



**BANK ĊENTRALI TA' MALTA**  
EUROSISTEMA  
**CENTRAL BANK OF MALTA**

# **INFLATION DIFFERENTIALS BETWEEN MALTA AND THE EURO AREA**

# INFLATION DIFFERENTIALS BETWEEN MALTA AND THE EURO AREA

Brian Micallef<sup>1</sup>

---

## Executive Summary

Since 1999 Malta experienced higher inflation than the euro area in all but three years. During this period, the Harmonised Index of Consumer Price (HICP) inflation in Malta averaged 2.5% per annum, 0.5 percentage point higher than in the euro area. These differentials are more relevant in the context of a monetary union in which country-specific shocks cannot be corrected by monetary and exchange rate policies, but through structural reforms and relative price and wage adjustments.

From the three main theories found in economic literature that seek to explain inflation differentials – price level convergence, differences in the business cycle and heterogeneous market structures – evidence suggests that, in the case of Malta, market structures are likely to play an important role. A decomposition of inflation differentials using a structural econometric model suggests that cost-push shocks are predominant in explaining these differences. Furthermore, the model assigns an important role to inflation expectations and the need to contain cost pressures. This is corroborated by cross-country evidence that points to a close relationship between inflation and unit labour costs (ULC).

With wage developments being broadly similar to those in the euro area since EU membership in 2004, Malta's higher relative ULC growth is mainly driven by sluggish labour productivity growth. Addressing supply-side rigidities is likely to spur productivity growth and, in the process, exert downward pressure on prices. Such rigidities can be tackled for instance through policies designed to increase competition in some market segments or to provide incentives to promote higher investment in information and communication technologies (ICT) in the distribution sector.

## Introduction: why should we care about inflation differentials?

A country that registers persistently higher inflation than its main trading partners will eventually suffer a deterioration in its external price competitiveness. Since the start of Europe's Economic and Monetary Union (EMU) in 1999, Malta has experienced higher inflation than the euro area in all but three years (see Chart 1). Between 1999 and 2012, consumer price inflation in Malta, as measured by the HICP, averaged 2.5% per annum, 0.5 percentage point higher than in the euro area.

Inflation differentials are even more relevant in the context of a monetary union, in which asymmetric shocks cannot be corrected by changes in monetary or exchange rate policies. Instead, adjustment must be made through structural reforms, which increase the flexibility of the economy and relative price and wage movements. Although some degree of price dispersion is a common feature of currency unions, inflation differentials within the euro area have been very persistent, with some countries systematically registering higher or lower inflation compared with the union's average, exacerbating the internal imbalances within the monetary union.

---

<sup>1</sup> Mr Micallef is a Senior Research Economist in the Bank's Modelling and Research Office. The author would like to thank Dr Aaron G. Grech for helpful comments and suggestions. Any errors, as well as the opinions expressed in this article, are the author's sole responsibility.

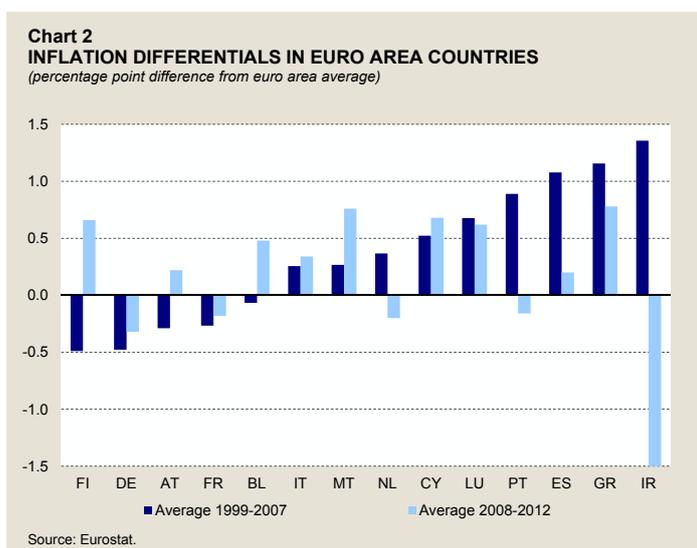
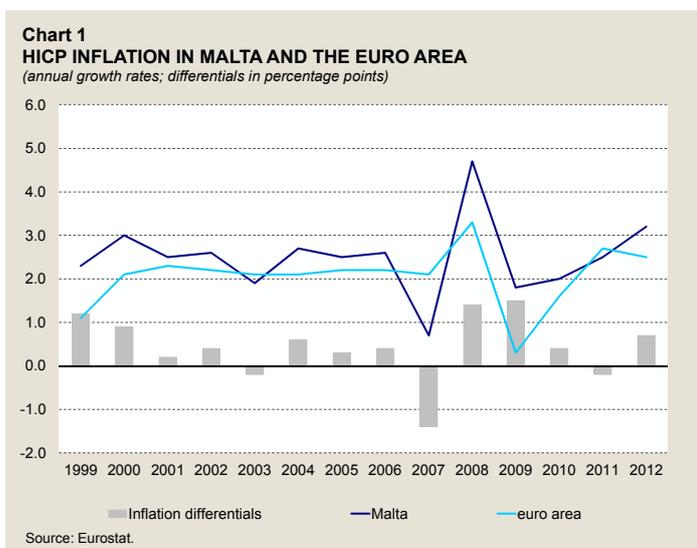
Chart 2 shows substantial heterogeneity in euro area countries with regard to their ability to adjust their prices to restore cost competitiveness. For instance, out of the four countries that required international assistance, Ireland and, to a lesser extent, Portugal, registered negative inflation differentials vis-à-vis the euro area since 2008, whereas Greece and Cyprus still registered substantially higher price inflation compared with the rest of the euro area. Since 2008 average inflation differentials between Malta and the euro area were more pronounced, driven primarily by the impact of higher energy, food and accommodation prices.<sup>2</sup>

### Inflation differentials: the facts

Since 1999 inflation in Malta has fluctuated around a mean of 2.5%. On average, inflation in Malta has been around 0.5 percentage point higher than the 2.0% registered in the euro area during the same period. In addition, inflation developments in Malta have been more volatile, in part reflecting the interplay of external shocks, such as high oil and commodity prices in recent

years, with domestic rigidities, namely monopolistic practices and low competition in certain sectors of the economy. The latter are, to a certain extent, structural features of a small economy.

Higher inflation in Malta is not only limited to the headline HICP index but is also present in other HICP sub-indices that exclude the most volatile components (such as energy and unprocessed food) or administered prices<sup>3</sup> (see Table 1). Between 1999 and 2012, measures of underlying inflation that exclude energy and unprocessed food averaged around 0.4 to 0.5 percentage point



<sup>2</sup> Accommodation prices could also be affected by the change in methodology adopted by the National Statistics Office in 2010 in the collection of hotel accommodation rates. Accommodation prices have been volatile in recent months and were the main contributor to the increase in HICP inflation in 2012. Excluding accommodation prices from the overall HICP index would lower the average HICP inflation between 2008 and 2012 from 2.9% to 2.4%. However, this rate is still remain higher than the average overall HICP inflation of 2.1% registered in the euro area over the same period.

<sup>3</sup> The composition of administered prices and their share in the overall HICP differ significantly across countries. In 2013, the share of administered prices ranges from 5% of the overall HICP in Ireland to 24% in Slovakia. In Malta, the share of administered prices stood at 7%, lower than the euro area average of 12%.

**Table 1**  
**KEY SUMMARY STATISTICS 1999-2012**

*Per cent*

	Average	Maximum	Minimum	Coefficient of variation <sup>(1)</sup>
<i>Malta</i>				
HICP inflation	2.5	5.7	-1.1	0.5
HICP inflation excluding energy	2.2	4.8	-0.6	0.5
HICP inflation excluding energy and unprocessed food	2.1	5.0	-0.5	0.5
HICP inflation excluding administered prices <sup>(2)</sup>	2.3	5.1	-0.8	0.5
<i>Euro area</i>				
HICP inflation	2.1	4.0	-0.6	0.4
HICP inflation excluding energy	1.7	3.1	0.6	0.3
HICP inflation excluding energy and unprocessed food	1.7	2.7	0.7	0.3
HICP inflation excluding administered prices <sup>(2)</sup>	2.1	4.2	-0.9	0.4

<sup>(1)</sup> Measured as the standard deviation of the series divided by the mean.

<sup>(2)</sup> Series start in 2002.

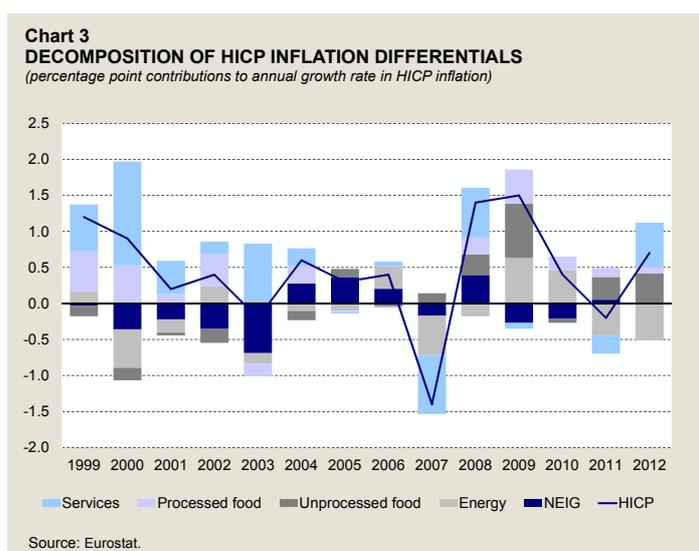
Sources: Eurostat; Author's calculations.

higher than in the euro area and have been more volatile. For example, overall inflation, excluding energy and unprocessed food in Malta fluctuated between a maximum of 5.0% and a minimum of -0.5% during this period, whereas in the euro area the range was between 2.7% and 0.7%, respectively. Even with the exclusion of administered prices, inflation in Malta has been on average 0.2 percentage point higher. These findings warrant a deeper understanding of the structural forces behind Malta's inflation dynamics and the price setting behaviour of domestic firms.

One possible source of inflation differentials can be households' different consumption expenditure patterns. A comparison of the evolution of the HICP consumption basket of Malta and of the euro area between 1999 and 2012 leads to four main observations. First, despite the downward trend observed, Malta's hotel and restaurant component, with a weight of 15.7% in 2012, is still significantly larger than the euro area's at 9.2%. This reflects Malta's reliance on the tourism industry. Second, the weight of the housing, water, electricity and gas component in Malta's expenditure basket, which stood at 8.5% in 2012, still remains almost half of that observed in the euro area. This is also reflected in the weight of the energy component in Malta, which at 7.3% in 2012, is one of the lowest among the euro area countries. Third, the weight of the food category in Malta, at 20.2%, is around 1 percentage point higher than in the euro area, although the gap in this category has been gradually narrowing in recent years. Finally, one observes an increase in households' expenditure on recreational and information technology-related items at the expense of more traditional categories, such as furnishing and clothing. This trend reflects society's changing consumption patterns, especially the importance of online shopping observed in recent years, and is, in general, in line with spending habits in the euro area.

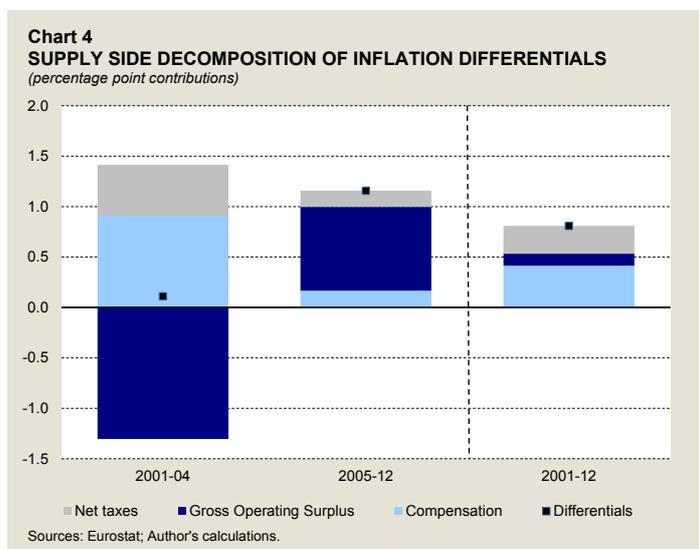
With the first three categories – hotel and restaurants, energy and food – being important drivers of inflationary pressures in recent years, differences in weights in both regions' consumption baskets could have contributed to exacerbate or dampen inflation differentials in the face of common shocks to both economies.

Finally, the underlying drivers of inflation differentials are different in the pre-EU and post-EU membership period. Chart 3 decomposes inflation differentials into five main components: services, energy, non-energy industrial goods (NEIG), processed and unprocessed food. This decomposition suggests that services, and, to a lesser extent, processed food, have been the main drivers of inflation differentials until Malta's EU membership in 2004.



Inflation differentials have been more volatile and pronounced between 2007 and 2009. The sharp drop in 2007 was mainly due to hospitality prices and energy. The latter reflect the decision by the authorities to postpone the adjustment of utility prices in spite of higher global oil prices. The subsequent revision in utility prices in the latter part of 2008 led to positive inflation differentials in a period when energy prices in the euro area started to decelerate. The positive inflation differentials in 2008 were also driven by the pick-up in hospitality prices, driven by a buoyant tourism sector following the arrival of low-cost airlines. Food price inflation remained stubbornly high in the latter half of 2008 and in 2009 despite the decline in international food commodity prices. Food and energy remained the main contributors to inflation differentials in 2010. In 2012 the differentials were driven by accommodation and food prices, whereas the contribution of energy prices was negative in both 2011 and 2012.

From a supply-side perspective price inflation, as measured by the annual growth rate of the gross domestic product (GDP) deflator, can be decomposed in three components: growth in wages, profits (gross operating surplus) and net taxes (see Chart 4). Growth in wages has been the main driver of the differentials in the GDP deflator between the two economies in the pre-EU period, in part driven by two collective agreements in the public sector. Net taxes also contributed positively during this period mainly owing to the increase in the VAT rate to 18% in 2004. The contribution from gross operating surplus was, however, negative following a period of restructuring in the manufacturing sector. On the contrary, the differentials after EU membership have been driven mainly by gross operating surplus, reflecting the sectoral



diversification of the Maltese economy towards higher value added industries.<sup>4</sup> The contribution of wages and net taxes has been slightly positive, at around 0.2 percentage point each. The lower contribution of wages reflects a period of wage moderation, with nominal wage growth increasing on average by 2.6% between 2005 and 2012, compared with 4.2% in the period 1995-2004.

### **Main theories on inflation differentials**

The underlying sources of inflation differentials in EMU have been extensively studied and documented over the past decade.<sup>5</sup> In general, the factors explaining these differentials can be broadly grouped in three categories: (i) price level convergence (ii) cross-country differences in the business cycles and (iii) structural factors, such as heterogeneous product and labour markets.

First, inflation differentials can be the result of equilibrium changes in relative prices owing to price level convergence as a result of an economic catching-up process. In this case, higher inflation is not necessarily a “bad” thing, but rather an equilibrium process. In particular, the Balassa-Samuelson theory focuses on the effect of sectoral differences in productivity growth on the aggregate price level and is often associated with the process of convergence in income levels across countries.

Evidence suggests that the Balassa-Samuelson effect may have played only a limited role in explaining inflation differentials in Malta. Income levels in Malta vis-à-vis the European Union, as measured by GDP per capita in Purchasing Power Standards (PPS), have improved only modestly over the past decade, while the increase in Malta’s price level over the same period has been more moderate compared with that registered in other countries with similar levels of economic development.<sup>6</sup>

The second theory is also not supported by data. Since the start of EMU, average GDP growth in Malta has been broadly similar to that in the euro area, albeit considerably below growth rates in other countries that were subject to demand shocks from an appreciation in asset prices or with similar levels of economic development.<sup>7</sup> In addition, Malta’s business cycle has become increasingly synchronized with that of the euro area, especially after the country’s EU accession in 2004.<sup>8</sup>

Structural features of the economy may imply different inflation dynamics even in the face of symmetric shocks. This can arise, for instance, due to different degrees of oil dependency, to variations in exchange rate pass-through patterns or to country-specific characteristics of product and labour markets. This is likely to be an important factor for Malta where differences in market

<sup>4</sup> The relative contribution of the three components to the GDP price deflator exhibits some differences between the two economies. The contribution of wages remained relatively stable in the euro area in both sub-periods, at around 0.8 - 0.9 percentage point, whereas in Malta, it declined from 1.8 to 1.0 percentage point. Developments in gross operating surplus were even more volatile, with the domestic contribution being slightly negative in the pre-EU period to 1.3 percentage point after 2005. On the contrary, the contribution of gross operating surplus in the euro area declined from 1.1 to 0.5 percentage point, respectively, with the latter being adversely affected by the contraction in profits during the 2008-2009 recession. Finally, the contribution of net taxes remained stable in the euro area, at 0.2 percentage points in both periods, whereas in Malta, net taxes contributed 0.7 and 0.4 percentage point, respectively, to the GDP price deflator.

<sup>5</sup> See Gonzales-Paramo, J.M., “Inflation differentials in the euro area”, *ECB speech*, 23 May 2005 for a non-technical overview of the main features and possible causes of inflation differentials in the euro area and their implications for economic policies.

<sup>6</sup> Malta’s GDP per capita in PPS stood at 86% of the EU average in 2012, up from 82% in 2001. During this period, Malta’s price level increased from 71% of the EU average to 74%. ECB (2011) also concludes that the catching-up process has played a minor role in explaining inflation differentials in the euro area since the relationship between inflation and GDP per capita appears to be rather weak.

<sup>7</sup> The average annual GDP growth rate between 1999 and 2007 stood at 2.6% in Malta, slightly above the average growth registered in the euro area (2.3%). This rate is lower than that registered in other small open economies with a similar level of economic development, such as Cyprus (3.9%), Slovenia (4.5%) and the Czech Republic (4.3%). GDP growth rates in Ireland and Spain, two countries that registered high increases in house prices before the crisis, averaged 6.4% and 3.7%, respectively. Data source: EC Spring Economic Forecasts 2013.

<sup>8</sup> The correlation coefficient of the output gap in Malta and the euro area, increased from 0.4 for the period 1997-2004 to 0.7 in 2005-2014. Data source: EC Spring Economic Forecasts 2013.

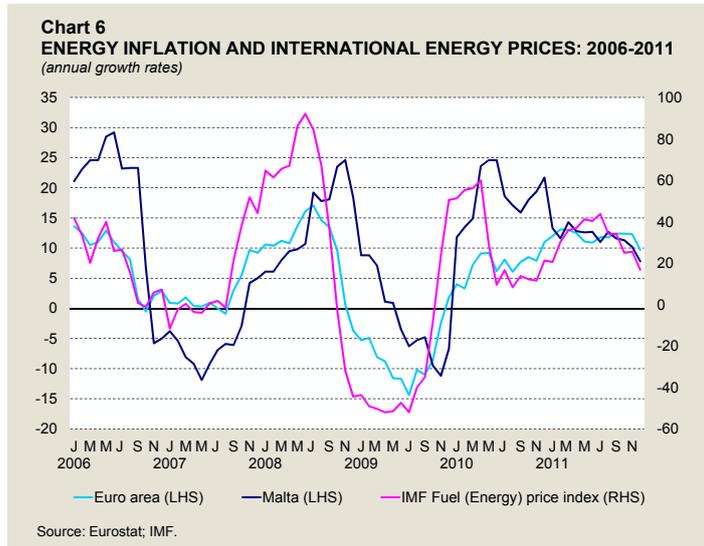
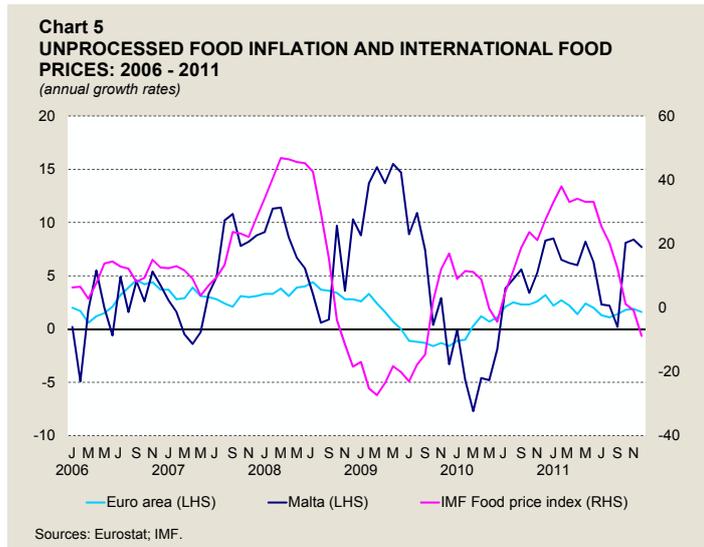
structures, in part explained by characteristics of Malta's small island economy, are more likely to play an important role. Testament to this is the experience with higher international energy and food prices between 2007 and 2009, when the magnitudes and timing of the pass-through to domestic prices were different from those observed in the euro area and from the respective prices in international markets (see Charts 5 and 6).

Overall, therefore, the evidence seems to suggest that out of the three factors identified in the literature to explain inflation differentials, it is probable that differences in market structures are likely to play the most important role.

### Econometric analysis of inflation differentials

We applied a structural model for a more detailed study of the underlying forces behind Malta's inflation differentials. The objective was to decompose them into the three main theories identified in literature and to shed light on the inflation process in Malta.<sup>9</sup>

One of the key equations within this modelling framework is the New Keynesian Phillips Curve, whereby inflation is assumed to depend on its lagged values (to capture inertia in price-setting behaviour), on expectations of future inflation and on real marginal costs. The latter depends on a number of factors, such as real wages, productivity, relative price movements and a cost-push shock. This shock captures the effect of other variables that affect inflation, such as commodity prices, that are not explicitly included in the model.



<sup>9</sup> Details of the model are available in Micallef, B. and Cyrus, L., "Inflation differentials in a monetary union: the case of Malta", *Central Bank of Malta Working Paper* WP/05/2013 (which can be downloaded at <http://www.centralbankmalta.org/site/publications6.asp>). The model is an extension of the one developed by Rabanal, P., "Inflation differentials between Spain and the EMU: A DSGE perspective", *Journal of Money, Credit and Banking*, 2009, Vol. 41, No. 6, pp 1141-1166. The original model was extended to include cost-push shocks and labour market rigidities, thereby making it more suitable to the Maltese economy's structural characteristics. The model is estimated with Bayesian inference methods for the period 2000-2011 on the following nine observables: GDP, overall HICP inflation, services inflation, wage growth for both Malta and the euro area and the 3-month EURIBOR interest rate common for both economies.

According to the estimated model, price and wage-setting behaviour in Malta is less sticky than in the euro area. The average price duration in Malta is estimated at around 1.5 to 2.5 quarters, compared with between two and four quarters in the euro area. Turning to the labour market, the average duration of wage contracts in Malta is estimated at slightly less than one year compared with around six quarters in the euro area. The range of these estimates is broadly in line with the findings of the Inflation Persistence Network and the Wage Dynamics Network.<sup>10</sup>

Price indexation in Malta, that is, the degree of persistence in the inflation equation, was found to be broadly similar to that observed in the euro area.<sup>11</sup> Wage indexation is however higher than in the euro area. The latter is in line with our prior information, given the partial wage indexation mechanism present in Malta.

Within the context of the structural model, these findings imply that inflation expectations play an important role in price-setting decisions in both economies and that Maltese firms are more sensitive to costs than their European counterparts.<sup>12</sup>

Estimates of the size of shocks hitting the Maltese economy were generally found to be more pronounced than those observed in the euro area. Of particular importance for the purpose of this study is the size of the cost-push shock. In part, this can be explained by the small size of the domestic economy and its dependence on international trade. However, the fact that cost-push shocks were found to be highly correlated to international commodity prices and that both economies are net importers of commodities may suggest that this result could be driven by other factors, such as market structures of domestic importation and distribution chains. In turn, these could lead to differences in the pass-through, possibly both in terms of timing and magnitude, of foreign commodity prices to inflation in the two economies.

An interesting way of summarizing the results of a structural model is to decompose the key variables of interest into the main shocks that are included in the model (variance decomposition). To facilitate the economic interpretation of the shocks, these are aggregated into five categories – productivity shocks, demand shocks, monetary shocks, wage mark-up shocks and cost-push shocks. Chart 7 reflects this exercise by decomposing inflation differentials into these five main shock categories. We can see that cost-push shocks are predominant in explaining inflation differentials between the two economies. The role played by productivity and wage mark-up shocks is more limited, each reflecting slightly less than 20%, while the role of demand and monetary shocks is almost insignificant.

---

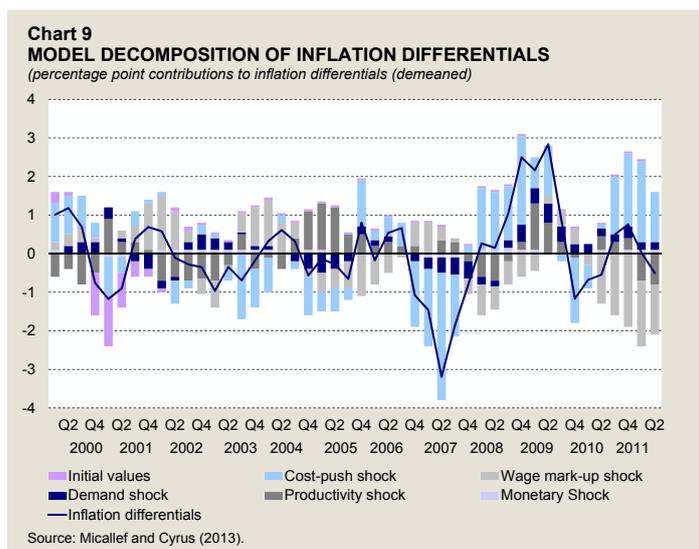
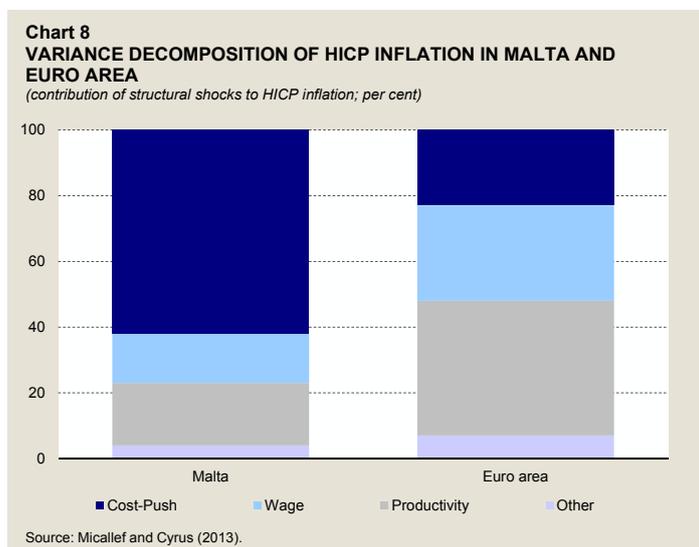
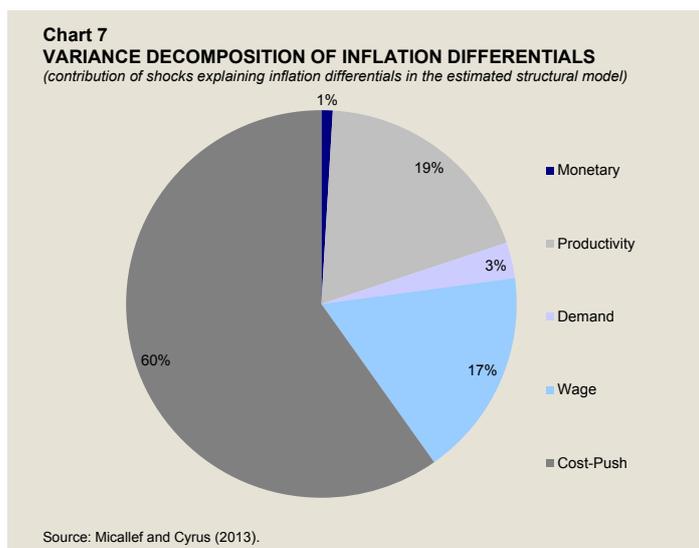
<sup>10</sup> According to the micro evidence from the Inflation Persistence Network, prices in sectors covered by the consumer price index in the euro area are unchanged on average between four and five quarters, compared with around two quarters in the United States. The findings of the Wage Dynamics Network suggest an average duration of wages of around 15 months in the euro area. In Malta the findings of the Wage Dynamics Report, available on the Central Bank of Malta's website, suggest that most of the changes in wages occur on an annual basis while around half of respondents claim to change prices at least once a year.

<sup>11</sup> The estimates of inflation persistence are broadly in line with those by Demarco, A., "A new measure of core inflation in Malta", *Central Bank of Malta Quarterly Review* 2004:2 and the box entitled "Estimating inflation persistence in Malta" *Central Bank of Malta Quarterly Review* 2013:2. Both studies estimate inflation persistence using an autoregressive model on the main sub-components of the Retail Price Index (RPI) and the HICP, respectively. Persistence is found to be low in food and energy components and higher in services and industrial goods. Estimates in literature using different methodologies also suggest that inflation persistence in Malta is broadly similar to the euro area countries and, in general, lower than the estimates for Central and Eastern European countries (see Vladova, Z. and Pachedjiev, S., "Empirical analysis of inflation persistence and price dynamics in Bulgaria", *Central Bank of Bulgaria Discussion Paper DP/70/2008* and Franta, M., Saxa, B. and Smidkova, K., "The role of inflation persistence in the inflation process in the New EU Member States", *Czech Journal of Economics and Finance*, No. 6, 2010).

<sup>12</sup> Given a moderate degree of persistence, the important role of expectations follows from the fact that the coefficients on lagged and expected values of inflation are restricted to unity to ensure no long-run trade-off between inflation and economic activity. The higher sensitivity of inflation to real marginal costs is inversely related to the price stickiness parameter, which in Malta is lower than in the euro area.

Chart 8 shows a similar exercise to compare the contribution of different shocks in explaining HICP inflation in Malta and the euro area. In general, differences in the relative importance of shocks explaining the developments in HICP inflation can be explained in relation to the size and structure of both economies. The high import content in domestic consumption implies that cost-push shocks, which mostly originate from abroad, are predominant in explaining HICP inflation in Malta, while in the euro area, which is a large and relatively closed economy, domestic factors, in the form of productivity and wages, play a more important role. The findings for Malta are in line with econometric estimates from the Central Bank of Malta's traditional macro-econometric model of the Maltese economy, which also point towards an important role of foreign disturbances in driving domestic price developments.<sup>13</sup>

Chart 9 plots the historical contributions of shocks to inflation differentials according to the estimated model. While such decompositions should be treated with caution, they shed light on how the structural model interprets the observed developments in the data. The story emerging from the historical decomposition is broadly consistent with the stylized facts identified above. In particular, cost-push shocks are found to have been particularly important in explaining inflation differentials between 2007 and 2009 and, second, wage mark-up shocks seem to have played a more important role in the pre-EU



<sup>13</sup> Grech, O. et al, "A structural macro-econometric model of the Maltese economy" *Central Bank of Malta Working Paper WP/02/2013*.

membership period compared with more recent years when they contributed negatively to inflation differentials following a period of wage moderation.

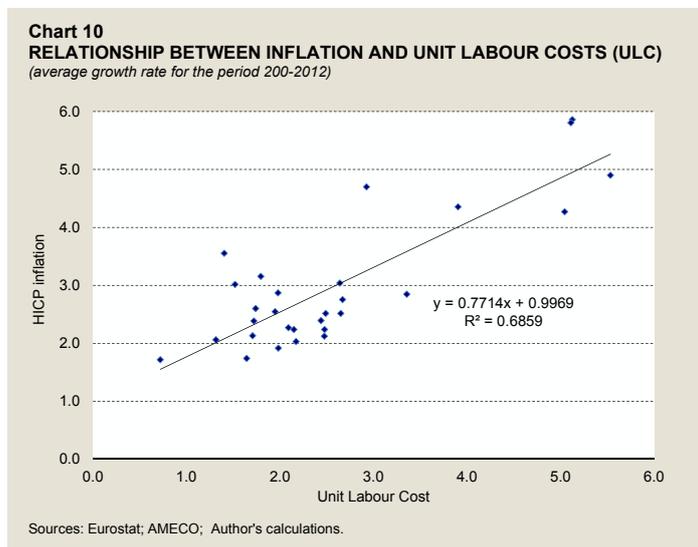
### What determines higher costs?

The importance of cost-push shocks and the sensitivity of inflation to costs suggest that market structures and the role of mark-ups at wholesale and retail level are key to understanding higher inflation in Malta.

Chart 10 shows the average HICP inflation and growth rate in ULC for 27 EU countries for the period 2000-2012.<sup>14</sup> The evolution of ULCs is an important determinant of inflation and of changes in competitiveness, although the latter depends on a myriad of factors, encompassing both price and non-price (quality) elements. The cross-country empirical evidence in Chart 10 suggests that there is indeed a close relationship between HICP inflation and ULC growth. Over this period, ULCs and HICP in Malta increased on average by 2.6% and 2.5% per annum, respectively. ULC growth in Malta has been higher on average compared with the euro area in both the pre-EU and post-EU membership period, although the gap between the two has narrowed in the latter period.

High ULC growth can be explained either by strong wage growth, low labour productivity or a combination of both.<sup>15</sup> Average nominal wage growth in Malta was around 4.8% per annum between 2000 and 2004, compared with 2.3% in the euro area. Since 2005, however, wage developments in the two economies moved much more in line, though still higher in Malta. In contrast, growth in Malta's labour productivity since 2005 has declined significantly compared with the pre-EU membership period. This result is mostly affected by developments in domestic labour productivity since the financial crisis of 2008-2009 due to the resilience of employment growth in Malta.

Low competition in the services sector, particularly in wholesale and retail industries, is usually suggested as one of the main factors hindering productivity growth.<sup>16,17</sup> An important caveat is that sectoral developments in productivity in Malta have to be treated with caution owing to the absence of appropriate price deflators, especially for service sectors. According to the EU Klems database, productivity developments in the wholesale and retail industries were significantly lower than the average for



<sup>14</sup> Romania is excluded from the chart since it is a clear outlier, with average HICP inflation and ULC growth exceeding 10%.

<sup>15</sup> Domestic productivity developments should be treated with caution as they could be a reflection of structural shifts in the economy that have taken place in the last decade, like the growing importance of services, which are more labour intensive, at the expense of traditional industries. In addition, the expanding role and complexity of services in certain industries inevitably leads to difficulties in accurately measuring the output of these industries.

<sup>16</sup> See the report "Competition, productivity and prices in the Euro area services sector", *ECB Occasional Paper* No.44, 2006

<sup>17</sup> Estimates of productivity in the distribution sector and in other sectors of the Maltese economy can be obtained from the EU Klems database.

the whole economy.<sup>18</sup> Similar developments are usually documented for the euro area, especially when compared with the United States, with the difference in productivity growth typically attributed to lower investment in ICT.

Conventional economic theory posits a negative relationship between the degree of market competition and firms' profit levels. A commonly used indicator of market competition is the profit margin, calculated as the ratio of operating surplus to value added. An environment of high competition is generally associated with a market structure in which economic agents are price-takers, with the absence of barriers to enter or leave the market and with a market in which firms cannot exploit increasing returns to scale. In such a structure, competition is believed to reduce prices to a level equal to the marginal costs of production. An important caveat is that it is generally difficult to draw strong conclusions from such indicators, as high profitability could be the result of lack of competition, for instance owing to sheltered or protected sectors, but it could also be due to highly efficient firms operating in a competitive environment that spurs productivity gains, for example, by exploiting advances in ICT and economies of scale. Over long periods of time, however, high competition should reduce profits as more firms are attracted to a profitable industry. Given the size and structural characteristics of the Maltese economy, it is more likely that high profitability is indicative of low competition.

A sectoral analysis of the average developments in the profitability ratio between 2004 and 2012 suggests that the manufacturing sector, which is exposed to international competition, displays a profit ratio that is lower than the average for the whole economy, whereas the opposite holds true for the wholesale and retail sector.<sup>19</sup> Cross-country empirical evidence also suggests that there is a positive relationship between the profitability ratio and HICP inflation in the services sector for a number of EU countries, with low competition being usually associated with higher average inflation in the services sector.

Another commonly used indicator of market competition is the price mark-up approach. The rationale behind this indicator is that, whereas high competition drives prices down to the marginal cost of production, firms in an imperfectly competitive market structure are able to charge a mark-up over their marginal cost of production. According to the Wage Dynamics Report, more than 50% of firms in the wholesale and retail sector set prices according to costs and a self-determined profit margin, reflecting the degree of market power, a share which is higher than the average for the whole economy. In addition, more than 40% of firms in the distribution industry are not likely to follow a competitor into a price cut, indicating a lower sensitivity to price competitiveness than other sectors of the economy, which could be indicative of low competitive pressures.

Estimates of product market mark-ups for Malta are relatively high compared with other EU countries.<sup>20</sup> One particular study finds that mark-up ratios are on average higher in service industries than in the manufacturing sector, which is not surprising, given that the latter is more exposed to international competition.<sup>21</sup> At a sectoral level, mark-ups for the wholesale and retail sector have been found to be particularly high when compared with other EU countries.<sup>22</sup>

<sup>18</sup> Productivity is defined as gross value added per hour worked.

<sup>19</sup> The share of gross operating surplus in gross value added in the retail industry, however, has been on a declining trend since 2000.

<sup>20</sup> Comparisons of product market mark-ups are available in Borg, M., "Measuring market competition in the EU: the mark-up approach", *Bank of Valletta Review*, No.39, Spring 2009 and in the report "Structural features of distributive trades and their impact on prices in the Euro area", *ECB Structural Issues Report*, 2011 .

<sup>21</sup> Borg, M., "Measuring market competition in the EU: the mark-up approach", *Bank of Valletta Review*, No.39, Spring 2009.

<sup>22</sup> An important caveat is that these findings are based on data from 1995 until 2005, and could therefore not adequately take into account the impact of post-EU membership developments and recent sectoral trends.

Anecdotal evidence suggests that port handling costs in Malta remain relatively high by international standards.<sup>23</sup> This constitutes a source of concern, especially in a small and open economy like Malta with a high degree of import content. Higher transport costs inflate the cost structure of domestic importers and trickle down the supply chain, eventually to the end-consumers through higher prices. They also have an adverse impact on the cost competitiveness of domestic firms, both export-oriented and domestic retailers, as consumers shift towards cheaper online shopping.

### **Concluding remarks**

A country that registers persistently higher inflation than its main trading partners will eventually suffer a deterioration in its external price competitiveness, with subsequent losses in output and employment. This is even more relevant in a monetary union, in which asymmetric shocks cannot be corrected by changes in monetary or exchange rate policies but rather through structural policies and relative adjustments in prices and wages.

This necessitates higher awareness from both policy makers and social partners on the need to keep domestic inflation around 2.0%, similar to the euro area average and in line with the European Central Bank's definition of price stability of close to, but below 2.0% in the medium term. In light of these findings, an argument can be made for a business environment in which production costs for firms are kept in check, while government-induced costs should be kept to a minimum. Expectations of lower inflation will eventually feed in the wage formation process, thereby assisting exporting firms to remain competitive. The role of expectations is particularly important for a small and open economy like Malta as it creates a cushion against the impact that foreign price pressures, on which local authorities have very limited control, can have on domestic prices and costs.

Finally, inflation differentials should not be analysed in isolation but rather assessed from a holistic perspective as they are possibly a symptom of wider macroeconomic rigidities. Addressing these supply-side rigidities, for instance through policies designed to increase competition in some market segments or providing incentives to promote higher investment in ICT in the distribution sector, are likely to spur productivity growth and enhance the economy's potential growth rate. In the process, this should exert downward pressure on prices.

---

<sup>23</sup> Anecdotal evidence is based on meetings attended by the Bank's economists with the Malta Chamber of Commerce, Enterprise and Industry (MCCEI). Similar arguments were raised separately in meetings held with the section on shipping and bunkering (March 2012) and with the section of importers, distributors and retailers (August 2012).