the graph only shows the outcome of application of I_t for the same reason. The value of interest rate I_t was calculated by using previously mentioned formula for calculation of I_t.

This scenario represents the final sum of finances received after the end of deposit term with deducted taxes and the amount of money is the same as it was at the beginning of deposit therefore the percentage difference is zero and all the British banks are therefore equal.
II. Calculation of Future value adjusted by inflation and tax – British current accounts

Table 5.18 - Calculation of Future Value and Percentage difference including inflation and tax – British current accounts

<table>
<thead>
<tr>
<th>Name of the Bank</th>
<th>Present Value (£)</th>
<th>Interest rate (%)</th>
<th>Inflation (%)</th>
<th>Tax (%)</th>
<th>Interest rate ( I_R ) ( (I_R=I_r) ) (%)</th>
<th>Annual cost (CZK)</th>
<th>FV=PV*(1+I_r) – Annual cost (CZK)</th>
<th>Percentage difference (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lloyds</td>
<td>5,000</td>
<td>0</td>
<td>2.7</td>
<td>20</td>
<td>-2.63</td>
<td>4,868.55</td>
<td>-2.63</td>
<td></td>
</tr>
<tr>
<td>NatWest</td>
<td>5,000</td>
<td>0</td>
<td>2.7</td>
<td>20</td>
<td>-2.63</td>
<td>4,868.55</td>
<td>-2.63</td>
<td></td>
</tr>
<tr>
<td>Barclays</td>
<td>5,000</td>
<td>0</td>
<td>2.7</td>
<td>20</td>
<td>-2.63</td>
<td>4,868.55</td>
<td>-2.63</td>
<td></td>
</tr>
</tbody>
</table>

Graph 5.14 - Real Future value including inflation and tax – British current account

As was proven in the chapter ‘Calculation of Future Value adjusted by tax – British bank bonds’ the taxation does not influence the yield of current account and can be therefore ignored. Therefore the inflation is the main factor in the evaluation of the ‘real’ yield of the current account and the calculation of \( I_R \) in this case is the same as calculation of \( I_r \).

The value of interest rate \( I_R \) was calculated by using previously mentioned formula for calculation of \( I_R \). The Future value in this scenario expresses ‘real’ value of finances (the actual worth of money) adjusted by charge of tax at the end of the deposit term. As has happened in the Czech scenario the real yield of this investment proved to be negative (and therefore it is a loss) mainly due to the influence of the inflation. The same conditions offered by the British banks sets them on the same level and there is no actual financial difference between their current accounts.
iii. Current account research – observation of development of monthly annuity – Czech current accounts

Table 5.19 - The overview of Czech current account monthly annuity

<table>
<thead>
<tr>
<th>Name of the Bank</th>
<th>Monthly Interest (%)</th>
<th>Difference between deposit and withdraw (CZK)</th>
<th>Monthly inflation (%)</th>
<th>Tax (%)</th>
<th>Monthly cost – account management fee (CZK)</th>
<th>Credit Card fees (CZK)</th>
<th>ATM withdrawal charge (CZK)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raiffeisen bank</td>
<td>0.0008333</td>
<td>10,000</td>
<td>0.165</td>
<td>15</td>
<td>250</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>ČSOB</td>
<td>0.0008333</td>
<td>10,000</td>
<td>0.165</td>
<td>15</td>
<td>60</td>
<td>45</td>
<td>6</td>
</tr>
<tr>
<td>GE Money Bank</td>
<td>0.0008333</td>
<td>10,000</td>
<td>0.165</td>
<td>15</td>
<td>59</td>
<td>59</td>
<td>15</td>
</tr>
</tbody>
</table>

In this scenario the client of the bank get his wage of 20,000 CZK sent into his account on the 1st day of each month starting in January. Also he immediately stores 100,000 CZK on 1st January at his current account and he withdraws half of his wage (10,000 CZK) from ATM machine with his debit card immediately after he receives his wage of 20,000 CZK.

The research of this scenario is based upon observation of monthly annuity – each month starting with 1st January the difference between deposit (20,000 CZK) and withdraw (10,000 CZK) and his immediate deposit of 100,000 CZK bear monthly interest. However it is also necessary to deduct every cost related to the common usage of current account (such as card fees, ATM withdrawals charges and so on). This will be achieved by applying formula for calculation of $C_m$ listed previously.

Also the taxation and inflation are taken into account by adjusting interest rate according to the formulas for $I_t$ and $I_r$ and are again observed separately in different annuities, graphs and tables and finally summarized in the calculation of IR. Also for the greater clarity the observation of the annuity was divided into two tables. The first follows first half of the year and the second follows second half of the year and percentage difference.

The Percentage difference in this scenario is calculated by comparing the ideal state of this investment with the final outcome according to formula listed earlier. The ideal state is simple sum of the immediate deposit of 100,000 CZK and the difference between monthly deposit and withdraw (10,000 CZK) times 12 as there are twelve such withdraws and deposits over the year and therefore the ideal state in this scenario is 220,000 CZK.
I. Simple calculation of annuity by using $C_m$ formula– Czech current accounts

Table 5.20 - Simple calculation of $C_m$ of each month and percentage difference - first half of the year – Czech current accounts

<table>
<thead>
<tr>
<th>Name of the Bank</th>
<th>Monthly Interest (%)</th>
<th>$C_m$ JAN (CZK)</th>
<th>$C_m$ FEB (CZK)</th>
<th>$C_m$ MAR (CZK)</th>
<th>$C_m$ APR (CZK)</th>
<th>$C_m$ MAY (CZK)</th>
<th>$C_m$ JUNE (CZK)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raiffeisen bank</td>
<td>0.0008333</td>
<td>109,750.91</td>
<td>119,501.91</td>
<td>129,252.99</td>
<td>139,004.15</td>
<td>148,755.39</td>
<td>158,506.71</td>
</tr>
<tr>
<td>ČSOB</td>
<td>0.0008333</td>
<td>109,889.92</td>
<td>119,779.91</td>
<td>129,669.99</td>
<td>139,560.16</td>
<td>149,450.40</td>
<td>159,340.73</td>
</tr>
<tr>
<td>GE Money Bank</td>
<td>0.0008333</td>
<td>109,867.92</td>
<td>119,735.91</td>
<td>129,603.99</td>
<td>139,472.16</td>
<td>149,340.40</td>
<td>159,208.73</td>
</tr>
</tbody>
</table>

Table 5.21- Simple calculation of $C_m$ of each month and percentage difference – second half of the year – Czech current accounts

<table>
<thead>
<tr>
<th>Name of the Bank</th>
<th>$C_m$ JULY (CZK)</th>
<th>$C_m$ AUG (CZK)</th>
<th>$C_m$ SEP (CZK)</th>
<th>$C_m$ OCT (CZK)</th>
<th>$C_m$ NOV (CZK)</th>
<th>$C_m$ DEC (CZK)</th>
<th>Percentage difference (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raiffeisen bank</td>
<td>168,258.11</td>
<td>178,009.59</td>
<td>187,761.16</td>
<td>197,512.80</td>
<td>207,264.53</td>
<td>217,016.34</td>
<td>-1.36</td>
</tr>
<tr>
<td>ČSOB</td>
<td>169,231.14</td>
<td>179,121.63</td>
<td>189,012.21</td>
<td>198,902.87</td>
<td>208,793.61</td>
<td>218,684.43</td>
<td>-0.60</td>
</tr>
<tr>
<td>GE Money Bank</td>
<td>169,077.14</td>
<td>178,945.63</td>
<td>188,814.20</td>
<td>198,682.86</td>
<td>208,551.59</td>
<td>218,420.41</td>
<td>-0.72</td>
</tr>
</tbody>
</table>

The $C_m$ is calculated for every month by using the formula for Capital calculated monthly and simple monthly interest is used. However the calculation of January $C_m$ is adjusted by adding the basic capital of 100,000 CZK. The monthly costs consist of account management fee, debit card fee and one ATM withdrawal charge.

As can be seen from the Table 21 the yield from interest is lower than cost of current account and therefore the percentage difference is negative and lower than ideal state. The Raiffeisen bank has the lowest percentage difference as a result of higher account management fee although the difference between Raiffeisen bank and other two banks is significantly lower than percentage difference in the foregoing research. The smallest percentage difference is calculated for ČSOB following by GE Money bank.
The Graph 15 shows steady growth of finances on the current account although the finances do not reach the ideal state of 220,000 CZK. For the greater clarity the Graph 16 shows the annuity of finances during the last third of the year.
II. Calculation of annuity by using $C_m$ formula adjusted by tax – Czech current accounts

Table 5.22 - Calculation of $C_m$ of each month and percentage difference including tax - first half of the year – Czech current accounts

<table>
<thead>
<tr>
<th>Name of the Bank</th>
<th>Monthly Interest $I_t$ (%)</th>
<th>Tax (%)</th>
<th>$C_m$ JAN (CZK)</th>
<th>$C_m$ FEB (CZK)</th>
<th>$C_m$ MAR (CZK)</th>
<th>$C_m$ APR (CZK)</th>
<th>$C_m$ MAY (CZK)</th>
<th>$C_m$ JUNE (CZK)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raiffeisen bank</td>
<td>0.000708</td>
<td>15</td>
<td>109,750.78</td>
<td>119,501.62</td>
<td>129,252.54</td>
<td>139,003.52</td>
<td>148,754.58</td>
<td>158,505.70</td>
</tr>
<tr>
<td>ČSOB</td>
<td>0.000708</td>
<td>15</td>
<td>109,889.78</td>
<td>119,779.63</td>
<td>129,669.55</td>
<td>139,559.53</td>
<td>149,449.59</td>
<td>159,339.72</td>
</tr>
<tr>
<td>GE Money Bank</td>
<td>0.000708</td>
<td>15</td>
<td>109,867.78</td>
<td>119,735.63</td>
<td>129,603.54</td>
<td>139,471.53</td>
<td>149,339.59</td>
<td>159,207.72</td>
</tr>
</tbody>
</table>

Table 5.23 - Calculation of $C_m$ of each month and percentage difference including tax - second half of the year – Czech current accounts

<table>
<thead>
<tr>
<th>Name of the Bank</th>
<th>$C_m$ JULY (CZK)</th>
<th>$C_m$ AUG (CZK)</th>
<th>$C_m$ SEP (CZK)</th>
<th>$C_m$ OCT (CZK)</th>
<th>$C_m$ NOV (CZK)</th>
<th>$C_m$ DEC (CZK)</th>
<th>Percentage difference (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raiffeisen bank</td>
<td>168,256.89</td>
<td>178,008.15</td>
<td>187,759.48</td>
<td>197,510.88</td>
<td>207,262.35</td>
<td>217,013.89</td>
<td>-1.36</td>
</tr>
<tr>
<td>ČSOB</td>
<td>169,229.92</td>
<td>179,120.19</td>
<td>189,010.53</td>
<td>198,900.94</td>
<td>208,791.41</td>
<td>218,681.96</td>
<td>-0.60</td>
</tr>
<tr>
<td>GE Money Bank</td>
<td>169,075.92</td>
<td>178,944.18</td>
<td>188,812.52</td>
<td>198,680.93</td>
<td>208,549.40</td>
<td>218,417.95</td>
<td>-0.72</td>
</tr>
</tbody>
</table>

The $C_m$ is calculated for every month by using the formula for Capital calculated monthly using interest rate adjusted by tax ($I_t$). Like in the previous case the calculation of January $C_m$ is adjusted by adding the basic capital of 100,000 CZK and the monthly cost consists of account management fee, debit card fee and one ATM withdrawal charge.

In this case the $C_m$ in December represents the actual sum of physical finances that will be present at the end of the deposit term.

As can be seen from the Table 23 the yield from interest adjusted by tax is lower than cost of current account and therefore the percentage difference is negative and lower than ideal state. The applications of tax changed brought minimal change as the interest rate is almost negligible. The order of the banks percentage difference is unchanged.
The Graph 17 shows steady growth of finances on the current account. The application of tax has almost negligible outcome. For the greater clarity the Graph 18 presents the annuity of finances during the last third of the year.
III. Calculation of annuity by using Cm formula adjusted by inflation – Czech current accounts

Table 5.24 - Calculation of C_m of each month and percentage difference including inflation - first half of the year – Czech current accounts

<table>
<thead>
<tr>
<th>Name of the Bank</th>
<th>Monthly Interest I_r (%)</th>
<th>Monthly inflation (%)</th>
<th>C_m JAN (CZK)</th>
<th>C_m FEB (CZK)</th>
<th>C_m MAR (CZK)</th>
<th>C_m APR (CZK)</th>
<th>C_m MAY (CZK)</th>
<th>C_m JUNE (CZK)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raiffeisen bank</td>
<td>-</td>
<td>0.165</td>
<td>109,569.65</td>
<td>119,123.58</td>
<td>128,661.81</td>
<td>138,184.37</td>
<td>147,691.27</td>
<td>157,182.56</td>
</tr>
<tr>
<td>ČSOB</td>
<td>-</td>
<td>0.165</td>
<td>109,708.43</td>
<td>119,400.90</td>
<td>129,077.44</td>
<td>138,738.09</td>
<td>148,382.85</td>
<td>158,011.77</td>
</tr>
<tr>
<td>GE Money Bank</td>
<td>-</td>
<td>0.165</td>
<td>109,686.46</td>
<td>119,357.01</td>
<td>129,011.66</td>
<td>138,650.45</td>
<td>148,273.39</td>
<td>157,880.53</td>
</tr>
</tbody>
</table>

Table 5.25 - Calculation of C_m of each month and percentage difference including inflation - second half of the year – Czech current accounts

<table>
<thead>
<tr>
<th>Name of the Bank</th>
<th>C_m JULY (CZK)</th>
<th>C_m AUG (CZK)</th>
<th>C_m SEP (CZK)</th>
<th>C_m OCT (CZK)</th>
<th>C_m NOV (CZK)</th>
<th>C_m DEC (CZK)</th>
<th>Percentage difference (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raiffeisen bank</td>
<td>166,658.25</td>
<td>176,118.36</td>
<td>185,562.94</td>
<td>194,991.99</td>
<td>204,405.55</td>
<td>213,803.63</td>
<td>-2.82</td>
</tr>
<tr>
<td>ČSOB</td>
<td>167,624.87</td>
<td>177,222.17</td>
<td>186,803.70</td>
<td>196,369.49</td>
<td>205,919.55</td>
<td>215,453.93</td>
<td>-2.07</td>
</tr>
<tr>
<td>GE Money Bank</td>
<td>167,471.88</td>
<td>177,047.47</td>
<td>186,607.32</td>
<td>196,151.47</td>
<td>205,679.93</td>
<td>215,192.73</td>
<td>-2.19</td>
</tr>
</tbody>
</table>

The C_m is calculated for every month by using the formula for Capital calculated monthly using interest rate adjusted by inflation (I_r). Like in the previous case the calculation of January C_m is adjusted by adding the basic capital of 100,000 CZK and the monthly cost consists of account management fee, debit card fee and one ATM withdrawal charge.

In this case the C_m in December represents the sum of ‘real value’ of finances that will be present at the end of the deposit term.

As can be seen from the Table 25 the difference adjusted by inflation between yield from interest and cost of current account is lower than the ideal state and therefore the percentage difference is negative. The applications of inflation increased negative percentage difference. The order of the banks percentage difference is unchanged.
The Graph 19 shows steady growth of finances on the current account. The application of inflation is easily visible and it has expectedly lowered the outcome. For the greater clarity and the Graph 20 presents the annuity of finances during the last third of the year.
IV. Calculation of annuity by using \( C_m \) formula adjusted by inflation and tax – Czech current accounts

Table 5.26 - Calculation of \( C_m \) of each month and percentage difference including inflation and tax - first half of the year – Czech current accounts

<table>
<thead>
<tr>
<th>Name of the Bank</th>
<th>Monthly Interest ( I_R ) (%)</th>
<th>Monthly inflation (%)</th>
<th>Tax (%)</th>
<th>( C_m ) JAN (CZK)</th>
<th>( C_m ) FEB (CZK)</th>
<th>( C_m ) MAR (CZK)</th>
<th>( C_m ) APR (CZK)</th>
<th>( C_m ) MAY (CZK)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raiffeisen bank</td>
<td>-0.164449</td>
<td>0.165</td>
<td>15</td>
<td>109,569.52</td>
<td>119,123.30</td>
<td>128,661.36</td>
<td>138,183.75</td>
<td>147,690.47</td>
</tr>
<tr>
<td>ČSOB</td>
<td>-0.164449</td>
<td>0.165</td>
<td>15</td>
<td>109,708.29</td>
<td>119,400.61</td>
<td>129,076.99</td>
<td>138,737.46</td>
<td>148,382.05</td>
</tr>
<tr>
<td>GE Money Bank</td>
<td>-0.164449</td>
<td>0.165</td>
<td>15</td>
<td>109,686.32</td>
<td>119,356.72</td>
<td>129,011.21</td>
<td>138,649.83</td>
<td>148,272.59</td>
</tr>
</tbody>
</table>

Table 5.27 - Calculation of \( C_m \) of each month and percentage difference including inflation and tax - second half of the year – Czech current accounts

<table>
<thead>
<tr>
<th>Name of the Bank</th>
<th>( C_m ) JUNE (CZK)</th>
<th>( C_m ) JULY (CZK)</th>
<th>( C_m ) AUG (CZK)</th>
<th>( C_m ) SEP (CZK)</th>
<th>( C_m ) OCT (CZK)</th>
<th>( C_m ) NOV (CZK)</th>
<th>( C_m ) DEC (CZK)</th>
<th>Percentage difference (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raiffeisen bank</td>
<td>157,181.56</td>
<td>166,657.04</td>
<td>176,116.94</td>
<td>185,561.28</td>
<td>194,990.09</td>
<td>204,403.40</td>
<td>213,801.22</td>
<td>-2.818</td>
</tr>
<tr>
<td>ČSOB</td>
<td>158,010.77</td>
<td>167,623.66</td>
<td>177,220.74</td>
<td>186,802.04</td>
<td>196,367.58</td>
<td>205,917.39</td>
<td>215,451.50</td>
<td>-2.067</td>
</tr>
<tr>
<td>GE Money Bank</td>
<td>157,879.53</td>
<td>167,470.67</td>
<td>177,046.04</td>
<td>186,605.66</td>
<td>196,149.56</td>
<td>205,677.77</td>
<td>215,190.31</td>
<td>-2.186</td>
</tr>
</tbody>
</table>

The \( C_m \) is calculated for every month by using the formula for Capital calculated monthly using interest rate adjusted by inflation and tax \( (I_R) \). As in the previous case the calculation of January \( C_m \) is adjusted by adding the basic capital of 100,000 CZK and the monthly cost consists of account management fee, debit card fee and one ATM withdrawal charge.

In this case the \( C_m \) in December represents the sum of ‘real value’ of finances adjusted by tax that will be present at the end of the deposit term.

As can be seen from the Table 27 the difference adjusted by inflation between yield from interest adjusted by tax and cost of current account is lower than the ideal state and therefore the percentage difference is negative. Therefore the bank with the lowest lost on their current accounts proved to be ČSOB following by GE Money bank and Raiffeisen bank.
The Graph 21 shows steady growth of finances on the current account. For the greater clarity and the Graph 22 presents the annuity of finances during the last third of the year. The final outcome can be observed from Graph 22 as the ČSOB current account proves to have lowest lost closely followed by GE Money bank and the highest lost proved to be on the current account provided by Raiffeisen bank.
iv. Current account research – observation of development of monthly annuity – British current accounts

Table 5.28 - The overview of British current account monthly annuity

<table>
<thead>
<tr>
<th>Name of the Bank</th>
<th>Monthly Interest (%)</th>
<th>Difference between deposit and withdraw (£)</th>
<th>Monthly inflation (%)</th>
<th>Tax (%)</th>
<th>Monthly cost – account management fee (£)</th>
<th>Credit Card fees (£)</th>
<th>ATM withdrawal charge (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lloyds</td>
<td>0</td>
<td>1,000</td>
<td>0.222</td>
<td>20</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>NatWest</td>
<td>0</td>
<td>1,000</td>
<td>0.222</td>
<td>20</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Barclays</td>
<td>0</td>
<td>1,000</td>
<td>0.222</td>
<td>20</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

In this scenario the client of the bank get his wage of £2,000 sent into his account on 1st day of each month starting in January. Also he immediately stores £5,000 on 1st January at his current account and he withdraws half of his wage (£1,000) from ATM machine with his debit card immediately after he receives his wage of £2,000.

The research of this scenario is based upon observation of monthly annuity – each month starting with 1st January the difference between deposit (£2,000) and withdraw (£1,000) and his immediate deposit of £5,000 bear monthly interest. However it is also necessary to deduct every cost related to the common usage of a current account (such as card fees, ATM withdrawals charges and so on). This will be achieved by applying formula for calculation of C_m listed previously.

Also the taxation and inflation are taken into account by adjusting interest rate according to the formulas for I_t and I_r and are again observed separately in different annuities, graphs and tables and finally summarized in the calculation of IR. Also for the greater clarity the observation of the annuity was divided into two tables. The first follows first half of the year and the second follows second half of the year and percentage difference.

The Percentage difference in this scenario is calculated by comparing the ideal state of this investment with the final outcome according to formula listed earlier. The ideal state is simple sum of the immediate deposit of £5,000 and the difference between monthly deposit and withdrawal (£1,000), times 12 as there are twelve such withdraws and deposits over the year and therefore the ideal state in this scenario is £17,000.
I. Calculation of annuity by using $C_m$ formula adjusted by tax – British current account

Table 5.29 - Calculation of $C_m$ of each month and percentage difference including tax - first half of the year – British current accounts

<table>
<thead>
<tr>
<th>Name of the Bank</th>
<th>Monthly Interest $I_t$ (%)</th>
<th>Tax ($)</th>
<th>$C_m$ JAN (£)</th>
<th>$C_m$ FEB (£)</th>
<th>$C_m$ MAR (£)</th>
<th>$C_m$ APR (£)</th>
<th>$C_m$ MAY (£)</th>
<th>$C_m$ JUNE (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lloyds</td>
<td>0</td>
<td>20</td>
<td>6,000.0</td>
<td>7,000.0</td>
<td>8,000.0</td>
<td>9,000.0</td>
<td>10,000.0</td>
<td>11,000.0</td>
</tr>
<tr>
<td>NatWest</td>
<td>0</td>
<td>20</td>
<td>6,000.0</td>
<td>7,000.0</td>
<td>8,000.0</td>
<td>9,000.0</td>
<td>10,000.0</td>
<td>11,000.0</td>
</tr>
<tr>
<td>Barclays</td>
<td>0</td>
<td>20</td>
<td>6,000.0</td>
<td>7,000.0</td>
<td>8,000.0</td>
<td>9,000.0</td>
<td>10,000.0</td>
<td>11,000.0</td>
</tr>
</tbody>
</table>

Table 5.30 - Calculation of $C_m$ of each month and percentage difference including tax - second half of the year – British current accounts

<table>
<thead>
<tr>
<th>Name of the Bank</th>
<th>$C_m$ JULY (£)</th>
<th>$C_m$ AUG (£)</th>
<th>$C_m$ SEP (£)</th>
<th>$C_m$ OCT (£)</th>
<th>$C_m$ NOV (£)</th>
<th>$C_m$ DEC (£)</th>
<th>Percentage difference (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lloyds</td>
<td>12,000.0</td>
<td>13,000.0</td>
<td>14,000.0</td>
<td>15,000.0</td>
<td>16,000.0</td>
<td>17,000.0</td>
<td>0.00</td>
</tr>
<tr>
<td>NatWest</td>
<td>12,000.0</td>
<td>13,000.0</td>
<td>14,000.0</td>
<td>15,000.0</td>
<td>16,000.0</td>
<td>17,000.0</td>
<td>0.00</td>
</tr>
<tr>
<td>Barclays</td>
<td>12,000.0</td>
<td>13,000.0</td>
<td>14,000.0</td>
<td>15,000.0</td>
<td>16,000.0</td>
<td>17,000.0</td>
<td>0.00</td>
</tr>
</tbody>
</table>

As a result of the zero value of interest rate the taxation does not influence the yield of British current accounts and as a result the calculation and outcomes of $i$ and $I_t$ are the same.

The $C_m$ is calculated for every month by using the formula for Capital calculated monthly using interest rate adjusted by tax ($I_t$). Like in the previous case the calculation of January $C_m$ is adjusted by adding the basic capital of £5,000 and the monthly cost consists of account management fee, debit card fee and one ATM withdrawal charge (which are in the case of British banks £0 and therefore they do not influence the final outcome).

In this case the $C_m$ in December represents the actual sum of physical finances that will be present at the end of the deposit term.

As can be seen from the Table 30 the percentage difference is zero as there are no elements directly influencing the capital and the $C_m$ in December is the same as the ideal state. The applications of tax had zero influence. The same conditions offered by the British banks sets them on the same level and there is no actual financial difference between their current accounts.
II. Calculation of annuity by using $C_m$ formula adjusted by inflation and tax – British current account

Table 5.31 - Calculation of $C_m$ of each month and percentage difference including inflation and tax - first half of the year – British current accounts

<table>
<thead>
<tr>
<th>Name of the Bank</th>
<th>Monthly Interest $I = I_R$ (%)</th>
<th>Monthly inflation (%)</th>
<th>$C_m$ JAN (£)</th>
<th>$C_m$ FEB (£)</th>
<th>$C_m$ MAR (£)</th>
<th>$C_m$ APR (£)</th>
<th>$C_m$ MAY (£)</th>
<th>$C_m$ JUNE (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lloyds</td>
<td>-0.2222627</td>
<td>0.222</td>
<td>5,986.66</td>
<td>6,971.14</td>
<td>7,953.42</td>
<td>8,933.52</td>
<td>9,911.44</td>
<td>10,887.19</td>
</tr>
<tr>
<td>NatWest</td>
<td>-0.2222627</td>
<td>0.222</td>
<td>5,986.66</td>
<td>6,971.14</td>
<td>7,953.42</td>
<td>8,933.52</td>
<td>9,911.44</td>
<td>10,887.19</td>
</tr>
<tr>
<td>Barclays</td>
<td>-0.2222627</td>
<td>0.222</td>
<td>5,986.66</td>
<td>6,971.14</td>
<td>7,953.42</td>
<td>8,933.52</td>
<td>9,911.44</td>
<td>10,887.19</td>
</tr>
</tbody>
</table>

Table 5.32 - Calculation of $C_m$ of each month and percentage difference including inflation and tax - second half of the year – British current accounts

<table>
<thead>
<tr>
<th>Name of the Bank</th>
<th>$C_m$ JULY (£)</th>
<th>$C_m$ AUG (£)</th>
<th>$C_m$ SEP (£)</th>
<th>$C_m$ OCT (£)</th>
<th>$C_m$ NOV (£)</th>
<th>$C_m$ DEC (£)</th>
<th>Percentage difference (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lloyds</td>
<td>11,860.77</td>
<td>12,832.18</td>
<td>13,801.44</td>
<td>14,768.54</td>
<td>15,733.49</td>
<td>16,696.30</td>
<td>-1.79</td>
</tr>
<tr>
<td>NatWest</td>
<td>11,860.77</td>
<td>12,832.18</td>
<td>13,801.44</td>
<td>14,768.54</td>
<td>15,733.49</td>
<td>16,696.30</td>
<td>-1.79</td>
</tr>
<tr>
<td>Barclays</td>
<td>11,860.77</td>
<td>12,832.18</td>
<td>13,801.44</td>
<td>14,768.54</td>
<td>15,733.49</td>
<td>16,696.30</td>
<td>-1.79</td>
</tr>
</tbody>
</table>

As was proven in the chapter ‘Calculation of annuity by using $C_m$ formula adjusted by tax – British current account’ the taxation does not influence the yield of current account and can be therefore ignored. Therefore the inflation is the main factor of the evaluation of the ‘real’ yield of the current account and the calculation of $I_R$ in this case is the same as calculation of $I_r$.

The $C_m$ is calculated for every month by using the formula for Capital calculated monthly using interest rate adjusted by inflation and tax ($I_R$). Like in the previous case the calculation of January $C_m$ is adjusted by adding the basic capital of $5,000 and the monthly cost consists of account management fee, debit card fee and one ATM withdrawal charge (which are in the case of British banks £0 and therefore they do not influence the final outcome).

In this case the $C_m$ in December represents the sum of ‘real value’ of finances adjusted by tax that will be present at the end of the deposit term.

As can be seen from the Table 32 the inflation had expectedly negative impact on the capital. However as the inflation is the only major factor influencing the banks in the UK the British banks proved to have lower loss on the current accounts than Czech current accounts.
As the conditions of all examined banks are the same the Graph 23 encompasses two major annuities common for all three surveyed banks – the first represents the annuity adjusted by tax (Cm, It = i) and the second represents annuity adjusted by tax and inflation (Cm, IR=Ir).

Also the Graph 23 shows steady growth of finances on the current account and the finances reach the ideal state of £17,000 in the case of interest rate adjusted by tax although they do not reach the ideal state in the case of interest rate adjusted by Inflation and tax.
5.3. Evaluation of research

In this chapter the results of the research are discussed in more details and critically evaluated. Also this chapter is divided into two parts – first part evaluates the results of research of term accounts and bank bonds and the second part evaluates the results of research of current accounts; the percentage difference is used as an efficient mean of comparison.

5.3.1. Term account and bank bonds – evaluation

The Graph 24 summarizes all percentage differences of Future Value of Czech and British banks and it is used as a relevant tool in the evaluation of term account and bank bonds.

Graph 5.24 - Percentage difference development - term accounts and bank bonds
As can be seen from the Graph 24 the British bank bonds have higher interest yield before the application of tax and inflation. However the difference between British bank bonds and term accounts gets lower when tax is applied as the UK tax on interest rate is higher than the Czech tax. The same trend can be observed when inflation is applied as the British inflation is higher than Czech inflation. The difference is almost negligible in the case of ‘real’ Future value which combines all the factors.

The exceptional development of percentage difference may be observed from Raiffeisen banks term account which has initially lower interest rate than other surveyed Czech banks although it still follows trends common for all surveyed banks.

It is necessary to point out that although the bank bonds tend to have higher interest rate and altogether higher yield they involve higher risk as a result of having lower liquidity than Czech term accounts as the money cannot be withdraw from the bank bond and are more prone to the influence of inflation for the low liquidity factor. For this reason the term account might be more useful for clients which might need to have access for at least partially amenable finances which can be deposited on the term account.

However from the investment point of view both term accounts and bank bonds have a very low yield which do not cover the inflation. Actually after the application of inflation the percentage differences are approximating to the same value. Therefore the investor might have to consider his need for liquid assets and the state of inflation and even although the bank bonds have higher interest rate and overall yield the term accounts appears to be also viable option for the investment.
5.3.2 Current account - evaluation

The evaluation of current account is divided into two parts according to the style of the research – first part evaluates the results of the research of simple Future value and the second part evaluating the results of research of monthly annuity of the current accounts.

I. Future value scenario

The Graph 25 summarizes all percentage differences of Future value of Czech and British banks and it is used as a relevant tool in evaluation of British and Czech current accounts.

Graph 5.25 - Percentage difference development of Future Value - current accounts

The Graph 25 clearly shows that the British current accounts have initial advantage as there are no monthly account management fees applicable to British current accounts. In contrast the Czech current accounts have lower starting Future value as they are influenced by monthly account management fees.

The taxation has very low impact on Czech current account as they have very low interest rate and no impact on British current accounts as they have zero interest rate.

On the other hand the inflation is the key factor as it has the highest impact on every current account. The higher British inflation causes the lowering of the difference between percentage difference of Czech and British current accounts to a negligible level and the ‘real’ Future values have almost similar value.

The exception is again Raiffeisen bank as the current account has flat fee and other fees and charges are included into flat fee and therefore the percentage difference of Raiffeisen bank is more negative than other surveyed percentage differences in this scenario.
II. Monthly annuity scenario

The Graph 26 summarizes all percentage differences of monthly annuities of British and Czech banks and it is used as a relevant tool in evaluation of British and Czech current accounts.

Graph 5.26 - Percentage difference development of monthly annuity - current accounts

The Graph 26 clearly shows the same initial conditions – that is the British current accounts have initial advantage as there are no monthly account management fees or any other fees and charges related to the regular daily use applicable to British current accounts.

In contrast the Czech current accounts have lower starting percentage difference as they are influenced by monthly account management fees and there are charges and fees (such as fee for withdrawal from ATM machine) related to the daily use.

The taxation has very low impact on Czech current account as they have very low interest rate and no impact on British current accounts as they have zero interest rate.

In this scenario the inflation proved to be again the major factor influencing the value of ‘real’ annuity as it has the highest impact on every current account. The higher British inflation rate causes the lowering of the difference between percentage difference of Czech and British current accounts. However the difference between ‘real’ values of percentage differences is noticeably higher than in the case of research of the Future value of current accounts. This is caused by addressing the fees and charges imposed by Czech banks on many regular acts (fee for credit card, withdrawal of cash from ATM machine). If the scenario included more of these acts the difference between Czech and British percentage differences would actually increase.

The exception is again Raiffeisen bank as the current account has flat fee and other fees and charges were only applied once to the monthly annuity. However if the acts which causes the fees and charges were applied multiple times the difference between Raiffeisen bank and other Czech banks would decrease as the Raiffeisen bank percentage difference would remain at the same value and other Czech banks percentage differences would become more negative.
5.4. Conclusion

In conclusion the term accounts and the bank bonds proved to be very low-yield investment mainly due to the disadvantageous ratio of inflation and interest rates. It was also proven that taxation has impact on the yield albeit not as high as inflation.

Nevertheless the investment in the term account or the bank bond brings only small risk as many banks operating on both British and Czech market are international institution and therefore they may spread the risk related to the business activity more effectively.

To recommend any investment the potential investor should consider two major factors: the need of liquidity and his risk preference.

If the investor wants higher profit than the rate of inflation he should probably consider different albeit more risky investments; for example investing into stock exchange. In other words the term accounts and the banking bonds do not produce enough yield so they could be labelled: ‘very profitable investment’. However if the investor prefers low-risk investments with lower yields the term account or bank bond is a viable option.

The factor of liquidity might be very important for the potential investor as he might need an emergency finances at some point of his investment. In this case the term account seems to be better option as it offers possible withdrawal of some percentage of finances without any additional cost. On the other hand if the investor has enough assets with high level of liquidity or he might have an abundance of finances on his current account he might consider purchase of a bank bond with higher level of interest rate.

To conclude the research of current accounts it is necessary to note that the current account is the most basic banking product and necessary for most financial transactions. The necessity of ownership of this product allows banks to put low interest (or no interest in case of British banks) on this product. On the other hand the current account allows safe deposit of money with high liquidity.

In the term of depository of money the researched proved by application of Future Value that British and Czech banks have almost the same percentage difference while British current account having slightly better outcome after counting in the inflation.

However the British current accounts proved to be superior in a term of cheaper manipulation of deposit and withdrawal and although the charges and fees charged by Czech banks for ATM withdrawal or debit card ownership are reasonable they may accumulate to rather high sum as a result of using the paid services frequently. This may be due to the relative youth of the Czech market as the customers are not yet accustomed to be demanding.

Although there is an undisputable difference between Czech and British current accounts in the sense of more ‘customer-friendly’ approach of British banks the higher inflation rate in the UK makes the difference considerably lower and therefore the advantage offered by the British banks is not high enough to consider moving the business activity to the UK solely for the banking reasons.
Reference List


The Times (2007) How interest rates can be used to keep inflation in check: Final 1, Edition 2007, London (UK)


Prohlášení o využití výsledků bakalářské práce

Prohlašuji, že
- jsem byl/la seznámen s tím, že na mou bakalářskou práci se plně vztahuje zákon č. 121/2000 Sb. – autorský zákon, zejména § 35 – užití díla v rámci občanských a náboženských obřadů, v rámci školních představení a užití díla školního a § 60 – školní dílo;
- beru na vědomí, že Vysoká škola báňská – Technická univerzita Ostrava (dále jen VŠB-TUO) má právo nevýdělečně, ke své vnitřní potřebě, bakalářskou práci užít (§ 35 odst. 3);
- souhlasím s tím, že bakalářská práce bude v elektronické podobě archivována v Ústřední knihovně VŠB-TUO a jeden výtisk bude uložen u vedoucího bakalářské práce. Souhlasím s tím, že bibliografické údaje o bakalářské práci budou zveřejněny v informačním systému VŠB-TUO;
- bylo sjednáno, že s VŠB-TUO, v případě zájmu z její strany, uzavřu licenční smlouvu s oprávněním užít dílo v rozsahu § 12 odst. 4 autorského zákona;
- bylo sjednáno, že užít své dílo, bakalářskou práci, nebo poskytnout licenci k jejímu využití mohu jen se souhlasem VŠB-TUO, která je oprávněna v takovém případě ode mne požadovat příměřený příspěvek na úhradu nákladů, které byly VŠB-TUO na vytvoření díla vynaloženy (až do jejich skutečné výše).

18. 6. 2013

V Ostravě dne

jméno a příjmení studenta