

## MATERIAL DEPRIVATION: A CASE OF LATVIA

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### ABSTRACT

Material deprivation has recently gained prominence as a topic of debate as its proliferation is rising throughout Europe in particular in the countries hit hardest by financial and economic turbulences what leads to the gap in material deprivation levels throughout Europe. The aim of the study is to analyze material deprivation in the regions of Latvia. Research methods used in preparation of the paper: scientific publication and previous conducted research results analysis, analysis of anonimised data of EU-SILC survey results and European Central Bank conducted survey on Household income and expenses survey results, results are compared with the results of other EU countries. Survey anonimised data are analyzed using indicators of descriptive statistics, cross-tabulations for regions of Latvia, for urban-rural living and analysis of variance – ANOVA are used. The results of analysis have indicated in what situation are regions of Latvia in the context of material deprivation especially in Latgale region and what are the challenges for decision makers to deal with – more attention for several approaches in reduction of income differences in regions of Latvia.

KEYWORDS: *material deprivation, regional development, EU-SILC, Latvia.*

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### Introduction

The analysis of the material deprivation is essential for a country and it is also an important question whether households which cannot afford basic things for standard living are growing or decreasing. According to the statistics, more than 600 thousand people have left Latvia since 1991 (CSB of Republic of Latvia, 2019). Especially dramatic situation is in the regions where the level of living is lower than in cities especially in big cities and material deprivation becomes higher.

Taking into account all mentioned before, the purpose of the study is to analyze material deprivation in the regions of Latvia.

In order to achieve the purpose, the tasks are formulated as follows:

- 1) to review theoretical background of material deprivation in context of regional development;
- 2) to review existing research of material deprivation in the regions in EU;
- 3) to analyze problems of material deprivation in the regions of Latvia.

Research methods used: scientific publications and previous conducted research results analysis, analysis of “The European Union Statistics on Income and Living Conditions“ (EU-SILC) results (in 2014–2017)

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and European Central Bank conducted survey on Household income and expenses survey results (HFCS), results are compared with the results of other Eurozone countries. For statistical data analysis there are used main indicators of descriptive statistics (arithmetic means, standard deviations and standard error of means), *t* – test for testing differences of means by two independent characteristics – territories (cities and rural areas) and for testing differences of arithmetic means by six independent characteristics – regions of Latvia was used one of the most often used multivariate analysis method: analysis of variance – ANOVA.

## 1. Theoretical findings on material deprivation in regions: theoretical framework

The concept of material deprivation was first introduced in 1980s by Peter Townsend who defined deprivation as “an observable and demonstrable disadvantage relative to the local community or the wider society or nation to which the individual, family our group belong”. According to this definition, person is considered deprived if she or he lives below standards of living of the majority of the population or below the level of living what is considered socially acceptable. It means that person is deprived if she or he lacks such things as normal food, clothing, housing, commodities, activities to participate in society etc. (Townsend, 1987: 144). However, things considered to be as minimum necessity of socially acceptable living may change – for example, internet and modern technologies – which was not necessary 40 years ago, but it is now.

During the last 20 years different deprivation indices have been proposed in different fields, for example, well-being, healthcare, however, also methodology of these indices differ. (Fu, Exeter, Anderson, 2015: 32; Gradin, Canto, del Río, 2014: 659).

Material deprivation concept is also recognized by the European Union and indicators which measures material deprivation are included in social inclusion indicators, but indicator – severe material deprivation – is a part of Europe 2020 strategy. (Europe 2020 indicators, 2018)

Material deprivation by Eurostat (2018) is defined as “a state of economic strain and durables, defined as the enforced inability (rather than the choice not to do so) to pay unexpected expenses, afford a one-week annual holiday away from home, a meal involving meat, chicken or fish every second day, the adequate heating of a dwelling, durable goods like a washing machine, color television, telephone or car, being confronted with payment arrears (mortgage or rent, utility bills, hire purchase instalments or other loan payments).”

Interesting study of material deprivation in Europe indicates which expenditures households curtail first when face economic difficulties. The results of the study reveal that households first cut back their annual holidays, new furniture, leisure and social activities and if they financial resources decrease even further they are un able to afford meat, fish or equal vegetarian food every second day, a warm house and paying the bills, sometimes even two pair of shoes (Deutsch, Guio, Pomati, Silber, 2014: 19)

Often material deprivation is associated with income poverty and this is true – material deprivation as an enforced absence of goods is in most cases linked to reduced monetary resources, however Townsend (Townsend, 1979: 87) has paid attention that poverty does not automatically lead to material deprivation – there are households that after a poverty are still able to afford basic goods and there are also households that are materially deprived without being income poor. Study in Romania (Ulma, Isan, Mihai, 2018: 802) indicates that material deprivation and low-income level as main indicators of poverty are illustrative state of being individuals and development level of their belonging communities. They revealed that there are high differences between national and regional poverty levels and also a high level of inequalities regarding the standard of living of people form rural communities. Interesting is finding that women are more numerous assisted than man, but also women are more active on the labor market what may be seen as an evidence for gender inequality – employment in national and regional level is higher for men, and men also earn more than women what leads to conclusions that women having a job are more severe material deprived than men.

Commins (Commins, 2004: 71) has indicated that deprivation experienced may be different by urban and rural residents.

Study in Slovakia and Czech Republic (Zelinsky, 2012: 338) was researching relative material deprivation – concept of comparing relative people/households with others living in similar circumstances. Results

of this study indicate that there are significant differences in the relative material deprivation among the regions, for example, relative material deprivation is highly concentrated in the eastern part of Slovakia, but there is no such pattern observed in the Czech Republic.

The relationship between material deprivation, mortality and urbanization has been studied in small areas (parishes) in Lisbon indicating which are the problematic areas that could potentially benefit from public policies effecting social inequalities (Santana, Costa, Mari-Dell'Olmo, Gotsens, Borell, 2015: 11).

Some countries, for example, Argentina, Spain, England, Cyprus develop their own indices to measure material deprivation in small areas of the country. (Duran, Condori, 2017: 359; Sanchez-Cantalejo, Ocana-Riola, Fernandez-Ajuria, 2007: 271; Burke, Jones, 2019: 98; Lamnisos, Lambrianidou, Middleton, 2019: 627)

Material deprivation in the context of social exclusion as well as subjective well-being among children has been studied in Israel (Gross-Manos, 2015; Gross-Manos, Ben-Arieh: 2016). Study of how subjective well-being is associated with material deprivation and social exclusion on 12-year-olds revealed that children who are materially deprived and socially excluded were at much greater risk for unhappiness, but material deprivation was more important to the subjective well-being of males, than females and for Jews than Arabs (Gross-Manos, Ben-Arieh, 2016: 287)

Some authors research chronic material deprivation and long-term poverty in Europe, indicating that in almost all countries of Europe people with high risks of chronic material deprivation and longitudinal poverty are those individuals or households who lack of full employment, those who have low educational qualifications, who are a member of a lone parent household or living in a household headed by a woman or by a very young or an elderly person. (Papadopoulos, Tsakoglou, 2016: 34) Study in Hong Kong (Cheung, Chan, Chou, 2019: 64) researching material deprivation and in-work poverty concludes that workers with low education attainment, working in low-skill sectors and having temporary employment are likely to experience deprivation.

Material deprivation has been studied also in the context of neighborhood in Sweden and Canada (Hesselman, Wikstrom, Skalkidou, Sundstrom-Poromaa, 2019: 1006; Ross, Oliver, Villeneuve, 2013: 1389). The study in Canada was indicating that living in socially and materially deprived neighborhood is associated with an elevated risk of mortality, but the study in Sweden concluded that living in the deprived neighborhood has a high risk of preterm birth, small-for-gestational-age births and stillbirths.

Israel (Israel, 2016: 634) has researched material deprivation and societal influences between countries in different levels indicating that the main factor what explains cross-country variation in material deprivation is the provision of informal support from networks. However governments that provide their citizens with universal in-kind benefits increase consumption power and lower their risk of social exclusion.

## 2. Empirical research results

EU-SILC is the most complete harmonized survey on household income in Europe and methodology of data collection is realized by the same methodology in all EU countries, but not all aspects are analysed and included in CSB and Eurostat reports. It is common praxis that CSB of Republic of Latvia and Eurostat are providing anonimised data sets of the EU-SILC survey and researchers can use anonimised data files of EU-SILC survey and make much deeper statistical analysis with SPSS software by regions, by gender, by age groups, education level and other aspects which is not done by CSB or Eurostat. EU-SILC survey is conducted annually in line with *Eurostat* methodology in all European Union countries. In order to acquire information four questionnaires were developed and several sources of information was used: Household Register, Household Questionnaire Form and Individual Questionnaire Form.

One of the main study objects of the EU-SILC is annual income of a household – their composition and level, in 2017 sample size of EU-SILC in Republic of Latvia – 8 087 randomly selected respondents; Completed questionnaire sets were of 6014 households (anonimised data sets used for the current research); individual interviews (persons) – 11 304; non-response rate – 25.6% (CSB of Republic of Latvia, 2019).

It is important that anonymized data sets are available in SPSS files (authors of the paper have used them) for more detailed statistical data analysis – by statistical regions, by territories (cities or rural areas), by household size and by other indicators are possible to conduct by researchers as all aspects are not published by CSB.

## 2.1. Material deprivation in EU

In European Union material deprivation is being calculated using material deprivation rate which is an indicator in EU-SILC that expresses the inability to afford some items considered by most people to be desirable or even necessary to lead an adequate life. The indicator distinguishes between individuals who cannot afford a certain good or service, and those who do not have this good or service for another reason, e.g. because they do not want or do not need it. (Eurostat, 2018) If individual or household cannot afford three of nine items – it is the case of material deprivation.

Material deprivation rate consists of nine items: 1) to pay rent, mortgage or utility bills; 2) to keep their home adequately warm; 3) to face unexpected expenses; 4) to eat meat or proteins regularly; 5) to go on holiday; 6) to have a television set; 7) to have a washing machine; 8) to have a car; 9) to have a telephone. Material deprivation rate in European Union countries is included in Figure 1.

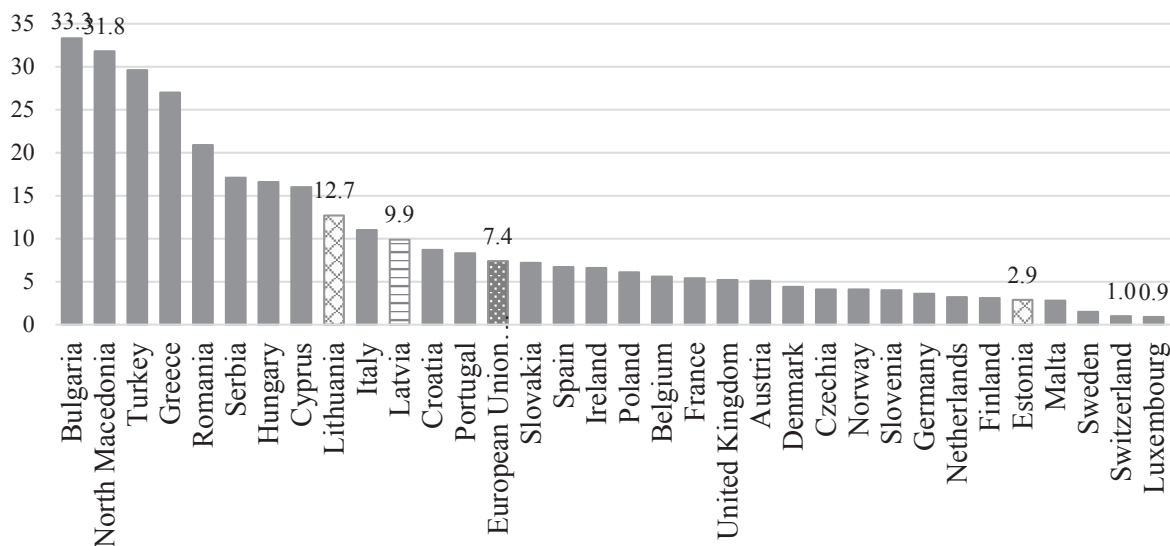


Figure 1. Material deprivation rate in European Union in 2017 (%)

Source: Authors construction based on data base of Eurostat

The statistics show that material deprivation in Latvia is higher than in average in European Union, but Lithuania is in worse situation than Latvia which indicates that there are more people who cannot afford at least three items of material deprivation rate, but Estonia is far above the average level of EU28 and is on the same level as Finland and Malta. The highest material deprivation rate is in Bulgaria and North Macedonia.

## 2.2. Material deprivation: Case of Latvia

According to data of Central Statistical Bureau of Latvia the proportion of the population at risk of material deprivation continues to decline in recent years. In Figure 2 is revealed material deprivation and severe material deprivation in Latvia in 2017.

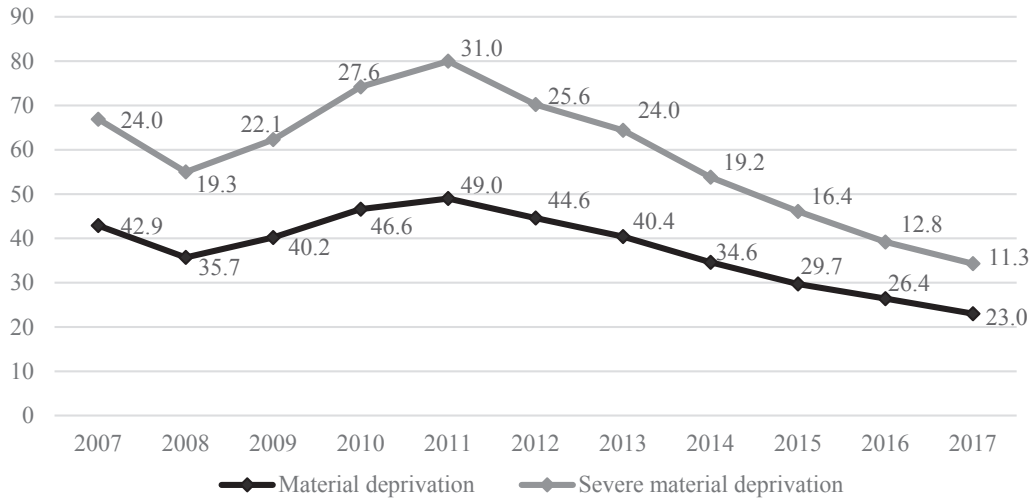


Figure 2. Material deprivation and severe material deprivation in Latvia from 2007 to 2017 (%)

Source: Authors construction based on data base of CSB

According to the EU-SILC results it is estimated that 23.0% of all surveyed households are materially deprived, as they cannot provide 3 out of 9 basic items, but 11.3% of all households are severe materially deprived – they couldnot provide 4 or more out of 9 basic items in Latvia in 2017. This indicated that more than one third of households in Latvia have problems providing some of the necessary items for standard living. Although material deprivation rate in Latvia as a whole is reducing, there are regional differences; results are included in Figure 3.

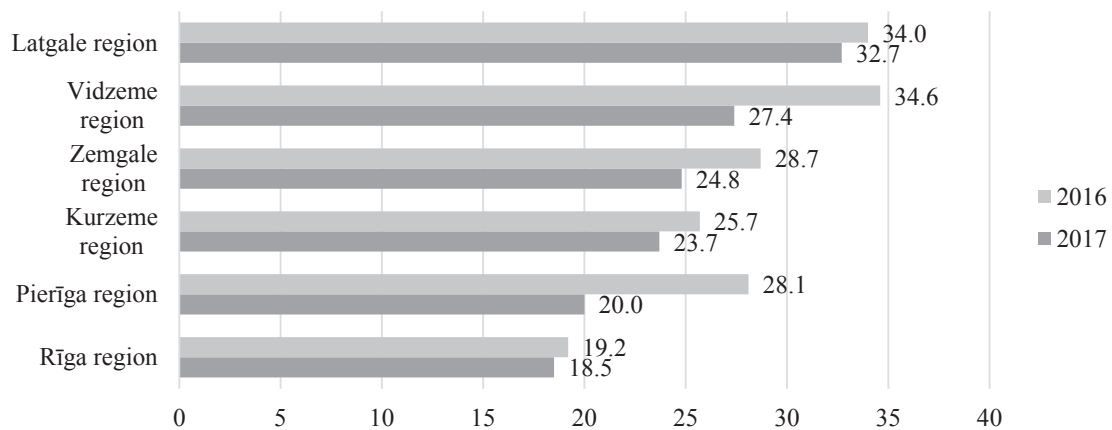


Figure 3. Material deprivation rate in regions in Latvia in 2016 and 2017 (%)

Source: Authors construction based on EU-SILC

Analysis reveal that majority of materially deprived households are in Latgale region, followed by Vidzeme and Kurzeme region of Republic of Latvia. Best situation is in the capital of country – Riga where materially deprived households are less than one fifth in 2017. However, situation since 2016 have improved in all regions of Republic of Latvia, especially in Vidzeme region and Pierīga region. To evaluate – are there statistically significant differences in material deprivation in regions of Republic Latvia – analysis of variance (ANOVA) was used by authors of the paper. Results of analysis of variance – ANOVA are included in table 1.

Table 1. Analysis of Variance (ANOVA) on Material deprivation in 2017 by Regions in Latvia

|                | <i>Sum of Squares</i> | <i>Df</i> | <i>Mean Square</i> | <i>F</i> | <i>Sig.</i> |
|----------------|-----------------------|-----------|--------------------|----------|-------------|
| Between Groups | 14,191                | 5         | 2,838              | 13,893   | 0,000       |
| Within Groups  | 1227,416              | 6008      | 0,204              |          |             |
| Total          | 1241,607              | 6013      |                    |          |             |

Source: Authors' calculations based on EU-SILC anonimised data, in 2017, available on CSB,  $n = 6014$

Data of table 1 (results of ANOVA) indicate that there are differences in material deprivation in different regions in Latvia and they are statistically significant with very high probability (sig. 0.000).

As often differences are in rural and urban areas could be noticed and what is indicated in research results of other authors publications, authors of the current research paper have tested statistical hypothesis on equality of arithmetic means on income level in urban areas and rural areas and authors have conducted independent samples *t*-tests to investigate are there statistically significant differences on material deprivation in rural and urban areas; results of the statistical hypothesis testing on differences of arithmetic means are included in table 2.

Table 2. Analysis of Differences with *t*-test on Material Deprivation in 2017 by Territories in Latvia, EUR

|                             | Levene's Test for Equality of Variances |      | <i>t</i> -test for Equality of Means |           |                 |                 |                       |        | 95% Confidence Interval of the Difference |  |
|-----------------------------|---|------|--------------------------------------|-----------|-----------------|-----------------|-----------------------|--------|---|--|
|                             |   |      | <i>t</i>                             | <i>Df</i> | Sig. (2-tailed) | Mean Difference | Std. Error Difference | Lower  |   |  |
| Equal variances assumed     | <i>F</i>                                | Sig. | -2,366                               | 6012      | 0,018           | -0,030          | 0,013                 | -0,055 | -0,005                                    |  |
| Equal variances not assumed |   |      | -2,339                               | 3459,325  | 0,019           | -0,030          | 0,013                 | -0,055 | -0,005                                    |  |

Source: Authors' calculations based on EU-SILC data, in 2017, available on CSB,  $n = 6014$

Data of table 2 (results of *t*-test) indicate that there are differences in material deprivation by territories (urban or rural areas) in Latvia and the differences in material deprivation by territories (urban or rural areas) are statistically significant with high probability (sig. 0.018).

## Conclusions

The analysis of theoretical research showed that material deprivation is significant problem across the world and countries often study material deprivation in the regions by introducing new measuring instruments and indices, adjusting them to specific national circumstances. Researchers world-wide focus on neighborhood impact on material deprivation, as well using mortality as a measure of material deprivation.

Material deprivation rate in European Union indicate that Latvia is still above EU28 average level despite the fact that since 2011 material deprivation has been declining in Latvia. Estonia is the only one from Baltic countries that is far below EU28 average level; Lithuania is in a slightly worse situation than Latvia.

In case of regions of Latvia, material deprivation rate deeper statistical data analysis shows that in Latgale and Vidzeme region material deprivation rate is the highest. The lowest material deprivation is in Rīga and Pierīga regions which are also most developed regions in Latvia. The analysis revealed that there are differences in material deprivation in different regions in Latvia and the differences are statistically different as well there are differences in material deprivation by territories (urban and rural areas) in Latvia and they are statistically significant with high probability.

Results in measuring and analyzing material deprivation in regions allow the government authorities and municipalities to facilitate the identification of areas in greatest need, guide resource allocation and other investments, plan health, education and other promotion programs to reduce inequalities in regions.

Furthermore, it will allow for further researches of material deprivation in regions and its impact onto different aspects.

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## MATERIALINIS NEPRITEKLIUS. LATVIJOS PAVYZDYS

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### Santrauka

Materialinio nepritekliaus problema pastaruoju metu tapo mokslininkų diskusijų tema, nes Europoje, ypač tose šalyse, kurias labiausiai kamuoja finansiniai ir ekonominiai neramumai, jo mastai didėja. Tyrimo tikslas – išanalizuoti materialinį nepriteklių Latvijos regionuose. Tyrimo metodai: mokslinių publikacijų ir anksčiau atliktų tyrimų rezultatų analizė, anoniminių EU-SILC (Europos Sąjungos gyventojų pajamų ir gyvenimo kokybės statistika) tyrimų rezultatų analizė ir Europos centrinio banko atlikta namų ūkių pajamų ir išlaidų tyrimo rezultatų apklausa, rezultatai lyginami su kitomis ES šalimis. Apklausos anoniminiai duomenys analizuoti remiantis aprašomosios statistikos rodikliais, Latvijos regionų palyginamaisiais gyvenimo mieste ir kaime duomenimis bei dispersijos analize ANOVA.

Materialinio nepritekliaus Europos Sąjungoje analizė atskleidė, kad Latvijoje materialinis nepriteklis vis dar per didelis, jis viršija ES-28 vidurkį, nors nuo 2011 m. Latvijoje materialinis nepriteklis mažėja. Estija yra vienintelė iš Baltijos šalių, esanti gerokai žemiau ES-28 vidurkio; Lietuvos padėtis šiek tiek prasčiau nei Latvijos. Išsami statistinių duomenų analizė atskleidė, kad Latvijos Latgalos ir Vidžemės regionuose materialinis nepriteklis pats didžiausias. Mažiausias materialinis nepriteklis yra Rygos ir Pierigos regionuose – tai labiausiai išsivystę Latvijos regionai. Atlikus analizę paaiškėjo, kad skirtinguose Latvijos regionuose materialinis nepriteklis skiriasi ir tie skirtumai lyginant pagal teritorijas (miesto ir kaimo vietoves) statistiškai reikšmingi.

Materialinio nepritekliaus regionuose matavimo ir analizės rezultatai leidžia vyriausybės institucijoms ir savivaldybėms lengviau nustatyti sritis, kurioms labiausiai reikia dėmesio, nukreipti išteklių paskirstymą ir kitas investicijas, planuoti sveikatos, švietimo ir kitas skatinimo programas, siekiant sumažinti nelygybę regionuose.

PAGRINDINIAI ŽODŽIAI: *materialinis nepriteklis, regioninė plėtra, EU-SILC, Latvija.*

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