Research Note: The Distribution Implications of Selected Policy Measures of the 2018 Budget for Malta[*]

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Abstract

This note provides an assessment of the redistributive impact of some of the main measures announced in the 2018 Budget for Malta. The four main policy measures included in this study are increase in pension rates, introduction of a tax rebate on all persons in employment, tax credit for elderly persons and extension of in-work benefit scheme. Through the utilisation of EUROMOD, a tax-benefit micro-simulation model, we analyse the impact of these policy measures on income distribution and their respective source of income. The overall results indicate that the implementation of these measures contributes to a redistribution of income from higher to lower and middle-income groups whilst lowering the at-risk-of-poverty rate. Increase in pension rates positively affects, and mostly, the bottom three decile groups while the income tax reform leads to an increase in disposable income for the fourth, fifth and sixth decile groups.

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1. Introduction

The performance of the Maltese economy has been quite robust in recent years. Economic performance has been supported by a policy framework that focused on macroeconomic stability whilst increasing potential output through policy measures aimed at reforming priority sectors, increasing labour force participation and improving educational output.

At the same time, Government pursued socio-economic policies that sought to combat poverty and social exclusion. One major pillar of government policy has been the commitment to making work pay and at the same time effectively topping-up the minimum wage by bearing the cost of additional work-related benefits (Bugeja et al., 2016).

This research note provides an analysis of the impact of a selection of budgetary measures announced in the Budget for 2018 focusing on workers, pensioners and families. We use EUROMOD,[1] a micro simulation model, to assess the distributional impact. The output obtained reflects the dynamics of the income distribution as a result of the budgetary measures.

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

2. Budgetary measures introduced in the Budget for 2018

The budgetary process in Malta has historically served as a platform for the extension of social policy measures. The Budget for 2018 included several social measures, including both extensions of existing policies and introduction of new measures. Of interest are four specific policies, namely: increase in pensions, a tax credit for the elderly, tax rebate for employees, and the extension of in-work benefits. The following description of the measures announced in the Budget for 2018 are presented in the Budget Document for 2018 (MFIN, 2017).

2.1 Increase in Pensions

The adequacy of pensions plays a key role in preventing older citizens from falling below the 60% median equivalised income. In the Budget Speech for 2018, the Government announced that every pensioner shall be benefitting from a weekly €2 increase in his or her pension, irrespective of whether one is receiving a contributory or a non-contributory pension. The objective of this measure is to improve the adequacy of pensions.

2.2 Tax Rebate to Employees

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[1] EUROMOD is a tax-benefit microsimulation model for the EU that enables researchers and policy analysts to calculate, in a comparable manner, the effects of taxes and benefits on household incomes and work incentives for the population of each country and for the EU.

The Budget Speech for 2018 announced that all those earning less than €60,000 per annum will get an income tax rebate varying between €40 and €68 per annum, as shown in Table 1. The tax rebate is progressive and reflect the gross income earned by the employee during the previous year.

Figure 1 captures the progressivity of the tax refund. The lowest income groups receive the highest tax rebate and gradually declines along higher income brackets. Persons opting for a joint (married) computation enjoy the highest tax rebate together with a broader tax bracket. Persons on parent computation are also set to receive a higher rebate when compared to persons opting for single computation. Nonetheless, the difference between different computations narrows for higher income earners.

Table 1: Tax Rebate to Employees, €per year

Computation: Single	
Income	Amount
€0 - €15,000	€60
€15,001 - €30,000	€50
€30,001 - €59,999	€40
Computation: Married	
Income	Amount
€0 - €20,000	€68
€20,001 - €40,000	€56
€40,001 - €59,999	€44
Computation: Parent	
Income	Amount
€0 - €15,000	€64
€15,001 - €30,000	€52
€30,001 - €59,999	€40

Figure 1: Tax rebate to individuals in employment, €per year
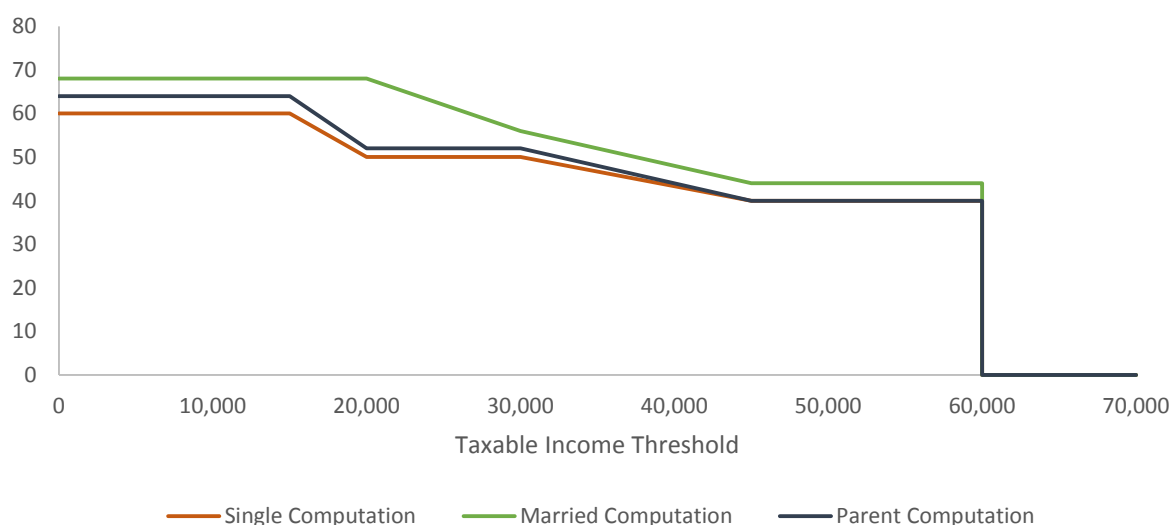
2.3 Extension of In-Work Benefit

Government also announced an extension in the In-Work Benefit scheme,[2] which was introduced with the scope of lessening welfare dependency, reduce the number of inactive parents and making work pay especially for low-income earners. As shown in Figure 2, the highest benefit rate increased from €350 to €450 per child, while the lowest rate increased from €52 to €75 per child. This programme is also intended to encourage the second parent to enter into employment since in such cases, the benefit paid for each child amounts to €1,200 per annum. Together with other measures, this measure is expected to contribute to reduce further the at-risk-of-poverty rate.

Table 2: Tax Credit to Pensioners, €per year

	2017	2018
Non-taxable income from pensions		
Computation: Single	€10,500	€13,200
Computation: Parent	€11,500	€13,200
Computation: Married	€13,000	€13,200
Non-taxable other income		
Computation: Married	€500	€1,000

Figure 2: In-Work Benefits Rates, €per year

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[2] The In-Work Benefit was introduced in the Budget of 2015 designed to assist low-income earning families. The scope of extending this benefit is to increase income for single-earner households whilst the structure of the benefits retains a strong incentive for the second earners to enter into employment.

2.4 Tax Credit on Pension Income

In order to address risk of poverty among pensioners the Government exempted pensioners from paying tax on the income received from pensions. As shown in Table 2 the tax-exempt ceiling for pensioners was raised to €13,200. Pensioners opting for the married computation had the ceiling raised to €14,200 (for income arising from any source). In 2017, the tax-exempt ceiling was €10,500 for single, €11,500 for parent and €13,000 for married computations.

3. Methodology

3.1 Data Description

The analysis uses the European Statistics on Income and Living Conditions Survey (EU-SILC) microdata for 2015. The data are a representative sample of the population, which collects comparable data on income, health and disability, employment, and material deprivation. EU-SILC is a panel survey for which the rotational design with four sub-samples is adopted. The survey conducted in 2015, was based on a sample of 4,233 households, with household response rate of 89%. These households comprised 11,252 residents, of which 9,557 were aged 16 years and over.[3]

The income reference year in EU-SILC 2015 is 2014. Market incomes are updated from the year to 2017 using appropriate indices for each income source.[4] Consequently, the level and distribution of income reflects changes between the 2014 and 2017, though other demographic, household as well as labour characteristics reflect the situation as captured in data year.

The income concept used in this analysis refers to the equivalised household disposable income. The equivalised household disposable income is 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.

In this note, public pensions include disability/invalidity pension, survivor pension, simulated contributory pension and senior citizenship grants. Moreover, 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 and the in-work benefit.

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[3] Information on the accuracy and reliability of data can be viewed in a dedicated quality report available on the NSO's metadata website.
[4] A detail description of the uprating factors is presented in Malta's EUROMOD Country Report, available at: https://www.iser.essex.ac.uk/euromod/resources-for-euromod-users/country-reports.

3.2 Policy Effects

In order to assess the effect of policy changes announced in the Budget Speech for 2018 we focus on tax-benefit policy changes that directly affect the income distribution, i.e. changes in personal direct taxation, public pensions and the in-work benefit.

Following Bargain and Callan (2010), total change in household disposable income between a starting and an end period (respectively 0 and 1) is defined as:

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

where *y* is gross market income, *d* captures the structure of the tax-benefit system that transforms gross market incomes into disposable income, and *p* is defined as the policy parameters of the tax-benefit system, in monetary terms. The actual total effect can be estimated if the microdata is available at both starting and end periods. Because the EU-SILC 2016 data was not available, we only estimate the policy effects conditional on household characteristics in 2015, with (uprated, u^5) market income remaining constant at 2017 levels. The change in household disposable income due to policy reforms is as follows:

$$\Delta_p = d_{2018}(p_{2018}, u_{2017}y_{2015}) - d_{2017}(p_{2017}, u_{2017}y_{2015})$$

The first term is the "policy change" scenario, capturing the new policy rules applied to market incomes of 2017, whilst the second term captures the baseline scenario with 2017 policy rules applied to the level and distribution of market income in 2017. The effect of policy changes is measured in nominal terms given that the counterfactual applies monetary values of the 2018 policy parameters to the 2017 market incomes without indexation.

3.3 Policy Scenarios

We model seven policy scenarios to capture the effect of structural measures both separately and their impact as a whole. In each policy scenario the policy parameters are adjusted accordingly.

The first scenario ("BASE") does not factor in new budgetary measures and serves as a baseline for the rest of the measures. The second scenario ("PENS") includes only the weekly €2 increase in pensions over and above the baseline scenario. Another scenario ("CREDIT") considers the tax credit on pension tax for 2017 over and above the baseline. The fourth scenario ("PENS+CREDIT") combines the two previous ones. The fifth scenario ("REBATE") includes the tax rebate to employees for 2017, everything else remaining unchanged. The sixth scenario ("INWORK") is simulates the extension of the in-work benefit over and above the BASE scenario. The final scenario ("ALL") incorporates all four measures mentioned previously in the paper (PENS, REBATE, INWORK, CREDIT).

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

3.4 The European tax-benefit model EUROMOD

One way to evaluate the potential effect of different policy scenarios on the household disposable income is by making use of EUROMOD version H1.0+ (Sutherland and Figari, 2013). EUROMOD is a static micro simulation model aimed at assessing the impact of redistributive measures on the economy. The model applies user-defined tax and benefit policy rules to harmonised micro-data of individuals and households. The model uses these rules to calculate their effects on household income by producing an output at a micro level. Generally, the instruments that are simulated by EUROMOD include income taxes; social contributions payable by employees, self-employed and employers; family benefits; housing benefits; social assistance and other income related benefits.

The model's caveats stem from the fact that the use of static data in a context of an ever-changing economy. The main characteristics of the population are kept constant and behavioural changes are not modelled. Only the static impact on the level and distribution of income is modelled.

4. Results

The considered policy changes influence the level and distribution of income as well as the at-risk-poverty-rate. If policy changes increase the level of income at the lower-end of the distribution by more than the median, then the at-risk-of-poverty rate is expected to fall. By contrast, if the increase in the level of income at the bottom is less than the median, the at-risk-of-poverty rate is expected to worsen. Importantly, the estimated at-risk-of-poverty rates convey information on the distribution of income, that is on changes in the income level of a group relative to others. By way of example, a higher income level of the middle-working class may also lift the 60% median equivalised income, thus leading to a higher incidence of at-risk-of-poverty among households with a fixed income close to the median range and lower poverty risk among the working class. Hence the poverty rates, capturing the relative income level of the poor, may differ in terms of absolute income-levels.

Table 3 and Figure 3 illustrate the effect of ALL four policies on the mean equivalised household disposable income by income components and income decile group. The results are presented as the nominal percentage change of the mean equivalised household disposable income in 2017 after the introduction of these four policies.

Figure 3: Policy effect in 2017 following the introduction of ALL 4 polices, %
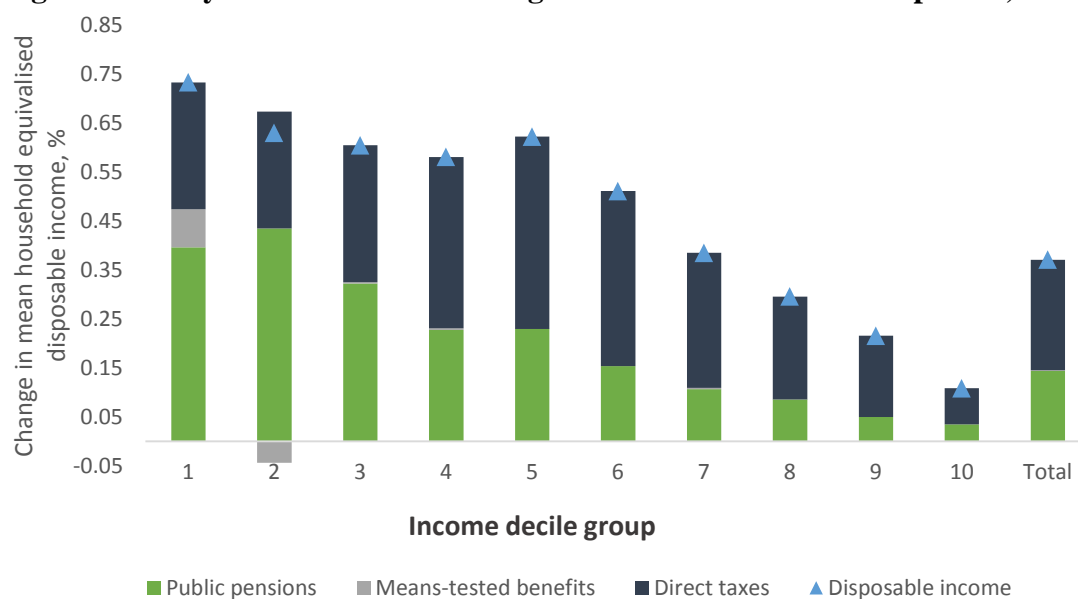
Source: Own calculations with EUROMOD version H1.0+

Table 3: Policy contribution in 2017 following the introduction of ALL (4) policies, %

Decile	Mean disposable income before policy change	Public pensions	Means-tested benefits	Non means-tested benefits	Employee SIC	Self-employed SIC	Direct taxes[6]	Disposable income (Total)
1	6,655	0.4	0.08	0	0	0	0.26	0.73
2	8,847	0.44	-0.04	0	0	0	0.24	0.63
3	10,539	0.32	0	0	0	0	0.28	0.61
4	12,299	0.23	0	0	0	0	0.35	0.58
5	14,179	0.23	0	0	0	0	0.39	0.62
6	16,151	0.15	0	0	0	0	0.36	0.51
7	18,221	0.11	0	0	0	0	0.28	0.39
8	20,992	0.09	0	0	0	0	0.21	0.3
9	25,061	0.05	0	0	0	0	0.17	0.22
10	39,262	0.03	0	0	0	0	0.07	0.11
Total	17,213	0.14	0	0	0	0	0.23	0.37

No change in the original income across all decile groups.
Source: Own calculations with EUROMOD version H1.0+

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[6] 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.

Because of the implementation of these policies, household disposable income is estimated to increase by an average of 0.37%. The largest increase affected the bottom decile of the income distribution, with an increase of 0.73%. The effect of policy changes on household disposable income was primarily driven by changes in public pension. The €2 weekly increase in pensions pushed up average equivalised households disposable income by 0.14%. This policy affects mostly the second income decile group, with an increase of 0.44%. Reforms in direct taxation also contributed positively to an average increase of household disposable income of 0.23%. This increase was mainly driven by the reduction in income tax for employees and the increase in pension tax exempt ceiling which mainly affected the lower decile of the income distribution. The fifth income decile group saw the largest increase with 0.39% followed by the sixth decile group with 0.36%.

4.1 Overall impact of the measures introduced in 2018

The simulation of all policy measures indicates that, when compared to the baseline scenario, the at-risk-of poverty rate decreased by 0.06 percentage points (Table 4). The Gini coefficient, which is a measure of income inequality, decreased by 0.0011 percentage points, indicating a more equal distribution of disposable income. The highest reduction in the at-risk-if-poverty rate was recorded among the elderly with a drop of 0.33 percentage points when compared to the baseline scenario. This decrease is mainly attributable to the increase of €2 per week in pensions. Beyond the aggregate impact on total population, in view of these budget measures, it would be meaningful to study their impact on the specific population group being affected.

Table 4: Main Poverty Indicators and Inequality

	BASE	PENS	CREDIT	PENS + CREDIT	REBATE	INWORK	ALL
Overall Poverty Rate	16.44%	-0.14 p.p	0.03 p.p	-0.11 p.p	-0.02 p.p	0.00 p.p	-0.06 p.p
Children	18.67%	-0.04 p.p	0.00 p.p	-0.04 p.p	-0.09 p.p	0.00 p.p	0.00 p.p
Working age	13.38%	-0.05 p.p	0.00 p.p	-0.05 p.p	-0.04 p.p	0.00 p.p	-0.01 p.p
Working age and economically active	6.13%	-0.02 p.p	0.00 p.p	-0.02 p.p	-0.06 p.p	0.00 p.p	0.00 p.p
Elderly	24.91%	-0.58 p.p	0.16 p.p	-0.42 p.p	0.16 p.p	0.00 p.p	-0.33 p.p
Gini coefficient	0.2849	-0.0006	-0.0001	-0.0006	-0.0004	-0.0001	-0.0011
60% of Median Equivalised Income	753.95	0.53	0.71	1.24	1.12	0.00	3.73
Median Income	1,256.58	0.88	1.19	2.06	1.87	0.00	6.21

Source: Own calculations with EUROMOD version H1.0+
Notes: BASE presents the baseline estimates and other columns (alternative scenarios) represents the difference from the first column.

4.2 Measures affecting pensions

Following the increase in pensions by €2 per week, when compared to the baseline scenario, the overall poverty rate decreased from 16.44% to 16.38%, As expected, the poverty rate amongst the elderly declined by 0.58 percentage points. As expected, the results show an increase in the 60% median equivalised income from €753.95 to €757.67, since pensioners are earning more benefits. The CREDIT scenario saw an increase in the overall at-risk-of-poverty rate by 0.03 percentage points relative to the BASE scenario. The marginal negative distributional impact reflects the fact that the extension in the income tax credit is mainly enjoyed by elderly households with an income that is higher than 60% of the median household disposable income. The overall impact of both measures affecting pensions lowered the overall and elderly relative poverty rate by 0.11 and 0.42 percentage points, respectively.

4.3 Tax Rebate to Employees

The REBATE simulation shows that the overall poverty rate decreased by 0.02 percentage points, compared to the baseline scenario. The largest decline in relative poverty was recorded among children with a decrease of 0.09 percentage points, followed by the working age economically active individuals with a drop of 0.06 percentage points. Given the progressivity of the policy reform, the REBATE scenario also lifted the 60% median equivalised income from €753.95 to €755.07 due to the resulting increase in the household equivalised median income. The Gini coefficient improves slightly by 0.0004 percentage points, capturing a positive redistributional effect on income.

4.4 Extension of In Work Benefit

The simulation of the INWORK scenario indicates no effect on the overall poverty rate. This implies that the affected households are close to the median equivalised disposable income.

5. *Conclusion*

This analysis outlies the various measures announced in the 2018 Budget. The measures covered several aspects of the economy including measures targeting elderly, workers and families.

Several scenarios were considered to evaluate both the overall impact of the measures and the individual reform impact. The base scenario was based on the year 2017, where the system included all the measures in 2017. The results from each scenario were then compared to the base year. The results showed that the overall impact of the measures favoured mostly the bottom deciles of the income distribution. The overall poverty rate is expected to decline especially among the elderly notably because of the €2 weekly increase in pensions. The tax rebate for employees is also expected to lower the overall relative poverty rate while increasing equivalised household disposable income. Overall, the effect of the modelled policy changes goes in line with the expected outcomes of such reforms.

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