7th International Scientific Conference
"Business and Management 2012"
May 10-11, 2012, Vilnius, LITHUANIA

ISSN 2029-4441 print / ISSN 2029-929X online
ISBN 978-609-457-116-9 CD
doi:10.3846/bm.2012.076
http://www.bm.vgtu.lt

PUBLIC INVESTMENT PROJECT'S WHOLE LIFE CYCLE COST AND BENEFIT MANAGEMENT MODEL

Liena Adamsone[1], Andra Feldmane[2], Maija Šenfelde[3]

Riga Technical University, Meža str. 1/7, LV-1007 Riga, Latvia
Email: [1]liena.adamsone@rtu.lv; [2]andra.feldmane@hipo.lv; [3]maija.senfelde@rtu.lv

Abstract. An essential role in maintaining sustainability has the economic growth, where one of the conditions is the volume of public investments in the national economy. A situation, when a limiting fiscal policy is being implemented and that being done under the condition that the tempo of governmental spending increase must be below the mid-term growth trend of the gross domestic product (GDP), requires additional measures aimed at more efficient application of public investments and national spending in Latvia. On the basis of research results, the public investment project's whole life cycle cost and benefit management model had been developed, contributing to improved efficiency in application of financial instruments.

Keywords: investments, public private partnership, investment project, project's life cycle, project funding attraction.

Jel classification: H43

1. Introduction

A steady and sustainable national (public) development is a goal, which has been defined in a number of mid- and long-term national planning documents developed recently. Despite of the fact, when the global financial and economic crisis struck, the developed planning documents did not protect the economy of Latvia in years 2008 and 2009 from a dramatic drop of the GDP. The situation in the economy of Latvia after a number of quarters spent in recession got stabilized only as late as the end of 2010, with economy returning on the positive side of growth, underpinned by economic stabilization measures coupled with internal devaluation measures, as well as a more benign situation on the external markets, thus enhancing the demand for Latvian export goods and services. As of 2008, in attempt to maintain the financial sustainability of the country, the Latvian Government introduced measures aimed at implementing a limiting fiscal policy and maintaining macroeconomic stability. The evaluation of the strengthening of fiscal discipline and maintenance of fiscal sustainability in mid-term should encompass instruments for improvement of the national development and competitiveness. An important aspect during this process would be not to resort to complete stand-by on initiation of new public investment projects. It is not just Latvia, other European Union (EU) member states likewise have to make adjustments to their governmental expenditure at the moment, while one of the key provisions should be the capability of retaining expenses that enhance the economic growth, encompassing not only public infrastructure development when launching new investment projects, but also investments in the area of education and scientific research incl. innovations. A situation, when a limiting fiscal policy is being implemented and that being done under the condition that the tempo of governmental spending increase must be below the mid-term growth trend of the GDP, requires additional measures aimed at more efficient application of public investments and national spending.

The goal of the researchis to develop innovative solutions for improved management of public sector investment projects. The object of the research is public investments.

Conventional quantitative and qualitative data analysis methods of economics were used, including various analytical methods to study problem elements and process components, to use them afterwards to synthesize interconnections or formulate regularities, inductive and deductive methods.

The public investment project's whole life cycle cost and benefit management model is an actual implementation of the main ideas of the new public management (NPM) theory. The NPM is a management philosophy used by governments since the 1980s to modernize the public sector. NPM compared to other Public Management theories, is more oriented towards outcomes and efficiency through improved public budget spending. The NPM is considered to be achieved by applying competition, as it is known in the private sector, to organizations in the public sector, emphasizing economic and leadership principles (Laurence 2011).

An effective action program follows where a logical step is to identify an opportunity for investment and define a tactical and financial planning (Axson 2007).

The presence of innovative financial instruments would be most desirable just in the area of public sector investments. Mobilizing the public sector investments for recovery of economy, as well as facilitating the long-term structural changes by using the financial facilities of both public as well as private sectors are considered as one of the biggest challenges and opportunities also in EU member states. The necessity for public investments in Latvia is determined by the condition of the existing infrastructure and the utilized production capacity in national and municipal enterprises. Planning and provision of national and municipal services requires initiation of well-considered public investment projects that are profitable on a longer run. It means a different point of view required for the public investment owner, which takes different items into consideration when looking at the costs of a project, use different valuation for the items considered, and in some cases, even uses different rates to discount the flow of costs and benefits.

The project assessment technique usually has focused on cost-benefit analysis. This technique is appropriate for projects with benefit and costs that are measurable in monetary terms. A vast class of public projects generates benefits that are not easily measurable in monetary terms. If the project measures its benefits in some nonmonetary unit, the net present value (NPV) criterion for deciding whether to implement it cannot be used. In such cases the economic analysis can still be of great help in project design and selection. Economic analysis is also useful to select among methods that may have multiple outcomes. The choice of project evaluation techniques depends on the nature of the tasks, the time constraints and the information available (Belli 2000).

At the same time all evaluation techniques share common steps. It must identify the problem, consider the alternatives, select the appropriate type of analysis for every period during the expected life of the project, and decide on the most appropriate course of action (Axon 2007).

In view of achieving implementation of the best practice in the areas of fiscal discipline and economic growth, the key condition in the planning and development process of public investment projects should be implementation of new innovative financial solutions and a project structure focused on providing a more efficient service. These conditions explain the necessity to work out public investment project's whole life cycle cost and benefit management model, which comprised the innovative solutions of public investment project financing. This model provides the tools that enable decision makers to look at the project from several point of view simultaneously, from the country viewpoint to ensure that projects contributed more resources to the economy than they used and, from financial and fiscal viewpoint, to ensure that the project owner would have the resources to implement the project as designed and to maintain that the distribution of costs and benefits is acceptable to society throughout the entire expected life of the project. The proposed solutions are universal.

Although many writers have written that we have entered a post-NPM stage, fact remains that the concept still remains the strongest symbol for those changes that begun to evolve in the 1980s. As such, it is reason to believe that public sector will understand NPM principles in discussions of public sector reforms, changes inpublic governance, and new managerial methods and instruments inpublic administration (Simons 2007).

2. Public investment project's whole life cycle cost and benefit management model

Public investments are used for production of goods or services that either cannot or should not be produced for profit. The first type of goods and services cannot be produced for profit, because the producer cannot preclude anyone from enjoying the benefits of the particular good, including those consumers who do not want to pay for it, For instance, a lighthouse. It benefits all ships that see it, even if a particular ship does not want to pay a fee to maintain it.

The second option, when public utilities and services are not provided for the sake of generation of profit, but according to the Law on Municipalities, a municipality has a right and obligation to provide certain utilities and services and receive a user fee for the provided utility and service (Private Comparator 2009).

Consequently it is necessary to use thepublic investment project (PIP) whole life cycle cost and benefit management model.

PIP whole life cycle cost and benefit management model reflects particular ways, measures and economic instruments, the use of which could facilitate attainment of investment project (IP) goals and improvement of IP management. The tools of this model can help to provide answers to various questions about the project impact on the public entity undertaking the project, on society, and on various stakeholders. This can also help to identify the financial risks of the project and assess its sustainability. In particular, these tools can help to

determine whether the private or the public sector should undertake the project, estimate its fiscal impact, determine whether the arrangements for costs recovery are efficient and equitable, and assess its potential environmental impact and contribution to poverty reduction.

Another important question concerns the examination of alternatives. Alternatives could involve, for example, different technical specification, policy or institutional reforms, location, beneficiaries, financial arrangements, or differences in the scale or timing of the project (Sharp 2002).

Public sector has to assess the costs and benefits of investment project alternatives, because only comparison of alternatives helps the project owner to choose the best way to accomplish public objectives and perform an assessment of the project's fiscal impact on the public sector budget (Brealey 2003).

The level of certainty the public sector possesses about its infrastructure and service requirement should be a key element in the choice of IP model. This includes certainty about the external environment, as well as the capacity of state and municipal budget to implement the investment project. The policy and preparation phase of this model demonstrates the need to evaluate alternative financing structures. This evaluation should start with an understanding and analysis of the existing debt alternatives within the state and what innovative financing structures are available and perhaps necessary for project feasibility.

The construction phase of this model demonstrates the innovative economic instrument of investment project financing – PIP positioning in securities market. By means of that, it is possible to attract some separate sources of financing, which is very essential for the state in cases of implementing large objects. The construction phase reflects the potential cost reduction of public investment projects due to economies of scale. The cost reduction of PIP life cycle applies to both of its stages: construction and operation phases. A life-cycle perspective helps governments understand how decision made during different phases will affect the long term success of the investment project. Operating and maintenance costs refer to the operating phase, while the risk cost reduction is feasible in construction and operation phases. What are important, costs Z of each PIP life cycle tends to Zmin but benefit B of each PIP life cycle tend to Bmax (Fig. 1).

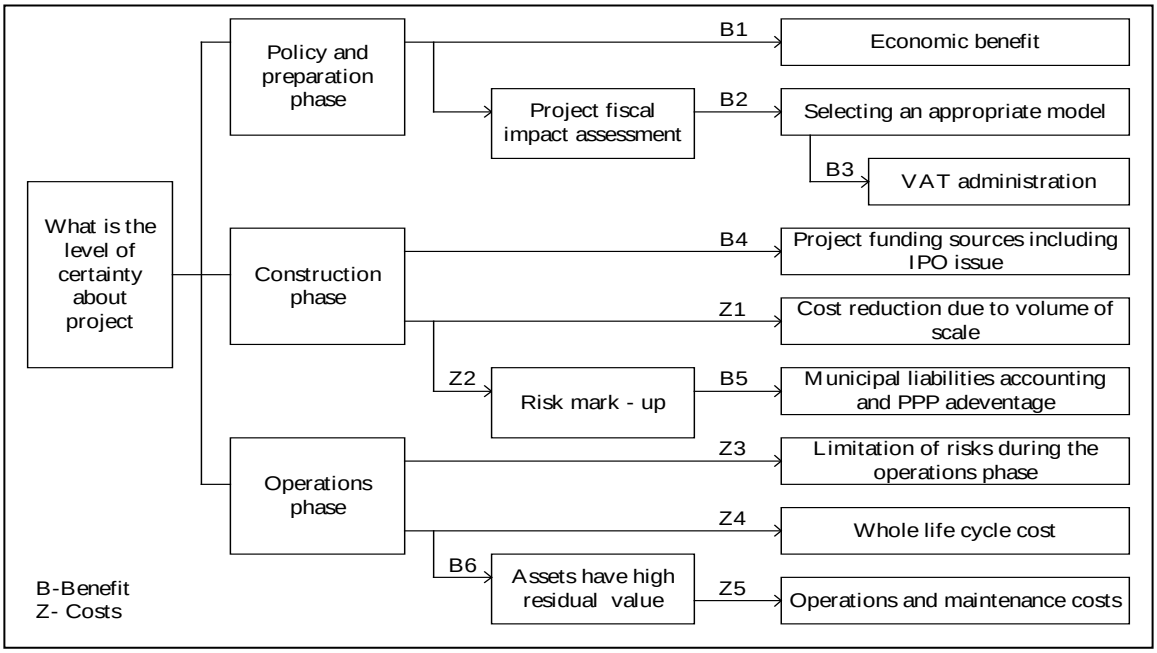

Fig.1. PIP's whole life cycle cost and benefit management model

Some care must be exercised in identifying taxes. There are differences between the economic and financial prices and these differences represent rents or cash flows that accrue to someone other than the project company or project owner. Taxes represent cash flows accruing to the government, but not to the project company. Subsidies are transfers in the opposite direction, from the government to the project company. We can use the tools of economic analysis to assess the project's fiscal impact, whether the project should be a public or a private sector project, and decide if the project is likely to contribute to the country's welfare (EPEC 2011).

Benefits can be increased by means of this model, by using the value added tax (VAT) administration, improving the quality of services and accounting of municipal commitments, where the additional income for the project cycle from application B of the PPP model tend to Bmax.

Each individual project is likely to have different VAT implications depending on the way the company is structured; particular VAT issues arising in local authority investment projects can be examined. Under the EU Sixth Directive as applied in Latvia, services provided by public authorities are outside the scope of the VAT. Local authorities cannot charge a VAT on the services they provide and cannot claim input VAT on goods and services which they purchase in the course of their activities. Traditionally the State Treasury has funded the total cost of constructing and often the operation/maintenance of particular facilities such as roads or water or sewage treatment facilities.

Public Private Partnerships (PPPs) are set to play an important role in helping to provide the investment required to improve Latvia's infrastructure deficit. No definitive PPP structure has as yet been established. The developer and operator of a PPP developed facility is likely to be a company formed specifically for the transaction, a Special Purpose Vehicle (SPV) which would be legally separate from consortium members backing the PPP project. Depending on whether the contract is to design and build (DB) or design, build and operate (DBO) a facility, such an SPV is likely to seek to recover VAT on construction and where applicable operating VAT inputs. This will require the SPV to be registered and charge VAT (Thomson 2005).

Analysing the costs and benefits of the whole life cycle of PIP, VAT can be observed to have a significant impact on the total funding volume of the project. The local governments are not entitled receive a VAT refund performing their primary functions. Providers of public services (enterprises owned by the state or municipality) or private enterprises are entitled to receive it. While the option to receive a VAT refund in a public private partnership (PPP) model project depends on the type of the operating activities of the enterprise (establishment).

As a result, one of the solutions for the above mentioned problem is to develop financing structure, where the local authority can pass the availability payment to a third party. The largest part of the availability payment is covered by the third party who is the end consumer of the public good/service. This means that the public authority will be able to avoid the increase in the availability payment because of VAT.

This public investment project's whole life cycle cost and benefit management model broadens the scope of traditional project analysis by rather focusing on the financial, fiscal matters and assesses project risks, as well as identifies critical variables that are likely to change as the project implementation advances. The model reduces the risks of project failure.

A certain role in the IP whole life cycle cost and benefit management model is assigned to project positioning in the securities market.

3. Positioning of public investment projects in securities market

Even in early 1990s the traditional commercial bank debt was the mainstay of project finance, then from early 2000s with the introduction of bonds reducing costs and extending tenors that brought real competition to the market place. Since then the project finance activity has dramatically increased across the world. In some countries the transaction dynamics of project finance has doubled and in some cases even tripled during this period – this is directly linked to the ability of the market to introduce innovative legal and financial structures. A typical project finance structure means forming of financing projects, which are primarily based on claims against the financed assets or the project rather than the sponsors of the project. There may be varying degrees of recourse against the sponsors, most commonly through guarantees, but repayment is based primarily on the future cash flows of the project.

It is now common to see projects being financed through a combination of bank and bond debt. Project finance stands for financing of long-term infrastructure and industrial projects based upon a complex financial structure where project debt and equity are used to finance the project, and debt is repaid using the cash flow generated by operation of the project.

Typically, to finance such transaction a special purpose vehicle (SPV) is created, thereby shielding other assets owned by a project sponsor from the detrimental effects of a project failure. As a special purpose entity, the project company has no assets other than the project, which then would operate the project for the specified amount of time. Usually, SPV tend to be highly leveraged, where debt/equity ratio could reach 90/10 ratio (Vassallo 2005).

The measures that are aimed at stabilizing the national financial situation contain integrated limi-

tations in the form of postponement of new investment projects to a later time in Latvia. Funding under the international lending programme is available until the end of 2011 and so is the programme for stabilization of the economy of Latvia – effective until the end of 2012, which means that all the large-scale infrastructure projects, except for projects co-financed by the EU funds have been put on hold. Meanwhile the requirement to freeze all the largest investment projects would be incorrect from the economic development point of view.

Therefore it should be determined – which investment projects of the public sector are significant for the development of the national economy of Latvia and options should be found to attract investments for initiation of strategic and profit generating projects.

The opportunity to achieve a lower financing cost can emerge through two circumstances. First, for many projects the perceived risk of default drops after a successful completion of the construction programme, which can result in the ability to refinance the project at a lower credit margin than was available prior to the completion of construction. Second, the general level of interest rates, driven by the government or interbank borrowing rate, may have fallen since financial close, enabling the project to obtain cheaper funding even if the credit risk margin has not decreased. These two factors are independent and may move in the same direction, thereby increasing the potential refinancing gain.

It would be a chance used to split the loan resources portfolio into loan as well as securities component with varied seniority regarding the special project entity (SPV) assets.

Of course, issuing bonds even for largest infrastructure projects due to different reasons is not always justified. When bidding for a PPP project, the potential project sponsors would naturally seek the most cost-effective and flexible means of financing these deals, which are typically highly leveraged. Bank loans offer great flexibility: loans can be arranged quickly and with relatively limited documentation. And once a lender has made a commitment, funds can be drawn down as needed (Damodaran 2006).

From the borrower's perspective, bond issuance actually is the same borrowing, with only key difference that the target audience is non-bank market, which means a different structure of lender's profile and the fact that this commercial paper becomes tradable in the bond market. To sum up – bond market is by far narrower than the bank loan market. As typical buyers in the bond market are institutional investors such as pension funds, insurers, that seek stable fixed long-term returns without taking the equity risk. Depending on circumstances, these placements could provide for an attractive alternative for sovereign issued debt obligations because the return will always be high.

An investor about to invest in project securities would like to see the project having a high assessment to the investment funds placement plan, credit rating of at least AA level, diversification of risks pertaining to the SPV's assets, opinion of seasoned and acknowledged experts and a well-functioning internal system of the project that enables structuring of the deal. As there are options to place the loan funds of the project in the senior and subordinated loan components, there is another opportunity to evaluate the investors into project securities by their profile of high or medium risk tolerance. For instance, institutional investors like pension funds or investment funds are of a low risk level, but with a granted minimal income portion in a long-term.

Despite more than a decade of successful PPP bond financings, it is still sometimes said that bond executions are less certain in deliverability than bank loans.

At the moment, the European Commission along with the European Investment Bank have developed a project securities initiative (Project Bonds) that aims at the idea that the European Investment Bank or another financial institution would perform structuring of the investment deal and develop an offering of SPV securities, to provide the private capital a chance to obtain the securities of the project. As a result, the institutional investors are going to have a chance to invest their financial resources in safe long-term deals, and, on the other hand, the funding for investment project implementation would be found. Project funding attraction and maintenance model for investment-projects of national interest is shown in Fig. 2.

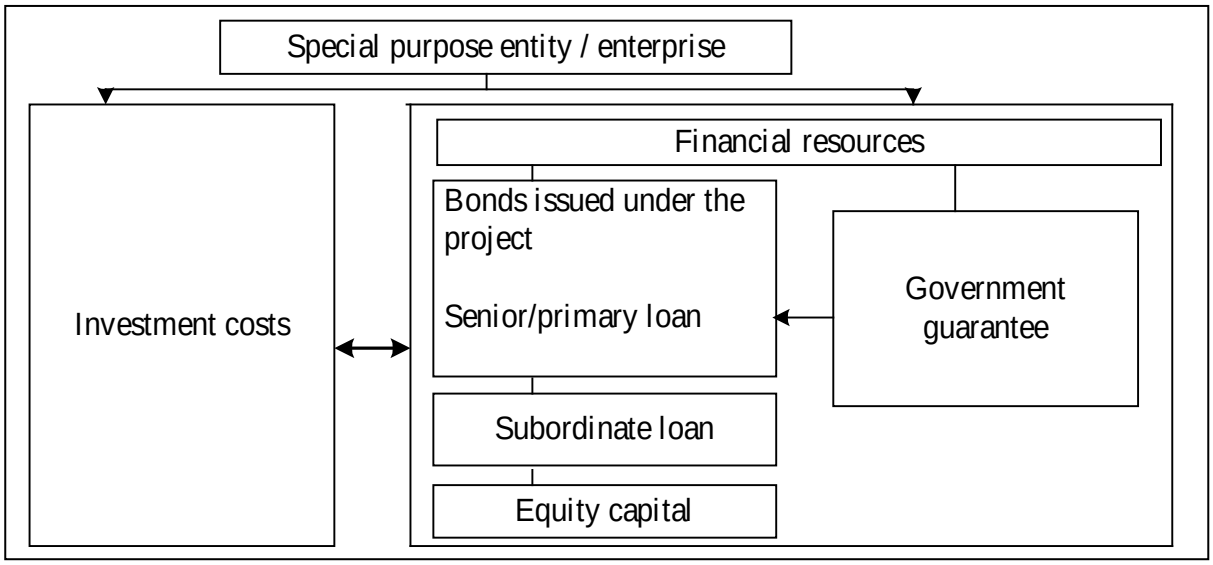

Fig.2. Project funding attraction and maintenance model for investment project of national interest

4. Cost reduction of public investment projects due to economies of scale

Adam Smith, the renowned economist and philosopher strongly supported the theory of Economy of Scale. According to him, the twin policies of specialization in industrial fields and division of labour facilitate acquisition of maximum returns from minimum investments (Markus 2002).

The goal of economies of scale is to reach possibly larger and better quality service or production amounts with possibly investments into areas of workforce, finance and other resources. An enterprise, gradually developing, its capacity also automatically grows. With the production volumes growing, the amount of all the related investments considerably drops, as a result of which some of the structures of the enterprise discover considerable financial savings. The effect of the economies of scale in PPP projects was tested by conducting a research of the public and private partnership model in construction and maintenance of pre-school educational establishments in four municipalities. The project was implemented in compliance with the requirements of the Public Procurement Law, with application of build, own (finance), operate, transfer (BOOT) as the type of public and private partnership. The developed research provides a conclusion that the effects of rationalization at the expense of scale cold range from 10 % to 25 %.

5. Conclusions

Investments play a significant role in fostering economic growth, as investments are the portion of the gross domestic product, which is being channelled for investing into both the strategic and portfolio capital, seeking to secure the potential capital growth in the future.

Upon analysis of a range of investment project implementation processes in Latvia, it may be concluded that their progress is impeded by the following major factors: exceeding the investment project implementation term, increase of investment project construction costs, inaccurate risk sharing between the municipality and the private partner, errors in the planning of implementation of public and private partnership, errors of municipalities in project development, approval and function execution.

In order to maintain a coordinated and sequential national investment planning, each line ministry should have a ready mid-term industry investment programme. The development planning requires improved coordination with the budget planning, which might be facilitated by strengthening the strategic planning system.

Given the present economic situation, when starting implementation of an investment project, it would be necessary to be aware of – how much of the project investment costs are going to remain in the national economy of Latvia, and a situation should be avoided where Latvia assumes credit commitments while the implementation of project provides extra income to other states and supports their economies.

The majority of investment projects are multifunctional, which requires specialists of various professions to be involved for evaluation of their criteria. The lack of upper class financial experts

and consultants extends the duration of PIP consideration.

National and municipal commissioners of implementation of public investments should use economic instruments of the maximum possible efficiency, both when developing the funding attraction structure, as well as performing the public procurement. One of the innovative solutions in PIP financing and implementation is the public and private partnership application instrument.

Many Latvian enterprises in PPP project implementation lack the specific knowledge and experience, to compare with enterprises and banks in the large EU member states, specializing in PPP implementation. Foreign enterprises may fill the gap in this area, thus barring Latvian entrepreneurs from participation in PPP investment project implementation.

Latvia at the moment lacks valid and effective accounting guidelines with respect to long-term agreements between public authorities and non-governmental partners. Thus, a specific regulatory framework that defined accounting of liabilities under PPP project transactions does not exist, unless the IFRS principles are applied for this purpose. When using the IFRS, nevertheless, it would be good if the public sector used accounting compatible to that with the private partner's. The accounting of the private partner is determined by IFRIC 12, which concerns interpretations and is derived from the decisions of the International Financial Reporting Interpretation Committee. A successful progress of PPP projects requires development of a Latvian accounting framework for registration of long-term deals for public administration.

When evaluating a public investment project in a long-term perspective, its "whole life cycle expenses" principle should be considered, minimizing the project's operating and maintenance costs and identifying the option for the private partner to get extra income.

The financing of public investment projects by means of issuing securities has not been adequately made use of in Latvia, therefore broader usage of securities market products could increase the attraction of financial funds in PIP implementation.

Attraction of EU structural funds, public and private investments, foreign investments, could activate some industries of national economy, granting households and businessmen with require belief in long term development prospects of Latvia, forming a sustainable domestic market and sustaining the export of Latvia.

References

Akitoby, B.; Hemming, R.; Schwartz, G. 2007. Are Public private partnership a viable alternative? *Public Investment and Public Private Partnerships*, International Monetary Fund, Inc. 18–20.

EPPPR. Annual Report 2009. European PPP Report (EPPPR) [online] [accessed 10 June 2010]. Available from Internet: http://www.eib.org/epec/resources/dla-european

Axson, D. 2007. Best Practises in Planning and Performance Management 2nd ed., John Wiley&Sons, Inc.118–128.

Belli, P. 2000. Economic Analysis of Investment Operations, The International Bank for Reconstruction and Development. Inc.25–27.

Brealey, R. A. 2003. Capital Investments, *Capital Investment and Valuation*, New York: MC Graw Hill, Inc. 516–547.

Croix, D.; Michel, P. 2002. Public Spending, in Cambridge, *A Theory of Economic Growth. Dynamics and Policy in Overlapping generation*, Cambridge university press, Inc. 155–158.

Crundwell, F. K. 2008. Criteria for Investment Decisions, in London, *Finance for Engineers. Evaluation and Funding of Capital projects*, Springer – Verlag, Inc. 163–164.

Damodaran, A. 2006. Security Analysis, *Damodaran on Valuation: Security Analysis for Investment and Corporate Finance*, John Woley & Sons, Inc. 86–88.

Diamond, D. W. 1984. Financial Intermediation and Delegated Monitoring.

Review of Economic Studies, Inc. 393–414.

EC Brussels Stakeholder Consultation Paper Commission Staff Working Paper on the Europe 2020 Project Bond Initiative, [online] [accessed 2 September 2011]. Available from Internet: http://ec.europa.eu/economy_finance/consultation/pdf/bonds_consultation_en.pdf

EPEC. Practical Guide 2011. European PPP Expertise Centre (EPEC). Risk Distribution and Balance Sheet Treatment

[online] [accessed 18 September 2011]. Available from Internet: www.eib.org/epec

Fabozzi , F. J.; Konishi, A. 1996. Profitable Side of Risk Management, in New York, *The handbook of asset/liability management*, McGraw Hill, Inc. 5–31.

Feldmane, A.; Šenfelde, M. 2003. Attraction of Investments for Improvement of Present Infrastructure Situation in the Context with Incorporation of Latvia into the European Union, *The Problems of the Foreign Economic Relations Development and Attraction of the Foreign Investments (Regional Aspect). Proceedings of Scientific Conference*, Donetsk 10–11 May 2003. Selected papers. Donetsk: 374–378. ISSN 1991–3524

Feldmane A., Šenfelde M. 2005. Possibilities of the state and private partnership use in the state and municipality project implementation, *Problems of the Foreign Economic Relations Development and Attraction of the Foreign Investments (Regional Aspect). Proceedings of Scientific Conference*, Do-

netsk 15–16 June 2005. Selected papers. Donetsk: 82–87. ISSN 1991–3524

Hofs, K. G; 2002. Plānošana un budžetaizstrāde, Biznesaekonomika, [Planning and Development of Budget] JāņaRozesapgāds, 439–441.

Independent Review for the Secretary of State for Transport, Local Government and the Regions , *London Underground PPP's Value for Money Review*, [online] [accessed 5 February 2002]. Available from Internet: http://books.google.lv/books?id=emRNOE-CPWIC&pg=PA72&lpg=PA72&dq

Krabbe, J. J. 1991. *National Income and Nature*, Externalities, Growth and Steady State. Dordrecht: Kluwer Academic Publishers, Inc. 200–232.

Laurence, J.; O'Toole, Jr. 2011.Public Management: Organizations, Governance, and Performance, University of Georgia, Texas, Inc. 217–324.

FinanšuministrijasVadlīnijasatbildīgāmiestādēmEiropasSavienībasfonduprojektuizmaksuefektivitātesnovērtēšanai: atvieglotasizmaksu – ieguvumuanalīzes un izmaksuefektivitātesanalīzespamatprincipi. [The main Evaluation Principles of Cost Benefit analysis] [online] [accessed 12 October 2010]. Available from Internet: www.mk.gov.lv/.../ESfondi/.../zinojums_par_izmaksu_un_ieguvumu

Praude, V. 2010. *Finanšuinstrumenti. Ieguldījumi, darījumi, analīze*, [Financial Instruments, Investments, Dealings, analysis] Burtene, Inc. 52–54. ISBN 978–9984–833–01–9

Private Comparator, Ministry of Finance PPP Knowledge Centre. [online] [accessed 2 May 2009]. Available from Internet: <www.minfin. nl/pps>.

Project finance Yearbook 2010/2011.Euromoney, Euromoney Institutional Investor, [online] [accessed 7 October 2011]. Available from Internet: http://www.euromoney-yearbooks.com

Simons, R. Using Diagnostic and Interactive Control Systems, in Boston, *Performance measurement and control systems for implementing strategy*, Prentice Hall, Inc. *207–230.*

SCEA. Select Committee on Economic Affairs. 2010. Private Finance. Projects and off Balance Sheet Debt, volume I: Report. Published by the Authority of the House of Lords, Inc. 152–177.

Statistical Data Collection. 2010. Expenditure Structure of General Government Sector, *Public finances of Latvi*a, in Riga, Central Statistical Bureau of Latvia, Inc. 44.

Thomson, C.; Goodwin, J. 2005. Evaluation of PPP Projects Financed by the EIB. [online] [accessed 2 May 2011]. Available from Internet: www.eib.org/publications

Vassallo, J. M.; Gallego, J. 2005. Risk Sharing in the New Public Works Concession Law in Spain. *Transportation Research Record: Journal of the Transportation Research Board, No. 1932*, Transportation Research Board of the National Academies, Washington, D.C., Inc. 1–8.

UNEC.Guidebook on Promoting Good Governance in Public 2008.United Nations Economic Commission for Europe (UNEC) Private Partenrship. United Nations New York and Geneva. Inc.19–25.

Аскинадзи, В. Ь.; Максимова, В. Ф.; Петров, В. С. 2007. *Инвестиционнаядеятельность в формекапитальныхвложений,* Operations of the Investments in the Form of Capital Investments] Инвестиционноедело. Маркет ДС. 69–88.

Маркус, А.; Боди, З.; Кейн, А. 2002 Активноеуправлениеинвестициями, [Active management of Investments], Москва, *Принципыинвестиций*, ИздательскийдомВильямс, 868–870.

Сухарев, О. С.; Шманев, С.В.; Курьянов, С.В. 2008. Синергетическиемоделипринятиярешений, [The Models of synergy for decision making] Москва, *Синергетикаинвестиций*, ИНФРА-М, 280–292.

Шарп, У. Ф.; Александер, Г. Дж.; Бэйли, Дж. В. 2002. Инвестициикакобъект, экономическогорегулирования, [Investments like instrument of economical regulation], Москва, *Инвестиционныйменеджмент*, Питер 7–13.