

The dynamics of corporate mark-ups are one of the proxies generally used to explain changes in inflation, such that prices in the economy can be understood to be the results of firms applying a mark-up to their labour costs. The virtue of this approach is that although labour costs only account for some 20% of the cost structure of manufacturing firms, and for 40% in the case of firms in the services sector, these figures rise to almost 90% excluding inputs. Accordingly, when value added deflators, which exclude the cost of inputs, are analysed at aggregate level, changes in unit labour costs (that is, employee compensation corrected for productivity gains) are understood to be a fundamental determinant of future changes in prices.

Nevertheless, a wealth of evidence in the empirical literature advises caution regarding the stability of the relationship between labour costs and prices, and the shorter the time horizon of the analysis of changes in these two variables, the greater the caution advised. Much of this evidence relates to the United States, where numerous studies suggest that it is difficult to perceive a close link between changes in unit labour costs and changes in price indicators, and even that the causal relationship could be the opposite, with labour costs responding to changes in prices rather than vice versa.<sup>1</sup> There are also studies that argue that the relationship between cost and price could have diminished compared with previous decades, since independent monetary policy would have given rise to better anchoring of inflation expectations.<sup>2</sup>

In the case of the euro area, some recent studies suggest that the relationship between cost and price is closer than that observed in the United States, but that the degree of pass-through of costs to prices is incomplete and depends, among other factors, on the type of shocks predominant in the economy. For instance, a closer relationship is frequently found if demand shocks rather than supply shocks predominate. The degree of pass-through of costs to prices also depends on the inflation regime, with a lower degree of pass-through perceived in low inflation environments (Bobeica et al, 2019).<sup>3</sup>

Chart 1 depicts the GDP deflator and its labour cost and corporate mark-up components in the euro area since the start of the

current upturn.<sup>4</sup> At first, as the chart shows, unit labour costs continued to post very moderate rates of growth (around 0.7% on average), at the same time as unit margins were rising, albeit at a modest pace. Towards the end of 2017 labour costs began to increase significantly, against the backdrop of a persistent decline in unemployment rates in the euro area as a whole and flat or even negative productivity growth (see Chart 2), while margins began to contract. As Chart 3 shows, a low degree of pass-through of labour costs to prices is also observed using consumer price indicators, and it has tended to intensify in the most recent period.

Although the performance of mark-ups through the cycle also depends on the shocks affecting the economy,<sup>5</sup> in the case of the euro area a relatively close and positive relationship is perceived between mark-ups and economic growth (see Chart 4), as mark-ups tend to increase in upturns and decrease in downturns.

In the most recent period, the slowdown in the rate of growth has been associated with a contraction in margins, a phenomenon not seen since mid-2012 when the economy was in the throes of the sovereign debt crisis. This margin contraction has had different levels of intensity in the four large euro area economies (see Chart 5). It should be noted, however, that the starting point may differ, as in some countries, such as Spain for instance, the adjustment of labour costs made during the crisis enabled margins to grow. Also, for the euro area aggregate, the margin contraction extends across all sectors of activity, with the exception of construction (see Chart 6).

Overall, the low inflation environment in the euro area, together with the heightened uncertainty regarding the strength of demand, could explain why firms remain highly cautious about passing higher labour costs through to prices.

time. These findings are consistent with the main conclusions drawn from the surveys of firms conducted in the framework of the Wage Dynamics Network (WDN) (see ECB (2009), “*Wage Dynamics in Europe*”, Final Report of the Wage Dynamics Network), which suggest that a high percentage of firms adjust their prices when faced with a permanent unexpected labour cost shock.

1 R. Bidder (2015), “Are wages useful in forecasting price inflation?”, *FRBSF Economic Letter*, 33; Y. Mehra (2000), “*Wage-Price Dynamics: Are They Consistent with Cost Push?*”, *FRB Richmond Economic Quarterly* 86 (3); and G. Hess and M. Schweitzer (2000), “*Does Wage Inflation Cause Price Inflation?*”, FRB Cleveland Policy Discussion Paper 1.

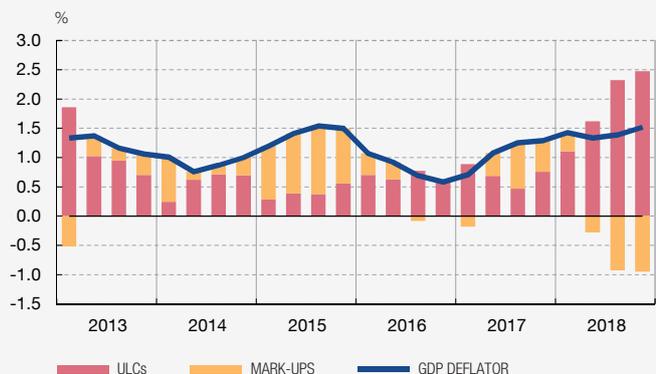
2 E. Peneva and J. Rudd (2015), “*The Passthrough of Labor Costs to Price Inflation*”, Federal Reserve Board, Finance and Economics Discussion Series Paper 2015-042.

3 In the case of the euro area, E. Bobeica, M. Ciccarelli and I. Vansteenkiste (2019), in “*The link between labor cost and price inflation in the euro area*”, ECB Working Paper No. 2235, find a causal relationship between labour costs and prices (Granger causality) that has strengthened over

4 It is very difficult to measure corporate profits. This box uses as a mark-up indicator the ratio of GDP deflator to unit labour costs, which aims to proxy the relationship inferred in economic theory between prices and marginal production costs. In view of the difficulty of proxying these marginal costs, Spanish National Accounts use average costs and, more simply, labour costs. This ignores, for example, the contribution made by capital and financial costs, which may be very significant in the current low interest rate environment. In this respect, there are alternative profit measures, analysed in detail in V. Salas, L. San Juan and J. Vallés (2017), “*The financial and real performance of non-financial corporations in the euro area: 1999-2015*”, Banco de España Occasional Paper 1708.

5 C. Nekarda and V. Ramey (2013), “*The Cyclical Behavior of the Price-Cost Markup*”, Working Paper 19099, National Bureau of Economic Research.

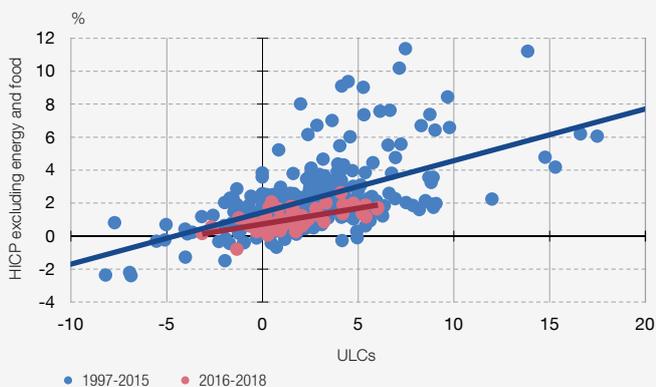
**Chart 1**  
EURO AREA. GDP DEFLATOR, UNIT LABOUR COSTS AND MARK-UPS (a)  
Year-on-year growth



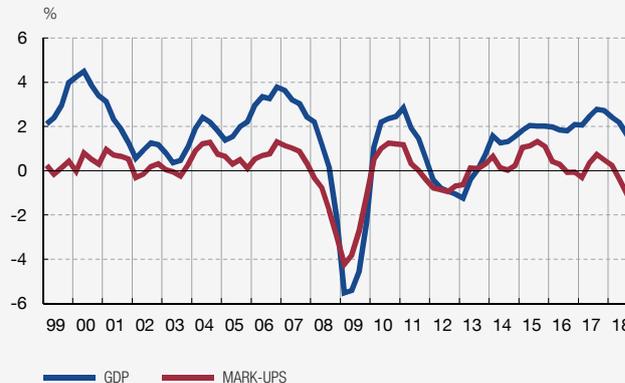
**Chart 2**  
EURO AREA. PRODUCTIVITY AND COMPENSATION PER EMPLOYEE  
Year-on-year growth



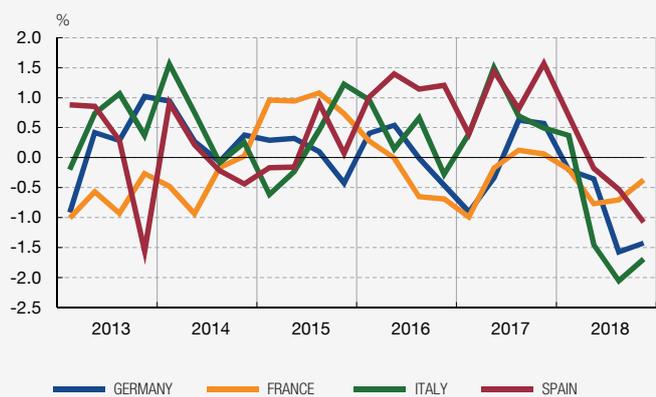
**Chart 3**  
LABOUR COSTS AND CORE HICP (1997-2018)  
Year-on-year growth



**Chart 4**  
EURO AREA. GDP AND MARK-UPS  
Year-on-year growth



**Chart 5**  
MARK-UPS  
Year-on-year growth



**Chart 6**  
EURO AREA. MARK-UPS  
Year-on-year growth



SOURCE: Eurostat.

a Mark-ups are defined as the ratio of the GDP (or GVA) deflator to ULCs.