Social investment for reducing income inequality and poverty during life course in the Baltic States

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Introduction

The discussion about spending of welfare state its burden on budget, poverty, unemployment etc. leads to the rethink the welfare policy. The new welfare policy was called social investment. European Commission called member states to prioritise the social investment in their welfare states. The social investment focus is on more effective social policy in order to solve increasing poverty and social exclusion, unemployment, challenges of ageing society and ensure the sustainability and adequacy of national social systems. The social investment policy should help to achieve the Europe 2020 target of lifting 20 million people out of poverty. Baltic States as other European countries using an active social policy should contribute to achieving such goal. The social investment analyses in a scientific literature aren't in Baltic States. So the purpose of this research is to evaluate Baltic social security systems from the social investment perspective during life course. The main objectives for the implementation of the purpose are: firstly, to analyse the previous research on social investment; secondly, to analyse the social policy in Baltic States; thirdly to analyse the cost of social investment; thirdly main results of welfare states.

Keywords: social policy, social investment, income, inequality

Theoretical background

The academic discourse about social investment focuses on methodological aspects of analyses, the content of the concept of the social investment and the impact of the social investment on the reduction income inequality and poverty.

Nelissen (1998) stated that some forms of public expenditure programmes such as education, unemployment benefits have a characteristic of investment, because it benefits people in later life stages.

O'Donoghue (2002) pointed out, that benefits and taxes have very important redistributive effect and such effect over the lifetime might be less strong. According to O'Donoghue (2002), the effect of redistribution from rich to poor is much less redistributive over the lifetime than in particular periods of time.

Björklund and Palme (2002) found that having children (in this case financial burden for the parents) increases overall inequality. The impact of income taxes on equalising income mostly can be seen on long-run income. The benefits for families (childcare allowances and housing allowances) help to reduce individual income variability.

Hicks (2004;2008) offered the 'Olivia framework' for the social policy analyses. According to Hicks (2004;2008), the framework seeks to understand as much as possible from individual and institutional

level. 'Olivia framework' is based on the life course perspective. The 'Olivia framework' serves to understand social policy over the years or combine institutional and individual variables.

Farrington and Slater (2006) pointed out that cash transfers have not only consumption effect, they also have effects on demand on food; investment on health and education; create the capital through work or food. Thus Farrington and Slater (2006) related social security benefits with social investment perspective.

Cooke and Gazso (2009) defined the social investment as a social policy transformation which applied active welfare programs instead of depending upon welfare system. According to Cooke and Gazso (2009) a life course perspective takes into account the social structures of inequality together with individual agency. The some programs serve people at different life stages, for example old age pension policies, child tax benefits, education and student loans. Cooke and Gazso (2009) stated that social assistance and welfare programs shape the life course at the aggregate level.

Jenson (2010) pointed out that social investment perspective has three main principles: learning to increase the human capital in all life stages; focus on the future, especially children; the investment in the success and future of people as a benefit for the whole society.

The framework for analyses of social investment offered Vandenbroucke and Vleminckx (2011). As stated by Vandenbroucke and Vleminckx (2011), the classification of social risks into two groups 'old' and 'new' is reasonable. As 'old' risks Vandenbroucke and Vleminckx (2011) distinguished unemployment, old age, ill health, sickness and disability, and the financial burden of raising children. On other hand the 'new' risks are reconciling work and family life; single parenthood; having a frail relative; possessing low or obsolete skills; insufficient social security coverage. Vandenbroucke and Vleminckx (2011) pointed out that the reconciling work and family life may be pursued by extensive systems of parental leave with generous benefits, rather than by investing in childcare. The childcare is an investment objective (Vandenbroucke and Vleminckx (2011). According to Vandenbroucke and Vleminckx (2011), social inclusion crucially depends on the type of households that benefit from the new jobs, that is, whether they are work-poor or work-rich. If the individuals who benefit from employment growth mostly belong to work-rich households, the income of those households will increase but the poverty headcount may not improve.

Cantillon (2011) pointed out that recent literature refers to an activating welfare state, a 'new' social contract and a new social agenda means a policy shift away from passive social protection and job security to employment security and a 'social investment agenda' aimed at reinforcing human capital. Cantillon (2011) found that rising employment benefited workless households only marginally and at-risk-of-poverty rates for households with low work intensity increased. As stated by Cantillon (2011), a public resources employed to facilitate the combination of work and family life tend therefore to flow to higher income groups, mainly double-income families with better educational backgrounds and a higher earnings capacity

The shift from the old redistributive welfare state to a social investment state has been more difficult than expected and may at least in part be responsible for disappointing poverty trends (Cantillon (2011). He stated, that the contemporary welfare states should take more adequate account of the highly stratified nature of 'new social risks' and of the continuing need to protect

people against the even stronger stratified old social risks. Therefore, adequate social security and efficient social redistribution are part and parcel of any effective investment strategy.

Hoynes, and Luttmer (2011) pointed out that the insurance value of state tax-and-transfer systems is positive across the income distribution and, furthermore, increases with income. Bartels (2011) said, that the most valuable approach in measuring welfare state effectiveness is by looking in lifetime income

Brewer, Dias and Shaw (2012) found that differences of earned income are the largest for those, who have low education and are affected by the childbearing. The substantial proportion of lifetime disparities are established at the beginning of working life, influenced by personal characteristics like: wealth, education or ability. The most progressive component of the UK transfer system from a lifetime perspective is the generous benefits targeted at families with children (especially work-contingent benefits), stated Brewer, Dias and Shaw (2012).

According to Nolan (2013), the distinction between "investment" and "consumption" is rather less clear- cut once one focuses on the productive capacity of workers. The welfare state spending has impact on the productive capacity of work force. The investment cannot be understood without current consumption. Thus the social investment analyses could involve both benefits and the activity directed to the increase of human capital.

Pintelon et all (2013) found the influence of social class on a selection of social risks. As stated by Pintelon et all (2013), the social investment in a child can solve problem of social inheritance. That means investment in a child social capital through education, and help parents to invest in their children, through employment. According to Pintelon et all (2013), pre-shool programmes mitigate the intergenerational inheritance. Pintelon et all (2013) pointed out that new welfare policy should combine greater labour market participation and adequate social protection.

Kvist, Straubinger and Freundt (2013) defined the two measurement of benefit generosity: social expenditure and institutional data. According to Kvist, Straubinger and Freundt (2013), the poverty or inequality refer to consequence or outcomes of benefits. The institutional data allow to compare benefit schemes more deeply.

Kvist (2014) stated that the main idea of social investment strategy is the framework, which contains policies and returns over the life course. According to Kvist (2014), social investment generational perspective means that welfare state smooth resources over the life-cycle and the generational differences should be taken into account. Also the individuals, who invest in other people, also invest in themselves, because they distribute the resources at different points of time in their life course. Social investment works to design the best possible policies to enable people to work, to use sills, create families and to have children (Kvist (2014).

Kvist (2014) distinguished social investment inputs and social investment outputs from life course perspective. As stated by Kvist (2014), an investment begins at the family investments on parental leave schemes, childcare policies. Childcare is very important and especially for children from dysfunctional families. This means that social investment strategy seeks to reduce the possible risks in the future.

The social investment strategy has to make sure that students from the poor background could have a possibility to seek education. From a social investment perspective it is good to know if young people returns in investments by achieving skills and competences required in jobs. In unemployment case social protection with active labour market policies and lifelong learning have to act to prevent from those risks.

"Active aging" should become one of social investment type policies. The aim of "active aging" is to move the transition from work to retirement and to promote active, independent and healthy living (Kvist (2014).

Kuitto (2016) stated that compensating and social investment policies are not diametrically opposed. Such policies should be complementary. Kuitto (2016) pointed out, that the idea of returns on investment implies that it at different phases of life course have different gains. Kuitto (2016) found that wasn't uniform shift to social investment welfare among European countries. According to Kuitto (2016), the effective social investment strategy may also increase the need for income replacement for previously inactive persons entering the labour market with its risks. Kuitto (2016) stated, that CEE countries remain rudimentary in terms both social investment and compensating welfare policies, although their investment in labour market activation policies and thus their active support for working- age populations has increased during the past decade. The CEE countries have weakest increasing human capital investment in childhood and youth (Kuitto (2016).

Nelson and Sandberg (2016) pointed out that the social investment policy may not be effective at reducing poverty. As stated by Nelson and Sandberg (2016) the social investment is a perspective how social policy can reduce social inequality by investing in people. The emphasis is on the productive function of social policy. According to Nelson and Sandberg (2016) both education and health related human capital investment should reduce persistent or intergenerational poverty.

Wagle (2016) stated that the extent how social policy reduce poverty depends on the social policy shape and size. According to Wagle (2016) redistribution and reduction in poverty are at the centre of social protection policies. Social protection improves the productive potential of the poor, through social insurance and active labour market. As stated by Wagle (2016) the degree of poverty and inequality depends on how many redistributive effects taxes and social benefits have on individual incomes.

Therefore the social investment perspective includes both the compensatory and "active" or investment policy, which are important for the investment in health and thus in labour force and the investment in human capital. The social investment perspective using both type of social policy strategies should combat poverty and reduce income inequality.

Data and methods

The methodology of this research is based on the Olivia framework, which allows analyzing social policy means from a life-course perspective (Hicks 2007; 2008). In this research the four life course trajectories: formal learning, family formation, employment and retirement were adopted. The social investment in this research is defined as a spending on social protection and classified as 'old' and 'new' welfare as defined it by Vandenbroucke and Vleminckx (2011). The social investment institutional characteristics analysis was based on the data of MISSOC on the 2015 01 01. The spending for social protection was evaluated by using secondary analysis of Eurostat data. The data are presented in a comparative perspective with on average in EU. The calculation method of indicators is provided in the text.

The outcomes of the social investment were defined as at risk poverty and income inequality (Gini). Context information of the social investment is defined by median net income level. As stated by Vandenbroucke and Vleminckx (2011) that redistributive impact of the services depends on the overall context.

The impact of social benefits on the income inequality was based on the Gini analyses. The change of Gini is measured before and after social transfers. For the evaluation of the dynamics of income inequality between different age cohorts the Gini decomposition was used. The Gini coefficient (G_u) was viewed as the sum of four components, each of which gave additional information for the decomposition procedure:

$$G_{u} = \underbrace{\sum_{i=1}^{n} s_{i}G_{i}}_{IG} + \underbrace{G_{bp}}_{BGp} + \underbrace{\sum_{i=1}^{n} s_{i}G_{i}(O_{i}-1)}_{IGO} + \underbrace{(G_{b}-G_{bp})}_{BGO}$$
$$G_{u} = \underbrace{G_{b}}_{G \ between} + \underbrace{\sum_{i=1}^{n} s_{i}G_{i}O_{i}}_{G \ within}$$

The limitation of Gini decomposition is that is impossible to evaluate the impact of the 'old' and 'new' welfare. The result show the impact of the social protection benefits, thus the compensatory or 'old' welfare.

Results

Social Investment Policy

According to Kvist (2016) methodology, the Baltic States social policy is analysed through life course perspective. The first stage of life course is education and material assistance for the child and students of tertiary education.

Childhood. A child benefit in Baltic States is guaranteed for residents in Lithuanian and Estonia and registered people in Latvia. The amount of the benefit depends on the number of children within the families in all Baltic countries. The amount of childcare benefit in Lithuania also differs depending on the age of children. There are no eligibility conditions for childcare benefit in Estonia and Latvia, while in Lithuania childcare benefit is means-tested depending on monthly family income. For orphan children, starting independent life from foster care or guardian family, on-off payment is provided in Estonia and Latvia, while in Lithuania, regular family benefits are paid.

Education. All of the Baltic countries have a similar level of education. The major levels are pre-school, basic secondary, secondary and higher education. The pre-school education in Lithuania and Estonia is voluntary, while in Latvia it is mandatory for children aged 5-6 year, because it is considered to be the first stage of general education. The basic secondary education (primary and lower secondary education) is mandatory in all Baltic countries to children up to 16 years old. Estonian education system consists of general, vocational, higher and continuing forms of education. Latvian education systems consist of basic education, upper secondary education, which is divided into academic secondary education programs and vocational training programs. Moreover, Latvian post-secondary education includes continuing vocational training programs or in-service training programs this education is for up-skilling/professional development programs. Higher education programs in Latvia are divided into professional or academic programs, while post-graduate education includes doctoral studies. In Lithuania the education systems covers pre-school, general secondary, vocational, junior college, higher and adult education. Higher

education system includes university-type and college types studies. University-types studies include bachelor, master, integrated studies (combining undergraduate and graduate) and post-graduate (doctoral and residency) studies.

Stipends. Study stipends vary differently in Baltic countries. In Estonia, the state provides study grant system, which is based on the student's or his family income. Students in Estonia can also apply for merit grants and state supported leans, which both have minimum and maximum amounts. In Latvia, public study stipends are allocated on the basis of academic merit and study priority areas. Other public grants are based on academic merit. Orphan, disabled students together with students from large families or low-economic background are treated more favourably. The two types of loans exist: to cover tuition cost and living costs. Such loans the fee-paying students with their tuition and living expenses cots. In Lithuania, three main grants/scholarships exist: academic achievement, social scholarship and academic scholarship. Study scholarships are regulated by each higher education institution and given to students based on academic achievement. The fixed amount of social scholarship is available from low-economic background, disabled students and orphans.

Vocational training. Vocational training in Estonia helps to obtain specific knowledge and qualifications for certain position and professional activity. Students are allowed to continue their studies in vocational schools, which combine both vocational training programmes with upper secondary education programmes. In Latvia, vocational secondary education and training seek to prepare professional workers in specific areas. Vocational training programs exist in vocational schools as well as in vocational secondary schools. Programs allow students to obtain basic education together with vocational education and training programs. In Lithuania, there are three types of vocational education schools: vocational schools, technological gymnasium and youth school for students aged 14-20. Lifelong higher education is another non-traditional type of studies, which are licensed institutions of non-formal studies, specialized for adult training and retraining.

The social policy related to family creation is protection for the child birth and grow up.

Maternity/paternity leave. In Estonia employees and self-employed persons are entitled to maternity/paternity leave as well as self-employed who participate in the business activities and paid social tax (or on whose behalf the employer has paid social tax). In Latvia, all employees and self-employed are entitled. Voluntary membership is also possible. The maternity/paternity compulsory insurance for employees and certain categories of self-employed and assimilated groups is in Lithuania. Voluntary membership is also possible for owners of personal enterprises. Duration of maternity leave in Estonia is 140 calendar days, 112 days in Latvia with possible additional days and 70 calendar days in Lithuania before the preceding delivery and 56 days after delivery (with possible additional days due to complications during pregnancy). The duration of paternity leave in Estonia and Latvia is 10 days, while in Lithuania – maximum 1 month after the date of childbirth. In case of adoption, paid leave of 70 days is possible in Estonia. Maternity and paternity benefits in Lithuania for maternity benefits. In case of adoption leave in Estonia, 100% of the reference wage is paid. In Latvia, the amount of maternity and paternity benefit is equal to 80% of the average gross wages upon which contributions have been paid.

Child-raising allowance in Estonia is based on tax-financed universal parental leave scheme for all residents providing income replacement benefit, which depends on income of a previous year. The child-

care allowance is paid to one of the parent in respect of children under 3 years of age (in certain cases also for children from 3 to 8 years of age). What is more, supplementary child care allowance is possible for parents raising a child up to 1 year old. The amount of parental benefit is equal to 100% of previous income and has minimum/maximum benefit levels. Child care allowance, together with supplementary child care benefits has child care allowance rates. Child-raising allowance in Latvia is a tax-financed universal flat-rate benefit scheme, covering all permanent residents who raise children under 2 years of age. Paternal benefit in Latvia is a compulsory social insurance scheme for employees and self-employed, which is based on earning-related principle and is granted to one of the parents (guardians, adoptive or foster parents), raising children under the age of 1.5. In Lithuania, child-raising allowance is earningsrelated benefit, which is payable for maximum of 2 years form the date of childbirth to mother of father, who remains away from work. The minimum eligibility conditions of 12 moths insurance during the last 24 months are required. The amount of the benefit depends on duration of parental leave (1 or 2 years old). Other forms of family related allowances also exist in all three Baltic countries.

The employment stage during life course usually related with risk to lose employment. The protection during the unemployment periods is defined as insurance benefits ('old'') and active labour market policy ('new').

Unemployment protection. In all three Baltic countries, unemployment protection in ensured by compulsory social insurance schemes financed by contributions (and taxes in Latvia) and covering employees and providing earnings-related unemployment insurance benefit. The social assistance scheme financed by taxes covers active population, providing a flat-rate unemployment allowance exist in Estonia. The main conditions to be eligible to unemployment insurance benefits is being voluntary or involuntary unemployed, to be capable to work, seeking employment. The minimum insurance period for unemployment insurance benefit in Estonia should be of 12 months over the 36 preceding registration as unemployed, while in Lithuania – 18 moths within 36 months preceding unemployment. In Latvia, a person should be socially insured for a t least 1 year and paid 9 months of contributions in 12 months before registering as unemployed. Means test for unemployment allowance is applied in Estonia. The amount of the benefits in countries differs depending on previous earnings and duration of unemployment.

Active labor market policy. Active labor market policies (ALMP) in Estonia: "My first job" service provides partial remuneration of wage and training costs to employers who hire young people with no experience. The young unemployed people can use all UIF services like labor market training, career counselling, workshops in finding a job, and work practice and employment subsidies. There are also start-up incubators and grants for those who want to become entrepreneurs. Additional policies are made for NEET youth and their participation in labor market as well as back to education by offering individual support and career counselling. ALMP in Latvia is managed by the SEA, which provides job-search assistance and integration into labor market. In addition to, vocational training, requalification, qualification improvement and informal training together with training programs are organized in co-operation with education and employers. Various other ALMP are also introduced: career counselling and vocational guidance, measures to enhance competitiveness, subsidized employment for most vulnerable groups, support to unemployed to enter self-employment or entrepreneurship, lifelong learning programs for adults, public projects, youth workshops, support for volunteer work, workplace for a young unemployed and measures supporting regional mobility of employees. In Lithuania, ALMP

consists of vocational training and informal education for unemployed persons. Supported employment is another ALMP implemented in Lithuania as well as support for job creation and job rotation.

The sickness periods during employment are protected of social insurance and can be called as 'old' welfare.

Sickness-cash benefits. Qualifying period for sickness-cash benefits in Estonia for those who were not insured and start working with an employment contract of at least 1 month, for whom the qualifying period is of 14 days. In contradiction, in Latvia no qualifying period is required. For Lithuanians is required minimum period of insurance is applied: 3 months during the last 12 months or at least 6 months during the last 24 months. The employer's payment of sick leave is paid from 1 to 8 day of sick leave in Estonia. The payment period of employers in Latvia cannot exceed 10 continuous calendar days (no ceiling). In Lithuania, the employer pays at least 80% of the employee's compensatory wage for the first 2 sick days. Duration of the sickness-cash benefit can be paid up to 182 calendar days in Estonia, 182 days or 364 days (over a 3 year period) in Latvia and 122 days in Lithuania, with some particular cases of extension of the period up to 244 days.

Other sickness related cash benefits like accident at work an occupational diseases cover all employees in all three Baltic countries with different risk coverage. The amount of other sickness related cash benefits differs across the countries due to different contributions by person involved, entitlement to compensation, duration of benefits, etc. Other insurance benefits in case of death include death grant, orphans of father and mother, surviving spouses, insurance benefits in the case of dependent parents and other relatives.

The last stage of life course in the analyses is retirement. Two components are important for the social investment policy: old age pensions ('old') and elderly care ('new').

Old age pensions. Old age pension schemes are compulsory social insurance schemes, financed by contributions of employees and self-employed in all Baltic countries. In Estonia, tax financed universal scheme for persons who are not entitled to an old age pensions are guaranteed. The 2^{nd} pillar – supplementary pension insurance is fully funded pension insurance based on private asset management under state supervision with contribution-defined pensions. Subscription to the funded pension is mandatory for persons entering the labour market. In Latvia, 1^{st} pillar is based on pay-as-you-go (PAYG) method, providing earnings-related pensions, which depend on contribution and the duration of affiliation. 2^{nd} pillar scheme provides pensions which depend on PAYG method, which covers active population and provides flat-rate and earnings-related elements.

Long term and health care. Long-term care is a need-based combination of in-kind healthcare and welfare services organized at the local level in Estonia. Health care system is responsible for nursing care, geriatric assessment service and home nursing care services. Welfare system provides long-term care in welfare institutions, day care centre service as well as home care and housing services and other social services. In addition to, a caregiver's benefit is provided for informal caregivers. In Latvia, the provision of long-term care is organized centrally and it is provided to all residents including elderly, children and disabled persons. The healthcare at home services are provided specific healthcare needs. Informal career benefit depends on the decision of the municipality. In Lithuania, long-term social services are granted for

all residents in need, while healthcare provision is based on social insurance. Long-term and health care system is supplemented by regional schemes, which are responsible for organization and supervision of various kinds of social services and primary healthcare. In addition to, long-term care is organized in day centres, home care services, residential social care institutions and hospitals. There are no specific benefits for informal caregivers in Lithuania.

Social Investments, income inequality and at risk poverty

According to Vandenbroucke and Vleminckx (2011) the spending is defined by the two categories 'old' and 'new'. The 'old' and 'new' welfare protection is analysed accross the main parts of the life course.

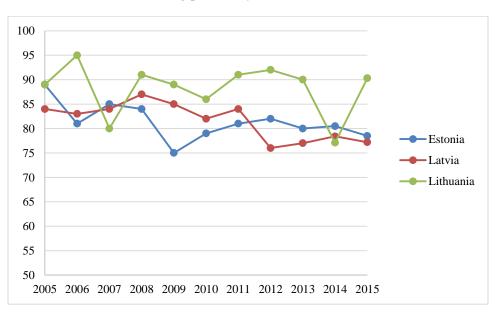
Childhood

-	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Lithuania	0,69	0,69	0,66	0,62	0,84	0,79	0,81	0,73	0,10*	0,61
Latvia	0,74	0,77	0,83	0,95	1,07	0,94	0,92	0,89	0,91	0,20*
Estonia	0,39	0,35	0,39	0,55	0,51	0,47	0,44	0,44	0,36	0,00*
EU(27)	0,77	0,80	0,81	0,82	0,96	0,96	0,97	0,90	0,93	0,40*

Table 1. Spending on childcare ('New')

Comment: Covering day-care and home-help services, and pre-primary education; Missing data *

The spending on childcare ('new' welfare) was lower than on average in EU(27) during 2005-2014. However, spending on childcare during 2007-2009 in Latvia was slightly higher than on average in EU (27). The lowest spending was in Estonia compare with other two Baltic States. The decrease of spending on childcare was in all Baltic States during past four years.



Source: Eurostat

Figure 1. Children not participating in formal child care, aged less than 3 years, 2005-2015 percentage

The majority of children less than 3 years old not participate in formal child care in all Baltic States. The rate of nonparticipation is highest in Lithuania compare with other Baltic States. The maternity/paternity policy (two years of benefit payment) allows for Lithuanians to grow up child at home two years. The child care allowances are provided for parents until 3 years of the child in Estonia and until 2 years in Latvia.

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Lithuania	3,27	3,23	3,07	3,32	3,76	3,41	3,00	2,65	2,50	2,37
Latvia	3,60	3,54	3,40	3,87	3,85	3,34	3,12	2,81	3,01	0,00*
Estonia	3,56	3,45	3,29	3,94	4,19	3,96	3,43	3,07	2,95	0,00*
EU (27)	3,32	3,32	3,33	3,40	3,62	3,61	3,43	3,23	3,31	0,00*

Table 2. Spending on Primary and Secondary education ("New")

The spending on primary and secondary education was higher in Latvia and Estonia than on average in EU(27) until 2010. The spending on primary and secondary education was higher only in 2009 in Lithuania compare on average in EU (27). The spending on primary and secondary education started decrease after 2009 in Lithuania and Latvia and after 2010 in Estonia. The spending on primary and secondary education was lower than on average in EU(27) during 2011-2013 in Baltic States.

The spending on childcare and on primary and secondary education was not only low but also has been decreasing in Baltic States.

The median equilised net income provides contextual information about economic wellbeing of the population in Baltic States. The level of income level reveals the importance of social investment or on other hand the weakness of social investment.

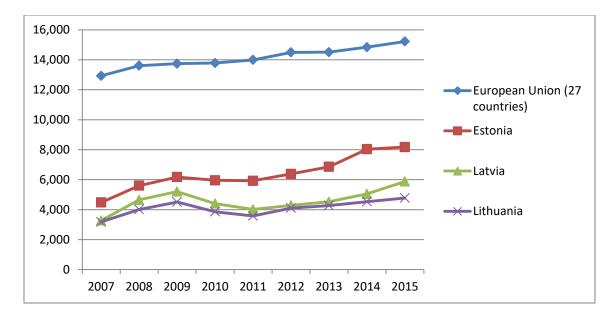
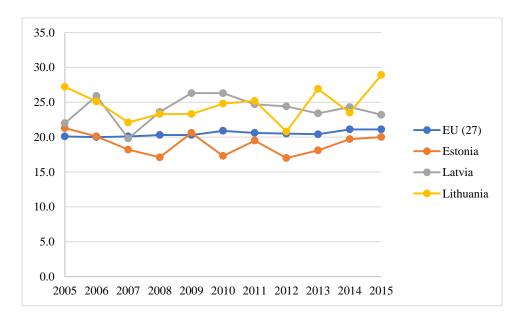


Figure 2. Median equivalised net income, Less than 18 years

The median income of persons who age was less than 18, was lower in all Baltic States compare to on average in EU (27). The highest income was in Estonia among Baltic States. The income of children of Latvia and Lithuania was similar level.

The higher income of children of Estonia prevents from the poverty. The poverty of persons of age less than 18 years, was lower only in Estonia compare to on average in EU (27). (see Figure below). The at risk poverty rate of persons of age less than 18 was higher in Latvia and Lithuania compare to on average in EU (27) and Estonia during past ten years. (see Figure below).

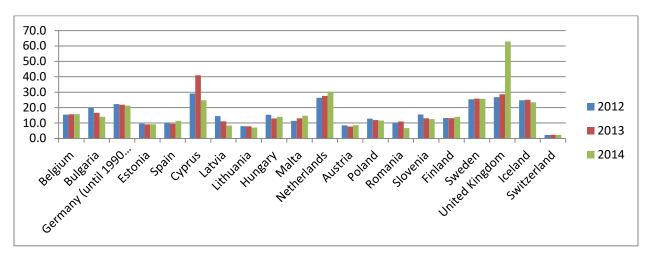


Source: Eurostat

Figure 3. Persons, aged less than 18, at-risk-of-poverty-rate, 2005-2015, percentage

The at risk poverty of persons, aged less than 18 was high in Latvia and Lithuania, the median equilised net income was lower than in EU(27), the spending on childcare and primary or secondary education has been decreasing, the majority of children less than 3 years no participate in the formal education.

The next stage of life course is studies after a completion of a secondary school.

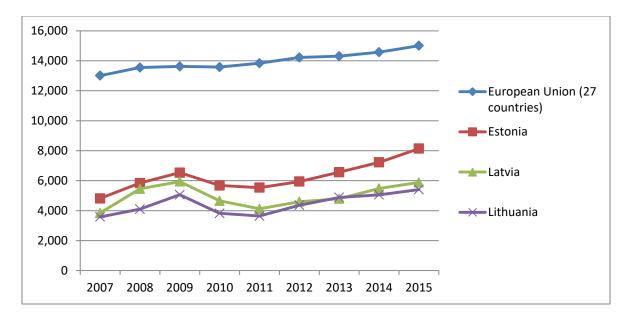


Students after secondary school

Source: Eurostat

Figure 4. Financial aid to students (Tertiary education (levels 5-8) as % of total public expenditure

Financial aid for students who studies at schools on the level of tertiary education in all Baltic States was quite modest compare to other European countries. The lowest financial aid for students was in Lithuania among other Baltic States. The stipends are based on academic achievements in Lithuania, Latvia and based on the student family income in Estonia. The decrease of financial aid for students was in Latvia and Lithuania in 2014.



Source: Eurostat

Figure 5.Median equivalised net income, 18-24 years

The median income of persons of age 18-24 years in all Baltic States was lower than on average in EU(27). The median income of persons of age 18-24 was the highest in Estonia among Baltic States. The lowest median income was in Lithuania. The highest increase of income was in Estonia during last two years.

The financial aid for students and median equilised net income was low in Baltic States. However these indicators were slightly higher in Estonia compare with other Baltic States.

The next stage is the participation in labour market. The participation in labour market is related with unemployment risk. The welfare state protection includes both passive and active protection or 'old' and 'new' welfare.

Employment

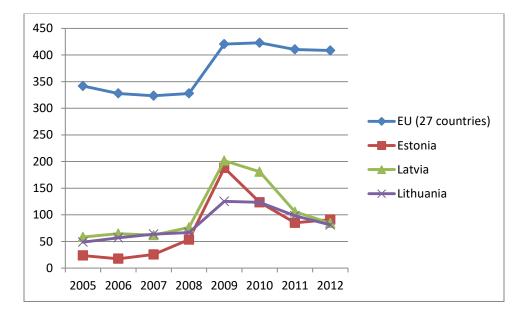
	Lithuania	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
G	ALMP	0,15	0,18	0,22	0,16	0,20	0,22	0,18	0,18	0,19	0,18
L	Employment rate		63,6	65,0	64,4	59,9	57,6	60,2	62,0	63,7	65,7
Μ	Unemployment rate	8,40	5,80	4,30	5,90	14,00	18,10	15,70	13,70	12,00	10,90
Р	("New 4'/ <un) (gdp="" inhabitant)<="" td=""><td>0,04</td><td>0,07</td><td>0,11</td><td>0,06</td><td>0,03</td><td>0,03</td><td>0,02</td><td>0,03</td><td>0,03</td><td>0,03</td></un)>	0,04	0,07	0,11	0,06	0,03	0,03	0,02	0,03	0,03	0,03
	Latvia	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
G	ALMP	0,15	0,17	0,10	0,07	0,27	0,52	0,33	0,19	0,19	0,15
L	Employment rate	62,10	65,90	68,10	68,20	60,30	58,50	60,80	63,00	65,00	66,30
Μ	Unemployment rate	10,20	7,20	6,20	8,10	18,00	19,80	16,50	15,40	12,10	11,10
Р	("New 4'/ <un) (gdp="" inhabitant)<="" td=""><td>0,05</td><td>0,03</td><td>0,02</td><td>0,03</td><td>0,05</td><td>0,04</td><td>0,02</td><td>0,03</td><td>0,03</td></un)>		0,05	0,03	0,02	0,03	0,05	0,04	0,02	0,03	0,03

Table 3. Spending on ALMP ('New'), employment, unemployment rate

	Estonia	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
G	"New 4" ALMP	0,05	0,05	0,02	0,03	0,13	0,13	0,14	0,18	0,13	0,10
L	Employment rate	64,80	68,40	69,80	70,10	63,80	61,20	65,30	67,10	68,50	69,60
М	Unemployment rate	8,30	6,10	4,80	5,60	13,90	17,10	12,60	10,30	8,90	7,60
Р	("New 4'/ <un) (gdp="" inhabitant)<="" td=""><td>0,01</td><td>0,02</td><td>0,01</td><td>0,01</td><td>0,02</td><td>0,02</td><td>0,02</td><td>0,03</td><td>0,03</td><td>0,03</td></un)>	0,01	0,02	0,01	0,01	0,02	0,02	0,02	0,03	0,03	0,03
	EU (27)	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
G	"New 4" ALMP	0,52	0,49	0,45	0,44	0,51	0,52	0,46	N.D	N.D	N.D
L	Employment rate	63,50	64,40	65,30	65,80	64,50	64,20	64,20	64,20	64,20	64,90
М	Unemployment rate	9,00	8,30	7,20	7,00	9,00	9,70	9,70	10,60	10,90	10,30
Р	("New 4'/ <un) (gdp="" inhabitant)<="" td=""><td>0,12</td><td>0,13</td><td>0,13</td><td>0,13</td><td>0,12</td><td>0,11</td><td>0,10</td><td>N.D.</td><td>N.D.</td><td>N.D.</td></un)>	0,12	0,13	0,13	0,13	0,12	0,11	0,10	N.D.	N.D.	N.D.

Comment: 'active labour market policies' (ALMP), covering training, employment incentives, supported employment and rehabilitation, direct job creation, start-up incentives; Row P: spending on ALMP ('New 4') (in million euro) divided by annual number of unemployed, compared with GDP/inhabitant (nominal expenditure per inhabitant); Row L–M: employment and unemployment rate (average for period).

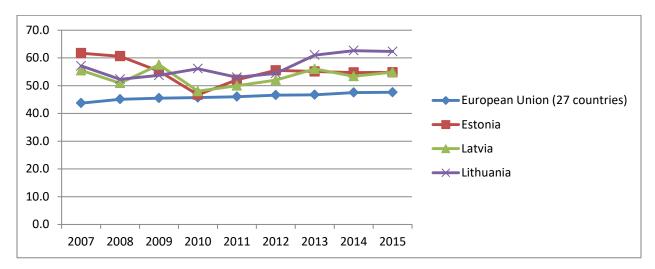
The spending on ALMP was modest in all Baltic States compare to on average in EU (27). However the spending on ALMP was lower in Estonia compare to other Baltic States. The increase of spending on ALMP was in Latvia in 2009-2010. The unemployment rate was higher from 2009 in all Baltic States compare on average in EU (27). However the unemployment rate was lower than on average in EU (27) in Estonia in 2012-2014. The employment rate was lower in Lithuania compare to on average in EU (27), o other hand in other two Baltic States the employment rate was higher than in EU (27). Nominal expenditure per inhabitant (row P) was very small compare to on average in EU (27). The ALMP is directed to unemployed persons in Lithuania in form of vocational training and informal education. The job search assistance and integration in labour market are provided in Latvia. The AMLP of Estonia is directed highly to young unemployed.



Source: Eurostat

Figure 6. Unemployment benefits per head of population, PPS

Unemployment benefits per head in Baltic States were almost twice lower compare on average in EU(27). The unemployment benefits in Baltic States decreased during 2011-2012. The highest amount of unemployment benefit was during the financial crisis.



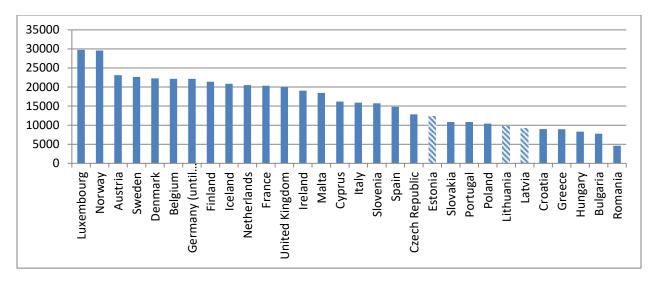
Source: Eurostat

Figure 7. At risk of poverty rate of unemployed persons

At risk of poverty rate of unemployed persons is higher in all Baltic States compare on average in EU(27). The highest level of poverty was in Lithuania during last three years compare with other two Baltic States.

As stated by Bonoli (2010) the different ALMP policy with respect to its objective, tools and the interaction with unemployment protection can be responsible for the success of this policy. According to Vandenbroucke and Vleminckx (2011) the balance between 'investment strategy' and 'protection strategy' should be as complementary pillars of welfare state.

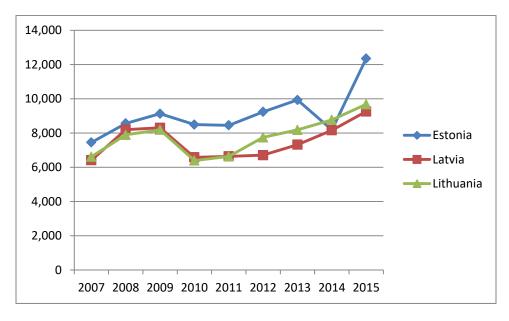
Social investment on unemployment risk is low in Baltic States. The unemployment benefit ('old') is low and the spending on ALMP in Baltic States was modest compare to on average in EU. At risk of poverty rate unemployed persons was higher than on average in EU.



Source: Eurostat

Figure 8. Median equivalised net income, 25-54 years, in 2015

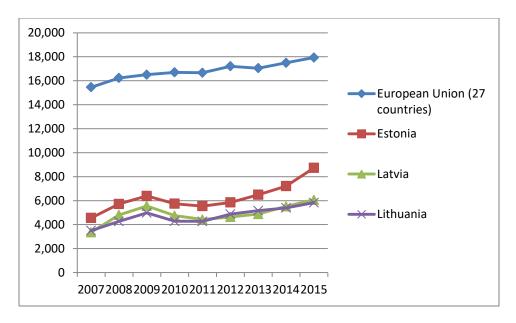
The median income of working population was at the bottom among other European countries. The median income of working population in Estonia was higher compare to other Baltic States.



Source: Eurostat

Figure 9. Median equivalised net income dynamic, 25-54 years

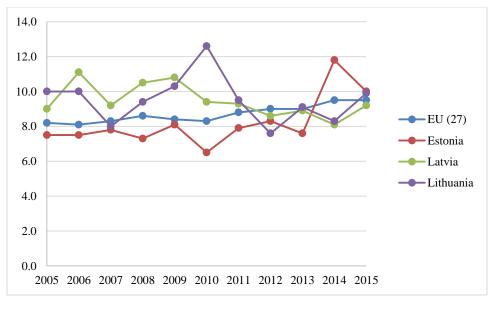
The median income of working population increased after the financial crises in Baltic States. The higher increase of median income of working population was in Estonia. The similar situation can be observed for the age group 55-64 years, who are also working and part of them can be retired (see. Figure below).



Source. Eurostat

Figure 10. Median equivalised net income dynamic, 55-64 years

At risk of poverty rate of employed persons was higher than on average in EU in all Baltic States until 2011. The employed person poverty was lower than on average in EU in Latvia and Lithuania 2012-2015. However at risk of poverty of employed persons sharply increased in 2014 in Estonia and again decreased in 2015.



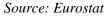


Figure 11. Employed persons at-risk-of-poverty-rate, 2005-2015, percentage

Family and children

Social investment in a stage of family creation can be defined through the spending on parental leave (see table below)

Table4. Parental leave (new)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Lithuania	0,30	0,30	0,50	0,90	1,60	1,40	1,10	0,80	0,60	0,60
Latvia	0,50	0,50	0,50	0,70	1,00	0,70	0,40	0,40	0,50	0,70
Estonia	0,70	0,70	0,70	1,10	1,50	1,50	1,30	1,20	1,10	1,10
EU (27)	0,20	0,30	0,20	0,30	0,30	0,30	0,30	0,30	0,30	0,30

Comment: 'parental leave', covering income maintenance benefit in the event of childbirth and periodic parental leave benefit.

The spending on parental leave was higher in all Baltic States than on average in EU. It was significantly higher in Baltic States compare to on average in EU during 2009-2012. The level of spending remained almost the same level in Estonia in 2012-2014. The spending almost twice decreased in Latvia and Lithuania after the financial crises. Maternity/paternity leave is related with payment of social insurance (taxes) contribution in Baltic States. The benefit rate is 100% of previous wage in Estonia and Lithuania and 80% in Latvia.

The parental leave Kuitto (2016) attributed to the 'compensating welfare", which correspond old social protection system.

Retirement

The last stage of the life course is exit from labour market. The social investment on the retirement includes pensions 'old' and elderly care 'new' welfare.

	Lithuania	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
B	"Old 2" Retirement pensions	5,90	5,70	6,40	6,90	8,90	7,90	7,10	7,20	6,90	6,70
Ε	"New 2" Elderly care	0,20	0,20	0,30	0,50	0,70	0,60	0,50	0,50	0,30	0,30
Ν	("Old 2'/65+)/(GDP/CAP)	0,39	0,36	0,41	0,42	0,53	0,46	0,41	0,41	0,39	0,38
	Latvia	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
B	"Old 2" Retirement pensions	5,60	5,30	4,70	5,30	7,80	9,50	8,20	7,80	7,70	7,40
Е	"New 2" Elderly care	0,10	0,10	0,10	0,10	0,20	0,10	0,10	0,10	0,10	0,10
Ν	("Old 2'/65+)/(GDP/CAP)	0,34	0,32	0,29	0,31	0,43	0,53	0,44	0,43	0,42	0,40
	Estonia	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
B	"Old 2" Retirement pensions	5,40	5,40	5,20	6,20	7,90	7,70	6,80	6,60	6,60	6,60
Е	"New 2" Elderly care	0,10	0,10	0,10	0,10	0,10	0,10	0,10	0,10	0,10	0,10
Ν	("Old 2'/65+)/(GDP/CAP)	0,34	0,33	0,31	0,36	0,46	0,45	0,39	0,38	0,37	0,37
	EU (27)	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
B	"Old 2" Retirement pensions	11,30	11,20	11,00	11,30	12,30	12,30	12,30	12,60	12,70	12,70

Table 5. Spending on retirement

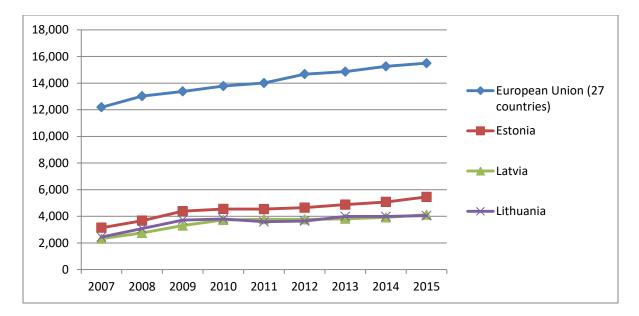
Ε	"New 2" Elderly care	0,40	0,40	0,50	0,50	0,50	0,50	0,50	0,50	0,50	0,50
Ν	("Old 2'/65+)/(GDP/CAP)	0,68	0,67	0,65	0,66	0,71	0,70	0,70	0,71	0,70	0,68

Comment: 'Old 2': 'retirement pensions', covering both 'old age' and 'survivor' benefits (cash); 'New 2': 'elderly care', covering care allowance, accommodation and assistance carrying out daily tasks. Row N: spending on retirement pensions ('Old 2') (million purchasing power standards (PPS) divided by people aged >65 years, compared with GDP/capita (real expenditure per capita (in PPS_EU27);

The spending on retirement pensions was twice lower in all Baltic States than on average in EU. The spending on elderly care were dramatically low in Estonia and Latvia compare to on average EU(27). The spending on elderly care was highest in Lithuania compare to other Baltic States. However the spending on elderly care in Lithuania was lower than on average in EU(27). The long term care and health care are provided for residents in need in Baltic States. Lithuania has special compensation for disabled persons with a reduction of their capacity to work of at least 60% and to persons who have reached retirement age if they have a need for permanent attendance. The amount is 50% or 100% of the social insurance basic pension depending on the category of the recipient (respectively \in 52.5 or \in 105).

The data of indicator "real expenditure per capita, row N" allow to state that the real spending on retirement pensions in all Baltic States was twice lower than on average in EU(27). During past two year slight decrease of real spending was observed in all Baltic States. The old age pensions mainly based on social insurance in Baltic States. The three components (a base amount, a length of service component and an insurance component) define the old age pension in Estonia. The insurance component includes the annual pension coefficients multiplied by the value of one service year. The social insurance pension of Latvia is calculated by pension formula P = K / Gwhere: P: annual pension; K: the pension capital of insured person; G: time period (in years), during which pension disbursements are planned, starting from the pension allocation year (projected life expectancy at a certain retirement age). The old age pension of Lithuania is calculated according to the formula: P = B + 0.005 * s * k * D + Pr. Where: B: basic part of pension which is 110% of basic State social insurance pension determined by the Government and may not be less than 110% of the Minimum Standard of Living (Minimalus gyvenimo lygis). Coefficient 0.005: 0.5% of the average wage earned in each year is added annually to the supplementary part of the person's future pension. s: total insurance period. k: calculated according to the State Social Insurance Fund data on the claimant's insured income. The wage upon which the pension contribution was paid is divided by insured income D of that year and the average for the whole 25-year period from 1994 is calculated. "k" can be no higher than 5. D: current year's insured monthly income valid on month of payment. Current year's insured income is calculated as the average of the wage from which pension insurance contributions are collected as well as any State social insurance sickness, maternity, and unemployment benefits over the year. The current year's insured income is fixed by Government. Pr: Supplement for years of pension insurance, only paid to those with more than 30 insurance years: 3% of basic pension paid for every full year above 30.

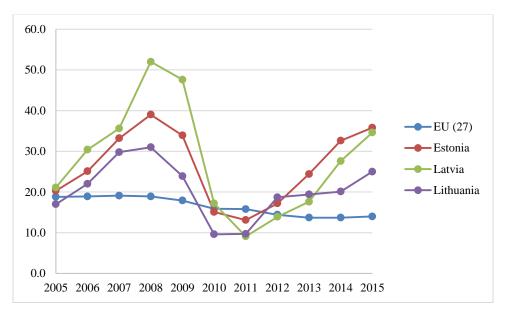
The participation in the 2^{nd} pillar in Estonia and Latvia is compulsory while a voluntary in Lithuania. The contribution to the scheme of 2nd pillar is 2-4% in Baltic States.



Source: Eurostat

Figure 12. Median equilsed net income, 65 years and over

Median equilised net income of retirees was lower than on average in EU(27). The highest income of retirees was in Estonia compare with other Baltic States.



Source: Eurostat

Figure 13. Persons aged 65 and over at-risk-of-poverty-rate, 2005-2015, percentage

At risk of poverty rate of retirees was lower in all Baltic States during 2010-2011 than on average in EU. The poverty of retirees was higher almost twice in Latvia and Lithuania in 2008 and in 2015 compare to on average in EU (27).

Low median income of retirees is accompanied with high at risk poverty.

The impact of social benefits on the income inequality

	Childre	Children		Stude	nts		Emplo witho	oyees ut child	lren	Emplo childr	oyees w en	/ith	Unem	ployed	Retirees			
	LT	LV	EE	LT	LV	EE	LT	LV	EE	LT	LV	EE	LT	LV	EE	LT	LV	EE
Before social transfers	0.406	0.383	0.387	0.368	0.324	0.390	0.360	0.329	0.327	0.384	0.342	0.342	0.507	0.421	0.435	0.539	0.538	0.582
Disposabl e income	0.351	0.351	0.343	0.350	0.299	0.364	0.338	0.313	0.307	0.315	0.315	0.314	0.448	0.393	0.406	0.275	0.292	0.244
Change of Gini (-)	0.055	0.032	0.044	0.018	0.025	0.026	0.022	0.016	0.02	0.069	0.027	0.028	0.059	0.028	0.029	0.26	0.25	0.34

Table 6. Gini before and after social transfers, 2015

*- Gini (equivalised disposable household income before social transfers including old-age and survivor's benefits) Before social transfers- Gini (equivalised disposable household income before social transfers other than old-age and survivor's benefits)

The social transfers reduce income inequality for all age cohorts. The highest reduction of income inequality after social transfers was in Lithuania among other Baltic States for children group (5.5%). The smaller impact of social transfers on income inequality was for the group of students compare to the group of children. However the impact of social transfers on income inequality of the students group was highest in Estonia (2.6%) compare with Latvia and Lithuania. The similar impact of social transfers on income inequality was for the students group. The impact of social transfers on income inequality for the employees with children was highest in Lithuania (6.9%). The maternity/paternity benefits, which are generous in Lithuania, can have an impact on inequality reduction. The income inequality of unemployed after social transfers higher decreased in Lithuania (5.9%) compare with other Baltic States. The highest reduction of income inequality was after the old age pensions in all Baltic States. Other social transfers have modest impact on income inequality reduction.

Table 7.Gini decomposition between and within group inequality components, 2015

Groups Children and students	Components G between before G between after	Lithuania 0.025 0.023 -0.002	Latvia 0.009 0.007 -0.002	Estonia 0.007 0.006 -0.001
	G within before	0.364	0.338	0.385

	G within after	0.337	0.312	0.354
		-0.027	-0.026	-0.031
Students and	G between before	0.001	0.002	0.001
employees without	G between after	0.001	0.003	0.001
children		0	+0.001	0
	G within before	0.360	0.327	0.330
	G within after	0.338	0.311	0.309
		-0.022	-0.016	-0.021
Employees without	G between before	0.006	0.004	0.002
children and with	G between after	0.006	0.003	0.002
children		0	-0.001	0
	G within before	0.357	0.328	0.327
	G within after	0.333	0.311	0.306
		-0.024	-0.017	-0.021
Employees and	G between before	0.025	0.027	0.013
unemployed	G between after	0.030	0.027	0.013
		+0.005	0	0
	G within before	0.358	0.322	0.327
	G within after	0.331	0.306	0.306
		-0.027	-0.016	-0.021
Employees and	G between before	0.049	0.070	0.062
retirees	G between after	0.051	0.056	0.065
		+0.002	-0.014	+0.003
	G within before	0.365	0.335	0.336
	G within after	0.298	0.282	0.267
		-0.067	-0.053	-0.069

Comment: Before or after social transfer

The impact of social transfers on the income inequality between groups is contradictory. The social transfers reduce income inequality among almost all groups however in a few cases we can observe the slightly higher income inequality. The income inequality was slightly higher after social transfers between employees and unemployed in Lithuania. The same inequality increase was also between employees and retirees after social transfers in Lithuania and Estonia. The modest benefits and the high size of benefits in the disposable income can increase a gap of income between employees and unemployed and between employees and retirees. The impact of social transfers on between groups inequality was small.

Conclusions and discussions

The social investment means shift of the policy from the "old" welfare to "new". However the academic discussions agree that the separation "old" and "new" is mistakable, because "old" welfare ensures satisfaction of the needs of health and thus is investment in labour force.

The social protection during life cycle includes child benefit which depends on the number of children within the families in all Baltic countries, the stipends depends on family income in Estonia and based on the achievements in Latvia and Lithuania. Maternity/paternity benefit is 100-80% of previous wage and the child-raising allowance is paid until 2-3 year of child in Baltic States. The child raising allowance is quite generous in Estonia and Lithuania, because calculated as the same amount of previous wage during the first year of child growth. Unemployment protection is based mainly on social protection in all Baltic States. The duration of unemployment benefit is on average 9 month and the amount is half of the

previous wage in Estonia, the same amount of the previous wage in Latvia and depends on state supported income in Lithuania. The vocational training and informal education is provided for unemployed persons as an active labour market policy measures in Baltic States. Old age pensions are mainly provided social insurance schemes in Baltic States. Usually the retirement pensions depend on previous wage and insurance period. The scope of the 2nd pension scheme isn't large. The long term care for the elderlies is based on the needs. The special long term care allowance is provided in Lithuania for the disable persons.

The turn from the passive to the active social policy in Baltic States was rudimentary. The social investment remains very low in all Baltic States during life course. Starting from the childhood, the social investment and the results such as children less than 3 years participation in formal education was low. The financial aid for students of tertiary education was low in Baltic States compare with EU on average. The low social investment in young generation is accompanied with high poverty rate among such group of population.

The social investment after enter in labour market is important if person experience a risk of unemployment. However both the unemployment benefits per head and spending on active labour market policy are low in Baltic States compare with EU on average. At risk of poverty rate of unemployed persons is high in Baltic States and higher than on average in EU. The high poverty of unemployed persons is spread in a context of low income of employees.

The spending on parental leave is higher than on average in EU, especially in Estonia in Lithuania. Such finding shows that Baltic States help parents to invest in their children as defined Pintelon et all (2013). The unemployment benefits and spending on active labour market was lower in Baltic States compare with on average in EU. The low social investment on unemployment risk is in the low income of working age population context.

The retirement protection is low: the spending on pensions are twice lower than on average in EU and spending on elderly care remains low in Latvia and Estonia. The spending on elderly care in Lithuania is at the average level of EU, but during past two years has been decreasing.

The impact of social benefits on the reduction of income inequality is modest. The highest impact on the reduction of income inequality has social benefits for children, employees with children in Lithuania and unemployed persons in all Baltic States. The highest impact on the reduction of inequality has old age pensions. The intergroup inequality moving through life cycle diminishes very slightly after the social transfers. The inequality was higher after the payment of social benefits among employees and unemployed in Lithuania. The slight increase of between group income inequalities was between employees and retirees in Lithuania and Estonia after the payment of social transfers. Such findings allow to state that social benefits can increase between group income inequalities.

The low social investment in all life course stages of the population means that Baltic States become a region with high risk of social exclusion. The passive and active social policy can't combat high poverty rates. The active social policy development is weak. The weakness of active social policy may be related budgetary restraints, because as stated Vandenbroucke and Vleminckx (2011) the social investment strategy is not a cheap option.

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