



**Turība University**

**Ivars Avotiņš**

## **SYNOPSIS OF THE DOCTORAL THESIS**

# **Enhancing management of government debt securities flows in Latvia**

**For award of a doctoral degree in Business administration, a sub  
branch of Management Science**

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The doctoral thesis and the synopsis will be available for review at the library of Turība University, Graudu Street 68, Riga.

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# ANNOTATION

The aim of the doctoral thesis is to investigate the results and trends of management of Latvian government's debt securities, analyse the foreign experience in this field and based on the research results identify the most significant opportunities for improving the management of the flow of securities. The theoretical aspects of the management of the government debt securities is discussed in the doctoral thesis. The paper puts forward proposals for improving the management of flow of securities. In order to verify the importance of the proposals for the Latvian economy, the following research methods were used: expert survey, household survey, cluster analysis, comparison of mean square variance among and between groups, and other methods.

**The first part** of the thesis analyses the theoretical aspects of the management of the government debt securities and their classification. A review of publications of internationally recognized scholars and/or analysts on the management of the government borrowed capital and its impact on business has been carried out.

**The second part** of the thesis analyses the development of the current Latvian government debt securities. In order to validate the mutual interrelation between ratings and prices of securities, a breakdown of intragroup and intergroup square variance was carried out for ten-year bonds of six countries.

**The third part** of the thesis summarizes the experience of 4 continents in 18 countries in managing government debt securities flows. The results are compared with the management of the Latvian government securities flow and the relevant conclusions are drawn.

**In the fourth part** of the thesis, analysing the information obtained, the author has developed the Latvian government debt securities management model and drawn conclusions regarding the desired areas of development. In order to ascertain the logic and validity of the author's conclusions, a survey of experts and also later – 189 households, who are aware of savings bonds was carried out.

**The most significant result** of the thesis – it has been proved that by improving the management of the government debt securities, a more efficient and cheaper government debt management system can be formed.

The thesis consists of 181 pages that include an introduction, 4 chapters, conclusions and proposals, as well as 10 annexes. The results of the study are summarized in 46 tables, 25 figures and 1 formula. 85 literature, 71 internet sources and 12 legal acts were used in compiling the doctoral thesis.

**Keywords:** Securities management, government debt securities, bonds, savings bonds, households.

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# INTRODUCTION

A steady increase in absolute budget deficit in different countries has led to the continuous improvement of economic legal relations between the borrower and potential lenders of money. Government debt securities are the most popular money borrowing instruments in countries around the world, including the European Union, for reducing the government deficit. In the last 20 to 30 years, there has been a broad diversification of government debt securities aimed at expanding borrowing opportunities, taking into account the economic situation of different countries, their development opportunities and threats. In practice, government debt securities have not proved to be absolutely reliable – several cases of state bankruptcy are known in the history of global economic development. Therefore, politicians and government debt securities managers constantly have to depend on investments and profitability alternatives of potential lenders seeking to strike a balance between potential returns and the risk of loss.

The focus of Latvian government debt securities management is on attracting free financial resources from credit institutions, as well as on gradually increasing long-term investors – investments in pension funds and insurance companies. In recent years, households are offered a number of ways to receive tax rebates in the medium and long term by investing in pension funds or insurance savings, while investments in government debt securities are not subject to any tax rebates which, according to experts, is not the right policy. A similar treatment is applied to non-financial corporations; therefore, they are reluctant to invest part of the profit in government debt securities.

According to the Treasury, the majority or 88 % of the funds necessary to finance the Latvian budget deficit are attracted from market participants abroad, while the remaining 12 % is financed by local market participants. Thus, there is a strategically disadvantageous distribution between resident and non-resident debt securities investors.

With the increase in the proportion of government debt securities sold on the domestic market, there will be an increase in the

income of domestic market participants from government debt securities. Thus, the increase in income of Latvian households and other market participants is being promoted, which will be followed by an increase in the demand for goods and services in the domestic market activating economic activity which will result in an increase in government budget inflows. In turn, there will be an increase in national economic growth, leading to an increase in income from taxes and duties in the state budget, which is the most effective means and political argument for reducing budget deficit and the overall government debt.

The experience of countries worldwide in managing the government debt securities flow opens up the possibility to develop a management model that is most appropriate for Latvia's socio-economic and political development, which could be constantly improved, taking into account the opportunities and threats to Latvia's economic development. Leading scholars define the development of early warning systems that could foresee emerging threats and ensure rigorous monitoring as the mainstream of modern debt management (Reinhart & Rogoff, 2009). At the same time, relatively little attention is paid to the management of government debt securities flows regarding issues of liquidity and safe investments, as well as the impact of borrowed capital on the economy (Sarvaes, Tufono, 2006; Campello, Glambona & Graham, 2012) reviewing the threat of insolvency in detail separately (Bijak & Lyn, 2012; Arora, Gandhi & Longstaff, 2012; Breuer, Jandacka, Menicia & Summer, 2012), and linking them as a point of reference for other issues of securities (Maltritz, 2012). Potential household investments are valued from the perspective of investment portfolios and household analysis are carried out (Nofsinger, 2012; Fairlie, 2012). Observing directly from the structure of investors and flows perspective, analysis is conducted from far too little demand or willingness to reduce the volume of investments in securities, assuming that the greater the amount of leverage, the greater the realization of threats in the management of flows (Richardson, 2012).

The topicality of the research topic is more in line with publications of foreign scholars such as *U. Panizza, E. Levy-Yeyati* (Panizza, Levy-Yayati, 2012), *A. Presbitero* (Panizza, Presbitero, 2012), *L. Lima, K. Forslund*

(Forslund, Lima, Panizza, 2011), *J. Hanson* (Hanson, 2007), *Z. Wang* (Wang, 2005), *Y. Chen* (Chen, 2011), *L. Ussher* (Ussher, 1998), who studied the experience of European, US, Chinese and other countries in the field of internal and external borrowing and analysed the quantitative indicators of government debt securities, incl. profitability, liquidity, security.

The author has acquainted himself with the works of Latvian scholars and industry experts in identifying the topic of the research and the dimensions of topicality of the research. In particular, one can highlight V. Praude's main book "Financial Instruments" – Volumes 1 and 2 (Praude, 2009), as well as publications of U. Kokorevičs, H. Zuļģis, A. Sedlenieks, G. Apsītis, U. Cērps, I. Aščuks, Ģ. Ozols (Apsītis u.c., 2003) on management of government debt securities flows. However, it should be noted that these studies and publications mainly reflect the market situation of the securities in question over a specified period of time and do little to analyse issues related to the issue, distribution, evaluation and enhancement of management of government debt securities flows. There are practically no studies on the use of foreign experience in this field in Latvia. Consequently, the present research in the case of Latvia is relevant and important.

Taking into account the topicality of the research topic, the previous studies and methods, the author has identified the subject and context of the study as follows.

**Research context:** Latvian government debt securities flows.

**Research topic:** Management of Latvian government debt securities flows.

The following **research goals were defined** for the doctoral thesis: To study the results and trends of management of Latvian government debt securities, analyse the foreign experience in this field and based on the research results identify the most significant opportunities for enhancing the management of the government debt securities flows.



The following **research tasks were set** to achieve the defined goals:

- 1) to study the theoretical aspects of management of government debt securities flows, focusing on explanations of key concepts, the classification of securities and the assessment of government borrowing opportunities;
- 2) to identify the most important elements of management of government debt securities flows and determine their mutual relation;
- 3) to analyse development trends in management of government debt securities flows paying attention to short-term and long-term government debt securities segments; to identify the main deficiencies and weaknesses in the management of the Latvian government debt securities flows;
- 4) to analyse the experience of management of government debt securities flows in North American, South American, European and Asian countries; to determine the possibilities for its use in Latvia using the cluster analysis method for analysis;
- 5) to develop a Latvian government debt securities management model and identify areas of improvement in the management of government debt securities flows that would be aimed at increasing the national economic development intensity and reducing the state budget deficit taking into account the topic of the research, its topicality and objectives of the thesis.

**The hypothesis put forward in the doctoral thesis** is as follows: The possibilities for improving the management of Latvia's government debt securities identified and analysed in the framework of the research are aimed at further diversification of Latvian government debt securities, their priority distribution in Latvia, thereby promoting the country's economic growth and reducing the threat of increasing the state budget deficit.

The following **research methods** were used to conduct the research:

- 1) qualitative methods:
  - analysis of scientific literature,
  - expert survey to ascertain the main problems related to the management of government debt securities flows and possibilities of its enhancement;
- 2) statistical data analysis methods:
  - statistical data on quantitative changes in government debt securities flow as well as interest rates for external borrowings and state guarantees issued were analysed in the 2<sup>nd</sup> part of the thesis,
  - statistical data characterizing the development of different countries were analysed in the 3<sup>rd</sup> part of the thesis, which are then used for the identification and analysis of clusters,
  - statistical data on macroeconomic indicators of Latvia, the results of the expert evaluation and the survey were analysed in the 4<sup>th</sup> part of the thesis;
- 3) cluster analysis methods was applied in working out the dendrogram of clusters in the 3<sup>rd</sup> part of the thesis;
- 4) analysis of variances methods were used in 2<sup>nd</sup> part of the thesis to determine the importance of the factors influencing the price of securities – the importance of ratings in relation to other factors affecting the price of securities.

The doctoral thesis was divided into four parts to fulfil the tasks set and achieve the research goals.

In the first part of the thesis, the author focuses on the theoretical aspects of the management of government debt securities flows. A comparison and evaluation of the international, regional and national classifications of government debt securities was carried out from the perspective of management of public debt.

The second part of the thesis analyses the current development trends of Latvian government debt securities, the major events that affected it, as well as deficiencies that should be overcome to adapt the management of the government debt securities flow to Latvia's economic situation.

In the third part of the thesis, the author tackled the important problem of grouping and selecting the experience of foreign countries in order to adapt positive experiences in Latvia. The information was gathered and analysed and comparisons, groupings, calculations of average and relative values, and illustrations were carried out as well.

In the fourth part of the thesis a survey carried out of experts and subsequently 189 households on savings bonds was analysed. 12 experts, of which 6 were private sector (institutional investors), and 6 – representatives of the public sector (issuer) participated in the expert survey.

**Research limitations and assumptions:** the study is based on statistical data on Latvian debt securities management, normative documents, in the context of the relationship between “securities issuers – investors”.

**Research duration:** During the period 2010–2015, the focus was on current securities flow management processes and development trends. Data from 1980 to 2015 was used to analyse issues concerning the development of Latvian government debt as well as to carry out an individual country analysis. Data from 2010 to 2014 was used to carry out a Cluster analysis and analysis of the South American continent. Data from 2010 to 2012 was used for the analysis of interest rates and ratings as the most significant rating changes occurred during this period in comparison with global economic events, which may reduce the direct impact on aggregate trends. Some issues were studied for a slightly shorter or longer period.

**Scientific novelty of the research:**

- 1) the definition of government debt securities was appended and differs from that given in the Republic of Latvia regulatory enactments;

- 2) an improved classification of government debt securities that had not been proposed and used so far in theory and practice was worked out;
- 3) as a result of cluster analysis comparative dendrograms for European, Asian and South American countries based on GDP per capita and purchasing power parity data for 2010–2014 has been worked out;
- 4) the survey of experts and households resulted in identification of areas of issuance and sale of government debt securities that should be improved;
- 5) a management model for government debt securities flow that can be used as a basis for the management of government debt securities flows in Latvia has been developed.

### **Practical application of the doctoral thesis:**

- 1) using the model developed and international experience, several areas for development of management of Latvian government debt securities management were proposed:
  - attracting households and non-financial corporations as investors to invest in tax-exempt securities, as well as offering interest-rate securities with an inflation coefficient and building and developing a savings oriented society,
  - amendments to regulatory acts are proposed to reduce the impact of intermediaries, with the aim of increasing the number of non-institutional investors;
- 2) the main reasons for the small activity of households in the purchase of savings bonds were evaluated and proposals were put forward for increasing their level of activity;
- 3) based on the government debt securities management model developed, an expansion of the group of issuers is proposed by involving local governments;
- 4) one of the most important indicators of management of government debt securities has been evaluated – the ratings offered and their relation to the price of long-term bonds, by

developing a one factor analysis of variance among and between the groups.

**The thesis put forward for defence:**

- 1) Increasing the number of issuers and involving domestic market participants in transactions with Latvian government debt securities will contribute to economic growth and the reduction of the budget deficit.
- 2) The targeted involvement of households and non-financial companies in transactions with government debt securities will create favourable conditions for increasing the state budget cash inflows.
- 3) Enhanced government debt securities management, based on the model developed by the author, will open up opportunities for the distribution of government debt securities in the internal market, which, in the medium and long term, will contribute to national economic development and the increase in the incomes of market participants.

**Dissemination:**

- the author has presented his research in 12 international scientific conferences;
- the author has conducted practical lessons and lectures at the faculty of Economics and Management of the University of Latvia for bachelor and post graduate students;
- the author has drafted the Bank of Latvia's "Regulations on securities holding reports";
- the author is a Latvian representative in the working committee on Securities statistics of the European Central Bank;
- the author is a member of the International Monetary Fund, the Bank for International Settlements and the European Central Bank's Drafting Expert Group for the Development of a Securities Statistics Manual.

## Author's publications

1. Avotiņš, I., Vanags, J., Zvirgzdiņa, R. (2017). Possible improvements in government debt securities model in Latvia. Raksts iesniegts publicēšanai rakstu krājumā *ICLEL 2017 conference proceeding book 3<sup>rd</sup> International Conference on Lifelong Education and Leadership for All*. Portugal. Datu bāzē ISI Web of Science
2. Avotiņš, I. (2016). Implementation and Development of Saving Bonds in Latvia till the end of Year 2015. *The 6<sup>th</sup> Multidisciplinary Academic Conference*. Prague, Czech Republic: Czech Association of Scientific and Technical Societies, 2016, pp. 372–377. (Pieejams EBSCO host datu bāzē, accession number: 113049869). <https://www.academic-conferences.eu/file/proceedings-of-the-6th-mac-2016/>
3. Avotiņš, I. (2013). Improvements in Government Debt Securities System in Latvia Would Increase Domestic Demand on Them. *12<sup>th</sup> International Scientific Conference: Management Horizons in Changing Economic Environment: Visions and Challenges*. Kaunas, Lithuania: Vytautas Magnus University, pp. 37–44
4. Avotiņš, I. (2013). Developing Government Debt Securities System: The Case of Latvia. *International Journal of Exclusive Management Research*. Indija, Vol. 3 Issue 4 April. pp. 112–121
5. Avotiņš, I. (2012). Kredītreitinga nozīme Latvijas parāda refinansēšanā. *Sabiedrība un kultūra. 14. starptautiskā zinātniskā konference Robežas un jauni apvāršņi*. Liepāja, 425–433. lpp.
6. Avotiņš, I. (2011). Labākās valsts aizņemšanās prakses izmantošanas iespējas Latvijā. *Sabiedrība un kultūra 13. starptautiskā zinātniskā konference Haoss un harmonija*. Liepāja, 525.–532. lpp.
7. Avotiņš, I. (2009). Valsts parāda vērtspapīru veidi Dienvidamerikā. *Latvijas Universitātes raksti, 744. sējums, Ekonomikas un vadības zinātne*. Rīga, 320.–328. lpp.
8. Avotiņš, I. (2009). Valsts aizņemšanās īpatnības Ziemeļamerikas valstīs. *Sabiedrība un kultūra. 11. starptautiskā zinātniskā konference Cilvēkresursu attīstība zināšanu sabiedrībā*. Liepāja, 445.–452. lpp.

9. Avotiņš, I. (2008). Divu vērtspapīru norēķinu sistēmu apvienošanas priekšrocības un trūkumi Latvijā. *Sabiedrība un kultūra*. 10. starptautiskā zinātniskā konference *Sociālā partnerība un dialogs*. Liepāja, 348.–355. lpp.

### **Reports at scientific conferences**

1. Paper presented on “Possible improvements in government debt securities model in Latvia” at the international scientific conference “3<sup>rd</sup> International Conference on Lifelong Education and Leadership for All”, Porto, Portugal, 14<sup>th</sup> September 2017
2. Paper presented on “Implementation and Development of Saving Bonds in Latvia till the end of Year 2015” at the international scientific conference “The 6<sup>th</sup> Multidisciplinary Academic Conference”, Prague, Czech Republic, 19<sup>th</sup> February 2016
3. Paper presented on “Improvements in Government Debt Securities System in Latvia Would Increase Domestic Demand on Them” at the international scientific conference “12<sup>th</sup> International Scientific Conference: Management Horizons in Changing Economic Environment: Visions and Challenges”, Kaunas, Lithuania, 25<sup>th</sup>–26<sup>th</sup> September 2013
4. Paper presented on “Developing Government Debt Securities System: The Case of Latvia” at the international scientific conference “10<sup>th</sup> Annual International Conference on Finances”, Athens, Greece, 2<sup>nd</sup>–5<sup>th</sup> July 2012
5. Paper presented on “Grieķijas krīzes mācība optimālai Latvijas valsts parāda vadībai” at the international scientific conference “Sabiedrība un kultūra. 15. starptautiskā zinātniskā konference *Mainīgais un nemainīgais cikliskumā*”, Liepāja, Latvia, 17<sup>th</sup>–18<sup>th</sup> May 2012
6. Paper presented on “Kredītreitinga nozīme Latvijas parāda refinansēšanā” at the international scientific conference “Sabiedrība un kultūra 14. starptautiskā zinātniskā konference *Robežas un jauni apvāršņi*”, Liepāja, Latvia 19<sup>th</sup>–20<sup>th</sup> May 2011
7. Paper presented on “Labākās valsts aizņemšanās prakses izmantošanas iespējas Latvijā” at the international scientific conference “Sabiedrība un kultūra. 13. starptautiskā zinātniskā konference *Haoss un harmonija*”, Liepāja, Latvia, 30<sup>th</sup> April 2010

8. Paper presented on "Iekšējā un ārējā valsts parāda attiecības Eiropā" reģionālajā zinātniskajā konferencē "Tautsaimniecības attīstība: Problēmas un risinājumi. Studentu un docētāju 11. zinātniski praktiskā konference", Rēzekne, Latvia, 27<sup>th</sup>-28<sup>th</sup> May 2009
9. Paper presented on "Individuality of the government debt in South America" at the international scientific conference "Baltic business and socio-economic development 4<sup>th</sup> international conference", Riga, Latvia, 1<sup>st</sup> October 2008
10. Paper presented on "Divu vērtspapīru norēķinu sistēmu apvienošanas priekšrocības un trūkumi Latvijā" at the international scientific conference "Sabiedrība un kultūra 11. starptautiskā zinātniskā konference Sociālā partnerība un dialogs", Liepāja, Latvia, 25<sup>th</sup> April 2008
11. Paper presented on "Valsts aizņemšanās īpatnības Ziemeļamerikas valstīs" at the international scientific conference "Sabiedrība un kultūra. 10. starptautiskā zinātniskā konference Cilvēkresursu attīstība zināšanu sabiedrībā", Liepāja, Latvia, 27<sup>th</sup>-28<sup>th</sup> April 2007
12. Paper presented on "Kotētu vērtspapīru loma finanšu institūtu un ražošanas uzņēmumu konkurētspējas veicināšanā" at the international scientific conference "Konkurence, integrācija, kooperācija: Baltijas reģiona ekonomikas attīstības reģionālie un starptautiskie aspekti", Riga, Latvia, 25<sup>th</sup> March 2006



# **1. THEORETICAL ASPECTS OF MANAGEMENT OF GOVERNMENT DEBT SECURITIES FLOWS**

From the management point of view, government debt securities can serve as support for many domestic development processes. Issuing debt securities can generate financial resources that can be used to implement projects of national interest, which can also yield a profit that may be more significant than the interest payable and the gradual repayment of the principal amount. One of the additional goals may be to increase the welfare of debt securities holders and taxpayers by investing their borrowed money directly to improve the quality of life of taxpayers or promoting investment savings.

If the state balances its income and expenditure and never exceeds the amount of expenditure over income, then there would not be any government debt at all and therefore no need for debt securities. At the same time, while managing the state budget there may be a situation where all expenses at a particular moment cannot be efficiently covered by tax revenue, and therefore it is useful to cover the amount due with a deferred loan, usually by issuing government debt securities. (Cosio-Pascal, 2012)

Due to the fact that the government sector is economically significant, certain interventions on financial markets with changes in the volume, interest rates or types of government debt securities offered may have a significant impact on the country's development processes as a whole.

Debt securities management can be an important factor in adjusting interest rates that have a direct impact on inflation. At the same time, national monetary and fiscal policies can contribute to the development or stagnation of the entire economy.

Reviewing the relation between debt management and fiscal policy, it can be concluded that, at the national level, income may vary at certain periods of time depending on economic development; at the same time, the possibilities for balancing public expenditure and income may vary for certain years, and it is precisely the effective management

of public debt that is a means for a stable economy. At the same time, from a management perspective, comparing nominal and inflation index linked debt securities from the government's perspective, it can be concluded that nominal securities protect the state budget from unexpected increases in inflation. Consequently, it is more efficient to develop a combined approach with different types of government debt securities. (Missale, 2012, 161) Similarly, the author believes that combined approaches are relatively more effective than using one particular approach.

It can be concluded from the above mentioned that government debt management and the management of government debt securities flows should be based on three fundamental values:

- 1) Setting clear debt management goals that include service risk, interest payment and portfolio management policies. It is important to have an efficient and easy-to-manage management structure and a risk identification management system that does not allow for any digression from previously set goals;
- 2) Ensuring that all activities related to the debt portfolio are in line with the government debt management strategy and are carried out as efficiently as possible;
- 3) Providing clear reporting guidelines whereby an individual can familiarize himself with the state debt management strategy and also with the actual situation in the securities market. (Wheeler, 2004, 12)

The government debt management strategy should at the least be responsible for government debt securities and in cases wherever government borrowing is not possible, deviations from the strategy may be allowed.

Although strategies are important to create and adhere to, special conditions can always be created for residents in particular, for households of a particular economic area, who stand to gain or lose from them as a result of government decisions. It is important to understand – what exactly would be the relationship between households and

the government if the government issued bonds and households became one of their lenders?

A very difficult part of the strategy – debt portfolio management – is to evaluate one of the most important reasons for raising borrowed funds – trust. It is generally accepted that trust is the conviction that a particular thing will happen in the future or trust in someone that something lent will be returned back in the future (Glossary, 2009). According to the opinion of authors Bijak and Thomas (Bijak & Thomas, 2012, 2434–2440) in a publication on loan segmentation and its impact on ratings, trust can be calculated (allowing certain deviation for individuals from the segment) based on past activities outside lending. From the publications of authors Arora, Gandahi, and Longstaff (Arora, Gandahi & Longstaff, 2012, 20), it can be concluded that non-payment of loans can be avoided by acquiring loan credit default swap by which the risk of non-payment by a particular counterpart is calculated and insured.

According to the scholars Breuer, Jandack, Menicia and Summer, within a given model, it is necessary to summarize the most important historical threats that led to non-repayment of loans and in turn develop a model that determines the proximity to the threats and therefore, enables avoiding or rigorously monitoring the closest ones (based on historical data regarding higher-risk loans). (Breuer, Jandacka, Menicia & Summer, 2012, 338)

After analysing government debt securities, it was concluded that the specifics of securities should be reflected in the relevant definitions. It should be noted that the definitions of securities are also influenced by normative acts and sometimes also subjective opinions, although they have not only theoretical but also practical significance. For example, based on the definition of a security, it is possible to accept or refrain from decisions of an issue. Let's look at some definitions of government securities according to the Latvian legislation.

Evaluating the definitions in Latvian legislation, it could be concluded that:

- 1) all definitions correspond to the current situation in the securities market and do not reflect the nature of the securities;
- 2) the fact that definitions do not reflect the nature of securities hinders the development of government debt securities both for the issuer and the investor;
- 3) the definition of debt securities is relatively unclear and allows different types of debt (such as convertible bonds or rights to money) to be defined as debt securities.

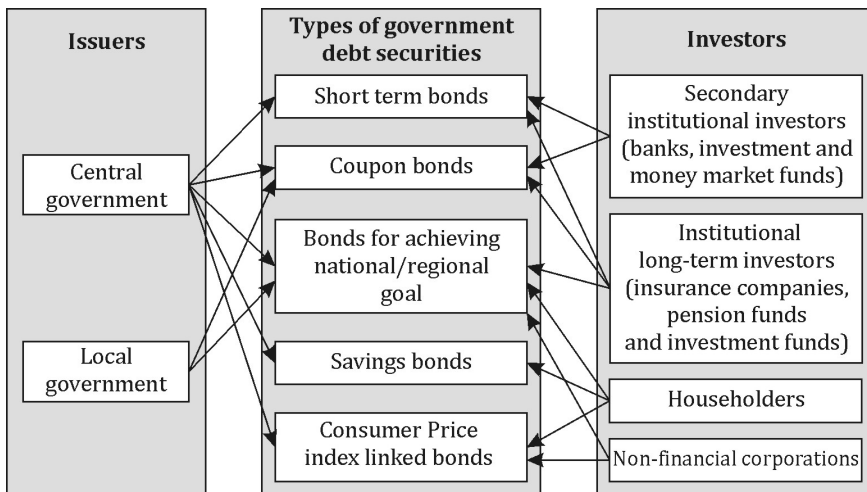
To overcome the deficiencies in the existing definition, the author has formulated a definition that reflects the notion of debt and government debt securities.

- ❖ **Debt securities** are a form of financial liability that testify the investment by its owner and reaffirms the issuer's obligation to pay out regular income and reimburse the nominal value of the security at maturity to the various investors.
  
- ❖ **Government debt securities** are a form of financial liability that testify the investment of the owner and reaffirms the commitment of the issuer – central government, state government, local government to pay out regular income (interest or discount) with a minimum risk and reimburse the nominal value of this security at maturity to the various investors.

Unlike the definitions of government debt securities offered in Latvian legislation, the definition formulated by the author extends the range of issuers and investors and emphasizes the minimum risks of securities (high security level).

Securities flows are formed on the market. These are different types of securities exchange systems between securities issuers, intermediaries and investors (including external ones) in various directions.

The government debt securities flow chart is shown in Figure 1.1 where there is a connection between issuers: what type of bonds can be effectively issued by each issuer, and which types of investors would effectively benefit from it is determined.



*Figure 1.1 Securities flow chart*

From the figure it can be concluded how significant investor groups had remained bound by existing issues until now.

Analysing the methods and principles for managing the securities flow researchers and experts usually use the term “regulation” that takes place at the macroeconomic level.

First of all, in the process of macroeconomic regulation of securities flows all functions of the management at the microeconomic level are used:

- Planning (e.g., government institutions plan the securities issue and distribution arrangements, taxes on income from securities in the market etc.);
- Organization (e.g., laws, regulations on the activities of securities market participants – stock exchanges, investment funds, brokerage companies, etc. – are adopted);

- Coordination (e.g., special state institutions that coordinate the financial sector, including the activities of securities market participants are established);
- Motivation (e.g., due to approved interest rate, tax rate, etc., there is an incentive to invest or not to invest funds in a particular object);
- Control (special state institutions carry out supervision of adherence to regulatory enactments by securities market participants).

Secondly, the government and/or government institutions deal with the securities flow, incl. – issues and distribution, thus affecting the development of the securities market. This is the subject of the author's study.

It is true that at the macroeconomic level, mostly indirect management techniques and tools are used. For example, a state institution cannot pass an administrative order to an individual or an enterprise to buy or sell any securities, to issue or not to sell shares, etc., but it can by laws, regulations, interest rates, tax rates, price regulation, etc. encourage securities market participants to take certain actions.

## 2. ANALYSIS OF THE MANAGEMENT OF GOVERNMENT DEBT SECURITIES FLOWS IN LATVIA

Comparing volume and percentage changes (see Table 2.1), the author concludes that the role of short-term bonds grew during the crisis. It is a way of attracting funds, because it has a low interest rate, and as soon as the financial markets stabilize, it can be refinanced for a longer period.

For example, Eurobonds play an important role (as shown by the experience of 2014), but in a difficult economic situation of a country it can be difficult to issue or refinance them. At the same time, it is also important to identify the financial resources available to the potential investor.

Initially, the balance of resident savings in commercial bank accounts in Latvia are identified, as the identification of the accumulated funds must be carried out at the same time as identifying the need for money.

*Table 2.1*

**Government borrowing structure and types (million EUR and percentage) (State Treasury, 2010–2015, 4)**

Instruments	2010	2011	2012	2013	2014	2015	15/10, %
Proportion of internal borrowing in debentures, %	430	305	215	222	122	70	-84
	6	4	3	3	1	1	
Proportion of internal borrowing in bonds, %	703	709	746	744	925	1047	49
	10	10	9	9	10	13	
Proportion of borrowings from financial institutions and others, %	5101	5222	4027	4311	3300	1708	-67
	73	70	51	53	37	21	
Proportion of Eurobonds, %	800	1187	2877	2816	4665	5370	571
	11	16	37	35	52	65	
Total	7033	7422	7866	8093	9012	8412	20
Total, %	100						

Using the fact that most residents keep their funds in accounts of monetary financial institutions of the Republic of Latvia, the author in the Table 2.2 shows the balances of accumulated amounts.

The data shows a gradual increase during 2010 to 2015. At the end of 2012, the balance in the accounts is higher than the total central government debt (see Table 2.2). The data shows that a certain amount of financial resources could be diverted by residents to investments in government debt securities if such an option was offered with certain tax rebates or other benefits. In order to prove the hypothesis, the author considers it useful to review the experience of other countries in this field.

*Table 2.2*

**Balance of residents of Latvia (financial and non-financial corporations and households) in commercial bank accounts**

(Bank of Latvia, 2016)

<b>Year</b>	<b>Balance (million euro)</b>	<b>Percentage change compared to the previous year, %</b>	<b>Percentage change compared to 2010, %</b>
2010	7943.5	-	0
2011	7749.1	-2	-2
2012	8100.4	5	2
2013	9167.3	13	15
2014	9476.8	3	19
2015	10 333.6	9	30

By attracting households as investors, it is possible to issue securities at a relatively lower interest rate in the internal market, and the issuance costs are also relatively lower. The domestic market does not have to pay brokerage fees for many issuers and intermediaries. It would be important to create additional incentives for households, incl. offering significant tax rebates and interest rates that are equivalent to those on the international market.



The attraction of resources, similar to the market, can be viewed from the perspective of the investor and borrower. From the investor's point of view, the average deposit interest rates available can be seen in Table 2.3.

It can be concluded from the information gathered in the Table 2.3 that the interest rates on deposits have dropped significantly between 2010 and 2015. This leads to a situation where households, and in particular, non-financial corporations are interested in investments with higher interest rates.

*Table 2.3*

**Average interest rates on deposits held by credit institutions for residents**

	2010	2011	2012	2013	2014	2015	15/10, %
Households							
Up to 2 years	3.09	2.53	1.61	0.91	0.83	0.82	-73
More than 2 years	6.11	6.06	4.36	3.81	3.19	2.77	-55
Non-financial corporations							
Up to 2 years	1.94	1.88	0.75	0.46	0.39	0.24	-88
More than 2 years	5.99	5.18	2.67	2.14	0.93	1.36	-77

From the flow management perspective, it is important to work out an offer and start attracting funds with more attractive interest rates than credit institutions. This will motivate households to build up savings and raise capital to create a lasting middle class and non-financial corporations such as small and medium-sized enterprises to do the same with their accumulated funds for investment and successful business development purposes.

### **3. SPECIFICS OF GOVERNMENT DEBT SECURITIES FLOW MANAGEMENT ABROAD**

In order to analyse the management of global government debt securities, the author used the following methodology based on the methodology described by Kristinet Martinson and Zina O'Learia (Mārtinsone, Pipere, 2016, 216), (O'Learia, 2017, 169):

- 1) to determine which countries need to be and which do not need to be examined in detail, a cluster analysis was carried out – a complex statistical procedure, the purpose of which is to classify objects in certain groups according to the characteristics of these objects;
- 2) according to the GDP per capita in 2010, 2011, 2012, 2013 and 2014 the data was broken down based on purchasing power parity principle, which was followed by an individual analysis of the nature, types and volumes of the government debt in different countries; the various types of borrowings and on what conditions money can be lent was analysed as well,
- 3) within the framework of the cluster analysis, the author observed certain principles and grouping criteria in the selection of the countries;
- 4) the grouping process was based on squared Euclidean distance as a unit of distance;
- 5) cluster analysis was carried out for South American, European and Asian countries, which resulted in the creation of three dendrograms. For example, Arab countries were not analysed as according to the Koran, interest is forbidden and they function in various other ways to take actions that are allowed in their religion (ideology);
- 6) attention was focused on the use experience of management of government debt securities flows of 18 countries in Latvia according to the following points:

- the composition of issuers on the government securities market;
- the circle of interested investors in the government securities market.

Although Greece in Europe and Japan in Asia, do not meet the criteria set, these countries have a very significant amount of total debt, and it would be significant for Latvia to avoid their experience.

Despite the fact that the Arab countries play a major role in the world economy, as well as in terms of the development, a number of countries that could be a model for Latvia, the author nevertheless understands that it would be wrong to analyse the government debt of these countries from an analytical point of view, because Islam prohibits interest.

*Table 3.1*

**GDP based on the purchasing power parity according to the cluster analysis of countries**

Country	GDP based on the purchasing power parity (billions)						15/10, %
	2010	2011	2012	2013	2014	2015	
North American countries							
USA	14 964	15 518	16 163	16 768	17 419	18 014	20
Canada	1 362	1 428	1 469	1 513	1 567	1 616	19
Mexico	1 732	1 896	1 971	2 005	2 125	2 214	28
South American countries							
Argentina	463	560	608	622	540	623	35
Brazil	2 804	2 974	3 081	3 212	3 263	3 414	22
Peru	284	309	333	358	371	398	40
Trinidad & Tobago	38	38	40	41	41	42	11

European countries							
Austria	350	370	378	382	394	405	16
UK	2 255	2 312	2 382	2 452	2 525	2 589	15
Sweden	391	413	418	429	437	450	15
Denmark	232	241	244	246	253	257	11
Greece	322	297	282	283	286	268	-17
Lithuania	62	68	72	76	78	83	34
Latvia	37	40	43	45	46	49	32
Asian countries							
Thailand	834	852	924	965	986	1 037	24
China	12 359	13 810	15 148	16 555	18 031	19 407	57
Japan	514	544	591	643	692	733	43
Philippines	4 321	4 386	4 541	4 613	4 631	4 753	10

According to the author, the differences in the population of the selected countries affirms that the choice of countries based on GDP per capita as an economic development indicator is justified.

In order to evaluate the ideal model, the author carried out an analysis of each of these countries by dividing them by their geographic location. The following significant conclusions can be drawn:

- the experience of North American countries highlights the ways in which one can effectively motivate households to invest in government debt securities and build up savings. One can highlight two reasons why households invest in government debt securities in North America, but do not do so in Latvia: 1) tax rebates; and 2) linking the principal amount of the loan to the level of inflation that ensures that the value of money is maintained at least for a certain share of household savings;
- it is significant that households in the United States and Canada do not have to pay an intermediary fee for their investment in government debt securities. This experience should also be used in Latvia;
- the trend of South American debt growth for 2010–2015 can be likened to the Latvian debt growth trend. In addition, there

is a tendency to increase the debt to mainly cover the budget deficit and development remains only an additional objective. Like Latvia, the majority of South American countries' government debt securities management systems are harmonised at the international level, and almost every country in the South American continent has drafted a World Bank document on how to manage this;

- searching for similarities and differences between Latvian and European government debt securities management systems, one can conclude that some methods and principles are similar and significantly influence household confidence and understanding of debt needs. The results of cluster analysis show that the closest country to Latvia among the European countries is Lithuania which considering the common history is not surprising;
- comparing Latvia's situation with the most significant European countries, it can be concluded that a significant part of Latvian borrowing is made up of foreign debt, i.e., non-resident resources, but most European debt is based on the attraction of financial resources of residents (households and non-financial sectors) to the internal market. It is also useful to plan and manage this proportion in Latvia in order to use borrowed funds in specific priority sectors;
- reaching a certain amount of total government debt to gross domestic product, a country may seek a deficit-free budget, although a minimal deficit may be useful in terms of maintaining the system and availability of necessary funds in urgent cases. The Danish and Swedish debt management models validate such a fact;
- the borrowing model of China is relatively acceptable and correct from the point of view of setting and developing national priorities. One of the principles is – the debt must be transparent and investors must be informed of the purpose of borrowing resources on which the funds will be spent.

Otherwise, there may be intransparency and uncertainty why the money should be lent, whether it will be used properly or only spent or will be returned on the basis of the next loan. However, doing business in such a manner usually leads to a point when it is impossible to borrow, and the state can experience a deep crisis. Consequently, China's experience can only be used in part, namely by extending the purpose of issuance of the government debt;

- Thailand's position that the amount of public debt can be fully repaid is attributable to the author's initial theoretical reasons for debt needs. This means that the state can leverage borrowed funds to achieve certain economic goals that result in higher income and, in due time, debt is repaid. At the same time, the author believes that the goals can be regularly updated and development can be continued, which does not include a full debt repayment. As a result, Thailand's experience in the field of government debt management should be assessed positively.

## **4. ENHANCEMENT OF MANAGEMENT OF GOVERNMENT DEBT SECURITIES FLOWS**

The securities issue, servicing and refinancing system must be stable. However, in Latvia until the 1990s, public debt management was based on the acquisition of funds at lower interest rates and lower administrative costs. Consequently, long-term goals, the strategy of attracting funds was neglected. Many threats and fluctuations in exchange rates and interest rates were also not taken into account (see Part 2).

The study of development of the author's government debt securities management model and further development of opportunities in Latvia is based on the following data:

- the theoretical basis is the definition of the government debt securities offered by the author, and the analysis of securities flows (Part 1);
- results of the analysis of government debt securities flows (Part 2);
- the results of analysis of the experience of government debt securities management systems of different countries (Part 3).

The author conducted an empirical study to further elucidate the directions of improvement of government debt securities. As a result, a debt securities management model was developed and proposals were made to improve the issuance and sale of government debt securities.

Table 4.1

**Expert assessment of the economic benefits of improving the management of government debt securities flows**

<b>Arithmetic mean</b>	<b>Mode</b>	<b>Median</b>
1. The share of the total amount of internal borrowing compared to external borrowing should be increased.		
0.67	1	1
2. The amount of household investment in government debt securities should be increased.		
1	1	1
3. Tax relief should be applied to investments in 5-year bonds for the entire term till maturity similar to those when investing in funds and accumulative life insurance.		
1.5	2	2
4. Tax relief should be applied to investments in 10 and more year bonds for the entire term till maturity similar to those when investing in pension funds.		
1.5	2	2
5. Special government bonds for households should be created, with the principal and coupon being linked to the inflation rate (for example, inflation + 2 %).		
-0.4	-2	-0,5
6. At present, the necessity of increasing the state debt and its impact on the national economy of Latvia is insufficiently explained.		
0.5	1	1

Although experts were not familiar with the size of household lenders, they believe that the number of owners of such securities should be increased. According to experts, this is logical, since households are one of the foundations of each and every economy and maintaining a system based only on institutional investors would not be safe. At the same time, the golden middle should always be sought, because households are the sector most easily affected by rumours, propaganda and other forms of communication that can also be misused. The opinion of these experts is also confirmed by the reaction of households, when rumours about the bankruptcy of a commercial bank of Latvia spread (Diena, 2012).



Evaluating the Table 4.1, it can be concluded that on the whole households hold about 0.5 % of the total government debt securities, which is relatively small, and even without knowing the exact figures, experts could make such an assumption. The author agrees with *Velasco's* statement that a more transparent explanation of how political groups take economic and other decisions reduces resource prices and in particular, increases the involvement of households in government debt securities purchases (Velasco, 2000, 122).

Proposals to provide certain tax rebates to households investing for a specific period, i.e. the same as for household investment in insurance or pension funds, have been very positively evaluated. The author believes that this practice corresponds to logical principles.

Most investors support the idea of inflation index linked securities. The author believes that such debt securities are necessary to ensure economic stability and security. According to T. Jackson's analysis, it is unclear why inflation or GDP development linked bonds are issued worldwide during a crisis, while such bonds are rare in the EU because countries that are considered to be stable do not issue such securities (Jackson, 2012).

According to economists S. Schmitt-Grohe and M. Uribe, most monetary policy makers make almost negligible contribution to inflation (Schmitt-Grohe & Uribe, 2004, 206). This means that it is precisely fiscal policy makers who are the most significant contributors of inflation, which, according to the author, also applies to Latvia.

Exploring the foreign experience reflected in part 3 of the doctoral thesis, the author deems the possibility of attracting financial resources for certain construction projects (for example, bridges, libraries, hospitals, concert halls, schools) with the buildings themselves as collateral to be interesting and such need to be encouraged. Such additional collateral could reduce the interest payments levied. These proposals were not considered by all experts as desirable in the current economic situation in Latvia.

Subsequently, new government bond issue regulations (05.03.2013) were adopted, in which the nature of the savings bonds

were set out in detail. The regulations surprisingly stipulate the procedure for inheritance of securities, because if the securities are in a bank account, then the inheritance is in accordance with the general regulatory enactments. At the same time, the author did not find any significant differences between inheritance procedure in the bonds issue regulations and the general laws. The regulations give rise to a situation where households may not benefit in comparison to other investors unless there are exemptions from certain taxes, such as capital gains tax.

Looking at the program's headlines and the 2013 regulations, it can be concluded that the objective is to only attract funds from households to reduce the share of borrowed funds in non-resident borrowing, while increasing resident borrowing. At the same time, there is no information on the objectives of promoting capital savings for residents and/or ensuring certain stability of savings.

The state Treasurer Kaspars Āboliņš informed that “according to the strategy approved by the Ministry of Finance, the desired share of the domestic debt has been set, which is yet to be reached as of 31.11.2012. The stance is to borrow as much as possible on the domestic market and less on foreign markets” (Fridrihsone & Apinis, 2012, 5). The author concludes from the above mentioned that due to the survey and other activities, the focus started shifting to the domestic securities market.

Concluding that since mid-2013, households have been offered to invest their financial resources in savings bonds, the author conducted a household survey from January 13 to February 3, 2014. The survey was conducted in conjunction with the [www.aptaujucentrs.lv](http://www.aptaujucentrs.lv) omnibus survey as an appendix to the survey (see appendix 8).

189 completed questionnaires were received from [www.aptaujucentrs.lv](http://www.aptaujucentrs.lv), wherein respondents had indicated that they were aware or somewhat aware of savings bonds.

Of the 189 respondents, 91 were women and 98 men, 121 respondents lived in Riga, 12 in Jurmala, 21 in Kurzeme, 14 in Zemgale, 3 in Vidzeme and 18 in the Latgale region.

Only 36 out of the 189 respondents who are generally informed about investment opportunities would agree or rather agree to invest their money in savings bonds. This affirms the public opinion as well as

the rather low level of confidence in the state as a whole. At the same time, almost half of respondents express support for significant improvements. It would be especially important if the specific purpose of the investment was known (for example, if the goal was to build a particular school, hospital, bridge or other state-owned facilities).

*Table 4.2*

**Households' assessment of the economic benefits of improving the management of government debt securities flows**

<b>Breakdown of questions and answers</b>					
<b>1. Where do you save your money? (several possible answers)</b>					
125	19	4	44	1	8
Current account	Deposits	Financial market instruments	At home	Savings bonds	Other
<b>2. To what extent are you aware of the possibility of purchasing fixed-rate savings bonds of the Government of Latvia?</b>					
47	98	32		12	0
Not informed	Little informed	Informed enough		Well informed	Fully informed
<b>3. Would you agree to lend your money to the Latvian government by investing in savings bonds?</b>					
73	49	0	31	5	31
Do not agree	Rather not agree	Neutral	Rather agree	Agree	Difficult to say
<b>4. How important would it be to you if inflation-linked savings bonds were offered (savings bond yields would be at least as high as inflation)?</b>					
22	24	19	69	14	41
Very insignificant	Insignificant	Rather insignificant	Rather significant	Very significant	Difficult to say
<b>5. How important would it be to you if the savings bonds were offered for a specific purpose (the purpose of the savings bonds would be to build a particular school, hospital, bridge or other state-owned facility)?</b>					
24	17	16	71	27	34
Very insignificant	Insignificant	Rather insignificant	Rather significant	Very significant	Difficult to say

Continuing the analysis of the management of securities flows and issues that were not asked in the questionnaire due to their complexity and where it would be difficult to obtain an expert assessment without an in-depth presentation, the author addressed the regulatory enactments and their essence. There are many legislative acts in Latvia that directly or indirectly relate to the circulation of government debt securities. Most of this is directly influenced by the “Government Securities Issue Regulations”, the “Law on the Financial Instruments Market” and the “Latvian Central Depository’s (LCD) regulations on the safekeeping, transfer of securities and the ways in which it can be carried out”.

At present, the situation in Latvia is that only second-level securities are available for private individuals, with the exception of savings bonds. A private person cannot go to the state treasury to invest money and receive tangible or intangible proof of one’s loan. This is not possible for several reasons.

The Law on Financial Instruments Market (Finanšu instrumentu tirgus likums, 2004, 125) stipulates that only banks, investment brokerage companies and LCD are entitled to open nominee accounts for financial instruments in which securities of other persons can be kept. It also stipulates that it is not possible for private individuals to go to the Ministry of Finance or the Treasury and offer a loan and in return receive a document confirming this fact. Even when issuing savings bonds, the state chose to use private depository intermediaries, rather than directly managing the system itself.

The author is aware that such an approach is also used globally, and it is important that such systems distinguish client-owned securities from securities held by service providers. When comparing a securities record system with the money or banking system from the point of view of trust, it can be concluded that the banking system has a guarantee fund and there are unpleasant surprises from time to time. At the same time, banks make loans in the form of deposits and invest money received from clients, but the LCD only keeps records of assets, in which

the client's assets are separated without any risks of them being invested unsuccessfully.

The ways in which necessary funds should be borrowed and the use of these borrowings have been sufficiently clearly defined in Latvia. The borrowing guidelines are set out in the "Government Debt Management Strategy" developed by the Treasury. This document explains the reasons why public debt has evolved, why it is necessary and also the basic principles of its management (see Part 2).

Taking into account the development of the government securities market, the objective of the government debt management in Latvia is to provide the necessary financial resources at the lowest possible cost and to limit financial risks, etc. In order to achieve this goal and ensure compliance of the government debt securities flow management with internationally recognized practice, government debt securities portfolio and government debt management have been separated within the framework of the government debt management (Latvijas valsts pārāda vadības stratēģija Nr. 38, 2015, 10). It is also determined that the public debt in Latvia evolved in order to attract the additional financial resources necessary to create better infrastructure and to improve the quality of life in other ways in accordance with the long-term goals of the economy. It was also necessary to create and secure the country's competitiveness.

It is unacceptable to use debt to finance current expenses, which may lead to an economic crisis. Long-term borrowings cannot be made, because whatever the deadline, there may be a time when nobody is prepared to lend and creditors will demand repayment.

Households are the backbone of the national economy together with non-financial corporations. According to the author, investments of households and non-financial corporations in government debt securities should be higher than half of all investments. Credit institutions are only intermediaries who are entrusted with a certain function, but these two sectors are the economic foundation. Comparatively the financial sector is more involved with global processes, and for this reason it is also possible that due to certain circumstances, the geographical location of

investments may change. On the other hand, if there is no serious motivation, households have no reason to change the geographic location of their investments. These investments could prove to be the most significant ones if when faced with serious needs the state addressed household with a serious attitude and the slogan: “we need your help country to develop our country better and make people’s lives better”, rather than with the attitude they have had so far of “if households do not know where to invest money, then you could lend it to your country”.

As mentioned previously borrowing is beneficial only when long-term investment objectives are achieved, and borrowing to cover current expenditure is not the best way. In turn, the increase in the volume of external debt is directly related to current expenditures. Therefore, regardless of other factors, it is necessary to promote the increase of the domestic lending sector and, in the long run, seek to limit external debt only to the extent necessary to maintain a national credit rating, which is important in cases where the economy is urgently in need of additional funds that are not available on the internal market.

It can be concluded from the analysis of the thesis, that the Treasury, as a borrower establishes an additional institution. In case borrowing was carried out by the Minister of Finance together with the Ministry of Finance, Step 2 would not be necessary. As the Treasury operates in accordance with the Treasury Regulations (Cabinet of Ministers of the Republic of Latvia, 2004), feedback to Cabinet of Ministers or the Saeima is not prescribed. The feedback from each stage, is deemed as data for that particular stage.

The Bank of Latvia carried out the accounting and servicing of government debt securities until 2001. Since 2001 the function is carried out by the Latvian Central Depository, which is not a state institution and the Treasury pays a commission for this service.

While listing publicly available information on government debt service costs (Treasury, 2015), brokering commissions paid to any of the service providers are not disclosed: the Latvian Central Depository, foreign central depositories, securities trading points and leading issuers of foreign securities.

Since the 2016 report, the Treasury publishes data on government debt management costs without individually identifying each intermediary, but mentioning the total amount paid out to all intermediaries altogether. Expenditure is reflected in the Table 4.3.

*Table 4.3*

**Debt servicing expenses of the Latvian government (million EUR)**

(Valsts kase, 2016)

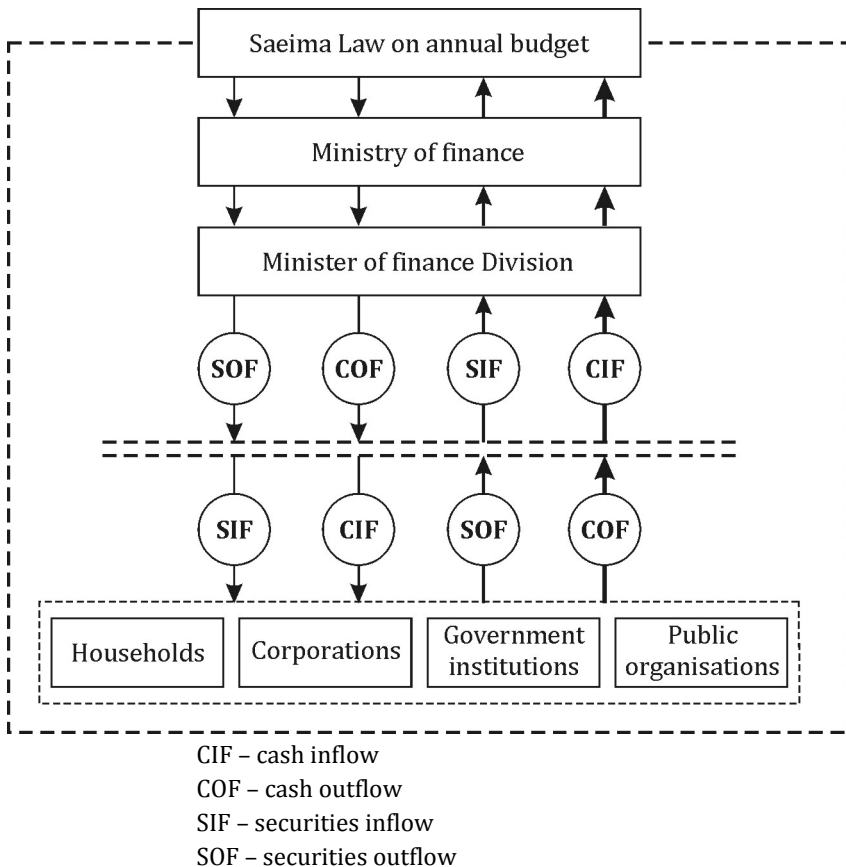
<b>Type</b>	<b>2015</b>	<b>2016</b>	<b>16/15 %</b>
Interest costs	384.9	261.0	-32.2
Current expenses	2.4	2.9	20.8

It can be concluded from the information gathered that, on the one hand, interest costs according to general global market trends is decreasing whereas on the other hand, there is an increase in current expenses, which is basically a charge for service providers. If the improvements proposed by the author were introduced, then current expenses would be reduced, resulting in savings in public financial resources.

In order to carry out a qualitative assessment of the internal and external environment of the issue of government debt securities, it is necessary to be aware of the opportunities and the threats related to the sale of the issue:

- threats and opportunities related to the sale of internally issued government debt securities;
- threats and opportunities related to the sale of externally issued government debt securities;
- threats and opportunities related to the sale of unlimitedly issued government debt securities.

For this purpose the author in the Figure 4.1 offers a simplified model that reduces intermediary costs.



*Figure 4.1* **Government debt securities flow model after enhancement**

The first steps in offering savings bonds to individuals and creating a new system should be to define new types of securities. According to the author, five types of securities should be created for private individuals and a part of those created for institutional investors up to now should be retained as well:

- short term debentures;
- consumer Price index linked bonds;
- savings bonds;



- bonds;
- bonds for the achievement of national/regional goals.

At the same time, it can only be effective if there is no need to pay intermediary fees to any intermediary. Therefore, the current savings bond system is not the most effective way, and it is obviously necessary to create a new technological system which would allow individuals to directly purchase debt securities from relevant public administration institutions and upon maturity exchange them for money.

It would be more profitable for investors if government debt securities with an interest rate related to inflation were offered. In this way, companies would trust the state more and be more secure in developing their production facilities. At a time when it is not possible to be sure of the economic situation, it is important to realize that in the event of unforeseen and unexpected circumstances there would be an issue of inflation rate linked securities. It is important to offer these securities only to certain groups, whose financial stability is the responsibility of the government. By offering institutional investors such securities, there may be a threat that institutional investors may be interested in destabilizing the economic situation with a view to gaining more profit.

Such a type of safeguard should be included in the “Government Securities Issue Regulation”, which would also stipulate that both the principal and interest payments are linked to the inflation rate, additionally paying out the interest rate at the time of issue. In addition, it would be desirable for such securities to represent at least 10 % of the total amount when there is insecurity in the country. Otherwise, certain losses could be foreseen and calculated.

## CONCLUSIONS

The main advantages, disadvantages and problems related to the government debt securities flow were identified by conducting a study of Latvian government debt securities and their flow management, analysing its systemic structure as well as by analysing the experience of other countries in the use of equivalent systems from the management point of view. The proposed hypothesis has been validated and it was proved that the options offered by the author for the management of government debt securities flows will promote the further development of securities, incl. – setting targets for attracting additional issuers and attracting a large number of households in the securities market. Several conclusions were drawn within the framework of this doctoral thesis.

- 1) The most significant drawbacks are that the definition of government debt securities does not sufficiently explain the meaning and use of securities in the case of Latvia. Only a limited group of investors are involved and most of the funds are attracted from foreign countries through foreign intermediaries, and interest and brokerage commissions are also paid to foreign institutions.
- 2) There is a significant opportunity to make government debt securities available to domestic investors, in particular to households and non-financial corporations, using a nationally established system without paying brokerage commissions and motivating domestic sectors to invest in Latvian government debt securities.
- 3) It was concluded from evaluating the definitions and practices of other authors and institutions, that government debt securities in Latvia are central government debt securities, but according to the Classification of the European System of Accounts, securities issued by local government and state governments should also be defined as government debt securities as they constitute the general government sector.
- 4) The government debt securities flow are various types of securities exchange systems with flows between securities issuers, intermediaries

and investors (including external). There is a deliberate link between the issuer, the type of issue that each issuer has to effectively issue, and which types of securities could be effectively bought by investors.

- 5) Securities flows can also develop chaotically when individuals act according to specific situations based on information thereby undermining the entire system's operation. Centralized intervention, namely the management of securities flow, is required to improve the situation. With experience, the public has already come to the conclusion that it is useful to introduce market instruments in advance (that is, before any negative situation evolves) to ensure the management of development of securities flow in the interests of the society. These instruments include special offers as well as tax rebates for investors that are more significant than market fluctuations.
- 6) The author has amended the existing definitions of debt and government debt securities by specifying:
  - **Debt securities** are financial instruments that testify the investment of funds by its owner and reaffirms the issuer's obligation to pay out regular income (interest or discount) and reimburse the nominal value of the security at maturity to the various investors.
  - **Government debt securities** are government issued financial instruments that testify the investment of funds by its owner and reaffirms the commitment of the issuer – central government, state government, local government to pay out regular income (interest or discount) with a minimum risk and reimburse the nominal value of this security at maturity to the various investors.
- 7) Evaluating the advantages and disadvantages of loans and debt securities, it is concluded that, in the absence of special conditions, government debt securities are the most favourable form of government borrowing.
- 8) Having studied research works, theories and publications of other authors on government debt management and the economy, the author has concluded how public debt affects economic processes and macroeconomic indicators. At the same time it was concluded

that it is important to assess the current economic environment of Latvia. Therefore, the author compiled the most significant macroeconomic indicators, and calculated them per inhabitant of Latvia (see Table 1.7). In order to determine if at all it is possible to receive financial resources in the form of a loan from residents of Latvia, the author summarized the balances of financial resources held in the accounts of monetary financial institutions and compared them with the previous years and against 2010 (see Table 1.8), concluding that enough funds have been accumulated for provision of loans.

- 9) From the point of view of attraction of resources, the securities market has a significant influence on the demand in the consumer market, as with the increase in demand on the securities market, demand in the consumer market decreases.
- 10) Investments in government debt securities in Latvia and other countries, provides income, the amount and maturity date of which is known to the investor at the time of investment. At the same time, only a restricted economy related group of people are aware of the possibility of purchasing securities in Latvia, who purchase less than 1 % of the total issued securities.
- 11) Due to Latvian laws and regulations and the sectoral breakdown of holdings of securities holders it is known that the most significant buyers of securities are commercial banks. At the same time, investment funds are developing more and more rapidly. Coupled with the development of investment funds, pension funds and insurance companies attract more and more funds and form the second largest sector of government debt securities holders after commercial banks. At present, the volume held by investment and pension funds and insurance companies is increasing, and can grow even more in the future.
- 12) Major sectors of the economy, such as non-financial corporations and households have a relatively small share of the market. Households, investing in pension funds, insurance schemes or investment funds for a period of 5 years, can receive a tax rebate from the declared income of up to 20 % of the amount of personal income tax. When

investing money directly in government debt securities, no tax rebate is applied. At the same time, such a rebate may be received by investing in pension funds or insurance, who in turn invest in government debt securities.

- 13) When investing money in government debt securities, households cannot receive tax rebates. At the same time, investing in a fund that subsequently invests in government debt securities such a rebate may be received. By investing in commercial bank deposits, a certain amount is transferred to the Deposit Guarantee Fund. When investing money in government debt securities, the reserves in the guarantee funds are not increased.
- 14) Calculations demonstrate that in order to gain a profit from a securities account in 2009, it was necessary to purchase 5-year bonds of at least two hundred lats, because when purchasing these bonds for one hundred lats (using Swedbank or SEB), the maintenance cost of the securities account was more than the profit itself (2009 rate lists have been used). The structure of commissions were changed subsequently and commissions were later taken from the yield of the security.
- 15) The present securities accounting and settlement system DENOS is effective from the point of view of general circulation and first-tier holders. For small investors, it is not effective due to the relatively large commission fees.
- 16) In June 2013, a third securities accounting system (a savings bond system) was established, the administration and supervision of which is carried out by the Latvian Central Depository. The system provides households with an opportunity to invest financial resources in government debt securities, but non-financial corporations are not offered this option for reduced interest.
- 17) Evaluating Eurobond issue practices in Latvia, it can be seen that the issues were necessary to ensure Latvia's economic stability and credit ratings, as they have encouraged global rating agencies to conduct a more detailed analysis of the country.

- 18) The country has the opportunity not only to issue euro bonds, but also to choose the distributor banks. Practice shows that several local commercial banks have been successfully chosen as intermediaries. As a result, not only were issues promoted, but the role of these banks at international level was also increased. Basically, foreign banks are used, and Latvian commercial banks only gain minimal profit.
- 19) The author has identified countries which are in the same group as Latvia according to cluster analysis based on the balance of GDP per capita in 2010, 2011, 2012, 2013 and 2014 on the basis of the purchasing power parity principle. In addition, countries have been selected for detailed analysis from the chosen groups by similar characteristics and according to the potential objective (which level Latvia should be seek to achieve) or vice versa, after the crisis, in order to avoid mistakes. The International Monetary Fund's data has been selected as the basis, since the Monetary Fund guidelines are binding on most countries of the world and are drafted at the global level in a unified way.
- 20) Comparing the development of the Latvian government debt securities market with the United States, Canada and the United Kingdom, it was found that public debt securities in Latvia are clearly used only for government debt repayment and refinancing, which is not well understood by citizens who therefore express a weak desire to invest their funds in those securities. At the same time, if the people were offered the opportunity to invest their money in a housing development agency or similar agencies, according to the author, the responsiveness of households would increase and the attraction of additional loans from international financial institutions would not be necessary.
- 21) The South American debt growth trend is similar to the Latvian government debt growth trend. The same applies regarding the main objectives for increasing government debt – budget deficit, and development remains only as an additional objective. Similar to Latvia, most of the South American government debt market systems are internationally harmonised, and almost every South American country has drafted a World Bank document on debt management.

- 22) Reviewing similarities and differences between Latvian and European government debt securities systems, one can conclude that the systems are similar with the exception of some nuances, especially those that significantly affect the trust of households and understanding of the need for debt. The results of cluster analysis show that Lithuanian government debt securities management system is closest to Latvia in the European continent.
- 23) The Chinese model seems to be comparatively acceptable to the author and correct from the point of view of setting and developing national priorities, as well as the fact that the debt should be made transparent and while borrowing resources, investors must also be informed about the purpose for which the funds will be used. Otherwise, there may be an intransparent situation and the uncertainty about why the money should be loaned and whether it will be used properly or just received and will be repaid on the basis of the next loan. Because, by doing so, it usually reaches the point when it's impossible to borrow, and the state can experience a deep crisis or even economic bankruptcy.
- 24) A government debt securities management model has been developed, which is the basis for improving the issue and sales of securities.
- 25) Currently, Latvian government debt securities are only offered with a fixed interest rate or a fixed interest rate on interbank deposits. At the same time, households are not offered the option of investing money on condition that the principal as well as the interest rate are linked to the consumer price index coefficients. As a result, people cannot be sure about their savings and future cash inflows.
- 26) At the moment, a system has been developed for borrowing in the country, but global practice indicates that as soon as unforeseen circumstances arise and it is necessary to raise more funds, it is no longer possible according to existing principles and a new way must be sought.
- 27) Due to the fact that government debt securities has been used for covering the budget deficit and refinancing since 1993, it can be concluded that the implementation of this function has been successful

within certain limits and should be continued in the usual way and additional funds should be used if necessary.

- 28) The Latvian State does not issue a bond with a view to launching a new project, i.e. issues, for which the project would be collateral. In addition, investors could also be provided guarantees against inflation by offering inflation-linked bonds.
- 29) Based on experts' opinion, public debt by its nature is necessary for the Latvian economy, at the same time its volume should not be increased without a significant reason, and the aim should be to increase the share of domestic borrowing. It is important to use the basic model for identifying borrowing options presented in Figure 1.7 for ensuring optimal borrowed funds. Engaging households could be one of the drivers for growth. The most effective way to further the attraction of households would be through direct marketing campaigns and communicating the impact of public debt on the economy to the society.
- 30) According to industry expert assessments (questionnaires completed), it can be concluded that it would be important to create tax incentives for household investments in 5 and 10 year government debt securities similar to those applicable for life insurance investments and pension funds.
- 31) The attraction of additional funds needed can be done by issuing additional government debt securities, although it is advisable to use the solutions offered by international institutions in times of crisis.
- 32) When assessing the household survey on savings obligations, the author concludes that the necessity for state debt, its nature and extent of impact on the economy and economy-related processes has not been sufficiently explained to Latvian inhabitants and households.
- 33) Households are not well informed about the possibilities to invest in savings bonds and the main reason for not investing is their lack of faith in the government. At the same time, households consider it important that bonds issued should be linked to a specific purpose.
- 34) Assessing the model of flow of Treasury bonds, it is concluded that there are 5 intermediaries who receive intermediary commissions,



though the commissions paid out to intermediaries are not individually identified in the Treasury reports. The Treasury could do without their mediation services and their functions may be taken over by the Ministry of Finance or another state institution.

- 35) Assessing the model of flow of Treasury bonds, it is concluded that the duplication of functions by the Minister of Finance as the Head of the Ministry of Finance and the Treasury is unjustifiable and could be carried out by the Ministry of Finance alone without the involvement of the Treasury.
- 36) The Cabinet of Ministers has stipulated debt management tasks but failed to stipulate control and feedback functions in the State Treasury Regulations.

# RECOMMENDATIONS

## **For the State Treasury and the Ministry of Finance**

- 1) When managing the flow of government debt securities, it is useful to take into account the new definition of government debt securities that is consistent with the European System of Accounts classification and corresponds to the experience of other countries. This would also include the possibility of issue of debt securities by not just the central government but also municipalities.
- 2) Organize educational campaigns and use various marketing communications (including the Internet) on issue of government debt securities in the internal market in order to activate the domestic securities market and attract the most inactive sectors, incl. households and non-financial corporations, by specifying the differences between depositing money in bank deposits and investing in government debt securities.
- 3) While managing “Government Debt Management Regulations” in co-operation with the Financial and Capital Market Commission and the Bank of Latvia, attention should be paid to the threat of concentration of investors, i.e. most of the government debt securities are purchased by commercial banks. The preferred criteria regarding amount of debt securities to be owned by each investor sector should be determined and adhered to. Though banks have been good preconditions for their purchase, the same should also be extended to households and non-financial corporations.
- 4) The need for the third securities settlement system (set up in June 2013) and its possible merger with existing systems should be evaluated.
- 5) Similar to savings bonds for households, it is necessary to develop an effective solution where resident non-financial corporations can invest.
- 6) Amendments to the Law on Personal Income Tax, Article 10 “Eligible Expenditures”, paragraph 1 “Prior to imposing tax on income, the following expenditure of the payer shall be deducted from the amount of annual taxable income”, should be amended with subclauses for

the purchase of bonds with maturity for more than five years, for funds not exceeding 10 % of the person's annual taxable income. At the same time, a second subparagraph should be appended regarding purchase of bonds with a term of more than ten years, for funds that do not exceed 10 % of the person's annual taxable income. The total maximum tax allowance for investments in government debt securities shall not exceed 20 %.

- 7) A similar tax rebate for companies should be established by amending the Law on Corporate Income Tax by setting criteria similar to those for households by amending taxable and non-taxable income and expenses. In this way, the country could be provided with additional financial resources to a greater extent than before.
- 8) In order to build confidence in the country in terms of the value of money and its stability, a draft law should be developed for the issue of the government debt securities with a certain guarantee, ensuring public confidence in the state. This would mean that it would be possible for every citizen of Latvia with a personal identity number to purchase government debt securities up to a certain amount with the principal and interest rates linked to the inflation rate, as well as a certain additional rate.
- 9) In order to raise confidence in public administration and the stability of the country, certain types of bonds should be created for non-financial corporations whose interest and principal would be linked to the consumer price index. First it needs to be considered by a specially created working group to exclude the possibility of purchase of such bonds by those desiring to profit at the expense of national stability.
- 10) It is necessary to develop several projects related to the construction of housing, schools, and other national infrastructure projects, offering the purchase of these specific goal linked securities only for natural persons and limit the total number of shares per person. Initially, a state guarantee would be required to ensure liquidity of these securities. It is desirable to make such bonds available to raise

money that would then be invested in publicly significant and useful projects.

- 11) It is important to attract not just foreign commercial banks in the issue of Eurobonds, but also local, and although international institutions have more experience, it is important to offer such expertise to local credit institutions as well. Commitments made so far have to be repaid in order to avoid increase in interest rates related to non-settlement.
- 12) The Ministry of Finance should take over the Treasury's function of management of the government debt securities as the issuer in order to dissuade the Minister of Finance from acting separately from the Ministry of Finance.
- 13) To establish a system managed by a state administration institution and to make changes in the functions resulting from the non-involvement of the five intermediaries in the issue and circulation of government debt securities and to save funds on the services of these intermediaries. Extensive publication of information about the financial resources received by each intermediary from the Treasury would be a first step in making such changes.

### **For the Finance and Capital Market Commission**

Include the definitions offered by the author while amending the Law on Financial instruments market:

- **Debt securities** are financial instruments that testify the investment of funds by its owner and reaffirms the issuer's obligation to pay out regular income (interest or discount) and reimburse the nominal value of the security at maturity to the various investors.
- **Government debt securities** are government issued financial instruments that testify the investment of funds by its owner and reaffirms the commitment of the issuer – central government, state government, local government to pay out regular income (interest or discount) with a minimum risk and reimburse the nominal value of this security at maturity to the various investors.

### **For the Cabinet of Ministers**

To provide the State Treasury or the Ministry of Finance feedback with data on government debt securities issues and calculations within the framework of regulatory enactments.

### **For municipalities**

Like the central government, it is necessary to start raising funds for projects from households, which will benefit from the project's implementation. Similarly, municipal bonds are used in many countries to attract financial resources for the implementation of local government projects such as construction of bridges, roads, concert halls and other local projects as well.

## LIST OF LITERATURE AND SOURCES USED

- Apsītis, Ģ., Aščuks, I., Cērps, U., Kokorevičs, G., Ozols, Ģ., Sedlenieks, A. & Zuļģis, H. (2003). *Vērtspapīru tirgus zinības*. Rīga: Jumava, 69.–222. lpp.
- Arora, N., Gandhi, P. & Longstaff, F. A. (2012). Counterparty credit risk and the credit default swap market. *Journal of financial economics*, Vol. 103, No 2, pp. 20
- Bijak, K. & Lyn C. T. (2012). Does segmentation always improve model performance in credit scoring? *Expert systems with applications*, Vol. 39, No 3, pp. 2434–2440
- Breuer, T., Jandacka, M., Mencia, J. & Summer, M. (2012). A systematic approach to multi-period stress testing of portfolio credit risk. *Journal of Banking and Finance*, Volume 36, Issue 2, pp. 338
- Campello, M., Glambona, E. & Graham, J. (2012). *Access to liquidity and corporate investment in europe during the financial crisis (Review of finance)*, pp. 340
- Chen, Y. C. (2011). A Study of Budget Deficits and Interest Rates for Japan: Evidence from an Extended Loanable Funds Model. *Journal of International and Global Economic Studies*, Vol. 4, pp. 12
- Cosio-Pascal, E., (2012). Public Debt Management. Iegūts 17.10.2015. no [http://www.publicdebt.net/export/sites/PDM/public/CORETOPIC/20150116170525\\_6.28.39.EOLSS\\_PUBLIC\\_DEBT\\_MANAGEMENT\\_FINAL\\_201204.pdf](http://www.publicdebt.net/export/sites/PDM/public/CORETOPIC/20150116170525_6.28.39.EOLSS_PUBLIC_DEBT_MANAGEMENT_FINAL_201204.pdf)
- Fairlie, R. (2012). *Liquidity constraints, household wealth, and entrepreneurship revisited (Review of income and wealth)*, pp. 287
- Forslund, K., Lima, L. & Panizza, U. (2011). The determinants of the composition of public debt in developing and emerging market countries. *Review of Development Finances*, Vol. 1, pp. 207–222
- Fridrihsone, M. & Apinis, M. (2012). Finanšu tirgu labvēlība atgūta, tagad cīnīsies par vietējo naudu. *Dienas Bizness*, Nr. 229 (4396), 5. lpp.
- Hanson, J. A. (2007). *The growth in government domestic debt: Changing burdens and Risks*. World Bank Policy research working paper (ISSN 1813-9450), pp. 6
- Jacksom, T. (2012). *Greek germ o fan important idea*, Financial Times. Iegūts 30.05.2012. no <http://www.ft.com/intl/cms/s/0/1d2845ea-6466-11e1-b50e-00144feabdc0.html#axzz1wRXUgVGQ>
- Latvijas Banka (2016). MFI statistikas pārskatu sagatavošanas vadlīnijas. Iegūts 04.06.2016. no <http://www.bank.lv/tiesibu-akti/mfi-statistikas-parskatu-sagatavosanas-vadlinijas>

- Maltritz, D. (2012). Determinants of sovereign yield spreads in the Eurozone: A Bayesian approach. *Journal of International money and finance*, Vol. 31, Issue 3, pp. 662
- Mārtinsone, K. & Pipere, A. (2016). Pētniecības teorija un prakse. Rīga: Raka, 216.–493. lpp.
- Missale, A. (2012). Sovereign debt management and fiscal vulnerabilities. *Bank for International Settlements Papers*, No. 65, pp. 161
- Nofsinger, J. (2012). Household behavior and boom/bust cycles. *Journal of financial stability*, pp. 167
- O'Leary, Z. (2017). Doing your research project. *Sage publications Ltd*, pp.169–345
- Panizza, U. & Levy-Yeyati, E. (2011). The elusive costs of sovereign defaults. *Journal of development economics*, Vol. 94, pp. 102
- Panizza, U. & Presbitero, A. F. (2012). Public debt and economic growth: Is there a causal effect? *Institute of public Policy and Public Choice, Working paper No. 198*, pp. 4
- Praude, V. (2009). *Finanšu instrumenti. 1. sējums: ieguldījumi, darījumi, analīze*, Rīga: Burtene, 50.–52., 59., 291. lpp.
- Reinhart, C. & Rogoff, K. (2009). This Time is Different, *Princeton University Press*, pp. 54
- Richardson, D. (2015). What does “too much government debt mean in a stock-flow consistent model? *Real-world economics review*, issue No. 73, pp. 8
- Sarvaes, H. & Tufono, P. (2006). The Theory and Practice of Corporate Liquidity Policy, *Deutsche Bank*, pp. 12
- Schmitt-Grohe, S. & Uribe, M. (2004). Optimal fiscal and monetary policy under sticky prices, *Journal of Economic Theory*, Vol. 114, pp. 206
- Ussher, L. (1998). Do Budget Deficits Raise Interest Rates? A Survey on the Empirical Literature. *New school for social research, Transformational growth and full employment project*, Working paper No. 3, pp. 4
- Valdība nolemj aizdot Noguldījumu garantiju fondam 200 miljonus latu. (2012). *Diena*. Iegūts 01.12.2012 no <http://www.diena.lv/business/finanses/papildinata-valdiba-nolemj-aizdot-noguldijumu-garantiju-fondam-200-miljonus-latu-13917542>
- Valsts kase (2015). *Parāda kompozīcija*. Iegūts 21.05.2015. no [www.kase.gov.lv](http://www.kase.gov.lv)
- Valsts kase (2015). *Gada biļetens*, no 1998. gada līdz 2015. gadam, 2.–50. lpp.

Valsts kase (2015) *Noteikumi Nr. 38, Latvijas valsts parāda vadības stratēģija*, 3.-10. lpp.

Vārdnīca (2009). Vārda “trust – uzticēšanās” nozīme. Iegūts 25.08.2009. no <http://dictionary.reference.com/browse/trust>

Velasco, A. (2000). Debts and deficits with fragmented fiscal policymaking. *Journal of Public Economy*, Vol. 76, pp. 122

Wang, Z. (2005). A note on deficit, implicit debt, and interest rates. *Southern Economic Journal*, No. 72, pp. 187

Wheeler, G. (2004). Sound Practice un Government Debt Management, *World Bank*, pp. 8, 12, ISBN 0821350730

### **Legal Acts**

Finanšu instrumentu tirgus likums, Pieņemts 20.11.2003, *Latvijas Vēstnesis*, 11.12.2003., Nr. 175 (2940). Pēdējie grozījumi 26.10.2017.

Valsts kases nolikums. Pieņemts 03.08.2004. *Latvijas Vēstnesis*, 06.08.2004. Nr. 124 (3072), Latvijas Republikas Ministru kabinets. Pēdējie grozījumi 03.11.2014.