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ECONOMIC STRUCTURE
SINCE 2000: AN ANALYSIS USING
CHAIN-LINKED SECTORAL NATIONAL
ACCOUNTS DATA**

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DEVELOPMENTS IN THE MALTESE ECONOMIC STRUCTURE SINCE 2000: AN ANALYSIS USING CHAIN-LINKED SECTORAL NATIONAL ACCOUNTS DATA¹

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Introduction

The Maltese economy has undergone several important structural changes over the past two decades. However, analysis of these changes was limited as it could only be conducted using nominal data, or via proxies for sector deflators.² In 2020, the National Statistics Office (NSO) published chain-linked national accounts data by economic sector for the first time. This new information allows an analysis of real GVA, productivity, and price competitiveness at sectoral level.

This article provides an overview of sectoral developments in the Maltese economy in the two decades from 2000 to 2020.³ This period covers Malta's accession to the European Union and the adoption of the euro, the Global Financial Crisis and subsequent euro area sovereign debt crisis, the growth of industries and the shift from industrial to more service-oriented activities and, more recently, the significant negative economic shock brought about by the COVID-19 pandemic.

The changing structure of the Maltese economy

Table 1 outlines the development of the share of broad economic sectors in output of the Maltese economy between 2000 and 2020, measured in chain-linked GVA terms. These are compared with those of the euro area. This use of chain-linked GVA data allows for a more accurate overview of sectoral structure and developments, as it enables a distinction to be made between developments in output volumes and in prices. This distinction is not possible when using nominal data, meaning that output shares could be distorted by changes in relative output prices across sectors.

Since 2000, the share of industrial activities in Malta's GVA has declined. In particular, the share of the manufacturing sector dropped from 12.6% in 2000-2006 to 8.5% on average over the period 2014-2020. This reflects a downscaling of the manufacturing sector in Malta that occurred around the time of EU accession, partly reflecting increased external competition and the removal of trade protection. The share of the construction sector also dropped markedly, from 7.1% to 3.9%, while the relative importance of primary industries, such as agriculture and fishing, in overall output remained small throughout the period under review. Conversely, industrial activities – especially manufacturing – remained an integral part of the euro area economy, accounting for 17% of GVA on average between 2014 and 2020, roughly double that in Malta. Indeed, it has largely retained its share in the euro area economy throughout the past two decades.

The decline in the share of industrial activities was mirrored in a significant increase in the share of services, which grew at a relatively faster pace. Indeed, the total share of services sectors in GVA (excluding the public sector) rose from an average of 52.8% in 2000-2006 to 68.1% in

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² See for instance "Structural changes in the Maltese economy" (*Annual Report* 2014, pp. 72-76).

³ A number of detailed sector-level analyses have also been carried out. See "Developments in the transportation and storage sector" (*Quarterly Review* 2020:4, pp. 78-89) and "Developments in the manufacturing sector" (*Quarterly Review* 2018:1, pp. 20-29).

Table 1
SHARES OF GVA⁽¹⁾

Chainlinked; averages

	Malta			Euro area		
	2000-2006	2007-2013	2014-2020	2000-2006	2007-2013	2014-2020
Agriculture, forestry and fishing	1.8	1.3	1.0	1.7	1.7	1.7
Industry (excl. construction)	15.3	13.1	10.4	20.4	19.6	19.9
of which: Manufacturing	12.6	11.4	8.5	17.0	16.3	16.8
Construction	7.1	4.4	3.9	6.7	5.8	4.9
Wholesale and retail trade; vehicle repair	10.6	9.9	10.0	10.6	10.7	11.0 ⁽²⁾
Transportation and storage	7.2	5.9	5.5	5.0	5.1	4.9 ⁽²⁾
Accommodation and food services	6.0	4.9	4.7	3.1	3.0	2.9 ⁽²⁾
Information and communication	3.5	4.4	8.1	3.3	4.0	4.9
Finance and insurance activities	5.7	8.9	8.1	5.3	5.4	5.0
Real estate activities	6.0	6.2	5.9	10.6	11.2	11.3
Professional, scientific and technical activities	4.1	5.4	8.3	6.4	6.4	6.6 ⁽²⁾
Administrative and support service activities	3.6	4.1	6.8	4.2	4.4	4.7 ⁽²⁾
Public administration and defence; education, health and social work activities	20.5	19.7	16.8	19.3	19.2	18.9
Arts, entertainment and recreation	4.2	10.4	9.7	1.3	1.3	1.4 ⁽²⁾
Miscellaneous services	1.9	1.3	1.1	2.4	2.3	2.1 ⁽²⁾

Sources: Eurostat; authors' calculations.

⁽¹⁾ Sectoral shares are chainlinked estimates and may not sum to 100%.

⁽²⁾ Data is an average of 2014-2019, as 2020 data were unavailable at the time of publication.

2014-2020.⁴ This is higher than the share of services in euro area output, which averaged at 54.8% in the last sub-period and increased by only 2.6 percentage points compared to the first sub-period. Indeed, output shares for all services sectors were higher in Malta than in the euro area during the past seven years, except for real estate activities and miscellaneous services.⁵ A similar conclusion was reached in Grech (2015), which found that the increase in the share of services in Malta was the largest increase experienced across the European Union between 2004 and 2014.⁶

Developments within services were mixed, however. The share of sectors such as information and communication, professional, scientific, and technical activities, administrative and support services, and arts, entertainment, and recreational services (which mainly comprises the gambling and betting industry) rose sharply during the past two decades. On the other hand, the average share of accommodation and food services in GVA stood at 4.7% in 2014-2020, down from 6.0% in 2000-2006.⁷ Similarly, the share of the sector comprising public administration, health, and education declined, averaging 16.8% in 2014-2020 from 20.5% in 2000-2006 and standing below the euro area average in the third sub-period.

⁴ The aggregate for private services sectors excludes agriculture and fishing, industry, construction, and the sector comprising public administration, health, and education.

⁵ Miscellaneous services comprises NACE sectors S, T and U. Sector S includes other services activities, such as activities of non-profit organisations and trade unions, repair of consumer goods and equipment, and personal services. Sector T consists of activities of households as employers of domestic personnel and undifferentiated goods-and services-producing activities of private households for own use. Sector U relates to the activities of extraterritorial organisations and bodies.

⁶ See Grech (2015), "The Diversification of the Maltese Economy". A more broad-based analysis can be found in Grech (2015), "The Evolution of the Maltese Economy since Independence".

⁷ The decline in the GVA share of food & accommodation does not necessarily reflect a decline in the share of tourism in the economy and its relative importance given that parts of tourist expenditure are reflected in other NACE categories (eg. travel agents, transportation, entertainment, groceries and others).

On the other hand, the wholesale and retail trade sector maintained a relatively stable share of around 10.0% since 2007, which is only moderately lower than the 10.6% recorded in the previous seven years.

Table 2 provides an overview of sectoral contributions to real GVA growth in the two decades to 2020. Growth in aggregate output has accelerated over time, averaging 5.3% in 2014-2020 compared with 3.6% in 2007-2013 and 1.7% in 2001-2006.

The economic expansion during the 2001-2006 period was largely dominated by newly-established services industries, such as finance and insurance activities, and arts, entertainment and recreational services. On the other hand, the manufacturing sector went through a period of downscaling, thereby acting as the main drag on economic growth during the period. The sector comprising transportation and storage, and the sector incorporating accommodation and food services also lowered GVA.

Growth in GVA accelerated in the 2007-2013 period when compared with the previous seven years, supported mainly by services sectors. In particular, the arts, entertainment and recreation sector recorded a strong positive contribution, reflecting the development of the gambling and betting industry in Malta. At the same time, the wholesale and retail trade sector also contributed significantly to growth during this period, reflecting a shift in consumption patterns and rising household incomes. The manufacturing sector registered positive growth on average during this 7-year period, which reflects the significant restructuring within the sector in favour of more high-value added industries such as pharmaceuticals and aircraft maintenance. On the other hand, the construction sector contributed negatively to growth, reflecting a period of slowdown in the property market.

Table 2
CONTRIBUTIONS TO GROWTH IN GVA

Chainlinked; percentage points; averages

	2001- 2006	2007- 2013	2014- 2020
Agriculture, forestry and fishing	0.2	-0.1	0.0
Industry (excl. construction)	-0.7	0.2	0.4
of which: Manufacturing	-0.6	0.4	0.2
Construction	0.2	-0.1	0.3
Wholesale and retail trade; vehicle repair	0.1	0.5	0.4
Transportation and storage	-0.2	0.1	0.0
Accommodation and food services	-0.2	0.2	-0.1
Information and communication	0.3	0.4	1.2
Finance and insurance activities	0.6	0.4	0.3
Real estate activities	0.2	0.2	0.3
Professional, scientific and technical activities	0.3	0.4	1.0
Administrative and support service activities	0.1	0.3	0.8
Public administration and defence; education, health and social work activities	0.4	0.4	0.7
Arts, entertainment and recreation	0.4	0.6	0.1
Miscellaneous services	0.0	0.0	0.0
GVA (% growth)	1.7	3.6	5.3

Sources: NSO; authors' calculations.

GVA growth picked up further in the 2014-2020 period. During this period, growth was primarily driven by the information and communication sector, the sector comprising professional, scientific and technical activities, the sector comprising administrative and support services, and public administration. Other services sectors such as the finance and insurance activities sector also contributed positively, but to a lesser extent. The manufacturing sector also registered a positive contribution during this period, suggesting that despite its decreased share in output, the sector remained an important driver of output growth. On average, the accommodation and food services sector registered a slightly negative contribution to growth. The latter sector was heavily impacted by the COVID-19 shock in 2020; indeed, between 2014 and 2019, food and accommodation services registered a positive contribution of 0.4 percentage point, reflecting the rapid growth in the tourism industry during these years.

Table 2 shows that overall GVA growth averaged 1.7% in 2001-2006, 3.6% in 2007-2013, and 5.3% in 2014-2020 when measured in chain-linked volumes; this compares with growth of 4.1%, 6.0%, and 7.6% in the respective sub-periods when output is measured in current (nominal) prices.⁸ This suggests that growth in the volume of output was more moderate than that indicated by nominal data, with the residual being wholly a result of growth in output prices (see section on “Developments in sectoral deflators” below). In terms of sectoral contributions, chain-linked data mainly implies lower contributions for the public, health and education sector, the arts, entertainment and recreation sector, and the financial and insurance activities sector, indicating that a significant part of the nominal increase in output registered in these sectors during the period under review was driven mainly by an increase in sectoral deflators. This distortionary impact of price changes on the analysis highlights the benefits of studying sectoral structure using chain-linked output data.

Sectoral developments in employment

Table 3 provides a picture of the structure of the Maltese labour market on the basis of national accounts data and how sectoral employment shares have changed since 2000 compared with the euro area.

The sectors comprising public administration and defence, education, health and social work activities collectively employ around 24% of total employment, similar to that in the euro area. This share was broadly unchanged during the past two decades. Following these predominantly public services sectors, the wholesale and retail trade sector ranks second in terms of employment, and although this sector's share in employment decreased over time, it nonetheless overtook the manufacturing sector in the 2014-2020 period. Moreover, employment levels in administrative and support services activities have risen rapidly since 2000, with this sector becoming the fourth most important in terms of employment in the 2014-2020 period.

Conversely, sectors which lost importance in terms of GVA generally also recorded a decreasing share in employment over time. Indeed, the share of employment of non-services sectors such as manufacturing, construction and primary industries declined over the years. In particular, the share of employment in manufacturing fell from an average 19.3% in the 2000-2006 period to 10.5% in the 2014-2020 period, mirroring developments in the sector's share in output. Despite the decline in the share of total employment, absolute levels of employment in the manufacturing sector rose slightly in recent years, as the sector recovered and diversified. Hence, this sector remained one of the largest employers in Malta.

⁸ Sectoral contributions to GVA in nominal terms are shown in Appendix I.

Table 3
SHARES OF TOTAL EMPLOYMENT

Averages

	Malta			Euro area		
	2000-2006	2007-2013	2014-2020	2000-2006	2007-2013	2014-2020
Agriculture, forestry and fishing	1.5	1.5	1.1	4.3	3.5	3.2
Industry (excl. construction)	22.3	18.2	11.5	17.8	16.4	14.7
of which: Manufacturing	19.3	15.8	10.5	16.4	15.1	13.4
Construction	6.9	7.4	5.9	7.4	7.5	6.0
Wholesale and retail trade; vehicle repair	16.0	15.3	14.2	15.1	15.0	14.6 ⁽¹⁾
Transportation and storage	5.7	5.6	5.6	5.0	4.9	4.9 ⁽¹⁾
Accommodation and food services	6.6	6.7	6.4	4.4	4.7	5.4 ⁽¹⁾
Information and communication	2.6	2.8	3.8	2.6	2.6	2.8
Finance and insurance activities	4.0	5.4	5.3	2.8	2.7	2.5
Real estate activities	0.3	0.4	0.9	1.0	1.0	1.0
Professional, scientific and technical activities	3.0	3.8	6.2	5.3	5.7	6.5 ⁽¹⁾
Administrative and support service activities	3.7	4.8	8.5	5.3	5.9	7.1 ⁽¹⁾
Public administration and defence; education, health and social work activities	24.0	24.6	24.3	22.9	23.6	24.3
Arts, entertainment and recreation	1.2	1.7	3.5	1.4	1.5	1.7 ⁽¹⁾
Miscellaneous services	2.2	2.4	2.7	4.9	5.1	5.2 ⁽¹⁾

Sources: Eurostat; authors' calculations.

⁽¹⁾ Data is an average of 2014-2019, as 2020 data were unavailable at the time of publication.

The increasing share in output of the services sectors is also mirrored in the rising shares of these sectors in total employment. Sectors such as administrative and support services, professional, scientific and technical activities, and arts, entertainment and recreation have seen their shares in total employment double, when comparing the 2014-2020 period with the years 2000-2006. The information and communication sector, financial and insurance activities and, to a lesser extent, real estate activities also registered an increased share of total employment during the period. Meanwhile, the employment share of the transportation and storage sector and of the accommodation and food services sector remained relatively stable over the years. In total, employment within predominantly private sector services industries increased by over 90,545 heads between 2000 and 2020, compared with a drop of just below 4,000 heads in industrial sectors.

This shift towards service-oriented sectors in Malta was stronger than that observed in the euro area during the corresponding period, mirroring developments in output shares. The total share of private service-oriented sectors in euro area employment rose from an average of 47.7% in 2000-2006 to 51.7% in the most recent sub-period, whereas in Malta there was a corresponding increase in the employment share of the private services sector of 11.9 percentage points, to 57.2%.

Table 4 confirms that within the private sector, employment growth was driven by sectors such as administrative and support service activities, professional, scientific and technical activities, the arts, entertainment and recreation sector, and accommodation and food services.⁹ The

⁹ Strong employment growth in the administrative and support service activities sector was driven by the sub-sectors relating to employment activities, security and investigation activities, and services to buildings and landscapes. This may reflect increased outsourcing of such activities from other sectors.

Table 4
CONTRIBUTIONS TO EMPLOYMENT GROWTH

Percentage points; averages

	2001- 2006	2007- 2013	2014- 2020
Agriculture, forestry and fishing	0.0	0.0	0.0
Industry (excl. construction)	-0.8	-0.4	0.0
of which: Manufacturing	-0.7	-0.3	0.1
Construction	0.2	0.0	0.3
Wholesale and retail trade; vehicle repair	0.3	0.2	0.5
Transportation and storage	0.0	0.1	0.3
Accommodation and food services	0.0	0.1	0.4
Information and communication	0.0	0.2	0.2
Finance and insurance activities	0.1	0.3	0.2
Real estate activities	0.0	0.1	0.1
Professional, scientific and technical activities	0.2	0.3	0.6
Administrative and support service activities	0.2	0.3	1.1
Public administration and defence; education, health and social work activities	0.3	0.7	0.9
Arts, entertainment and recreation	0.1	0.2	0.4
Miscellaneous services	0.1	0.1	0.1
Total employment (% growth)	0.8	2.3	5.5

Sources: Eurostat; authors' calculations.

wholesale and retail trade sector also had a sizeable contribution to employment growth in recent years. On the other hand, the manufacturing sector contributed negatively to employment growth on average between 2001 and 2013, and had only a marginal impact between 2014 and 2020.

The sectors relating to public administration, education and health also contributed positively. The latter was largely driven by increased employment within health and social work activities, as well as education.

The substantial employment growth registered in recent years has been facilitated by an increase in the participation rate of Maltese nationals and inward migration. Although the unemployment rate decreased to around 4% since 2017, reliance on foreign workers has increased. Their share in total employment increased from an average of 6.4% in 2008-2013 to 20.1% in 2014-2020 (see Table 5).¹⁰ Each economic sector has recorded a rising share of foreign workers in total employment in 2014-2020, over the 2008-2013 time-period, albeit to different extents. Apart from the construction sector, the service-oriented sectors registered the largest rises in the share of foreign workers, namely the accommodation and food services sector (23.6 percentage points), the arts, entertainment and recreation sector (22.3 percentage points), professional, scientific and technical activities (19.9 percentage points), the information and communication sector (18.0 percentage points) and to a lesser extent, the sector relating to administrative and support service activities (17.0 percentage points).

¹⁰ An increase of 3.8 percentage points was recorded in the share of foreign workers in total employment between 2002-2007 and 2008-2013, substantially below the 13.7 percentage point increase registered in 2014-2020.

Table 5
FOREIGN WORKERS IN MALTA

Share in total sectoral employment; averages

	2008- 2013	2014- 2020 ⁽¹⁾
Agriculture, forestry and fishing	2.3	8.4
Industry (excl. construction)	4.0	14.0
of which: Manufacturing	4.4	14.4
Construction	7.7	27.6
Wholesale and retail trade; vehicle repair	2.8	12.0
Transportation and storage	2.9	14.2
Accommodation and food services	13.9	37.5
Information and communication	7.9	25.9
Finance and insurance activities	5.0	16.4
Real estate activities	4.8	15.3
Professional, scientific and technical activities	11.2	31.1
Administrative and support service activities	17.4	34.4
Public administration and defence; education, health and social work activities	2.4	7.2
Arts, entertainment and recreation	38.0	60.3
Miscellaneous services	8.1	23.5
Total economy	6.4	20.1

Sources: Jobsplus; authors' calculations.

⁽¹⁾ Data for 2020 shown as at October 2020.

Sectoral developments in productivity levels and unit labour costs

The section looks at trends in real productivity and unit labour costs at a sectoral level over the past two decades. Chart 1 shows average sectoral productivity levels, measured as the ratio of chain-linked GVA to the number of employed persons, in Malta and the euro area in the period 2014-2020. In 2014-2020, service-oriented sectors generated the highest average levels of productivity in Malta. The arts, entertainment and recreation sector recorded a productivity level of €129,378 per person employed, significantly higher than in most other sectors. Other service sectors, such as information and communication, financial and insurance activities, and professional, scientific and technical activities also recorded productivity levels above the economy-wide average of €44,004 per head.

Similarly, the most productive sectors at euro area level were service-oriented sectors, particularly finance and insurance activities, and the information and communication sector. Real GVA per person employed was higher in the euro area for most sectors when compared with Malta, apart from the arts, entertainment and recreation sector, and agriculture and fishing.

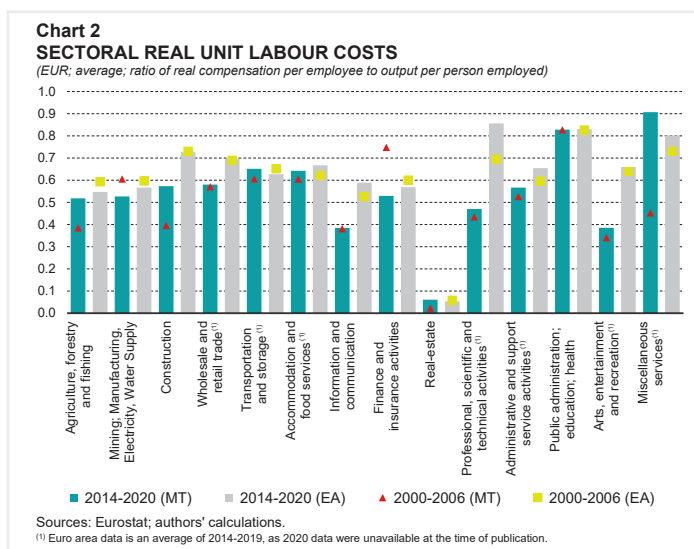
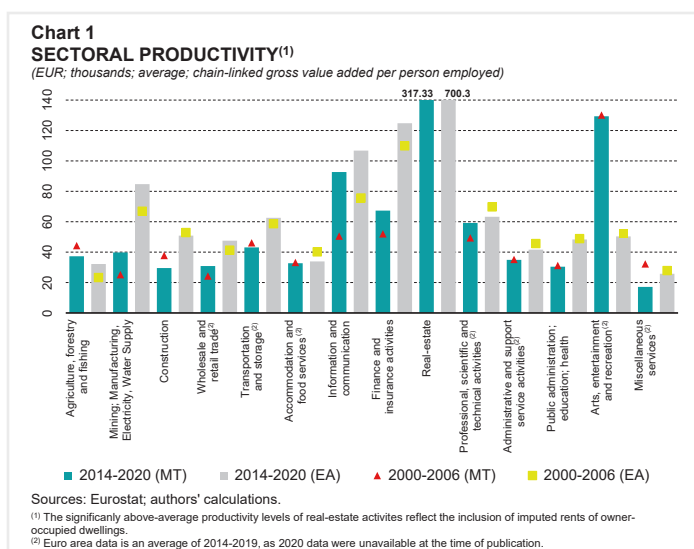
Productivity within two of the sectors which have persistently accounted for large shares of employment over the past two decades in both Malta and the euro area – the public administration, health and education sector, and the wholesale and retail trade sector – stood at the lower-end of the domestic productivity spectrum during the period under review. In particular, the public administration, health, and education sector in Malta recorded the third lowest average productivity level at €30,423 per person employed in 2014-2020, followed only by the construction sector and miscellaneous services.

Chart 1 also provides a comparison of sectoral productivity levels in 2014-2020 with the average for 2000-2006.¹¹ As in 2014-2020, the highest productivity levels in 2000-2006 were mainly recorded in services industries.

The information and communication sector saw substantial growth in its real productivity level during the years under review, mainly reflecting developments in the telecommunications subsector. This was a result of real output outpacing job creation. Financial and insurance activities also experienced substantial growth in productivity during the period under review. This surge was largely due to robust growth in real output, albeit to a lesser extent than in the information and communication sector, particularly in the years leading up to the Great Recession. Productivity levels in this sector stabilised in more recent years, though at a higher level than the average for 2000-2006.

The manufacturing sector also registered increased productivity levels, largely due a decline in employment levels. On the other hand, the construction sector and smaller industries such as miscellaneous services, and agriculture and fishing registered a drop in productivity levels. Meanwhile, the transportation and storage sector, the sectors comprising public administration, health and education (collectively), the administrative and support services sector, and accommodation and food activities showed little to no change in their productivity levels between the two periods.

Chart 2 shows developments in real ULC in Malta and the euro area, measured as the ratio of real compensation per employee to chain-linked productivity per employed person. In the 2014-2020 period, the highest real ULC in the Maltese economy were recorded in the sectors relating to miscellaneous services and public administration, education and health activities. These were followed by the transportation and storage sector. On the other hand, the lowest ULC were registered in real estate activities,



¹¹ For an analysis of developments in sectoral productivity levels during 2020, see Box 3 "Sectoral contributions to aggregate labour productivity and ULC growth" in the *Annual Report 2020*, pp. 81-86.

the information and communication sector, and the arts, entertainment, and recreation sector. This was largely a result of these sectors having the highest productivity levels during these years.

On an aggregate level, unit labour costs in Malta during the 2014-2020 period were below those registered in the euro area on average. Indeed, at a sectoral level, only the ULC of those domestic sectors which registered relatively higher ULCs – miscellaneous services and the transportation & storage sector – surpassed the corresponding real ULC values in the euro area.

When assessed over a longer horizon, ULC in real terms remained largely unchanged in most sectors. However, miscellaneous services and the construction sector recorded large increases in their ULC between 2000-2006 and 2014-2020, due to increasing real compensation per employee and declining productivity levels. In contrast, finance and insurance activities registered a decline in ULC over the same time-period, largely due to productivity improvements in the sector. In turn, the declining ULC in this sector largely explained the increased divergence between ULC in Malta and the euro area in recent years, compared with those registered in 2000-2006.

Developments in sectoral deflators

This section describes developments in sectoral deflators between 2000 and 2020. Table 6 depicts the evolution of sectoral deflators in the past two decades, showing average annual growth in the intervening periods in Malta and the euro area.

Most sectors recorded increases in these deflators over the years. The largest increases were observed in finance and insurance activities, the arts, entertainment and recreation sector, and the sector comprising public administration, education and health. Such developments could reflect a number of factors, including the development of new products/services and pure price increases due to changes in cost and wage pressures.

Table 6
SECTORAL DEFLATORS

Percentage change; averages

	Malta			Euro area		
	2001-2006	2007-2013	2014-2020	2001-2006	2007-2013	2014-2020
Agriculture, forestry and fishing	-3.5	3.8	0.4	-0.3	1.2	1.0
Industry (excl. construction)	1.1	0.2	0.6	0.9	1.2	1.0
of which: Manufacturing	0.4	-0.6	1.0	0.2	0.9	1.1
Construction	3.0	2.3	1.7	4.1	2.3	2.6
Wholesale and retail trade; vehicle repair	1.5	0.9	0.5	1.2	1.2	0.6 ⁽¹⁾
Transportation and storage	3.0	3.3	1.0	1.6	1.6	1.7 ⁽¹⁾
Accommodation and food services	3.7	2.3	0.4	3.1	1.4	2.2 ⁽¹⁾
Information and communication	3.1	-2.6	-0.9	-0.6	-1.8	0.0
Finance and insurance activities	5.6	3.5	2.3	4.1	0.8	0.7
Real estate activities	1.4	2.0	3.2	3.1	1.4	1.4
Professional, scientific and technical activities	2.6	2.5	2.4	2.3	1.5	1.1 ⁽¹⁾
Administrative and support service activities	2.6	2.2	1.7	2.5	2.0	1.6 ⁽¹⁾
Public administration and defence; education, health and social work activities	3.9	3.7	3.3	3.1	1.9	1.9
Arts, entertainment and recreation	1.9	9.1	6.3	2.8	2.0	1.1 ⁽¹⁾
Miscellaneous services	1.9	1.8	1.0	2.8	1.9	0.8 ⁽¹⁾

Sources: Eurostat; authors' calculations.

⁽¹⁾ Data is an average of 2014-2019, as 2020 data were unavailable at the time of publication.

On the other hand, the deflator for information and communication shows a significant decline since 2007. This could reflect the technological progress that affects this sector globally, leading to constant improvement in quality at a reduced production cost.

Developments in deflators were more mixed outside the services sector. The deflator for the manufacturing sector declined during the 2007-2013 period. This was a period of turbulence for this industry, which underwent significant structural and regulatory changes, in part owing to EU accession. More recently, the deflators in this sector have increased, though not at the same rates observed in some services sectors.

Similarly, the wholesale and retail trade sector recorded only moderate growth, particularly in more recent years. These developments could reflect increased competitive pressures within the sector, such as e-commerce and the presence of a number of international firms in Malta.

When compared with the euro area, growth in the deflators in Malta was stronger in several sectors, particularly in services sectors from 2007 onwards. In part, this could reflect the divergence in economic developments between Malta and the euro area during recent years. While Malta experienced a period of strong economic growth, driven by developments in the services sector, activity in the euro area remained sluggish following the impact of the Global Financial Crisis, and the sovereign debt crisis.

Growth in the GDP deflator averaged between 2.0% and 2.5% during most of the period under review. The largest contributor to growth in the overall deflator was consistently the sector comprising public administration, education and health – reflecting its large weight in total output and above-average growth in its deflator (see Table 7). From 2007 onward, the deflator for the arts,

Table 7
CONTRIBUTIONS TO GROWTH IN GDP DEFLATOR

Percentage points; averages

	2001- 2006	2007- 2013	2014- 2020
Agriculture, forestry and fishing	-0.1	0.0	0.0
Industry (excl. construction)	0.2	0.0	0.0
of which: Manufacturing	0.1	-0.1	0.1
Construction	0.2	0.1	0.1
Wholesale and retail trade; vehicle repair	0.2	0.1	0.0
Transportation and storage	0.2	0.2	0.1
Accommodation and food services	0.2	0.1	0.0
Information and communication	0.1	-0.1	-0.1
Finance and insurance activities	0.2	0.3	0.2
Real estate activities	0.1	0.1	0.2
Professional, scientific and technical activities	0.1	0.1	0.2
Administrative and support service activities	0.1	0.1	0.1
Public administration and defence; education, health and social work activities	0.6	0.6	0.5
Arts, entertainment and recreation	0.0	0.5	0.6
Miscellaneous services	0.1	0.1	0.0
Net Taxes	0.4	0.3	0.5
GDP deflator (% growth)	2.5	2.3	2.4

Sources: Eurostat; authors' calculations.

entertainment and recreation industry also had a substantial impact on the growth in the GDP deflator. Other services sectors – excluding information and communication - and the construction sector also consistently contributed positively to growth in the GDP deflator, though to a lesser extent. On the other hand, the impact of the primary and industrial sectors (excluding construction) on the economy-wide deflator growth was small on average.

Conclusion

Using chain-linked sectoral national accounts data, this analysis shows that there was a strong shift towards services sectors in the Maltese economy during the two decades since 2000. This confirms the findings of earlier studies, using nominal data on the changing economic structure in Malta. The shift towards the services industry – observed through both the rising share in GVA and in employment of these sectors – was more pronounced domestically when compared with the euro area. Indeed, the share of services industries in both output and employment was significantly higher in Malta in recent years when compared with the euro area. In turn, the decline in the employment share of the Maltese manufacturing sector was significantly above the corresponding decline in the euro area.

Additionally, services sectors generated the largest average productivity levels in recent years, in both Malta and the euro area. However, developments across sectors vary. Whereas the sector primarily consisting of gambling and betting activities registered the highest level of productivity in Malta, financial and insurance activities, and the information and communication sector were the most productive sectors at euro area level. Nonetheless, real GVA per person employed in most sectors was higher in the euro area relative to productivity levels in Malta.

This study also analyses developments in sectoral output deflators since 2000. Growth in the overall deflator in Malta has primarily been driven by developments in services output prices. Indeed, when compared with the euro area, growth in deflators in Malta was stronger in several sectors, particularly from 2007 onwards. This could reflect the strong economic growth observed in Malta in the intervening period, compared with the sluggish recovery in the euro area following the Great Recession and euro crisis, as well as some progress with price convergence.

Appendix I

COMPARISON OF NOMINAL AND CHAIN-LINKED CONTRIBUTIONS TO GROWTH IN GVA⁽¹⁾

Percentage points; averages

	Nominal			Difference (from chain-linked)		
	2000- 2006	2007- 2013	2014- 2020	2000- 2006	2007- 2013	2014- 2020
Agriculture, forestry and fishing	0.1	0.0	0.0	-0.1	0.1	0.0
Industry (excl. construction)	-0.5	0.3	0.5	0.2	0.0	0.1
of which: Manufacturing	-0.6	0.3	0.3	0.1	-0.1	0.1
Construction	0.4	0.0	0.3	0.2	0.1	0.1
Wholesale and retail trade; vehicle repair	0.3	0.6	0.4	0.2	0.1	0.0
Transportation and storage	0.0	0.3	0.1	0.2	0.2	0.1
Accommodation and food services	0.0	0.3	-0.1	0.2	0.1	0.0
Information and communication	0.4	0.3	1.1	0.2	-0.2	-0.1
Finance and insurance activities	0.8	0.8	0.5	0.3	0.3	0.2
Real estate activities	0.3	0.3	0.5	0.1	0.1	0.2
Professional, scientific and technical activities	0.4	0.5	1.2	0.1	0.1	0.2
Administrative and support service activities	0.2	0.4	0.9	0.1	0.1	0.1
Public administration and defence; education, health and social work activities	1.1	1.1	1.2	0.7	0.7	0.6
Arts, entertainment and recreation	0.4	1.2	0.8	0.0	0.6	0.7
Miscellaneous services	0.1	0.1	0.1	0.0	0.0	0.0
GVA (% growth)	4.1	6.0	7.6	2.4	2.4	2.2

Sources: Eurostat; authors' calculations.

⁽¹⁾ Chain-linked contributions are shown in Table 2.