

# Measuring Competitiveness Gains in Malta: A Shift Share Analysis<sup>i</sup>

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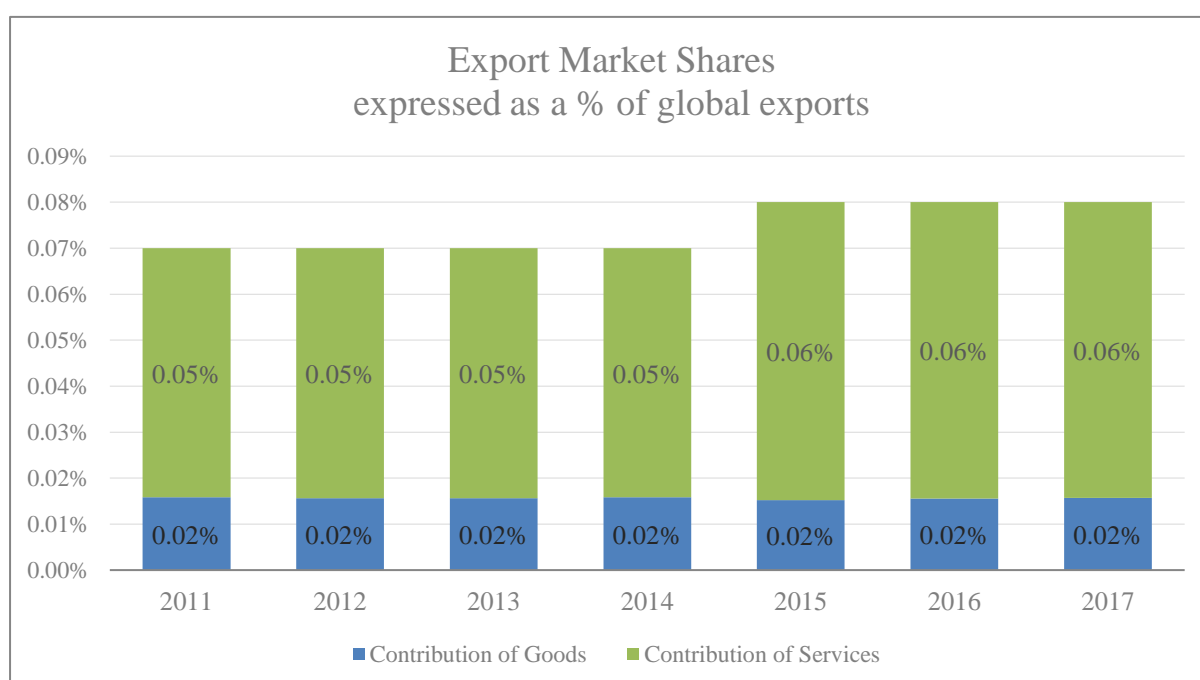
## Introduction

There is increasing evidence that the Maltese economy has been outperforming most of the EU member states over the last seven years, recovering very quickly and strongly from the brief recession in 2009 following the Great Recession and the subsequent crisis in the periphery of the euro area. This was a period of relatively strong growth, which has averaged 5.3% per annum. During the same period, potential growth averaged 4.8% compared to an average growth of 2.4% in potential output between 2001 and 2010. Latest estimates indicate that Malta's potential growth exceeds 6%. Whilst domestic demand conditions played an important role in supporting economic growth, export activity was the main contributor to growth.

Between 2010 and 2017 domestic demand (including inventories) expanded by an average growth of 2.7% per annum whilst exports increased by an average growth of 3.5% per annum. To what extent are these notable results supported by gains in competitiveness?

One of the best measures of external competitiveness are export market shares. At product level, gains in export market shares indicate that the product has outperformed global trends and hence provide a good indication of competitive gains. Malta's performance is illustrated in the chart below which suggests that Malta has gained market shares, particularly in the export of services. In goods, market shares have remained fairly stable over the period under consideration.

**Figure 1**



Source: Eurostat, EPD calculations

Whilst export market shares are an important and relevant indicator of gains in competitiveness, they should not be considered in isolation. A decline in export market share may not necessarily be the result of competitiveness losses and vice versa. In particular, exports is a turnover concept whereas economic activity is best measured by value added. Moreover, gains in competitiveness can also potentially be driven by domestically-oriented sectors which by definition would be excluded from export-based indicators. In order to address these limitations, the following analysis employs the shift-share analysis to industry value added.

## Methodology

The shift share analysis is a technique which can be used to evaluate the competitiveness of an economy based on the performance of its industries relative to their international counterparts. In turn the competitiveness of an economy is the sum of the competitiveness of every industry within an economy.

The traditional form of the shift-share analysis was developed by Daniel Creamer in the early 1940s, and was later formalized by Edgar S. Dunn in 1960. Stevens and Moor (1980) provide a critical review of the literature. The techniques was also utilised in recent years by the European Commission and the International Monetary Fund to evaluate competitiveness developments in Malta

The main intuition behind the shift share analysis is to decompose the change in the output (or some other summary measure such as employment or exports) which is originating from the global industry itself and that which is originating from the increase in global economic activity. These two components are essentially exogenous factors which can hardly be influenced by

policy measures. The remaining change in output is construed as a measure of industry competitiveness. In this context the analysis decomposes the change in value added in each sector in three main components:

1. The National Share component is the change in value added which is due to global demand conditions. Thus, if aggregate global economic activity is improving, this should translate into a comparable increase in demand for all products produced on the global markets. This is thus a purely exogenous component of demand.
2. The Industry Mix component is the change in value added which is due to the global performance of the industry in question, which performance can be stronger or weaker relative to global demand conditions. Thus, for instance if global demand for pharmaceuticals are rising more than overall global demand for all products and services produced globally, one should expect demand for pharmaceuticals produced in Malta to rise accordingly, irrespective of domestic conditions. Again, this is predominantly an exogenous component. A country or region can only influence, through industrial policy, whether to attract investment in industries where demand is growing and thus benefit indirectly from such positive market trends. However, the global growth in demand for that industry remains exogenous.
3. The Regional Shift component represents the change in value added which is purely due to domestic/regional performance. It cannot be explained by exogenous global or industry demand conditions and therefore is a good measure of the gains in competitiveness of an industry in a particular region.

The Shift share decomposition can be expressed into mathematical terms as follows:

$$Yd_t^i - Yd_{t-n}^i = \underbrace{Yd_{t-n}^i \times \left( \frac{\sum Yw_t^i}{\sum Yw_{t-n}^i} - 1 \right)}_{\text{National Share}} + \underbrace{Yd_{t-n}^i \times \left( \frac{Yw_t^i}{Yw_{t-n}^i} - \frac{\sum Yw_t^i}{\sum Yw_{t-n}^i} \right)}_{\text{Industry Mix}} + \underbrace{Yd_{t-n}^i \times \left( \frac{Yd_t^i}{Yd_{t-n}^i} - \frac{Yw_t^i}{Yw_{t-n}^i} \right)}_{\text{Regional Share}}$$

Where

*i* is the respective industry

*Yd* is the domestic component of value added of industry *i*

*Yw* is the global counterpart of value added of industry *i*

*t* is the most recent year of observation

*n* is the time interval under analysis

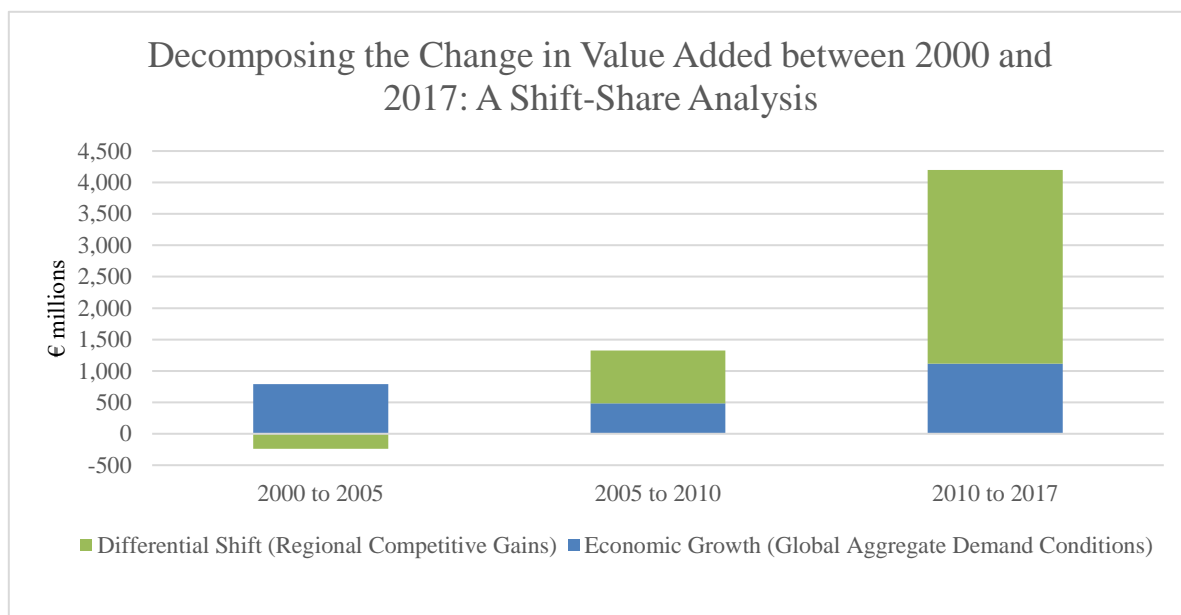
Because measures of aggregate global value added are not available and what is available may not follow harmonised definitions, we will be using the EU as the overall benchmark. Therefore, this analysis per se is partial, though when combined with the evolution of export market shares highlighted earlier, still gives a robust overview of competitiveness trends in Malta. The data refers to gross value added by A\*10 industry breakdown and is taken from Eurostat.

## Results

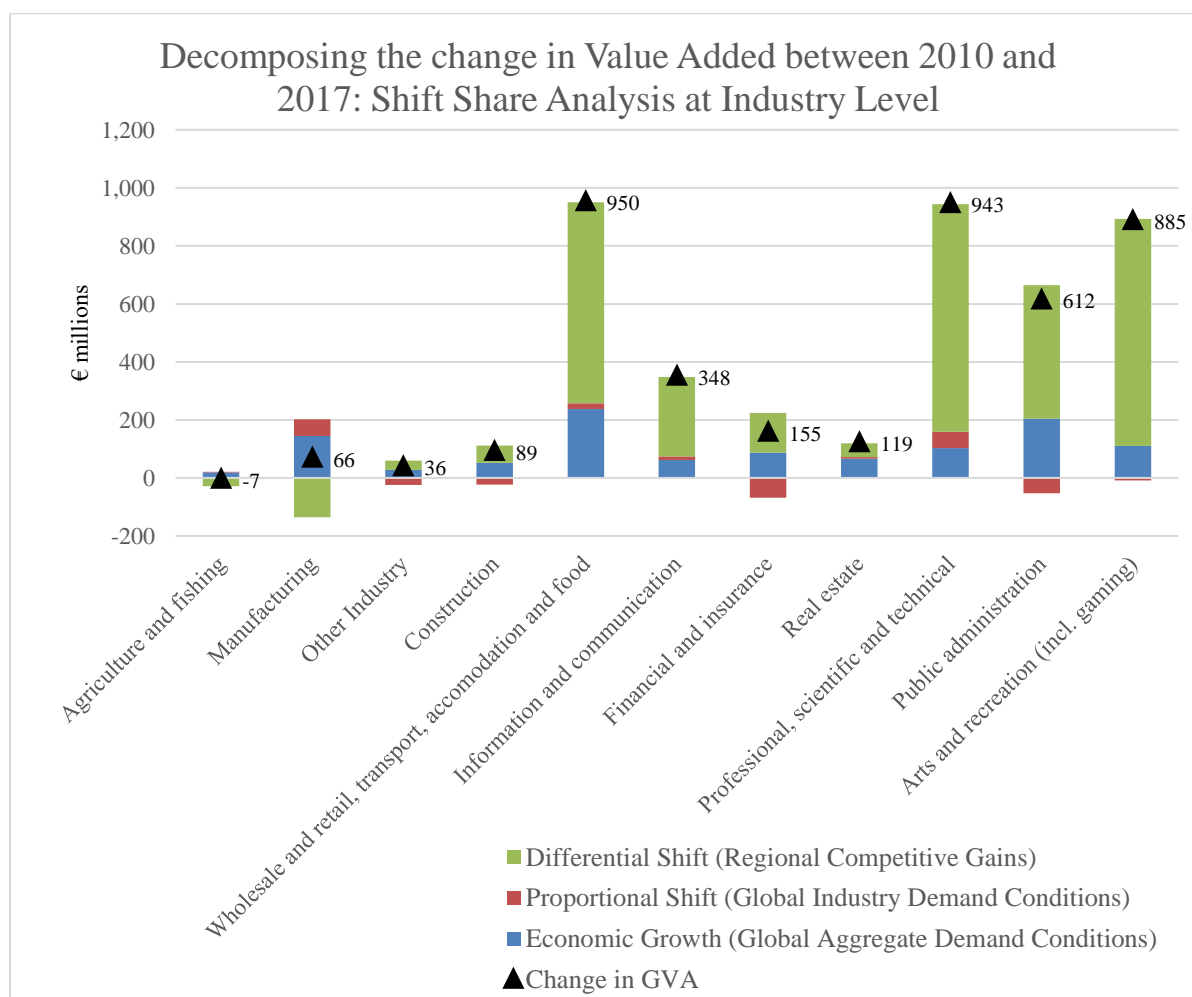
If we simply look at aggregate levels, it is evident that the total growth in value added between 2005 and 2010 and between 2010 and 2017 cannot simply be explained by global demand conditions. The regional shift explains much of the increase in value added during these two periods, in contrast to the earlier 2000/05 period where growth was predominantly a reflection of benign global economic conditions which mitigated the apparent loss in competitiveness experienced in that period. The regional shift strengthened even further in the 2010/17 period, suggesting that Malta has significantly benefitted from competitiveness gains in this particular period.

Because the above analysis is considering aggregate figures, the proportional shift (i.e. industry-specific growth) is by definition zero. However, this performance can be decomposed into the specific industries, giving us valuable insights on the performance of the economy at an industry level. This is illustrated in Figure 3 which shows that competitiveness gains explain most of the increase in value added in the majority of industries, particularly in services. This includes the performance in some predominantly domestic oriented industries such as construction and real estate and more strongly in wholesale, retail, accommodation and food services. The latter is closely tied to the positive performance of the tourism industry which has performed exceptionally well in recent years. Also notable are the strong gains exhibited by the remote-gaming, professional services and the ICT sectors. The weakness lies predominantly in agriculture and manufacturing. In the latter case, the positive growth registered over the period under consideration is predominantly explained by global industry trends and aggregate global demand conditions which were strong enough to mitigate regional competitiveness losses experienced during this period.

**Figure 2 and 3**



Source: Eurostat, EPD calculations



Source: Eurostat, EPD calculations

## Conclusion

The results of the shift-share analysis corroborate the positive performance portrayed in the gains in export market shares and provide strong evidence of an overall increase in competitiveness in most industries, with a few exceptions.

In particular, the significant rise in the export market share in services is consistent with the substantial improvements in regional competitiveness registered in accommodation and food services, in remote gaming and in professional services. On the other hand, whilst manufacturing registered an increase in value added between 2010 and 2017, this was mainly due to benign global demand and industry conditions and not due to improved competitiveness. In this respect the shift-share analysis proposes a richer analysis of the conditions supporting the relatively stable goods export market shares.

Overall, the shift-share analysis supports the view that many industry developments in Malta cannot be explained solely by global economic conditions, suggesting that the strong performance exhibited by the Maltese economy in the last seven years is predominantly structural and supply-driven.

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<sup>i</sup> The views expressed in this research article are those of the authors and do not necessarily reflect those of the Economic Policy Department, Ministry for Finance.

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