

Chapter 2

Developments during 2023

Unemployment and output nexus: testing Okun's law for Malta

Insights from Malta's labour productivity, unit labour costs and price developments

A model for forecasting primary fiscal revenue components

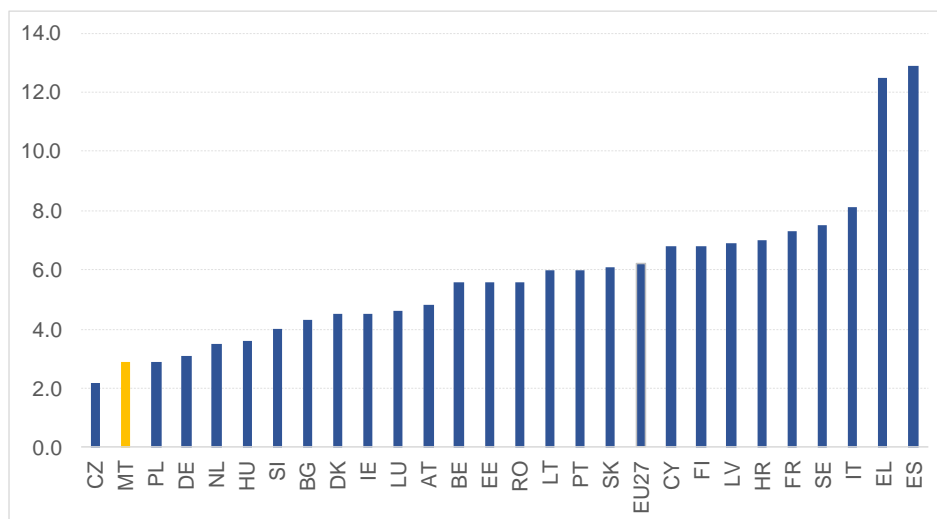
Financial Statements

Unemployment and output nexus: testing Okun's law for Malta

2.1 Introduction

The last twenty years have been marked by notable periods of economic uncertainty, global instability, and international upheavals. Events such as the dot-com crash and the terrorist attacks of 9/11 in 2001, the economic and financial crisis of 2008–2009, the sovereign debt crisis that followed, the COVID-19 pandemic that started in early 2020, and the ongoing conflict between Russia and Ukraine since 2022, have all had a negative impact on labour markets, albeit to varying degrees across countries. This is best exemplified by the differences in unemployment rates among European Union (EU) member states. For example, in 2022, the Czech Republic had the lowest unemployment rate in the EU (2.2%), while Spain had the highest rate (12.9%). The unemployment rate in Malta stands at 2.9%, the second lowest rate in the EU. The disparity in unemployment rates across EU countries is primarily attributed, though not limited, to differences in labour market regulations and policies, differences in the industrial structures composing the economy and the extent of labour intensity in key sectors and the economy, and variations in policy initiatives designed to counter effect negative economic shocks and firm’s response to such policies.

Unemployment Rate in EU Countries in 2022
(per cent of the labour force)



Source: Eurostat

The link between output and unemployment, known as Okun’s law, was originally studied, and published in economic literature in the early 1960s using post-second World War US data. The study revealed a negative relationship between the two

variables.⁵ Indeed, Okun found that a drop of 1 percentage point in output increased the unemployment rate by around 0.3 percentage points.

More recent estimates for the Euro Area reveal that from 1996 to the beginning of the 2008-09 recession, typical Okun coefficient estimates were close to -0.4.⁶ However, studies based on data samples, which include the financial crisis of 2008-2009, find that the unemployment rate became less responsive to changes in output. This could be partly explained by the principle of labour hoarding, which, during the 2008-2009 subprime mortgage crisis, was further supported by short time working arrangements. Such policies have, to some extent, distorted the unemployment-output relationship.

During the pandemic, a similar distortion was seen in 2020 and 2021. The European Commission had urged Member States to adopt countercyclical fiscal policies to strengthen their economies and curtail the harsh consequences of COVID-19. This has been accomplished by activating the general escape clause in the Stability and Growth Pact. For example, Malta's labour market remained strong in 2020 despite an 8.1% fall in the country's real GDP, with the unemployment rate rising very little during that time. This was mainly because of the significant assistance provided by the Maltese government to safeguard employment through various initiatives, such as pay support programmes, which allowed most Maltese firms to retain their existing workforce.⁷

There are mixed perceptions about Okun's law among scholars and practitioners. Even while it is often acknowledged that this "law" is merely a statistical link and not always a structural aspect of an economy, part of its attraction is still its simplicity. This suggests that this association might not hold up over time, particularly if the economy experiences significant structural changes. New research indicates that this association varies significantly between countries, particularly following periods of severe economic unrest.⁸ Additionally, research suggests that Okun's relationship has

⁵ See Okun, A.M., "Potential GNP: Its Measurement and Significance", *Proceedings of the Business and Economic Statistics Section*, American Statistical Association, 1962, pp. 98 – 104.

⁶ See box entitled "Back to Okun's Law? Recent developments in euro area output and unemployment", *ECB Monthly Bulletin*, June 2011.

⁷ The support measures implemented by the government during the COVID-19 pandemic mainly consisted of the wage support scheme and other schemes administered by Malta Enterprise to assist those businesses which were impacted by the full or partial lockdown, together with spending vouchers for households. The wage support scheme, as well as the other schemes administered by Malta Enterprise, totalled €432.2 million in 2020, €368.2 million in 2021, and €124.7 million in 2022.

⁸ See Pizzo, A., "Literature Review of Empirical Studies on Okun's Law in Latin America and the Caribbean", *Employment Working Paper*, Employment Policy Department, International Labour Organisation, Working Paper No. 252, 2019.

asymmetries, with unemployment increasing more during recessions than declining during periods of growth.⁹

Against this background, this thematic chapter presents empirical estimates of the link between output and the unemployment rate in Malta based on Okun's law. It also assesses the stability of this relationship over time, across sectors, and its susceptibility to the economic cycle. It also compares the strength of this relationship to other EU nations.

2.2 What is Okun's Law?

Arthur Okun, in 1962, estimated two versions of the relation between unemployment and production: a *difference* version and a *gap* version.

The **difference** version relates the change in production (expressed as changes in log of real GDP or percentage change of real GDP) [Y] to changes in the rate of unemployment [UR]:

$$\Delta UR_t = \beta_1 + \beta_2 \Delta Y_t$$

The β_2 parameter (which is commonly referred to as the Okun coefficient) is a measure of the elasticity of the unemployment rate with respect to output, while the parameter β_1 shows the change in the unemployment rate when there is no change in real output. *A priori*, one would expect parameter β_2 to be negative. Indeed, Okun found parameter β_1 to be equal to 0.3 and a β_2 value of -0.3.

The ratio $-\frac{\beta_1}{\beta_2}$ represents the minimum level of output growth which is needed to maintain a stable unemployment rate. As a result, this implies that the unemployment rate might increase even if GDP growth is positive.

Other research has employed different specifications of Okun's law relationship, such as the production function approach¹⁰ and the dynamic version.¹¹ The dynamic version aims to consider potential omissions of important variables from the equation as well

⁹ See Harris, R. and Silverstone, B., "Testing for asymmetry in Okun's Law: a cross-country comparison", *Economic Bulletin*, 2001, 5, pp. 1 – 13.

¹⁰ See Daly, Mary C., John G. Fernald, Òscar Jordà, and Fernanda Nechio. "Okun's Macroscope: Output and Employment after the great recession." *Manuscript*, Federal Reserve Bank of San Francisco, 2012.

¹¹ See Knotek, E., "How useful is Okun's law?" *Economic Review Federal Reserve Bank of Kansas City* 4, 2007, pp. 73 – 103.

as changes in economic activity that have a delayed effect on the labour market. The production function approach version also seeks to look at the impact of other factors on the relationship between the two variables, such as productivity, participation and activity rates and population growth. Although the thematic chapter makes use of the dynamic version specification, it does not incorporate the production function approach within its methodological framework.

On the other hand, the **gap** version relates the gap between the actual and natural rates of unemployment to the output gap, i.e., the difference between actual and long-run GDP growth:

$$(UR_t - UR^*_t) = \beta_3 + \beta_4 (Y_t - Y^*_t)$$

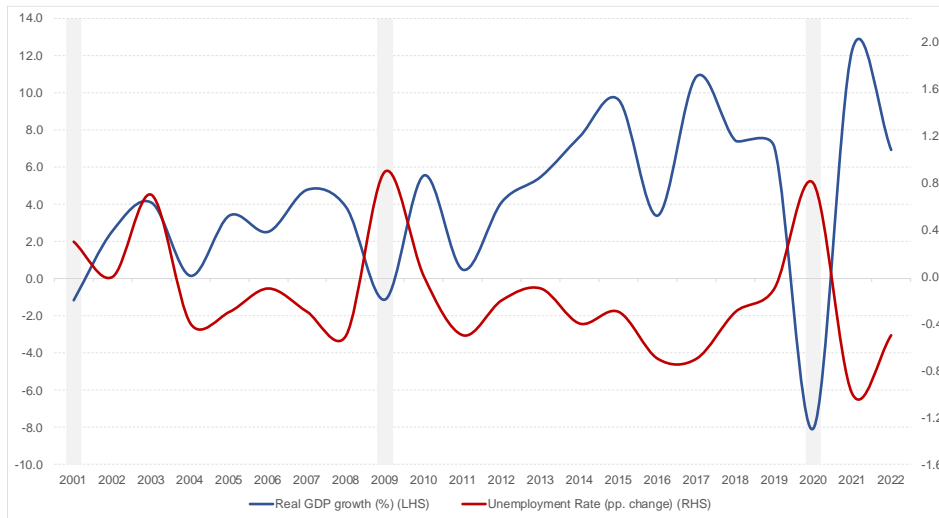
where UR^* is the natural unemployment rate and Y^* is potential output growth. In his seminal paper, Okun estimated β_3 to be equal to 3.72 and β_4 to be equal to -0.36. Indeed, *a priori*, one would expect β_4 to be negative. Notably, the gap version translates to the difference version of Okun's law if potential output growth and the natural rate of unemployment are constant.

The problem with the gap version of Okun's law is that this specification includes potential GDP, an unobservable variable which is then employed to calculate the output gap. The remainder of this study will concentrate on the difference version of Okun's law to prevent a discussion over the best way to estimate potential output and because of the method's sensitivity to the results.

2.3 Estimating Okun's law for Malta

On the basis of data between 2001 and 2022, there were three recessions (grey columns), with the most recent one being the most significant in terms of the drop in real GDP growth. Malta saw strong rates of real GDP growth in the remaining years of the study period. The data also points to the possibility of a negative correlation between changes in GDP growth and changes in unemployment rates; that is, when real GDP growth accelerates, the unemployment rate typically declines and vice-versa. Therefore, *a priori*, it is expected that the Okun coefficient will be negative and statistically significant.

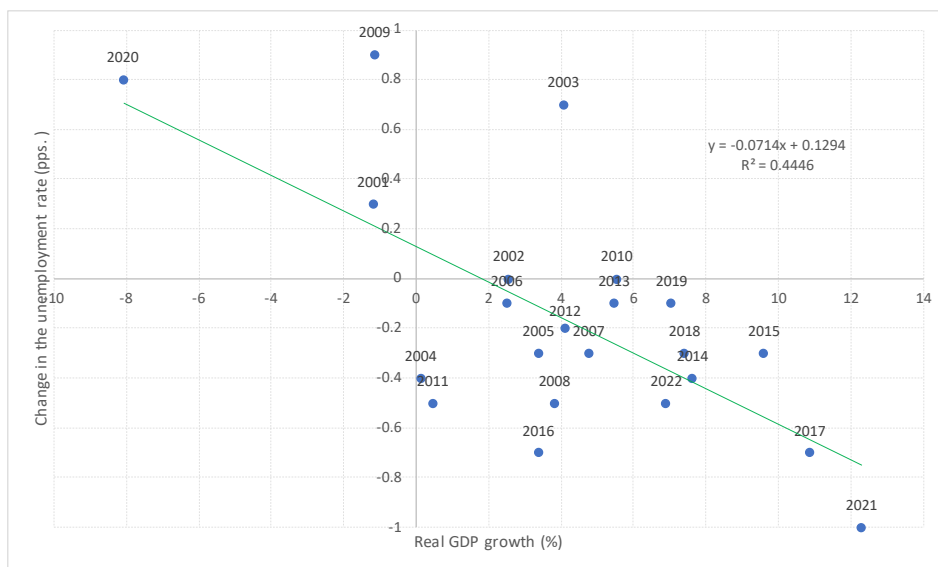
GDP growth and changes in the unemployment rate (annual series)



Source: Eurostat

Indeed, when regressing the changes in the unemployment rate against real GDP growth using annual data from 2001 to 2022, the coefficient values obtained are 0.13 for the β_1 and -0.07 for the Okun coefficient β_2 . This confirms a negative relationship between output and unemployment. The rate of output growth consistent with a stable unemployment rate is estimated at 1.8%. This means that a 1 percentage point increase in real GDP growth more than 1.8%, lowers the unemployment rate by around 0.07 percentage points.

Okun's Relationship in Malta (annual data)



Source: Eurostat; Author's calculations

More econometric estimates for the difference version of Okun's law for Malta are shown in the following table, which makes use of quarterly data spanning from the first quarter of 2001 to the second quarter of 2023.¹² The GDP growth rate consistent with a stable unemployment rate is projected to be 1.6%, whereas the first static equation indicates an Okun coefficient of -0.07. The value of the Okun coefficient is very similar to the estimates obtained in a similar study by the Central Bank of Malta based on quarterly data between 2001Q1 until 2016Q2.¹³ However, in this estimation, the intercept is not statistically different from zero at standard significance levels. When accounting for lags in the dependent and explanatory variables, the results hold steady, showing that changes in domestic economic activity have little impact on the labour market while being statistically significant. The dynamic specification, including lags both for the dependent and the explanatory variables, indicates that the long-run Okun's coefficient is close to zero, though acknowledging that the difference between the short and the long-run coefficient is marginal and that the long-run coefficient is fairly stable between the two dynamic version specifications.

Regression coefficients for Okun's law

Dependent variable: $\Delta(UR_t)$

Sample: 2001Q1 – 2023Q2

| Specification | Explanatory variables | | | | Adjusted R2 |
|---------------|-----------------------|---------------|-------------------|--------------------|-------------|
| | intercept | $\Delta(Y_t)$ | $\Delta(Y_{t-1})$ | $\Delta(UR_{t-1})$ | |
| Static | 0.11 | -0.07*** | | | 26% |
| Dynamic (a) | 0.11 | -0.07*** | -0.00* | | 24% |
| Dynamic (b) | 0.11 | -0.07*** | -0.02* | -0.32*** | 41% |

Statistical significance: * at 10% level, ** at 5% level, *** at 1% level

Source: Author's calculations

2.4 Comparison with EU countries

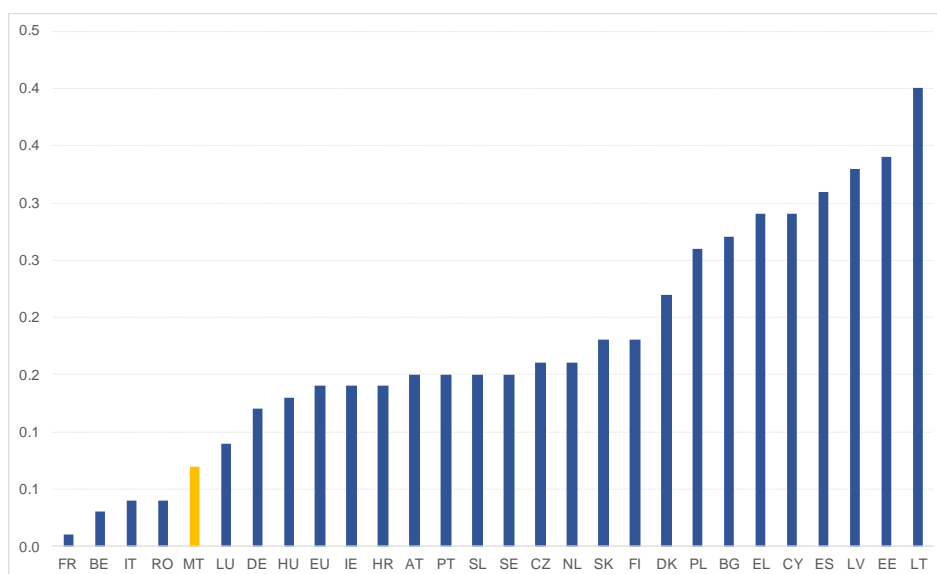
Using the static specification and the same sample of quarterly data, the following chart plots the Okun's coefficient for EU countries. Malta's Okun's coefficient is one of the lowest in the European Union.

¹² The first four observations are lost when calculating the yearly growth rate of GDP and the change in the unemployment rate because quarterly data only goes back to 2000. The National Accounts and the Labour Force Survey are the sources of the GDP and unemployment figures, respectively.

¹³ See box entitled "Estimating Okun's Law for Malta", *Central Bank of Malta Quarterly Review*, 2013:3.

Comparison of Malta's Okun's Coefficient with EU countries

(estimates based on quarterly data, static equation, negative values)



Source: Author's calculations

The cross-country comparison shows a considerable degree of heterogeneity in Okun's coefficient. This heterogeneity is due to a number of factors, such as the degree of labour market flexibility, including the ease with which firms can fire and hire workers and the extent to which firms can adjust wages, the power of trade unionism and collective bargaining, including the firm's ability to reduce employees' working hours, employment protection legislation, the magnitude and type of shocks hitting the economy, and the degree of tightness in the labour market. For instance, the high Okun coefficient in the case of Spain could be related to the elevated incidence of temporary contracts.

In the case of Malta, an important reason for the relatively low Okun coefficient may be labour hoarding.¹⁴ Hoarding labour would be the best course of action if businesses anticipate that the decline in demand will only be temporary. This is because doing so would prevent them from having to pay more expenses should they need to hire new workers in the future. This is at times complemented by government support to firms to retain workers during periods of deficient demand. A notable example of this is the

¹⁴ Labour hoarding occurs when businesses hold on to more workers than necessary in the downturn. Labour hoarding is that part of labour input which is not fully utilised during the production process at any given point in time. Underutilisation of labour can manifest itself in various forms, such as reduced effort or hours worked, and the shift of labour to other uses, such as training. From the business point of view, some labour hoarding may be optimal given the fixed costs associated with adjusting staff numbers (which include costs of recruitment, screening and training of new workers, as well as costs related to the termination of contracts such as severance pay). Therefore, in the face of a downturn in activity, businesses may prefer to reduce labour input, at least to some extent, by shortening the hours worked, which is less costly than reducing staff numbers. It is also noteworthy that when excluding the crisis years, the Okun's coefficient in Malta decreases slightly by 0.02.

unprecedented government support in wage assistance schemes during the COVID-19 pandemic in order for employment to be maintained.

Malta's custom of lifetime employment may possibly have contributed to the country's comparatively low Okun coefficient.¹⁵ For a large segment of the Maltese labour force, especially the older generations, this is most likely definitely the case. Employers are frequently reluctant to fire employees in these situations, also due to the costs associated with the firing and hiring of employees, which results in a relatively modest response of the unemployment rate to changes in GDP growth. This also holds true for workers in the public sector, whose employment makes up a larger portion of Malta's total than in most other EU countries and who usually enjoy protection from downturns in economic activity.¹⁶ Furthermore, through the past two decades or so, Malta's unemployment rate has remained fairly stable in comparison to the EU average, reflecting limited variability in the dependent variable. Indeed, the unemployment rate in Malta stands at 4.5% compared to the 5.2% for the EU average. Similarly, the standard deviation for unemployment rates in Malta stands at 0.4 percentage points lower relative to the EU average.

Another possible reason for the lower Okun coefficient in Malta when compared to EU peers is the fact that in recent years, Malta's unemployment rate was at historically low levels, and, therefore, any increases in demand were catered for by the foreign inflow of workers. Indeed, upon the onset of the COVID-19 pandemic, Malta witnessed a relatively low increase in its unemployment rate when compared to the other EU countries. However, a significant number of migrant workers left the island.

2.5 The stability of Malta's Okun coefficient

The stability of Okun's coefficient over time has been the subject of several debates and research (see, for instance, IMF, 2012)¹⁷. To test this, the rolling regressions technique was used to re-estimate the static equation¹⁸. In other words, the equation

¹⁵ Apap and Gravino (2014). "Okun's Law in Malta: Lessons Learnt from a Sectoral Perspective." Economic Policy Department Working Paper Series.

¹⁶ In 2022, employment in public administration and defence, education and human health services activities sector stood at 21.5% of total employment in Malta relative to 20.8% in the EU.

¹⁷ IMF (2012). "Unemployment dynamics during recessions and recoveries: Okun's law and beyond". *World Economic Outlook*, 69-108.

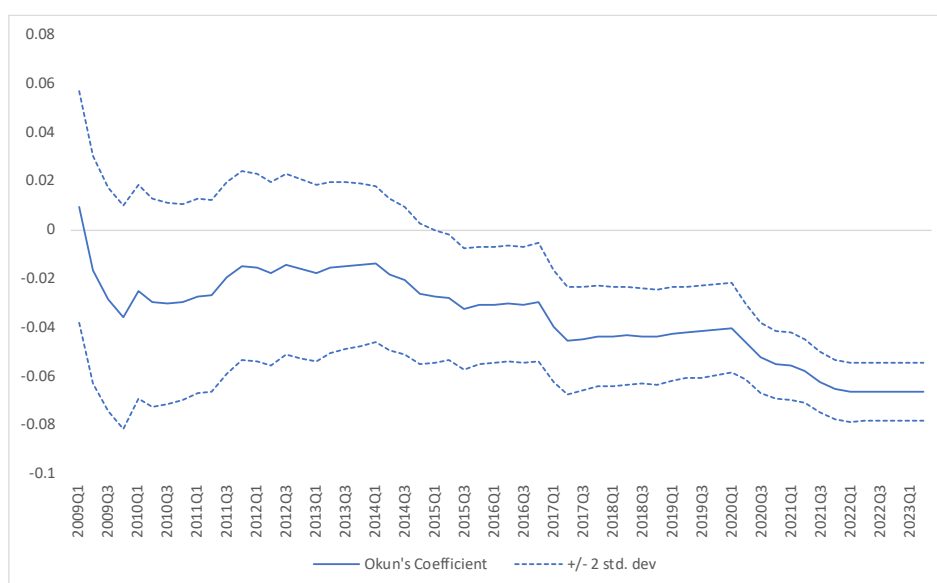
¹⁸ Rolling regression is often employed in empirical studies as a method to characterize changing economic relationships over time. As a simple robustness check, regression parameters are estimated using some fraction of the data early in the sample.

is estimated over a sequence of sample periods, thereby producing a set of estimated coefficients.

If the relationship between output and unemployment remained stable over the sample period, the coefficients from the regressions estimated over different samples should be relatively similar. Conversely, significant shifts in Okun's coefficient suggest that the relationship has not been steady over time.

Rolling Regression Estimate of Malta's Okun's Coefficient

(estimates based on quarterly data, static equation)



Source: Author's calculations

Econometric estimates show that the unemployment-output relationship in Malta has changed over the last years. This change, however, was not significant. Interestingly, the association is not statistically significant in the rolling regression sample's earlier years but becomes so after 2016. Restricting the sample to distinct endpoints validates this conclusion, as the Okun's coefficient becomes statistically significant and more responsive to output changes in comparison to endpoints prior to 2017.

The gig economy, which started to gain traction prior to the COVID-19 outbreak and continued to grow after it, may have contributed to the greater responsiveness of unemployment to economic activity in recent years. Indeed, Malta has seen increases in part-time workers and workers with temporary contracts. According to statistics issued by the National Statistics Office, almost 5% of all persons between 15 and 64

years carried out digital platform work or services in 2022¹⁹. These types of jobs have lower job security and are more likely to be terminated during periods of declining demand.

2.6 Differences in Malta's Okun coefficient at sectoral level

The Maltese economy has seen significant structural changes in recent years, most notably the shift towards a more service-oriented economy and the gig economy's growing popularity in Malta. The services sector is more labour-intensive. Indeed, over the past years, the share of employment in the manufacturing sector has declined from 21.7% in 2000 to 8.4% in 2022. At the same time, the share of the services sector has increased from 66.7% in 2000 to 83.4% in 2022. A steady increase in the share of employment within the services sector can be particularly observed post-EU membership.

Regression coefficients at sectoral level

Dependent variable: $\Delta(EMP_t)$

Sample: 2001Q1 – 2023Q2

| Sector | Explanatory variables | | | | Adjusted R2 |
|-----------|-----------------------|-----------------|---------------------|---------------------|-------------|
| | Intercept | $\Delta(GVA_t)$ | $\Delta(GVA_{t-1})$ | $\Delta(EMP_{t-1})$ | |
| Primary | -0.20 | 0.01 | 0.02 | 0.84*** | 70.1% |
| Secondary | -0.15 | 0.07*** | -0.02 | 0.84*** | 78.3% |
| Tertiary | 0.11 | 0.09*** | 0.00 | 0.79*** | 80.8% |

Statistical significance: * at 10% level, ** at 5% level, *** at 1% level

Source: Author's calculations

To conduct a sectoral analysis, given that unemployment and GDP statistics are not available at a sectoral level, the author resorted to using GVA as a measure of sectoral economic activity and employment statistics as the main dependent variable, all sourced from Malta's National Accounts. The estimation period is from 2001Q1 until 2023Q2.

Econometric estimates suggest that, when disaggregating the Maltese economy between the primary, secondary and tertiary sectors²⁰, employment in the tertiary

¹⁹ NSO Statistics on Digital Platform Employment in 2022 may be accessed from [here](#).

²⁰ The primary sector consists of sector A and B. The secondary sector is comprised of sectors C to E and F while the tertiary sector consists of sectors G to I, J, K, L, M to N, O to Q and R to U. The NACE Rev.2 classification defines the sectors as follows: A: Agriculture, forestry and fishing, B-E: Mining and quarrying; manufacturing; electricity, gas, steam and air conditioning supply; water supply; sewerage, waste management and remediation activities, C- Manufacturing, F: Construction, G-I: Wholesale and retail trade, transportation and storage, accommodation and food service activities, J: Information and communication,

sector is slightly more responsive to sectoral GVA growth relative to the secondary and primary sectors. Such estimates are based on an autoregressive distributed lag model where the year-on-year growth rate in sectoral employment is regressed on its own lag and contemporaneous or lagged values of the year-on-year growth rate of sectoral gross value added.

2.7 Testing for asymmetry

Asymmetry in the output-unemployment relationship would imply that the unemployment rate's reaction to changes in GDP also depends on whether the economy is growing or contracting. This differs from the earlier specifications, which obliquely limit the GDP-unemployment relationship to remain constant between economic expansions and recessions. In this section, asymmetry is tested by distinguishing Okun's law relationship between periods of recessions and expansions²¹.

To test for this, the GDP growth rate is split and replaced by two variables; (i) one is ΔY_{t_exp} , which contains the rate of change in GDP for those quarters when GDP is expanding while the remaining quarters show a value of zero, and (ii) ΔY_{t_con} , which contains the rate of change in GDP for those quarters when GDP is contracting while the remaining quarters are assigned a value of zero. Asymmetry is tested both on the static and dynamic regression specifications.

Regression coefficients for Okun's law with asymmetry

Dependent variable: $\Delta(UR_t)$

Sample: 2001Q1 – 2023Q2

| Specification | Explanatory variables | | | | Adjusted R2 |
|---------------|-----------------------|--------------------|---------------------|---------------------|-------------|
| | intercept | $\Delta(UR_{t-1})$ | ΔY_{t_exp} | ΔY_{t_con} | |
| Static | 0.06 | | -0.06*** | -0.09*** | 27% |
| Dynamic | 0.00 | 0.49*** | -0.03** | -0.07*** | 48% |

Statistical significance: * at 10% level, ** at 5% level, *** at 1% level

The two columns before the last refer to the specification of dummy variables to test for asymmetry.

Source: Author's calculations

K: Financial and insurance activities, L: Real estate activities, M and N: Professional, scientific, technical, administration and support service activities, O-Q: Public administration, defense, education, human health and social work activities, R-U: Arts, entertainment and recreation, repair of household goods and other services.

²¹ The methodology adopted in this section closely follows the methodology adopted by Koro Yahia (2018). See Kori Yahia, A. (2018). "Estimating Okun's Law for Malta". MPRA Paper No. 83961, January 2018.

The above table presents the results for Malta from both the static and dynamic specifications of the difference version while testing for asymmetry. The dynamic equation, which includes the change in GDP in years 't' and 't+1' as regressors, was omitted to avoid issues of multicollinearity. In both the static and dynamic specifications, evidence was found of an unbalanced relationship in Okun's law though marginal. The response of unemployment to output tends to be more responsive during contractions relative to expansionary periods. It is notable that the output coefficients typically decrease slightly when an autoregressive term is included in the specification.

2.8 Defining the speed of adjustment

In this section, results from an error correction model estimation are presented to define the speed of adjustment of the unemployment rate to changes in the economic growth rate. The following table presents the results:

Error Correction Model (ECM) for the unemployment rate

Dependent variable: $d_{\Delta}(UR_t)$

Sample: 2001Q1 – 2023Q2

| Specification | $D(\Delta(UR)) = c(1)+c(2)*D(\Delta(Y))+c(3)*(\Delta UR_{t-1}+c(4)*(\Delta Y_{t-1}))$ | | | | Adjusted R2 |
|---------------|---|----------|----------|---------|-------------|
| | c(1) | c(2) | c(3) | c(4) | |
| Static | 0.07 | -0.04*** | -0.51*** | 0.08*** | 30% |

Statistical significance: * at 10% level, ** at 5% level, *** at 1% level

Source: Author's calculations

The results show that all the estimated parameters are statistically significant, except for the intercept. The estimated residual parameter with a one-period lag from the cointegration model (c(3)) indicates that the unemployment rate would adjust to equilibrium in each subsequent period by 51.4%. The value of the error correction term should be negative because a positive value would indicate a departure from equilibrium. This condition is met, and it is concluded that the estimated ECM model is stable. If the economic growth rate increases by 1%, the short-term unemployment rate would decrease by 0.04%. On the other hand, in the long run, if the economic growth rate increases by 1%, the unemployment rate will decrease by 0.08%. The long-run coefficient represents the equilibrium relationship between the variables in the model after any short-term deviations have been corrected by the error correction mechanism. Any short-run deviations from the long run are being corrected by 51.4% in each subsequent period.

2.9 Conclusions and policy implications

The results point to several interesting observations on the relationship between economic growth and the labour market in Malta, all of which can be summarised in four points as follows:

1. Through different econometric specifications, this study finds evidence of the Okun's law relationship in Malta, with an Okun coefficient which is statistically significant and hovering around 0.07. Furthermore, it was also noted that according to this relationship, the rate of output growth consistent with a stable unemployment rate is around 1.8%.
2. Juxtaposed with other EU economies, the relationship between output and unemployment in Malta is relatively weak, and only France, Belgium, Italy, and Romania reported an Okun coefficient that is lower than Malta's. Indeed, the cross-country analysis performed in this study reveals considerable heterogeneity in the Okun coefficient across EU economies, with Lithuania recording the highest coefficient at 0.4. This study also discussed potential reasons for Malta's relatively low Okun's coefficient, including labour hoarding, Malta's custom of lifetime employment, especially in older generations, and the fact that over recent years, Malta's unemployment rate was at historically low levels and therefore any changes in economic activity were mainly catered for by inflows of foreign workers rather than utilizing unemployment resources. Furthermore, the relatively stronger countercyclical fiscal policy adopted by the Maltese government during the COVID-19 pandemic has shielded the labour market against significant adverse shocks.
3. The unemployment-output relationship in Malta has changed over the last years but not by significant proportions. Such changes are on the back of the changing structure of the Maltese economy, particularly becoming more services-oriented and the higher prevalence of the gig economy over recent years. Such sectors tend to be more labour-intensive relative to the traditional sectors. Concomitantly, this study also found that the labour market in the tertiary sector is marginally more responsive to sectoral GVA growth in Malta relative to the primary and secondary sectors.

4. This analysis concludes that Okun's law relationship in Malta tends to be slightly more responsive during contractionary periods than expansionary periods.
5. The results show a marginal difference between the short- and the long-run Okun coefficient in Malta and that any deviations between the short- and the long-run are corrected at a speed of adjustment of 51.4% in each subsequent period.

The above analysis points to several policy implications. The finding that Okun's coefficient is slightly higher in recessionary compared to expansionary periods supports the MFAC's long-standing advice to adopt a countercyclical fiscal policy strategy by building fiscal buffers during prosperous times to create fiscal space. This allows for the creation of fiscal manoeuvre in times of subdued demand to stimulate economic activity and prevent significant shocks in the labour market.

Within the context of the Economic Governance Review (expected to come into force in 2025), the net primary expenditure upon which the Government must commit excludes cyclical unemployment expenditure. Based on the findings presented in this paper, the labour market in Malta has been highly resilient. Consequently, should this trend persist in the future, any deviations from the primary expenditure path would not be expected to emanate from cyclical unemployment.

Furthermore, the asymmetric relationship between output and unemployment suggests that the rate at which jobs are created during a recession would not be enough to take on the newly jobless. In order to help the unemployed improve their abilities and match the evolving demands of the new industries, a more proactive strategy should be taken to give them the necessary training and incentives, ultimately leading to the facilitation of their re-employment. Also, by facilitating the expedited employment of new entrants into the labour market, the government would mitigate the adverse and enduring effects of a recession on the nation's long-term potential output. Moreover, this study provides empirical evidence that addressing structural unemployment issues can help improve long-term economic growth. Policies focused on improving education, skills training, and labour market flexibility can enhance the economy's productive capacity over time, leading to higher levels of employment and output.