

## **ASSESSMENT OF BENEFITS OF LONG-TERM FINANCING INSTRUMENTS FOR HOUSING IN LATVIA**

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### **Abstract**

*One of the most important tasks in the implementation of any policy, including implementation of long-term financing instruments for housing, is to assess potential benefits and costs that will be given by the implementation of the corresponding policy to the society in general, to particular part of society or to the individual. The aim of the study is to evaluate potential benefits from long-term financial instruments for housing implemented in Latvia from 2000 – 2015 and from new long-term financial instruments for housing in Latvia. Study is descriptive in nature where experts' survey was applied. The results of the study show that in Latvia there is a potential to implement new long-term financial instruments for housing that are more based on private investments in result of which it would be possible largely improve housing situation in the country.*

*Keywords: benefits, housing, long-term financial instruments for housing, assessment, Latvia*

### **INTRODUCTION**

By adopting any of the decisions it is important to assess the benefits and losses if given the decision will be or will not be adapted, including the benefits should be assessed in each of the decision-making stages. It is important for the decision maker to understand how complex or simple is the decision to be accepted, because it determines impact of potential benefits or

losses on corresponding subject of benefits or losses, i.e. economics or society, or specific sector, company etc.

The author believes that state administration decisions regarding development or updating of new policies or instruments should be qualified as complicated decisions, the uncertainty level of which is high and the adoption of which requires strategic and sustainable action (Henilane, 2016a).

The aim of the research is to evaluate potential benefits from long-term financial instruments for housing implemented in Latvia from 2000 – 2015 and from new long-term financial instruments for housing in Latvia.

Designations used within applied literature for explanation of concept “benefits” should be understood as identical ones and should be used as synonyms, but in some cases they have different meaning, and at the same time there is a lack of unified definition for above concept. Many authors are made the researches connecting with the term „benefit” (Henilane 2016a); (European Commission, 2015); (Svirko and Osadscha, 2014); (Kytter, 2007); (Young, 2007); (Kerzner, 2005); (Hendrick, 2002a); (Hendrick, 2002b); (Strarling, 1999) (Kasper and Streit, 1998); (Pearce, 1983); (Musgrave and Musgrave, 1973); and etc. The author has offered the definition of “benefits”, which is more suitable for the research problem - the benefits are goods which are gained by the society of the part of it from particular activity or implementation of the activity, and which are expressed in tangible or intangible value (Henilane, 2016a).

However there are limited number of researches in the housing sector in Latvia in general. Tthe topical researches have been done by different authors (Sideļska, 2014); (Geipele, 2014); (Ikjevļeva, 2014); (Pļaviņa et al., 2014), (Henilane, 2015a), (Henilane, 2015b), (Henilane, 2015c), (Henilane, 2016a), (Henilane, 2016b), (Henilane, 2016c), etc.

Analytical research method, comparative research method and sampling method to select respondents for experts survey have been applied to carry out the research.

In conclusion are made proposals about new long term financial instruments for housing to have to be recommended for implementation in housing sector in Latvia.

## **LIST OF BENEFITS FROM LONG-TERM FINANCING INSTRUMENTS FOR HOUSING**

In previous researches done by author (Henilane, 2016c.), had identified nine different long-term financing instruments for housing that have been implemented in Latvia from 2000 - 2015, and, on the basis of EC research (Efficiency Financial Institution Group., 2015) and personal working experience in housing policy field the author has identified eight new ling term financial instruments for housing that could be applied in Latvian conditions as well as developed list of

potential benefits from implementation of each long-term financing instrument for housing (see Table 1 and Table 2).

Table 1. Distribution of long-term financial instruments for housing in Latvia

<b>Long-term financial instrument for housing have been implemented form 2000-2015</b>
Dedicated Credit Lines
Credit Guarantees
Public Subsidies (Grants)
Special Credit Line and Credit Guarantees (combined instrument)
Special Credit Line and Public Subsidies (combined instrument)
Special Credit Line, Public Subsidies and Credit Guarantees (combined instrument)
Real property tax credit instrument for social groups
Municipality ESCO contracts
Private ESCO contracts
<b>New long-term financial instruments for housing</b>
Real estate tax relief instrument for complex renovation
Progressive housing crediting support instrument for young families
Rent relief for social group housing
On-Bill Repayment instrument
Energy Efficiency Investment Funds
Green Bonds
Housing self-financing instruments- individual funding
Housing self-financing instruments- crowdfunding

*Source: developed by the author for conducting expert survey for general assessment of new instruments and instruments implemented up to this in Latvian conditions.*

In list of benefits from long-term financing instruments for housing the author has included 41 type of the main benefits that could arise from implementation of instruments by dividing them into 29 “benefits in state and local government level” (benefits 1-29) or benefits that could arise in state and local government level from implementation of the corresponding instrument, and 12 “benefits in resident an housing level” (benefits 30-41) that are benefits that could arise in resident level or housing level (see Table 2).

Table 2. List of benefits from long-term financing instruments for housing

<b>Benefits in state and local government level</b>	<b>Benefits in resident and housing level</b>
1. Increase of state budget revenues increase (from tax payments).	24. Increase of new housing construction.
2. Increase of state budget funds savings (due to increased amount of private financing in the housing sector).	25. Increase of housing renovation.
	26. Construction of residential buildings with nearly zero energy consumption
	27. Provision of qualitative housing for young families.

- |   |   |
|---|---|
| 3. Increase of employment level.  | 28. Improvement of surrounding environment of housing.  |
| 4. Increase of birth rate.  | 29. Increasing awareness of housing owners regarding maintenance of housing in long-term., etc. |
| 5. Decrease of resident emigration in long-term.  | 30. Decrease of residents' payments for housing maintenance.                                    |
| 6. Infrastructure development.  | 31. Decrease of residents' payments for heating.  |
| 7. Business development, mainly in the construction industry.   | 32. Decrease of residents' payments for electricity.  |
| 8. Development of mortgage crediting market.  | 33. Decrease of rent payments for large families, young families and students.                  |
| 9. Development of rental market.  | 34. Decrease of real property tax payments for social groups.                                   |
| 10. Improvement of residents' living standard quality.  | 35. Structural changes in expenditures of household budget.                                     |
| 11. Increase of the proportion of large families, young families, students who have received rent relief.       | 36. Increase of housing property value.   |
| 12. Increase of the proportion of social groups who have received property tax credit.                          | 37. Improvement of living conditions for residents.   |
| 13. Increase of local government budget revenue from property tax payments.                                     | 38. Improvement of residents' health.   |
| 14. Increase of local government budget revenue from personal income tax payments.                              | 39. Prolongation of housing life cycle.   |
| 15. Local government budget funds savings (due to increased amount of private financing in the housing sector). | 40. Improvement of housing energy efficiency indicators.  |
| 16. Reduction of greenhouse gas emission.   | 41. Improvement of housing location prestige.   |
| 17. Reduction of air pollution.   | Etc.  |
| 18. Increase of the use of renewable energy resources.  |   |
| 19. "Green thinking" development among population.  |   |
| 20. Increase of proportion of insulated housing.  |   |
| 21. Improvement of quality indicators of housing (new or renovated engineering communications, etc.).           |   |
| 22. Lower thermal energy consumption in housing.  |   |
| 23. Saving of thermal energy and electricity resources.   |   |

*Source: developed by the author for conducting expert survey for assessment of benefits from instruments*

List of benefits from long-term financing instruments for housing should be regularly supplemented and updated.

### **ASSESSMENT OF BENEFITS FROM LONG-TERM FINANCING INSTRUMENTS FOR HOUSING**

In order to assess potential benefits from existing and new instruments the author has developed *Expert survey for assessment of benefits from instruments*. As it is shown in Table 3, 23 experts, including 12 experts from state sector, 5 experts from local government sector, and 6 experts from financial institution sector, have participated in *Expert survey for assessment of benefits from instruments*.

Table 3. General assessment of benefits of long-term financing instruments for housing in Latvia: Technical information of the survey (February – March 2016)

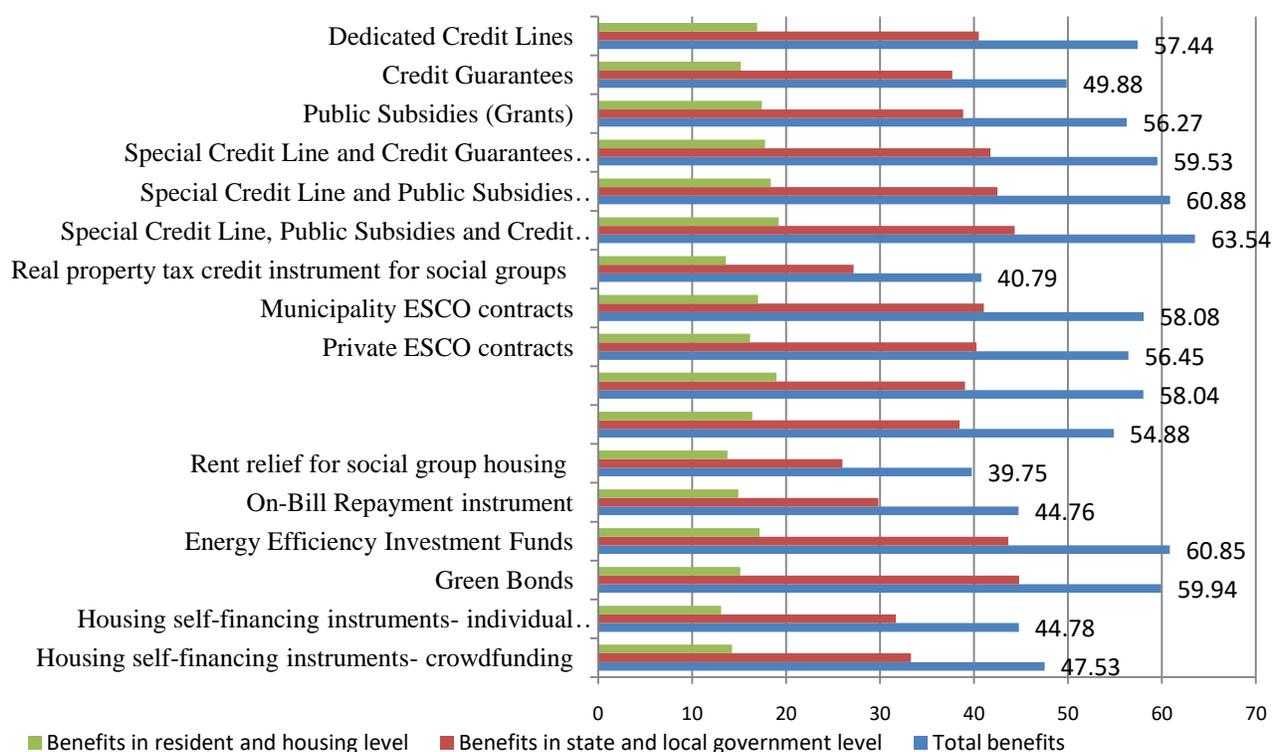
<b>Experts who participated in the survey, of which:</b>	23
Experts in state sector	12
Experts in local governments' sector	5
Experts in financial institutions	6
<b>Method of conducting survey</b>	Expert interviews (electronically and verbally)
<b>Time of conducting survey</b>	02.02.2016-02.03.2016

Each of the instruments was assessed by the level of benefits it may provide in case of its implementation. Instruments were assessed by assessment scale:

- 0 – no benefits from instrument implementation;
- 2 –benefits from instrument implementation;
- 3 – substantial benefits from instrument implementation.

By summarizing expert assessments from *Expert survey for assessment of benefits from instruments* the author through use of program Excel, identified and analyzed various indicators, including arithmetic mean for existing instruments and new instruments (see Figure 1)

Figure 1. Benefits of long-term financial instruments for housing in Latvia



Source: developed by the author from experts' assessment from *Expert survey for assessment of benefits from instruments*

By analysing arithmetical mean values for each of the existing and new instruments the total experts' assessment shows that *special credit lines, public subsidies (grants) and credit guarantees; special credit lines and public subsidies and energy investment funds* have the highest benefits from all instruments implemented up to this, while from new instruments the best assessment gained *energy efficiency investment funds* and also *green bonds* gained very similar assessment.

The lowest arithmetical mean values for total benefits among already implemented and new instruments or the lowest benefits from total experts' assessment have gained *rent support instrument for social groups* and *real property tax credit for social groups* what can be explained by the fact that above instruments are intended for definite social groups, thus also the benefits from instrument implementation are more focused to definite social groups.

The author has conducted separate analysis about benefits from existing and new instruments in the level of state and local governments and in the level of housing and residents (see Table 4). By analysing arithmetical mean values for existing instruments in the level of state and local governments and in the level of housing and residents the total experts' assessment shows that *special credit lines, public subsidies (grants) and credit real property tax instrument for social groups* – the lowest ones.

Table 4. Assessment of long-term financing instruments for housing implemented up to this in Latvia

<b>No. of long-term financing instrument for housing (horizontally)</b>	<b>Special credit lines</b>	<b>credit guarantees</b>	<b>Public subsidies (grants)</b>	<b>Special credit lines and credit guarantees</b>	<b>Special credit line and public subsidies (grants)</b>	<b>Special credit line, public subsidies (grants), and credit guarantees</b>	<b>Real property tax credit for social groups</b>	<b>ESCO contracts of local governments</b>	<b>Private ESCO contracts</b>
<b>Benefit level (vertically)</b>									
Benefits in state and local government level, total	40.52	34.70	38.85	41.76	42.50	44.33	27.18	41.06	40.27
Benefits in housing and resident level, total	16.92	15.18	17.42	17.77	18.38	19.21	13.61	17.02	16.18
<b>Total benefits</b>	<b>57.44</b>	<b>49.88</b>	<b>56.27</b>	<b>59.53</b>	<b>60.88</b>	<b>63.54</b>	<b>40.79</b>	<b>58.08</b>	<b>56.45</b>

Source: developed by the author from total experts' assessment results from Expert survey for assessment of benefits from instruments

By analysing arithmetical mean values for new instruments the total experts' assessment shows that *energy efficiency investment funds* and *green bonds* have the highest total value of benefits, but *rent relief instrument for social groups* – has the lowest ones (see Table 5).

Table 5. Assessment of new long-term financing instruments for housing this in Latvia

No. of long-term financing instrument for housing (horizontally)	Real estate tax relief instrument for complex renovation i	Progressive housing crediting support instrument for young families	Rent relief for social group housing	On-Bill Repayment instrument	Energy Efficiency Investment Funds	Green Bonds	Housing self-financing instruments- individual funding	Housing self-financing instruments- crowdfunding
Benefit level (vertically)								
Benefits in state and local government level, total	39,05	38,48	25,99	29,84	43,67	44,81	31,70	33,30
Benefits in housing and resident level, total	18,99	16,40	13,76	14,92	17,18	15,13	13,08	14,23
<b>Total benefits</b>	<b>58,04</b>	<b>54,88</b>	<b>39,75</b>	<b>44,76</b>	<b>60,85</b>	<b>59,94</b>	<b>44,78</b>	<b>47,53</b>

Source: developed by the author from total experts' assessment results from Expert survey for assessment of benefits from instruments

By analysing arithmetical mean values for new instruments in state and local government level the total experts' assessment shows that *energy efficiency investment funds*, as well as *green bonds* have the highest total value of benefits, but *rent relief instrument for social groups* – has the lowest ones.

*Energy efficiency investment funds* have the highest benefits in resident and housing level, while – *self-financing instrument for housing/ individual financing*, *rent relief instrument for social groups* have the lowest ones.

## ASSESSMENT OF BENEFITS FROM ALL INSTRUMENTS IMPLEMENTED UP TO THIS FOR DECISION-MAKING MANAGEMENT

Obtained experts' assessments allow identifying those instruments that have showed efficiency in implementation one or several tasks of state or local government policy or those ones that have been less efficient ones (see Table 5). By analyzing obtained data it is possible to

conclude whether particular instrument was efficient for implementation of the particular task of the policy.

For example, Table 6 shows that for development of rental market *local government ESCO contracts* un *private ESCO contracts* that have been implemented up to this have given the highest result that can be explained by the fact that apartment owners through assistance of ESCO have improved energy efficiency, technical condition and visual appearance of their housing, and thus they became more attractive in eyes of tenants, thus promoting development of rental market.

In order to promote saving of thermal energy and electricity resources the most efficient instruments for achieving above benefits are *local government ESCO contracts*, *private ESCO contracts* and *special credit lines*, *public subsidies (grants)* and *credit guarantees*.

Table 6. Assessment of benefits from all instruments implemented up to this for decision-making management

Long-term financing instrument for housing (horizontally)	Special credit lines	credit guarantees	Public subsidies (grants)	Special credit lines and credit guarantees	Special credit line and public subsidies (grants)	Special credit line, public subsidies (grants), and credit guarantees	Real property tax credit for social groups	Local government ESCO contracts	Private ESCO contracts
9. Development of rental market	0.76	0.57	0.76	0.76	0.71	0.81	0.62	1.14	0.90
23. Saving of thermal energy and electricity resources.	1.95	1.76	1.90	2.10	2.10	2.19	1.05	2.32	2.27
38. Improvement of residents' health	0.91	0.73	0.95	0.95	1.00	0.95	0.95	0.95	0.91

Such type of analysis can be used for ex-post assessments not only regarding efficiency evaluation of financing instruments for housing that are implemented up to this, but also for various other implemented national policies, state/local government programs and projects, laws and regulations regarding efficiency analysis of their implementation, and it forms good basis for moving forward further aims and task of the policy.

In Table 7 the author has shown several benefits and their impact to all new instruments in similar way how about existing instruments, and it can be used for implementation of tasks of

particular housing, social, financial or other policy, and it also plays substantial role in decision making process in long-term, as well as provides the base for taking further decision.

Table 7. Assessment of benefits from new instruments implemented for decision-making management

Long-term financing instrument for housing (horizontally)	Real estate tax relief instrument for complex renovation i	Progressive housing crediting support instrument for young families	Rent relief for social group housing	On-Bill Repayment instrument	Energy Efficiency Investment Funds	Green Bonds	Housing self-financing instruments- individual funding	Housing self-financing instruments- crowdfunding
Benefit level (vertically)								
2. Increase of state budget funds savings	0,52	0,52	0,43	0,48	1,57	1,67	1,24	1,33
16. Reduction of greenhouse gas emission	1,62	1,00	0,52	0,81	1,90	2,00	1,33	1,38
26. Construction of residential buildings with nearly zero energy buildings	0,76	1,14	0,33	0,57	1,81	1,77	0,67	0,67
40. Improvement of housing energy efficiency indicator	2,10	1,29	0,76	1,24	2,18	1,82	1,41	1,50

For example, in order to increase saving of state budget resources the implementation green bonds, energy investment funds and of *self-financing instrument for housing/ mass-financing instrument for housing* should be promoted that can be explained by the fact that in this event the housing sector attracts more private resources, thus the state's resources are saved.

For reducing greenhouse gas emissions *green bonds* and *energy efficiency investment funds* should be implemented because in accordance with author's opinion they are potential instruments with help of which more investment could be attracted to energy efficiency improvement in housing sector, thereby reducing greenhouse gas emissions.

In order to promote construction of nearly zero energy buildings *energy efficiency investment funds* have to be established, and *green bonds* have to be implemented that can be explained by the fact that construction of nearly zero energy buildings demands higher

investment than construction of standard housing, and therefore here the attraction of private capital is required even more.

For improvement of energy efficiency indicators for housing – *energy efficiency investment funds* should be implemented that can be explained by the fact that with assistance of this instrument by attracting private investments it would be possible to perform more substantial investments for improving energy efficiency of housing, as well as there is required real estate tax relief instrument for complex renovation i that can be explained by the fact that tax credits could stimulate residents to renovate their housing.

## CONCLUSIONS

The research is limited by the main benefits of housing financial instruments in Latvia due of the experience and knowledge of the author, however the list of benefits could supplemented with other benefits and updated after time period. There are analyzed only benefits of housing financial instruments due to the limitation of the research, but not the public costs of housing financial instrument administration, which are very important for assessing the housing financial instruments of the research. Further researches of the author will follow in this field.

In accordance with experts' assessment *special credit lines, public subsidies (grants) and credit guarantees, special credit lines and public subsidies, special credit lines and credit guarantees* have the highest total benefits, as well as the state and local government level benefits and resident and housing level benefits from existing instruments. It should be also highlighted that in accordance with experts *special credit lines, public subsidies (grants) and credit guarantees* have the highest potential from all existing and new instruments.

*Real property tax credit for social groups* has the lowest total benefits, benefits in state and local government level, and benefits in resident and housing level from total experts' assessment about the existing instruments that can be explained by the fact that this instrument is intended for the particular part of the society, thus it may not have large impact on the housing sector in general. Also *credit guarantees* have low benefits, and in accordance with the author it is due to their inability to function solely without public financial support.

In accordance with total experts' assessment *energy efficiency investment funds, green bonds* and *complex renovation real property tax credit* have the highest total benefits among new instruments. Experts have similar assessment also regarding state and local government level benefits from instruments. While regarding benefits in resident and housing level large differences can be observed - *complex renovation real property tax credit instrument* and *progressive credit support instrument for housing for young families* give the highest benefits that can be explained by social factor or direct impact to particular social group.

In accordance with total experts' assessment among new instruments *rent relief instrument for social groups*, *mass financing instrument/individual financing* and *bill repayment instrument* provide the lowest total benefits. Regarding the last one the author considers that this instrument is radically new for Latvia, its functioning model is complicated and is not completely clear, thus the assessment of experts also is reserved, but it could change after implementation of appropriate measures (additional information, repeated interviews).

In Latvia there is a potential to implement new long-term financing instruments for housing that are more based on private investments, in result of which it would be possible to improve housing situation in the country in large amount. In this regard by assessing long-term financing instruments for housing in terms of their potential benefits such new instruments as *energy efficiency investment funds*, *green bonds* that were offered by the author, as well as other instruments have large potential for implementation in Latvia. In addition it is necessary also to assess suitability of instrument implementation from the aspect of public administration costs that will be performed in the next research.

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