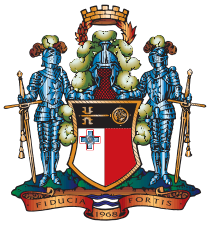

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INCOME DISTRIBUTION, INEQUALITY AND MOBILITY IN MALTA

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INCOME DISTRIBUTION, INEQUALITY AND MOBILITY IN MALTA

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The Maltese economy has undergone a strong and job-rich expansion in recent years. In many countries, economic expansion has, however, been accompanied by rising inequality and increased poverty among certain categories of households. This article provides a general overview of the current state of income distribution, inequality and wage mobility in Malta, bringing together material from survey and micro-level datasets. Income inequality in Malta has, in recent years, returned to the levels observed during the 2008-2010 period, mostly owing to rapid growth of incomes of those in the middle part of the income ladder. While the proportion of those at risk of poverty or social exclusion has fallen from 24.0% in 2013 to 19.2% in 2017, the unemployed and the less educated remain at risk, while the relative position of the older population has slipped. The wage mobility of those aged 35 to 49 appears to have improved since the mid-2000s, while that of those over 50 has eroded. This suggests that while boosting employment improves income prospects, there is an important role for government in redistributing the wealth generated by the economy.

Introduction

The Maltese economy has undergone a strong and job-rich expansion in recent years, leading to higher household incomes, historically low unemployment rates and a booming property market. In many countries, such episodes have frequently been characterised by rising inequality and increased poverty among categories of households not in a position to benefit from such an expansion, and hence lose out in relative or, in some cases, even absolute terms.

This article provides a general overview of the current state of income distribution, inequality and wage mobility in Malta, bringing together material from a number of different sources. The first section describes the distribution of household income in Malta using data obtained from the Household Finance and Consumption Survey (HFCS). The second section analyses official estimates of income inequality and of poverty and social exclusion using data from the European Statistics on Income and Living Conditions (EU-SILC). The third section discusses wage mobility in Malta, utilising micro-data on wages obtained from the Inland Revenue Department.

Income distribution and inequality

Income distribution and inequality measures allow policymakers to assess the extent to which economic growth is benefitting members of society. Such measures have a long tradition in developed countries, but have only been recently available in Malta. In this Section, we focus initially on data on household income in Malta obtained from the HFCS, a survey carried out by the Central Bank of Malta as part of a euro area project coordinated by the European Central Bank.[1] The HFCS, first held in 2010 and subsequently in 2013 and 2016, collects micro-data on household assets and liabilities, wealth, income, consumption and savings.

The distribution of gross household income in Malta in 2016, adjusted for inflation, is depicted in Chart 1.[2] Compared with 2010, households in the mid-to-higher part of the distribution have seen an increase in their overall incomes, particularly those in the top 20% of the distribution. At the same time, households in the bottom 30% experienced no change in real income.

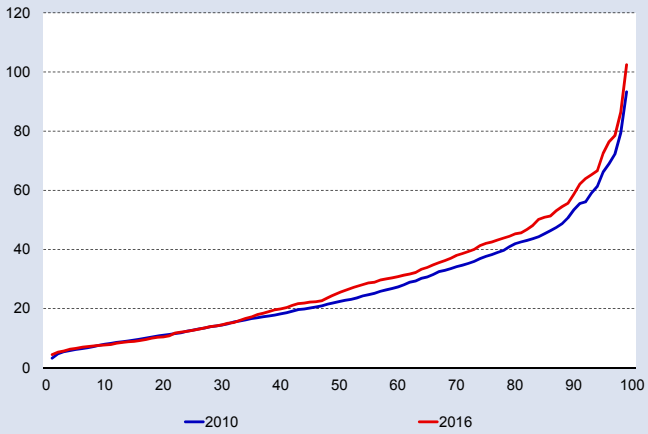
[1] More information on the survey is available on the Central Bank of Malta's website at: https://www.centralbankmalta.org/household-finance-and-consumption-survey.

[2] Gross household income is defined as income received from market sources on labour and capital, as well as from direct government payments. The adjustment for inflation was done using the Retail Price Index.

The increase in incomes along the higher part of the income distribution has led to an overall increase in the mean household income between 2010 and 2016, depicted in Table 1. At the same time, the mean income has stood consistently higher than the median income over the years, an indication of a skewed distribution of income.

Table 2 shows how the median gross household income in Malta has varied across the five income quintiles between 2010 and 2016. During the period, income for households in the bottom quintile stagnated, while increases were observed in all other quintiles. It is interesting to note that those in the middle part of the income

Chart 1
PERCENTILE DISTRIBUTION OF GROSS HOUSEHOLD INCOME
(percentile; inflation-adjusted gross income in EUR thousands)



Source: HFCS.

Table 1
OVERVIEW OF GROSS HOUSEHOLD INCOME
EUR

	2010	2016
Mean	27,823	31,203
Median	21,905	25,417
Mean-Median Ratio	**1.27**	**1.23**

Source: HFCS.

Table 2
MEDIAN GROSS HOUSEHOLD INCOME BY QUINTILE
EUR

	2010	2016	% change
1st Quintile	7,708	7,637	-0.9
2nd Quintile	13,767	14,551	5.7
3rd Quintile	22,040	25,568	16.0
4th Quintile	33,681	38,015	12.9
5th Quintile	54,495	58,642	7.6

Source: HFCS.

distribution have experienced double the percentage increase of those at the top of the distribution. While someone in the top household income quintile had an income 2.5 times that of someone in the third quintile in 2010, by 2016 this ratio had dropped to 2.3 times. In contrast, while someone in the bottom quintile in 2010 had an income equal to 35% of that of someone in the third quintile, by 2016 this ratio had fallen to 30%.

"Income for households in the bottom quintile stagnated, while increases were observed in all other quintiles"

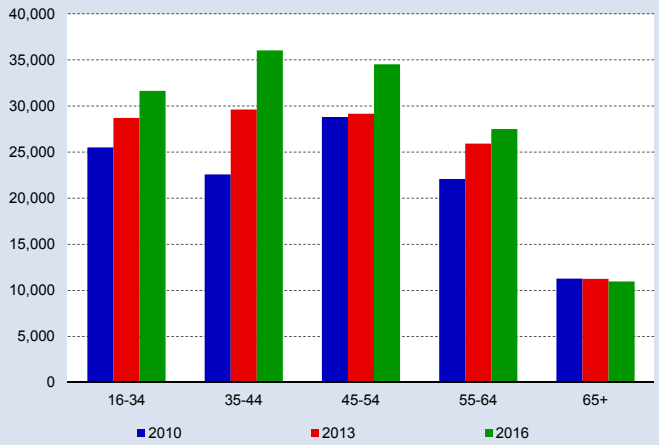
Further disaggregation of the household income distribution gives a clearer picture of income inequality in Malta. Chart 2, which depicts the distribution of median income by age of the reference person in the household, shows a large gap between elder households (65+) and the younger cohorts. Over the three waves of the survey, this gap has increased, with the 65+ category being the only category not to experience an increase in income across surveys. This suggests that old age pensions have lost their relativity with median income. This life-cycle

profile of household income exhibits the hump-shaped pattern found in the literature (Azpitarte, 2010; Kolasa, 2017).

"Old age pensions have lost their relativity with median income"

Typically, when looking at individual incomes, one would expect the peak of the income life-cycle to occur just before retirement age, as persons reaching the end of their careers typically earn more than their younger peers. However, when looking at household incomes, as in Chart 2, the picture changes due to the increase in the number of households with multiple incomes, particularly as more women enter the labour force. Since this development has mainly occurred among younger cohorts, the household income of this generation is higher than that of the single-income older generation. This development partly explains the rapid rise in incomes for households aged 35-44 between 2010 and 2016. At the same time, this increase has not been observed in the 65+ category, the majority of which rely on one pension income. Moreover, old age pensions have only increased in line with the cost of living during the period under review, while they are also subject to a cap on pensionable income.

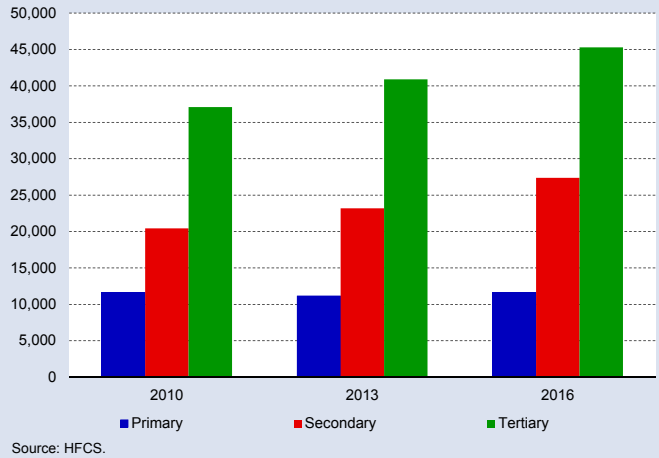
Chart 2
MEDIAN HOUSEHOLD INCOME BY AGE
(EUR)



Source: HFCS.

Another cause of rising discrepancy in income is evident in Chart 3, which plots median household income by education of the reference person. As expected, households with higher education levels tend to earn higher incomes than their less educated counterparts. At the same time, the income gap between more and less educated households has widened over the years. Indeed, for households with a primary level of education, income levels have generally stagnated since 2010. It is important to note that this ties in with the data on household income by age, as older households tend to be less educated than younger ones.

Chart 3
MEDIAN HOUSEHOLD INCOME BY EDUCATION LEVEL
(EUR)



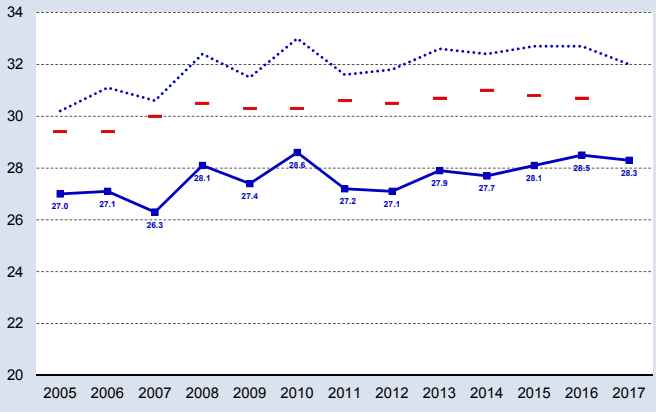
Source: HFCS.

One way of defining the level of inequality in numerical terms, thereby allowing for comparisons across time and space, is through the Gini coefficient. The Gini coefficient is an inequality statistic that establishes the gap between the income distribution of an economy and the income distribution under conditions of perfect equality. Hence, a large Gini coefficient would indicate a more unequal distribution of income. In the European Union (EU), the official measure of the Gini coefficient is obtained from EU-SILC, an annual EU-wide survey collecting micro-data on households, such as income, housing and welfare.[3]

[3] Further information is available from: https://nso.gov.mt/en/nso/Sources_and_Methods/Unit_C1/Living_Conditions_and_Culture_Statistics/Pages/Statistics-on-Income-and-Living-Conditions.aspx. The sample for the EU-SILC survey is obtained from the latest census, published in 2011, and hence may under-represent foreign workers who have immigrated to Malta in the intervening period.

The Gini coefficient for Malta, based on equivalised disposable income after social transfers, is depicted in Chart 4.[4] Over the years, the coefficient has been lower than that in the euro area, suggesting a more equal distribution of income. Income inequality in Malta rose between 2008 and 2010, which could reflect the impact of the Great Recession. Inequality eased in the post-2010 years, before experiencing a gradual increase from 2012 onward. By 2016, the Gini coefficient had reached 28.5, close to the high registered in 2010, before falling marginally to 28.3 in 2017. Overall, this suggests that inequality in Malta has returned close to 2008-2010 levels in spite of the faster rate of economic growth, which could indicate that some segments of the population have not benefitted from the expansion in economic activity.

Chart 4
INCOME INEQUALITY IN MALTA AND THE EURO AREA
(Gini coefficient scaled from 0 (perfect equality) to 100 before & after social transfers)



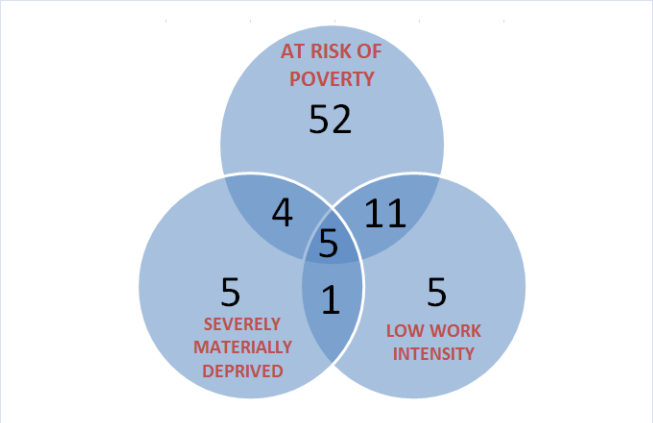
Source: SILC (Eurostat).

Chart 4 also depicts the Gini coefficient before social transfers, from which one can deduce the impact of social policy on reducing income inequality. As expected, social transfers have a strong redistributing effect on the income distribution of Malta, leading to a drop in the coefficient.

The EU-SILC database also contains statistics on poverty and social exclusion. This is measured through the "at-risk-of-poverty or social exclusion" rate (AROPE), based on three definitions of poverty, namely (i) those households with an equivalised disposable income below 60% of the national median, referred to as "at-risk-of poverty"; (ii) those unable to afford several items considered to be desirable or necessary to lead an adequate life, referred to as "severely materially deprived"; and (iii) those living in households where the members of working age work less than 20% of their total potential, referred to as "low work intensity".

In 2017, 83,000 individuals were classified as being at risk of poverty or social exclusion, the majority of which (72,000) fell under the "at-risk-of-poverty" measure, commonly termed as monetary poverty (see Chart 5). As a proportion of the total population, poverty and social exclusion in Malta stood at 19.2%, compared with the peak of 24.0% observed in 2013.

Chart 5
PROFILE OF AROPE IN MALTA BY POVERTY DEFINITION (2017)
(thousands)



Source: SILC (Eurostat).

[4] The equivalised disposable income is the total disposable income of a household, after social transfers, divided by the number of household members converted into equalised adults using a scale defined by the Organisation for Economic Co-operation and Development (OECD). Social transfers are current transfers that are compulsory and based on the principle of social solidarity. Pensions are not included.

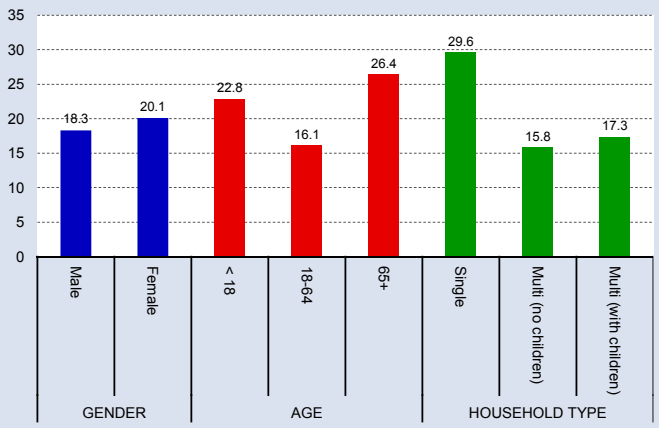
Charts 6 and 7 decompose Malta's AROPE in 2017. In general, the risk of poverty or social exclusion is much lower among the educated, employed and home-owners, while the gap between male and female poverty levels is small. On the other hand, the risk of poverty or social exclusion is very high among the unemployed and the less educated. The impact of education is also generational, meaning that persons with less educated parents are more likely to fall below the poverty threshold. This could indicate some form of social poverty trap or inequality of opportunity for children born into less educated households, despite education in Malta being provided for by the state.

"The risk of poverty or social exclusion is much lower among the educated, employed and home-owners"

Also evident in the data is the higher poverty risk among elders (65+). The AROPE rate among elders stood at 26.4% in 2017, compared with 16.1% among their working age counterparts. This is also reflected in the higher AROPE rate for subsidised tenants when compared with home-owners. This category largely consists of elderly people living in pre-1995 rental housing. The presence of elder widows/widowers could also explain the relatively higher AROPE rate for the single household category.

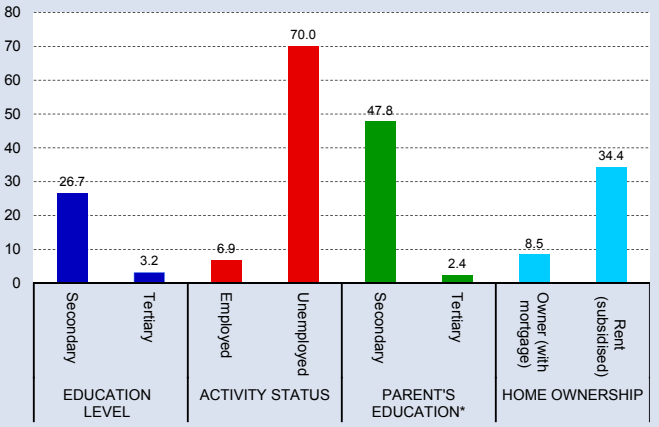
Chart 8 takes a closer look at the AROPE rate in Malta disaggregated by age. This data points to an increasing trend in poverty levels among older persons (65+), particularly since 2013. At the same time, monetary poverty among the younger cohorts has dropped or stabilised. This complements the narrative obtained from the HFCS that the well-being of older persons has failed to increase in line with that of younger cohorts. It should also be noted that, during this period, income on savings – another mainstay of the income of the older population – was negatively affected by the drop in interest rates.

Chart 6
AROPE RATE IN 2017 BY DEMOGRAPHIC
(% of total population)



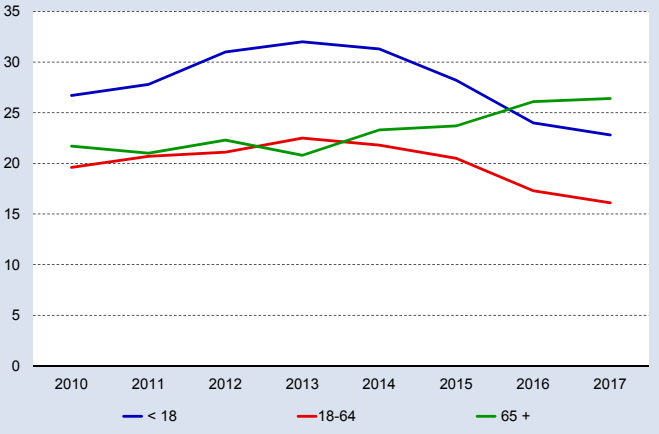
Source: SILC (Eurostat).

Chart 7
AROPE RATE IN 2017 BY STATUS
(% of population aged 18 or over; % of population aged less than 18)*



Source: SILC (Eurostat).

Chart 8
AROPE RATE IN MALTA BY AGE
(% of population in demographic)



Source: SILC (Eurostat).

Wage income mobility

Given the importance placed in recent years on raising employment, a study of income distribution and inequality needs also to look at wage mobility. Differences in lifetime incomes are reduced by mobility, and low wage employment is less problematic if it is transitory in nature. To analyse wage mobility in Malta, we use anonymised information on full-time annual wage incomes obtained from the Inland Revenue Department, covering the period between 2000 and 2015. Mobility is studied at an individual level, looking at gross income rather than disposable income, so as to focus on changes determined by the labour market rather than by government policy. Furthermore, the fact that the data set is longitudinal, allows the incomes of individuals to be tracked over time.

Transition matrices, which indicate the proportion (p_{ij}) of individuals starting the period in quintile *i* who end the period in the j^{th} quintile, are a useful method of studying wage mobility. Tables 3 and 4 illustrate two examples of these transition matrices, using five and ten year horizons, respectively. For instance, according to Table 3, 60% of individuals in Malta who were in the lower quintile of the wage distribution in 2004 were still in this quintile in 2009, while 24% had moved up to the second quintile and the remaining 16% to higher quintiles. A completely employment income-immobile economy would have values of 1 across the matrix diagonal, with all other values standing at zero.

Table 3
INCOME TRANSITION MATRIX (5-YEAR)
Probability of transitioning between quintiles

Quintile	Quintile in 2009				
in 2004	1	2	3	4	5
1	0.60	0.24	0.09	0.04	0.03
2	0.12	0.53	0.25	0.07	0.03
3	0.04	0.16	0.50	0.24	0.07
4	0.02	0.04	0.17	0.55	0.22
5	0.01	0.01	0.04	0.18	0.77

Source: Inland Revenue Department; CBM estimates.

Table 4
INCOME TRANSITION MATRIX (10-YEAR)
Probability of transitioning between quintiles

Quintile	Quintile in 2014				
in 2004	1	2	3	4	5
1	0.48	0.25	0.15	0.07	0.05
2	0.16	0.42	0.26	0.11	0.05
3	0.06	0.19	0.37	0.27	0.11
4	0.04	0.07	0.19	0.46	0.24
5	0.02	0.03	0.06	0.20	0.69

Source: Inland Revenue Department; CBM estimates.

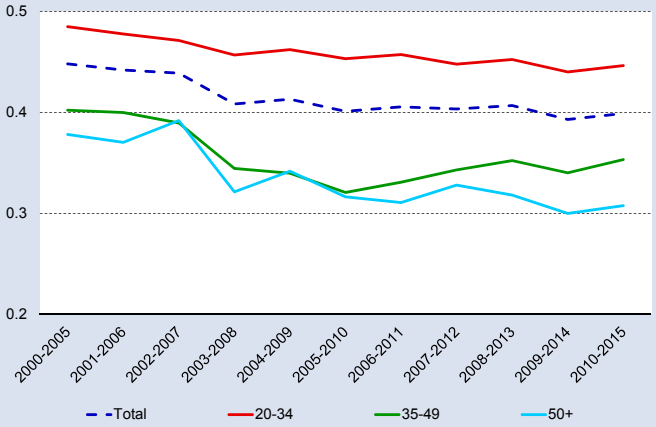
The probability of remaining within the same income quintile is quite high for the shorter, five-year period. The probability of remaining within the same quintile is largest for the highest and the lowest quintiles, while higher mobility is observed in the middle of the wage income distribution. In part, this could reflect a higher density (and hence a lower income quintile range) in the middle part of the wage distribution.

Wage income mobility is generally higher for the longer, ten-year period, given that movements within the distribution tend to be gradual. For most quintiles, the probability of remaining within the same quintile over ten years is less than 50%. Furthermore, upward movements are more likely than downward movements. This reflects the impact of experience, with individuals starting their careers at relatively low incomes and progressing as experience is gained. It also points to opportunities for individuals to work their way up the income ladder in a dynamic and expanding economy.

Apart from transition matrices, one can also measure the upward mobility of low-wage earners, approximated by the probability of escaping low-wage employment. As discussed above, finding stable, full-time employment is one of the best ways to lower one's risk of poverty. However, sometimes even full-time work does not enable an individual to earn enough to avoid financial difficulties. For the purposes of this analysis, a low wage is defined as a salary below two-thirds of the median (OECD, 1996). The probability of escaping low wage employment is thereby calculated as the proportion of individuals earning below this low wage threshold who, after a set time period of five years, earn above the threshold.

Young individuals (20-34) are the most likely to experience sufficient wage increases over time, with around 45% of those earning low wages in 2010 moving above the threshold by 2015. The corresponding figures for those in the 35-49 and in the 50+ age brackets were 35% and 31%, respectively. This can be explained by a relatively larger value of added experience at the early stages of one's career.

Chart 9
PROBABILITY OF ESCAPING LOW WAGE EMPLOYMENT BY AGE
(probability scaled from 0 to 1)



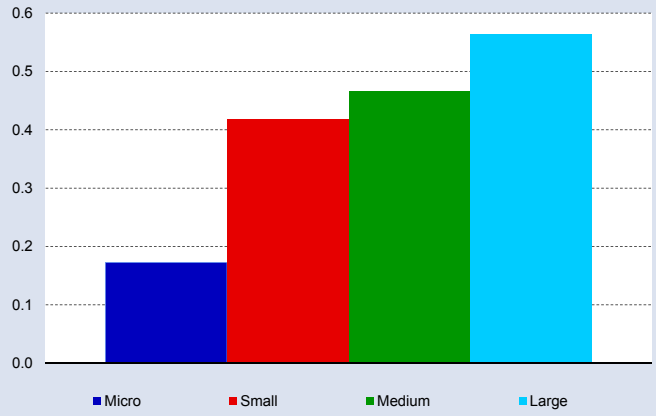
Sources: Inland Revenue Department; Central Bank of Malta estimates.

The probability of escaping low wage employment dropped noticeably in the early 2000s, particularly for older workers (see Chart 9). This probably reflected the restructuring of the Maltese economy, which resulted in a number of sectors shrinking, such as manufacturing firms protected by trade restrictions. At the same time, one can observe an improvement in the probability of escaping low wages for those aged between 35 and 49 years of age, particularly since the mid-2000s when a number of new service-based industries set up in Malta. This indicates that this cohort has benefitted strongly from the economic diversification and expansion observed in recent years. On the other hand, opportunities for the older generation seem to have continued to erode. The growth of the services sector has benefitted the more highly educated younger cohorts, while the skill set of the older generation may be more suited to an industry-based economy.

"The growth of the services sector has benefitted the more highly educated younger cohorts"

Chart 10 shows how the probability of escaping low wages varies by company size. The larger the company, the more opportunities tend to arise for employees to move up the career ladder, thereby improving their take-home pay. On the other hand, micro enterprises offer fewer opportunities to move up the internal hierarchy, so that the probability of an increase in pay is relatively smaller. As company size increases and firm hierarchies become larger and more complex, more qualified and hard-working employees tend to move up the income ladder much faster. In light of an increase in the proportion of small and micro enterprises in Malta in recent years (Grech, 2018), this might imply a future risk for wage mobility.

Chart 10
PROBABILITY OF ESCAPING LOW WAGE EMPLOYMENT BY COMPANY SIZE
(long-run average probability scaled from 0 to 1; private sector)



Sources: Inland Revenue Department; Central Bank of Malta estimates.

Conclusion

Income inequality in Malta has, in recent years, returned to the levels observed during the 2008-2010 period, mostly owing to rapid growth of incomes of those in the middle part of the income ladder. In particular, older households have seen pension income failing to keep up with the overall increase in national median income. This implies that

with an ageing population, Malta may experience further increases in inequality in the future. The analysis also shows that older generations tend to be less mobile in terms of income, being unable to adapt their skill set to the rapid structural changes in the economy. This indicates a potential for on-the-job training and other measures aimed at improving the employability of older individuals still in the labour force, while also encouraging persons who reached retirement age to remain in the workforce.

Another implication relates to the ongoing shift away from large companies to smaller enterprises, reflecting the structural changes in the economy, especially the shift towards services. The above analysis shows how individuals employed in smaller enterprises tend to have lower opportunities to escape low wages. This is particularly so within certain sectors of the services industry, such as retail or tourism.

In recent years, the authorities have introduced a number of measures aimed at tackling the issues highlighted in this article. These include increased allowances for the elderly, as well as measures aimed at encouraging participation in the labour force amongst disadvantaged groups. Although the above analysis suggests that these measures and the drive to increase employment have indeed made an impact on the proportion of the population at risk of poverty or social exclusion, structural economic and demographic changes mean that there is still a very important role for government in redistributing the wealth generated by the expanding economy.

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