Research Paper: Analysing the Distributional Implications of the 2020 Budget Measures for Malta[1]

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Abstract

This research paper examines the redistributive impact of some of the main social measures announced in the 2020 Budget for Malta, prior to COVID-19. The five main policy measures include the increase in pension rates, increase in the elderly grant, birth bonus, additional bonus and housing benefit of 2020. Using EUROMOD, which is a tax-benefit micro-simulation model, we assess the impact of these policies measures on the income distribution and the at-risk-of-poverty rate. Overall, the results indicate that the implementation of these measures contributes to the redistribution of income from higher to lower and middle-income groups whilst lowering the relative poverty rate of all cohorts.

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[1] The authors thank Godwin Mifsud for his valuable comments and detailed review. The results presented here are based on EUROMOD version I2.0+. EUROMOD is maintained, developed and managed by the Institute for Social and Economic Research (ISER) at the University of Essex and the Joint Research Centre (JRC) of the European Commission, in collaboration with national teams from the EU member states. We are indebted to the many people who have contributed to the development of EUROMOD. The process of extending and updating EUROMOD is financially supported by the European Union Programme for Employment and Social Innovation "EaSI" (2014-2020). We make use of microdata from the EU Statistics on Incomes and Living Conditions (EU - SILC) made available by Eurostat (59/2013-EU-SILC-LFS). We are also indebted to the Economic Policy Department and the Ministry for Finance for the resources made available so that this study could be carried out. The views expressed in this working paper are solely those of the authors and do not necessarily reflect those of the Economic Policy Department or the Ministry for Finance. The results and their interpretation are the authors' responsibility.

1. Introduction

In each budgetary programme, the Government has always pursued multiple objectives to foster sustainable economic growth, as well as addressing distributional concerns. In fact, each year several socio-economic polices are announced with the objective to combat poverty and social exclusion. The Budgetary measures introduced in 2020 were aimed at ensuring a more equitable distribution of income, focusing on more vulnerable groups, such as low-income families with children, youth and elderly persons.

This paper provides an analysis of the impact of several budgetary measures announced in the Budget for 2020, focusing on policies that target households. To assess the distributional impact, we use the microsimulation model, EUROMOD[2]. The output derived reflects the dynamics of the income distribution, change in at-risk-of-poverty rate and the Gini coefficient as a result of the simulated budgetary measures.

All output tables presented are based on own calculations with EUROMOD version I2.0+ using input data EU-SILC 2018. The analysis does not account for the negative economic implications brought on by COVID-19 and does not include measures that were introduced by Government to combat this pandemic.

The research paper is structured as follows. Section 2 provides a description of the policy measures to be modelled. Section 3 and 4 presents the methodology and the results respectively, whereas section 5 summarises the main findings of the analysis.

2. Budgetary measures introduced in the Budget for 2020

The budgetary process serves as a platform for the extension of social measures to ensure a more equitable distribution of income and lower risk of poverty. In fact, the 2020 Budget includes several social measures, including both the extension of existing measures and introduction of new policies to this effect. This paper focuses on five main measures namely, the increase in pension rates, increase in elderly grant, housing benefit, birth bonus and additional bonus. The following description of the measures announced in the Budget for 2020 are presented in the Budget Document for 2020 (Ministry for Finance Malta, 2019).

2.1 Increase in Pensions

For the past few years, the Government has continued to review pensions with the aim to improve the adequacy of pensions. This continuous support played a key role in preventing the elderly cohort from falling below the poverty line[3]. In the 2020 Budget, the Government announced that every pensioner will be benefiting from a weekly increase of €3.51 in his or her pension (over and above the increase in the statutory cost of living adjustment), irrespective of whether one is receiving a contributory or a non-contributory pension.

[2] EUROMOD is a tax-benefit microsimulation model for the EU that enables researchers to analyse, in a comparable manner, the effect of the taxes and benefits on household incomes and work incentives for the population of each country.
[3] Poverty line is based on 60 per cent of the median equivalised income.

2.2 Increase in the Grant for Elderly Persons

In the 2020 Budget, the existing €300 grant for elderly persons who continue to reside at their own homes was extended for persons aged 75 years and over. This grant was also further improved by €50 for individuals aged 80 years and over. The elderly grant was first introduced in 2012 and has since been extended and enhanced each year so as to extend its coverage.

2.3 Housing Benefit on Affordable Housing

The Government extended the housing benefit with the aim to enhance the affordability of the private sector rental market. In 2019, the Government announced an important reform in the rental benefit scheme whereby, more households became eligible to receive support at a rate that was more representative of the prevailing rental expense burden. Given its success, the 2020 Budget announced a further widening of the eligible maximum annual income for the households whose rent exceed 25 per cent of their gross income to allow more people to be eligible for this scheme. Table 1 illustrates the maximum housing benefit entitlement for each type of household.

Table 1: Housing Benefit for 2020

Household	Maximum Annual Income (in Euro)	Maximum Housing Benefit (in Euro)
Single Person	19,000	3,600
Single Parent with 1 child	19,232	4,800
Single Parent with 2 children and more	23,582	5,000
Two Adults without children	19,132	3,600
Couple with 1 child	23,982	4,800
Couple with 2 children and more	32,000	5,000
3 or more adults living together	28,082	5,000

Source: Housing Authority[4]

2.4 Birth Bonus

The Government also introduced, in the 2020 Budget, a one-time bonus of €300 for every birth or adoption. The objective of this measure is to assist families to cope with the increase in expenses associated with these life events. This measure is being partially simulated, focusing on births, since the data utilised in this analysis does not capture information on adoptions.

2.5 Additional Bonus

This measure is another new policy introduced in 2020, whereby the Government granted a one-time bonus to every family in addition to the Cost of Living Adjustment (COLA). The objective of this measure is to provide compensation to families for the recent increase in prices of certain necessities,

[4] Further detail on the housing benefit can be found on https://housingauthority.gov.mt/en/

which price increases may not have been wholly reflected in the price index. The bonus granted is of €15 for households made up of a single person and €35 for households with more the one person.

3. Methodology

3.1 Data Description

The data used in this analysis is the European Statistics on Income and Living Conditions Survey (EU-SILC) microdata for 2018. The survey data represent the national population, which collects comparable information at both individual and household level on incomes (taxes and benefits), poverty, social exclusion and living conditions in the EU. It also contains a wide set of variables that describes the demographic and socio-economic characterises of individuals.

The EU-SILC is a panel survey with a four-year rotating design, whereby, a panel of households remain in the samples for four years and each year one of the panels is replaced by a new wave. Thus, the survey contains two types of data, cross-sectional, illustrating information at a fixed point in time and longitudinal data, illustrating individual-level changes over the observed period.

The cross-sectional survey used in this paper was conducted in 2018, based on a sample of 4,521 households, with a response rate of 87.4 per cent. These households are made of 9,815 residents out of which 8,542 were aged 16 years and over [5]. The income reference year in EU-SILC 2018 is 2017. Market income for 2017 to 2019 is updated using the adequate indices for each income sources[6]. Therefore, the level and the distribution of income reflect changes between 2017 and 2019, however other demographic, household and labour characteristics reflect the situation captured in 2018 data.

The income referred to in this analysis is the equivalised household disposable income. The equivalised household disposable income is the gross income net of any taxes and inclusive of any subsidies, adjusted to reflect household family size. The equivalised value is based on the weight specified by the OECD, in which the reference person takes a value of one, all other adults in the household take a value of 0.5 each and children take a weighting value of 0.3.

Moreover, in this study, public pensions include disability/invalidity pension, survivor pension, simulated contributory pension and senior citizenship grants. Furthermore, means tested benefits include means tested children's allowance, age pension, special unemployment benefit, unemployment assistance, social assistance, supplementary assistance, energy benefit, sickness assistance, social assistance for single parents, bonuses, housing benefit and the in-work benefit.

3.2 The European tax-benefit model EUROMOD

To assess the distributional impact of the different policy scenarios on household disposable income we use EUROMOD, which is the EU-wide static tax-benefit microsimulation model (Sutherland and Figari, 2013). The model stimulates benefit entitlement (such as; housing benefits, social assistance and family benefits) and tax liabilities including both direct taxes and social insurance contributions for households based on the tax-benefit rules of the country, through harmonised micro-data of individuals

[5] Information on the accuracy and reliability of data can be viewed in a dedicated quality report available on the NSO's metadata website.

[6] A detail description of the uprating factors and 2019 policy rules is presented in Malta's EUROMOD Country Report, available at: https://www.iser.essex.ac.uk/euromod/resources-for-euromod-users/country-reports.

and households. Components of the tax-benefit system that are not simulated, such as; old-age pension, are extracted from the EU-SILC data.

One of the limitations is that since the model uses static data, we cannot capture ever-changing dynamic characteristics within economy. The main characteristics of the population are kept constant and behavioural changes cannot be modelled, only the static impact on the level and distribution of income is accounted for.

3.3 Policy Effect

To analyse the effect of the policies announced in the budget for 2020 we look at the tax-benefit policy changes which directly influence the income distribution, such as changes in personal direct taxation, social insurance contribution, public pensions, and means-tested benefits.

Following the methodology suggested by Bargain and Callan (2010), total change in household disposable income between period t=0 and t=1 is defined as:

$$\Delta = d_1(p_1, y_1) - d_0(p_0, y_0)$$

whereby *y* captures the gross market income, *d* is the structure of the tax-benefit system that transforms gross market income into disposable income, and *p* is defined as the policy parameters of the tax-benefit system, in monetary terms. The direct total effect can be estimated if the microdata is available at both periods t=0 and t=1. Given that the EU-SILC 2019 is not yet available, we estimated the policy effect based on household characteristics in 2018 however, market income is uprated *(u)* to remain constant at 2019 level[7]. The change in household disposable income from the policy reforms is as follows:

$$\Delta_p = d_{2020}(p_{2020}, u_{2019}y_{2018}) - d_{2019}(p_{2019}, u_{2019}y_{2018})$$

The first term is the "policy change" scenario whilst the second term captures the "baseline" scenario. The "policy change" scenario captures the new policy rules applied to market income of 2019 and the "baseline" scenario is the counterfactual scenario, with 2019 policy rules applied to the level and distribution of income in 2019. The policy effect on market income is measured in nominal terms given that we retain the same income year.

3.4 Policy Scenarios Considered

To capture the effect of the structural measures both separately and their impact as a whole, we consider seven different scenarios.

- BASE scenario based on the 2019 tax and benefits policy rules, which includes no new budgetary measures and serves as a baseline for the other measures.

[7] Uprate function allows for the uprating of monetary dataset variable to the price level of a policy year.

- PENS scenario, which solely captures the €3.51 increase in pensions over and above the baseline scenario.
- ELDER scenario, which captures the €50 increase in the elderly grant, over and above baseline scenario.
- RENT scenario, which solely captures the improvement in the housing benefit, over and above baseline scenario.
- BIRTH scenario, which only accounts for the €300 grant given for each birth, over and above baseline scenario.
- BONUS scenario, which includes the €15 and €35 bonus granted to different households, over and above baseline scenario.
- ALL scenario which includes all five measures mentioned previously in the paper (PENS, ELDER, RENT, BIRTH, BONUS).

4. Results

The policy measures analysed in this paper, influence the level and the distribution of income, as well as the poverty rate. If the policy change increases the level of income of the lower deciles of the distribution by more than the median income, then the at-risk-of-poverty-rate is expected to decline. On the other hand, if the increase in the level of income is less than the median, the at-risk-of-poverty-rate is expected to increase. The estimated at-risk-of-poverty rates discloses information on the distribution of income, specifically, changes in the income level of a particular social group relative to others. For instance, a higher income level of the middle-working cohort may also increase the 60 per cent median equivalised income, thus leading to an increase in the at-risk-of-poverty among other households with a fixed income close to the median range and lowers the poverty risk among the working cohort. Therefore, the poverty rates are capturing the relative income level of the poor which, may not necessarily imply a deterioration in the absolute level of income.

4.1 Overall Policy effect

Table 2 and Figure 1 portray the effect of ALL 5 policies simulated on the mean equivalised household disposable income by income component and income decile group. The results illustrate the nominal percentage change of the mean equivalised household disposable income in 2019 after the introduction of these five measures.

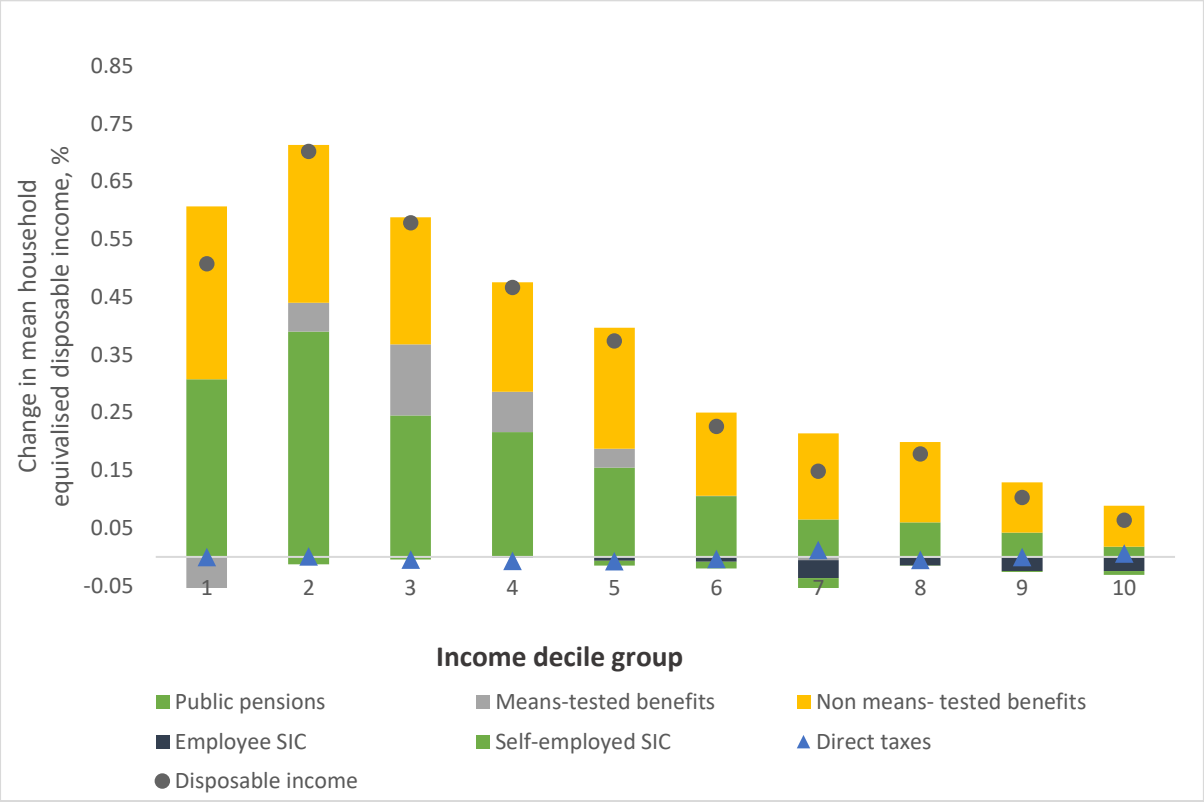
The implementation of these measures is estimated to contribute to an average increase of 0.24 per cent in household disposable income. The lower deciles of the income distribution, more specifically, the second decile were the most affected, experiencing an increase of 0.70 per cent. The effect of policy changes on household disposable income was primarily driven by changes from the €3.51 weekly increase in pension, which contributed a 0.39 per cent in public pensions. The increase in average equivalised household's disposable income from the non-means tested benefits, specifically from the elderly grant, birth bonus and the additional bonus, together contributed to an increase of 0.27 per cent. The third decile also experienced a large increase in their disposable income of 0.58 per cent, which was mainly driven by public pensions and means-tested benefits (housing benefit) with a per cent of 0.25 and 0.22 respectively.

Table 2: Policy contribution in 2019 following the introduction of ALL (5) policies, %

Decile	Mean disposable income before policy change	Public pensions	Means-tested benefits	Non means-tested benefits	Employee SIC	Self-employed SIC	Direct taxes	Disposable income[8]
1	6,882	0.31	-0.10	0.30	0.00	0.00	0.00	0.51
2	9,111	0.39	0.05	0.27	0.00	-0.01	0.00	0.70
3	11,039	0.25	0.12	0.22	0.00	0.00	0.00	0.58
4	12,934	0.22	0.07	0.19	0.00	0.00	-0.01	0.47
5	15,036	0.15	0.03	0.21	-0.01	-0.01	-0.01	0.37
6	17,131	0.11	0.00	0.14	-0.01	-0.01	0.00	0.23
7	19,454	0.06	-0.01	0.15	-0.03	-0.04	0.01	0.15
8	22,116	0.06	0.00	0.14	-0.01	0.00	0.00	0.18
9	26,350	0.04	0.00	0.09	-0.02	0.00	0.00	0.10
10	42,122	0.02	0.00	0.07	-0.02	-0.01	0.01	0.06
Total	18,210	0.11	0.01	0.14	-0.02	-0.01	0.00	0.24

Source: Own calculations with EUROMOD version I2.0+

Figure 1: Policy effect in 2019 following the introduction of 5 polices, %



Source: Own calculations with EUROMOD version I2.0+

[8] Total disposable income is based on the summation of public pensions, means tested benefits, non means-tested benefits, employee SIC, self-employed SIC and direct taxes.

4.2 Main Poverty Indicators

4.2.1 Overall impact of the measures introduced in 2020

The EUROMOD simulation of all policy measures suggests that when compared to the baseline scenario, the poverty rate declined from 17.92 per cent to 17.73 per cent (Table 3). The Gini coefficient, which is a measure of income inequality, declined by 0.1 percentage points, suggesting a marginal improvement in the distribution of disposable income. The elderly cohort experienced the highest reduction in the poverty rate, with a drop of 0.46 percentage points mainly driven by the weekly increase of €3.51 in pensions. Given the progressivity of the policy reforms, the ALL scenario also lifts the 60 per cent median equivalised income.

Figure 2 illustrates the percentage gains of equivalised household disposable income by decile groups from the BASE scenario. The lower four deciles benefit from the highest increase while the higher decile income groups benefit with a lower extent. Therefore, the distribution gains from the measures simulated for 2020 are mostly enjoyed by the lower-and middle-income groups.

Table 3: Main Poverty Indicators

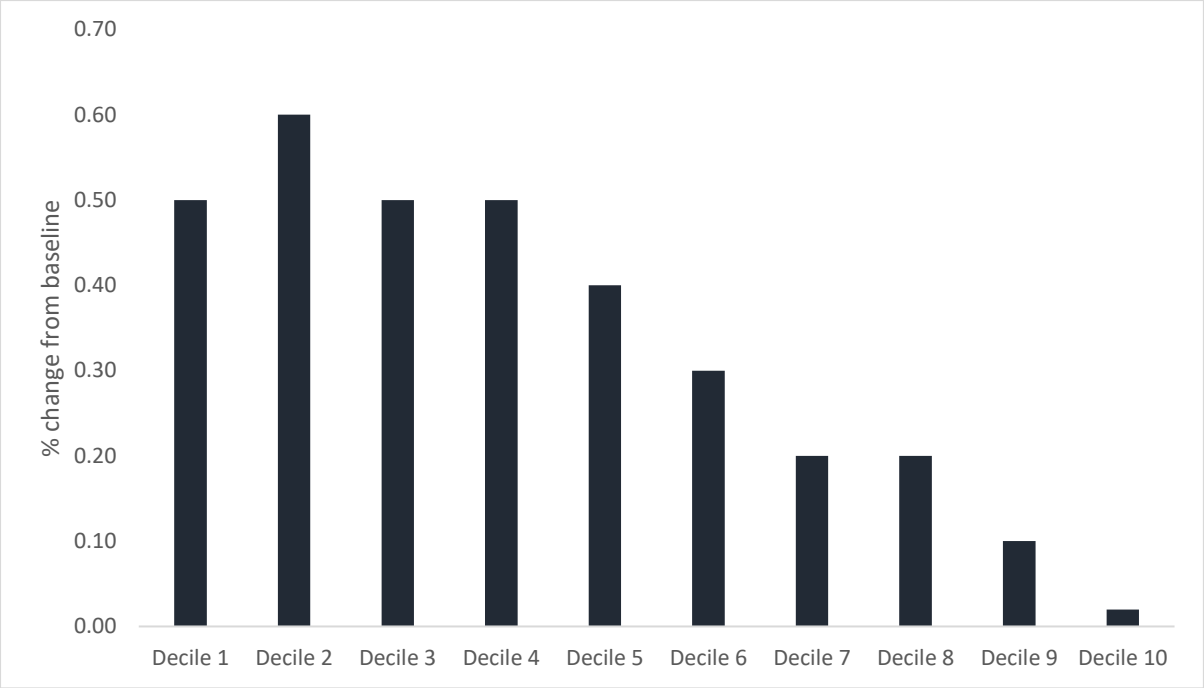
Indicator	BASE	PENS	ELDER	RENT	BIRTH	BONUS	ALL
Overall Poverty Rate	17.92%	17.82%	17.89%	17.88%	17.90%	17.90%	17.73%
Children	19.87%	19.84%	19.87%	19.79%	19.71%	19.87%	19.69%
Working age	13.57%	13.58%	13.56%	13.53%	13.58%	13.57%	13.45%
Working age and economically active	7.47%	7.52%	7.46%	7.45%	7.50%	7.47%	7.41%
Elderly	31.68%	31.16%	31.59%	31.68%	31.68%	31.61%	31.22%
Gini coefficient	0.2885	0.2881	0.2884	0.2883	0.2884	0.2882	0.2875
60% of Median Equivalised Income	798.90	799.40	798.90	798.90	799.28	799.87	803.21
Median Income	1,331.49	1,332.33	1,331.49	1,331.49	1,332.13	1,333.11	1,338.68

Source: Own calculations with EUROMOD version I2.0+

4.2.2 Increase in Pensions

With respect to the simulation of the increase in pensions as compared to the baseline scenario, the overall poverty rate decreases by 0.10 percentage points, mostly due to the decline in the elderly poverty rate. The Gini coefficient also decline by 0.04 percentage points, reflecting a higher degree of income equality. Moreover, as expected, the results show an increase in the 60 per cent median equivalised income from €798.90 to €799.40, in reflect of the increase in pension income.

Figure 2: Percentage change in equivalised disposable income from baseline scenario including ALL the 2020 Measures by decile groups



Source: Own calculations with EUROMOD version I2.0+

4.2.3 Additional Bonus

When compared to the baseline scenario, the overall poverty rate decreased from 17.92 per cent to 17.90 per cent. The elderly cohort is expected to have the highest decline in the relative poverty rate by 0.07 percentage points. Moreover, the Gini coefficient also declined from 0.2885 to 0.2882, which once again suggest a drop in the overall income inequality. This measure increases the household median equivalised income from €798.90 to €799.87.

4.2.4 Birth Bonus

The simulation of the €300 birth bonus shows that the overall poverty rate is expected to decline when compared to the baseline scenario. As expected, the largest decline in relative poverty is among the families with children households, with a decline of 0.16 percentage points. The Gini coefficient also shows a marginal decline in income inequality.

4.2.5 Increase in the Grant for Elderly Persons

The €50 increase in the elderly grant contributed to a decrease in the overall poverty rate relative to the BASE scenario of 0.03 percentage points. Naturally, the elderly, with a registered decline in the poverty rate of 0.09 percentage points is the group affected most by this measure. The Gini coefficient is also expected to marginally decline, from 0.2885 to 0.2884, while the 60 per cent median equivalised income remained unchanged.

4.2.6 Housing Benefit on Affordable Housing

The simulation of the RENT scenario also shows a reduction in the overall poverty rate from 17.92 per cent to 17.88 per cent when compared to the baseline. The children and working-age groups are the most affected, with a decrease in the poverty rate of 0.08 percentage points and 0.04 percentage points, respectively. The Gini coefficient also declined and the median equivalised income remained constant.

5. Conclusion

This paper highlights a number of measures announced in the 2020 Budget. The measures cover emerging social needs and thus cover policies that targets families with children, elderly people and low-income families whose rent could be becoming unaffordable.

Various scenarios were considered to assess both the overall impact of the measures and the individual impact. The baseline scenario was based on the year 2019, whereby all the measures in 2019 were included in the system. The results in each scenario were then compared to the baseline scenario. Overall, the results highlighted that these measures favoured mostly the bottom deciles of the income distribution and subsequently, the relative poverty rate was expected to decline among all cohorts. The highest decline, driven by the €3.51 weekly increase in pensions, the €50 increase in elderly grant and the additional bonus is among the elderly group. In addition, the expected decline in the poverty rate of the children and working-age cohort is driven by the birth bonus and the housing benefit. Moreover, the increase in pension, birth bonus and additional bonus have a positive impact on the household median equivalised disposable income.

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