

BOX 1: THE EVOLUTION OF THE LABOUR INCOME SHARE IN MALTA¹

Typically defined as the proportion of GVA paid to workers, the long-run stability of the labour share of income was for many years accepted as a ‘stylised fact’ in macroeconomic theory.^{2,3} However, a multitude of empirical evidence has since documented widespread declines in the labour share of numerous advanced countries over more recent years.⁴ From an accounting point of view, a persistent fall in labour shares reflects overall wage growth not keeping up with the growth in labour productivity. Evidence of such declining trends in labour shares suggests that the historical consensus around may no longer hold and has further fuelled research interest in cross-country developments in the labour share of income.

While arguably rather straightforward to conceptualise, persistent issues surround the measurement of the labour income share. In its most basic form, it can be represented by the share of employees’ compensation – comprising wages, salaries and social contributions paid by employers – in the country’s GVA measured at basic prices. However, this measurement does not account for the labour income of the self-employed, and despite being a good indication of the employees’ share of national income, the resulting estimates are implicitly a lower bound of the share of national income attributed to all people in employment. In light of the difficulty to extract the *labour* income (as opposed to other forms of income such as return to capital employed that also accrues as self-employed income) of the self-employed from published data, a number of possible adjustments have been put forward as a proxy in related literature. These typically rely on the use of national accounts data on ‘mixed income’, or adjustments based on the workforce composition, with both strategies suffering from their own respective limitations.

Notwithstanding these measurement issues, continuous analyses of developments in the labour share of income remain crucial in view of the potential repercussions on consumption expenditure, investment, and aggregate demand, among others.⁵ For example, depending on the marginal propensity of consumption, a higher labour share might stimulate domestic demand and consumption, with potential implications for inflation. In light of these economic implications, this article sets out to examine developments in Malta’s aggregate labour share in recent years. This analysis is further complemented by an in-depth study of sectoral developments in the labour share, particularly in view of Malta’s continued transition towards a more services-oriented economy over the recent decades.

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² GVA is the sum of *compensation of employees* (including the employers’ social security contributions) and *gross operating surplus and mixed income*.

³ Kaldor, N. (1961). “Chapter 10: Capital Accumulation and Economic Growth”, In Lutz, Friedrich; Hague, Douglas (eds.). *Capital Accumulation and Economic Growth*, pp. 177-222.

⁴ See for example Estrada, A. and Valdeolivas, E. (2012). “The fall of the labour income share in advanced economies”, *Banco de Espana Occasional Paper* No. 1209, and Dao, M. C., Das, M., Koczan, Z., and Lian, W. (2017). “Why is Labor Receiving a Smaller Share of Global Income? Theory and Empirical Evidence”, *IMF Working Paper* WP/17/169.

⁵ Archanskaia, E., Meyermans, E., and Vandeplass, E. (2019). “The labour income share in the euro area”, *Quarterly Report on the Euro Area (QREA)*, Directorate General Economic and Financial Affairs (DG ECFIN), European Commission, vol. 17(4), pp. 41-57, March.

The aggregate labour share of income in Malta

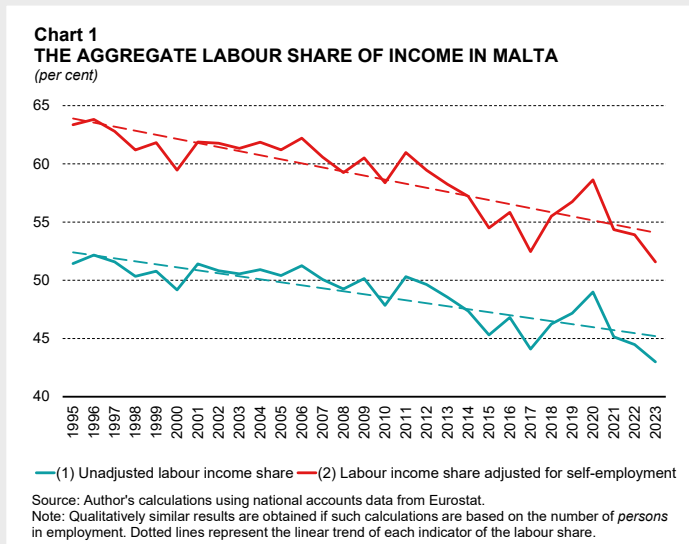
Given the continuous debate surrounding the measurement of the labour income share, the following analysis of the aggregate labour income share in Malta centres around two methods. The most straightforward methodology adopted yields what is commonly termed the '*unadjusted labour share*' (or '*wage share*'). Denoted by LS_t^u and shown in equation (1), this is given by the share of employees' compensation (CE_t) in GVA measured at basic prices:

$$LS_t^u = \frac{CE_t}{GVA_t} \quad (1)$$

As this measure does not consider the income earned by the self-employed, '*adjusted labour share*' estimates are derived by assuming that, on average, the self-employed earn the same average wage as employees. This assumption is commonly adopted both in similar studies and in the construction of labour share estimates by other institutions.⁶ The calculation of these estimates, denoted by LS_t^{adj} , is shown in equation (2), where TE_t represents the hours worked by those in employment (including self-employed) and E_t represents the number of hours worked by employees.^{7,8}

$$LS_t^{adj} = \frac{CE_t}{GVA_t} * \frac{TE_t}{E_t} \quad (2)$$

Chart 1 shows the evolution of the aggregate labour share of income in Malta between 1995 and 2023. By definition, *unadjusted* labour share estimates are consistently smaller than those which adjust for self-employed income. Having said that, the two indicators follow very similar trends, even if the underlying gap between the two has somewhat narrowed over time. These dynamics reflect the marginal decline in the share of hours worked by the self-employed in Malta's labour input, from 18.8% in 1995 to 16.6% in 2023.



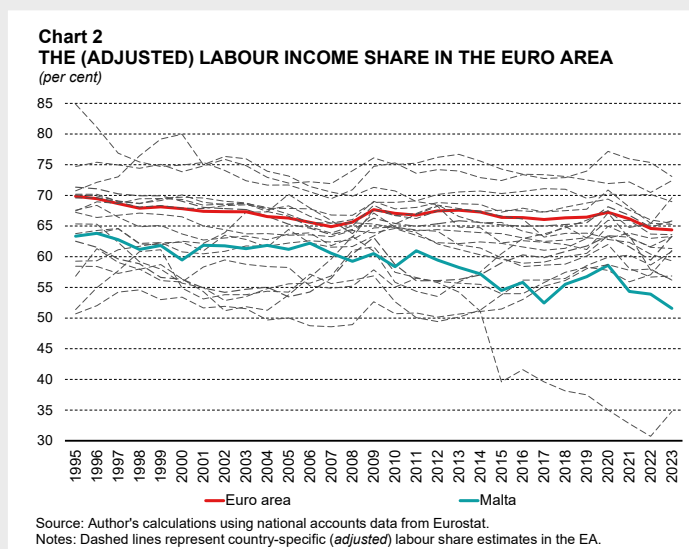
⁶ For example, the European Commission's AMECO database calculates an *adjusted* wage share based on this method, assuming that the self-employed in the economy earn the same average compensation as employees.

⁷ A separate *adjusted* labour share is calculated considering total employment and total employees in terms of the *number of persons*, rather than *hours worked*. This yields slightly smaller but qualitatively similar labour share estimates to those based on the number of *hours worked*.

⁸ A separate *adjusted* labour share is also derived assuming that the self-employed earn the same compensation as the employees working in the sector, rather than the economy-wide compensation. This approach yields very similar results to those constructed following equation (2).

Notwithstanding some volatility, the recent developments in Malta's labour income share can be dissected into a number of episodes characterised by particular trends. In the early part of the period considered, both methodologies show a downward trend, with the *adjusted* labour share dipping below 60% in the year 2000. The labour share remained broadly constant above 60% for a number of years thereafter, before declining again in the years leading to 2010. A particularly pronounced and (relatively) lengthy decline was observed between 2011 and 2015, at which point the *adjusted* labour share of income stood at 8.9 percentage points lower than the corresponding 1995 value.⁹ A partial reversal of the downward trend in the labour income share was recorded during the years 2018-2020, before declining again in the following three years, according to the latest data available. Labour share movements around the year 2020 are influenced by labour market developments during the COVID-19 pandemic, when employment and work compensation in Malta were well-insulated by the timely implementation of job-retention schemes. These dynamics helped drive the labour share upwards in 2020, which was then reversed during the ensuing economic recovery as such schemes were gradually phased out.

Chart 2 compares the labour income share in Malta to that in the rest of the euro area (EA) between 1995 and 2023. This analysis shows that Malta's labour income share has been consistently lower than the average recorded in the EA, which has hovered between 65% and 70%, and this discrepancy has widened further since the decade starting in 2010. In more recent years, Malta's labour share has been among the lowest in the EA bloc.¹⁰ The results for the EA presented in Chart 2 also show substantial cross-country heterogeneities in the evolution of the labour share in the EA but are overall indicative of declining labour shares in the long run. In fact, labour shares in 2023 were lower than their corresponding 1995 estimates in 15 of the 20 EA member states, including Malta, and also on average in the EA.



⁹ The corresponding difference in the *unadjusted* labour share between 1995 and 2015 values stood at 6.1 percentage points.

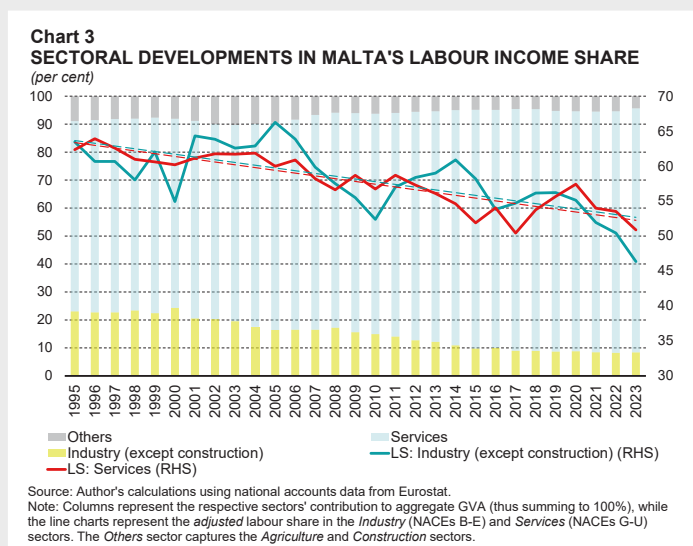
¹⁰ Qualitatively similar results are obtained when analyses are based on *unadjusted* labour income share estimates.

Sectoral developments in Malta's labour income share

Movements in the aggregate labour share of income mask potentially important heterogeneities in labour shares at the sectoral level. In particular, changes in the aggregate labour share could reflect developments both *within* and *across* sectors. For instance, a decline in the labour share in all economic sectors drives the aggregate labour share down, *ceteris paribus*. However, declines in the economy-wide labour share do not necessarily imply a drop in the remuneration of those in employment but may simply reflect changes in the sectoral composition of the economy. For example, even if within-sector labour shares remain constant, the aggregate labour share will invariably decline as an economy transitions from high-labour-share industries to sectors with relatively low labour shares. In this light, and in view of the Maltese economy's continued transition to a more services-oriented economy in recent decades, this section delves into the sectoral developments of Malta's labour share.

Chart 3 shows the *adjusted* labour share of income within the Maltese *industry* (NACEs B-E) and *services* (NACEs G-U) sectors, which together have been responsible for more than 90% of the GVA generated in Malta since 1995. In both (broad) economic sectors, the share of GVA attributed to labour has been on a long-term decline. Indeed, the labour share in *industry* declined by 17 percentage points between 1995 and 2023, while that in *services* declined by more than 11 percentage points over the same period. Among the most notable developments, periods of sustained drops in the *industry's* labour share are observed between 2005 and 2010 and again in the years following 2014, with a partial upturn being recorded in between. In more recent years, the *industry's* labour share has again been on the decline since 2020. The overall labour share in the *services* sectors has also followed a generally downward trend since 1995 but has been somewhat less volatile. Indeed, the only partial prolonged increase in this sector's labour share was recorded between 2018 and 2020, following which this declined again to around 51% by 2023.

While the evolution of the labour share in Maltese *industry* largely reflects developments in the manufacturing sector, that in the *services* economy is characterised by significant heterogeneity in the



services sub-sector labour intensities. In this light, Charts 4a-4f illustrate the respective labour shares calculated for six *services* sub-sectors, which together account for 92% of the total GVA generated by the *services* economy in Malta between 1995 and 2023.¹¹ Large sectoral disparities are noted, with some sectors' labour share typically recorded at around 40%-60%

Chart 4a
THE LABOUR INCOME SHARE – WHOLESALE AND RETAIL TRADE, TRANSPORT, ACCOMMODATION AND FOOD SERVICE ACTIVITIES (per cent)

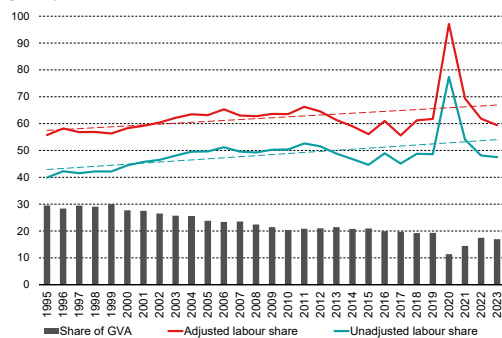


Chart 4b
THE LABOUR INCOME SHARE – INFORMATION AND COMMUNICATION (per cent)

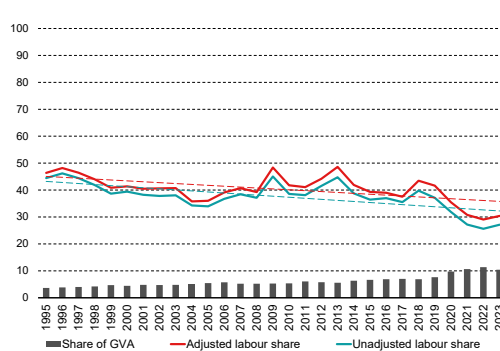


Chart 4c
THE LABOUR INCOME SHARE – FINANCIAL AND INSURANCE ACTIVITIES (per cent)

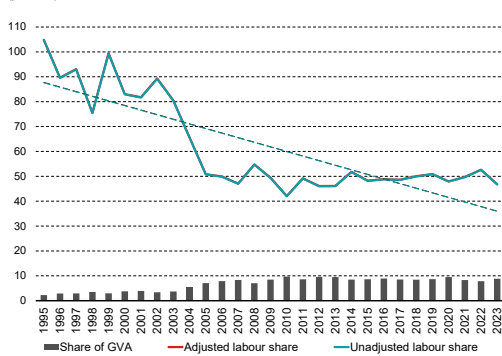


Chart 4d
THE LABOUR INCOME SHARE – PROFESSIONAL, SCIENTIFIC AND TECHNICAL ACTIVITIES; ADMINISTRATIVE AND SUPPORT SERVICE ACTIVITIES (per cent)

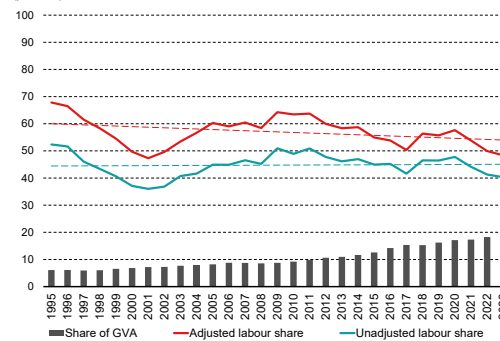


Chart 4e
THE LABOUR INCOME SHARE – PUBLIC ADMINISTRATION, DEFENCE, EDUCATION, HUMAN HEALTH AND SOCIAL WORK ACTIVITIES (per cent)

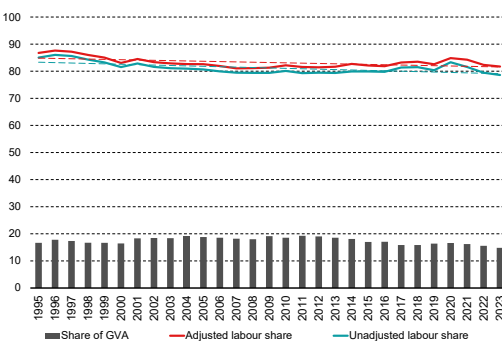
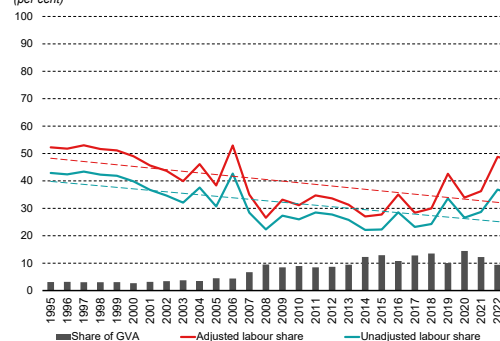


Chart 4f
THE LABOUR INCOME SHARE – ARTS, ENTERTAINMENT AND RECREATION; OTHER SERVICE ACTIVITIES (per cent)



Source: Author's calculations using national accounts data from Eurostat.

Note: In each chart, columns represent the respective sector's contribution to aggregate GVA, while the line charts represent the adjusted and unadjusted labour share of the respective sector, calculated in line with equations (1) and (2) in the text. The adjusted and unadjusted labour share estimates for the Financial and Insurance activities are broadly identical due to the relative lack of self-employed workers in this sector.

¹¹ In the *Real estate activities* sector, which contributes to less than 10% of total economy GVA and is not shown for brevity, labour share estimates have hovered below 10% throughout the sample.

(e.g. *Information and communication* and *Professional, scientific and technical activities; administrative and support service activities*), while in *Public administration, defence, education, human health, and social work activities*, more than 80% of the GVA generated is typically attributed to labour income.¹²

Charts 4a-4f also uncover sectoral heterogeneities in the evolution of the respective sectors' labour share over time. For instance, falling labour shares are recorded in sectors which have gained added economic importance in recent years, namely the *Information and Communication* (see Chart 4b) and the *Arts, entertainment and recreation and other services activities* (see Chart 4f), although the downward trend in the latter sector has started to reverse in more recent years. Drops in the share of labour income from 1995 levels are also recorded in the *Financial and insurance activities* sector (see Chart 4c), although this is largely driven by a pronounced fall in the first part of the sample, following which this sector's labour share stabilised at around 50%. In contrast, the *Wholesale and retail trade, transport, accommodation, and food service activities* sector saw its labour share rise somewhat since 1995, at a time when its contribution to the aggregate GVA declined from 30% in 1995 to 17% in 2023.¹³ Other sectors, namely the *Professional, scientific and technical activities; administrative and support service activities* (see Chart 4d), and the *Public administration, defence, education, human health, and social work activities* (see Chart 4e) have been marked by a general stability in their labour share in the long run.

Shift-share decomposition of labour income share developments in Malta

In this section, a shift-share analysis is performed to formally disentangle movements in Malta's labour income share estimates over the period 1995-2023 into “*within-sector*” effects, i.e. changes in the labour share driven solely by changes in sector-specific labour shares, and “*between-sector*” effects, i.e. changes in the labour share solely due to changes in the economy's sectoral composition. Starting from the original expression to calculate the *adjusted* economy-wide labour share:

$$LS_t^{adj} = \sum_i \omega_t^i \cdot als_t^i \quad (3)$$

Where ω_t^i is the share of sector i in the total economy GVA in period t and als_t^i is the *adjusted* labour share of sector i in period t , calculated as $\frac{CE_t^i}{GVA_t^i} \cdot \frac{TE_t^i}{E_t^i}$. Then, the change in the aggregate labour share between 1995 and 2023 can be decomposed as follows:

$$LS_{2023}^{adj} - LS_{1995}^{adj} = \left\{ \sum_i \omega_{1995}^i \cdot \Delta als_{2023}^i \right\} + \left\{ \sum_i als_{1995}^i \cdot \Delta \omega_{2023}^i \right\} + \left\{ \sum_i \Delta \omega_{2023}^i \cdot \Delta als_{2023}^i \right\} \quad (4)$$

Where Δk represents the change in the value of k between the years 1995 and 2023, in general. Expressed in this way, the first term represents the “*within*” effect, capturing the changes in the overall labour share that are strictly due to changes in sector-specific labour

¹² The relatively high labour income share in these sectors reflects the fact that *Public administration* activities are typically not for profit. Thus their ‘profit’ component is typically very low, as it largely reflects private sector activity, such as in education and health activities.

¹³ The spike in this sector's labour share in 2020 is largely due to events related to the COVID-19 pandemic. The restrictions put in place at the time led to lower sectoral activity (as manifested by a drop in this sector's GVA), but the job-retention schemes in place helped preserve employees' compensation, implicitly leading to an increase in this sector's labour share during the year.

shares over time. The second term is the “*between*” effect, quantifying the change in aggregate labour share purely due to shifts in the economy’s sectoral structure. The third term is an “*interaction term*”, which reflects the extent to which sector-specific labour shares move in the same direction as the GVA share of the respective sector.¹⁴

Table 1 presents the sector-specific shift-share decomposition of the changes in *adjusted* labour shares in Malta between 1995 and 2023.¹⁵ The labour share in Malta declined by 11.7 percentage points between 1995 and 2023, of which 7.9 percentage points are attributed purely to “*within*” effects. This implies that had the sectoral composition of the Maltese economy remained identical to that of 1995, the overall labour share would have declined by 7.9 percentage points. These “*within*” effects are predominantly driven by the *Industry*

Table 1
SHIFT-SHARE ANALYSIS OF CHANGES IN THE (ADJUSTED) LABOUR SHARE IN MALTA: 1995-2023

Percentage points

NACE	Within effects	Between effects	Interaction term
B-E Industry (except Construction)	-4.05	-9.69	2.61
F Construction	-0.60	-1.21	0.20
G-I Wholesale and retail trade; repair of motor vehicles and motorcycles; Transportation and storage; Accommodation and food service activities	1.12	-7.42	-0.49
J Information and communication	-0.60	3.11	-1.07
K Financial and insurance activities	-1.34	6.86	-3.80
L Real estate activities	-0.24	0.13	-0.04
M-N Professional, scientific and technical activities; Administrative and support service activities	-1.22	8.69	-2.49
O-Q Public administration and defence; compulsory social security; Education; Human health and social work activities	-0.85	-1.96	0.11
R-U Arts, entertainment and recreation; Other service activities; Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use; Activities of extraterritorial organisations and bodies	-0.16	3.03	-0.29
Total (NACE B-U)	-7.93	1.54	-5.27

Source: Author's calculations using national accounts data from Eurostat.

Notes: The overall economy-wide change in the labour share between 1995 and 2023 can be calculated as the sum of the “*within*” effects, “*between*” effects and the interaction term. The NACE A: 'Agriculture' sector is excluded from the analysis.

¹⁴ For related studies which employ a similar shift-share decomposition, see for example Archanskaia, A., Meyermans, E. and Vandeplass, A. (2019). “The labour income share in the euro area”, *Quarterly Report on the Euro Area (QREA)*, Directorate General Economic and Financial Affairs (DG ECFIN), European Commission, 17(4), pp. 41-57.

¹⁵ Qualitatively similar results are obtained when the analysis is based on *unadjusted* labour shares. In this scenario, the “*within*” effect, “*between*” effect and “*interaction term*” are quantified at -6.40 percentage points, 2.08 percentage points, and -5.27 percentage points, respectively.

sector, which was relatively important to the Maltese economy in 1995 and registered pronounced declines in its labour share in the period up to 2023 (see Chart 3). The overall negative “*interaction term*” (-5.3 percentage points) reflects falling labour shares in sectors which gained added importance to Maltese economic activity over time. These sectors are predominantly services-oriented, with the most notable being *Information and communication, Financial and insurance activities, and the Professional, scientific and technical activities; administrative and support service activities*. In contrast to these two effects, the overall “*between*” effect is positive and markedly smaller. This suggests that, had the sector-specific labour shares remained constant at 1995 levels, the subsequent changes in the structural composition of the Maltese economy would have boosted the overall labour share by 1.5 percentage points between 1995 and 2023. The small positive sectoral composition effect is largely driven by developments in *Financial and insurance activities, and the Professional, scientific and technical activities; administrative and support service activities*, which had relatively high labour shares in 1995 and whose share in the economy’s GVA increased further in the following years. On the other hand, the falling GVA share of the *Industry and Wholesale and retail trade; repair of motor vehicles and motorcycles; transportation and storage; accommodation and food service activities* exert substantial downward pressure on the “*between*” effect.

Concluding remarks

This analysis documents the main developments in the labour share of income in Malta between 1995 and 2023. It uncovers a long-term decline in this share, manifested by drops in the labour share of both the *Industry* and *Services* sectors. Moreover, a shift-share analysis confirms that the overall decline in Malta’s labour share over time has predominantly been driven by drops in sector-specific labour shares, further compounded by the fact that such falling labour shares were recorded in sectors which gained added importance to the Maltese economy. In contrast, changes in the sectoral structure of the Maltese economy have been a relatively minor contributor to the developments in Malta’s aggregate labour share between 1995 and 2023.

While this study analyses the recent evolution of Malta’s labour share, further work is needed to determine the underlying causes behind these developments. Global evidence of falling labour shares has been commonly attributed to a number of factors, including rapid technological advances, increased globalisation, and changes in markets’ regulation and structure.¹⁶ Other studies have also found a role for demographic factors, labour market structure and policies, and employees’ skill levels, all of which could potentially be important considerations to understand the recent developments of the labour income share in the Maltese context.^{17,18} Further research could especially focus on the role of these factors in explaining the sectoral heterogeneities in the level and evolution of the labour share, as documented in this analyses.

¹⁶ See for example Dao, M. C., Das, M., Koczan, Z., and Lian, W. (2017). “Why is Labor Receiving a Smaller Share of Global Income? Theory and Empirical Evidence”, *IMF Working Paper* WP/17/169.

¹⁷ d’Albis, H., Boubtane, E., and Coulibaly, D. (2021). “Demographic changes and the labor income share”, *European Economic Review*, 131(6): 103614.

¹⁸ Dimova, D. (2019). “The Structural Determinants of the Labor Share in Europe”, *IMF Working Paper* WP/19/67.

Determining the reasons behind the declining labour share in Malta is crucial in view of its important policy implications. For instance, if such a decline is driven by productivity-enhancing technological progress, which in turn increases labour incomes, falling labour shares would reflect a positive economic development.¹⁹ In contrast, with capital returns typically being more unevenly distributed than labour income, declines in the labour share of income in favour of a higher capital share may also be indicative of higher income inequality, with potential implications for fiscal policy.^{20,21} Moreover, these considerations should be contextualised within existing evidence that higher-skill workers typically enjoy higher labour income shares than workers with relatively lower skills.²² As such, besides the resulting productivity gains, continuous investment in the skill levels of Malta's workforce could also be a crucial tool to broaden the sharing of productivity gains and enhance workers' welfare.

¹⁹ Bellocchi, A., Marin, G. and Travaglini, G. (2023). "The labor share puzzle: Empirical evidence for European countries", *Economic Modelling*, 124 (2023).

²⁰ Moreira, S. F. (2022). "Inside the decline of the labor share: Technical change, market power, and structural change", *Journal of Economic Dynamics and Control*, 145(3): 104566.

²¹ Atesagaoglu, O. E., Yazici, H. (2021). "Optimal Taxation of Capital in the Presence of Declining Labor Share", *Bristol Economics Discussion Paper 21/739*, School of Economics, University of Bristol, UK.

²² See footnotes 5 and 17.