

Knowing the Spanish economy's position in the economic cycle is essential when evaluating the stance of the various economic policies that have been implemented or when performing a diagnosis of the possible emergence of inflationary pressure. For example, in the case of budgetary policy, in order to assess fiscal drive, the structural component of the budget deficit needs to be calculated which requires knowing the size of the output gap. The output gap¹ is defined as the difference between actual and potential GDP. Potential GDP is usually defined as the result of full utilisation of available capacity – labour force and installed capital stock – and which is consistent with the absence of inflationary pressure. Thus, for instance, following several years of below-potential GDP growth, this gap would be negative, as corresponds to a situation with idle productive resources. By contrast, after several years of above-potential GDP growth, a positive gap would be achieved, namely, a situation of over-utilisation of productive capacity which would lead to inflationary pressure.

Potential output, however, cannot be observed and, consequently, it has to be estimated and that estimate, particularly in real time, is subject to high uncertainty and should therefore be interpreted with due caution. Basically, there are two ways of estimating an economy's potential output: those which use statistical procedures to discount cyclical factors and those based on the use of a production function. The main advantage of the latter is that they analyse sources of economic growth².

According to the estimates of the Banco de España, the potential output growth of the Spanish economy is expected to be recovering from the low reached in 2013 as a result of the economic crisis which chiefly reflected the strong slowdown on the employment side (see Chart 1). This gradual recovery is underpinned by a slightly more positive performance, in relation to other growth periods, of productivity³ and by a less negative

contribution from employment, supported by the fall in structural unemployment, which partially offsets the negative impact of the ageing population and the sluggish labour market participation. Similarly, capital accumulation seems to have shown a somewhat more favourable profile in recent years.

In terms of cyclical position, available estimates suggest that the recovery of potential growth in recent years will have been notably lower than the vigour observed in GDP and, consequently, the pronounced negative output gap which arose during the recessionary phase of the crisis will have narrowed relatively rapidly in recent years to very close to zero – albeit still in negative territory – in 2017 (see Chart 2). This pattern is expected to continue over the next few years giving rise to positive, increasing gaps until 2020. Broadly speaking, taking into account the uncertainty surrounding these estimates, these results are consistent with those obtained by other organisations which concur that the negative output gap that built up during the years of crisis should close in 2018, or, at the very latest, in 2019⁴.

Chart 3 shows the relationship between the unemployment gap (difference between the unemployment rate and structural unemployment) and wage growth in the market economy which, as can be seen, is negative in the sense that negative unemployment gaps are related to higher wage increases. Similarly, Chart 4 shows how the correlation between the output gap and underlying inflation (measured by the CPI excluding the more volatile components of energy and unprocessed food prices) is positive. Nevertheless, the two relationships are far from perfect; thus, individual data may be significantly far removed from the regression line showing the historical average. In particular, in the last two years, wage growth and underlying inflation are estimated to have been slightly lower than would be determined by the historical relationship with the unemployment gap and the output gap, respectively. For the forecast period, a gradual approximation to these two historical relationships is projected, on the basis of the existence of certain evidence that the relationship between inflation of prices and wages, on one hand, and the cyclical position, on the other, is not linear with the result that it is closer in deep recessions and strong upturns⁵. In any event, the materialisation of this approximation is subject to significant uncertainty.

- 1 In order to measure an economy's position in the cycle, other variables can be used such as the unemployment rate which, in turn, can be measured using several alternatives (see Box 6 of the Quarterly Report of the Banco de España 2/2017 "Alternative measures of unemployment for the Spanish economy"). In this case, the equivalent to the production gap would be the NAIRU gap, which measures the difference between the unemployment rate (or labour market slack) observed and the rate consistent with a situation free from inflationary pressure.
- 2 The methodology used at the Banco de España to estimate potential output is based on the production function. See in this respect, Cuadrado, P. and E. Moral-Benito (2016) "Potential growth of the Spanish economy", *Occasional Paper*, 1603.
- 3 That is a consequence of the far-reaching process of reallocation of resources towards more efficient firms observed in the Spanish economy during the crisis which seems to have continued without interruption afterwards.

- 4 A comparison with other estimates for the Spanish economy (made by the Ministry of Economic Affairs, the OECD, the IMF, the European Commission and the ECB) shows a similar pattern of gradual recovery of the cyclical position from the lows of 2013 and, in most cases, the gap turns positive in 2018.
- 5 See in this respect, Cuadrado, P. and E. Moral-Benito (2016) "Thresholds in the relationship between inflation and economic activity", *Economic Bulletin*, Banco de España, 12/2016.

Chart 1
POTENTIAL AND ACTUAL GROWTH IN REAL TERMS (a)

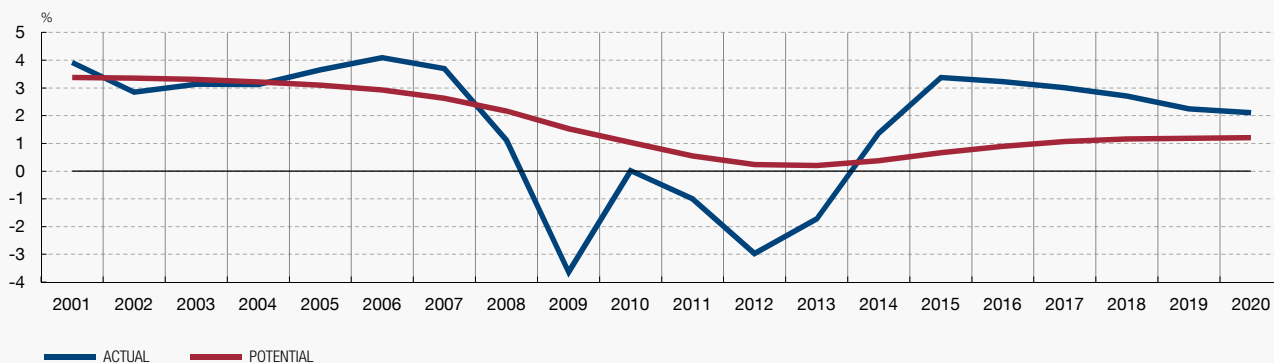


Chart 2
ACTUAL VS. POTENTIAL GDP AND OUTPUT GAP (b)

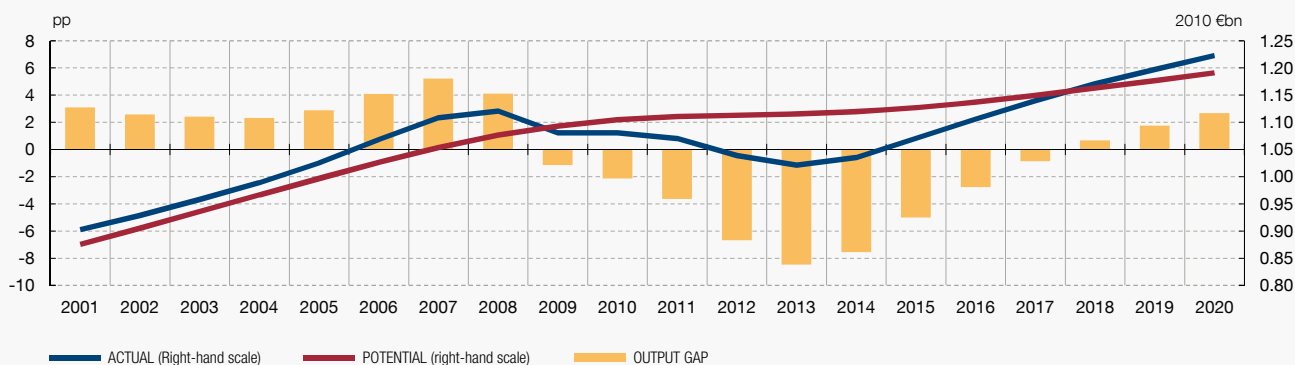


Chart 3
CYCLICAL POSITION AND WAGE INFLATION BETWEEN 1999 AND 2020
Rates of change

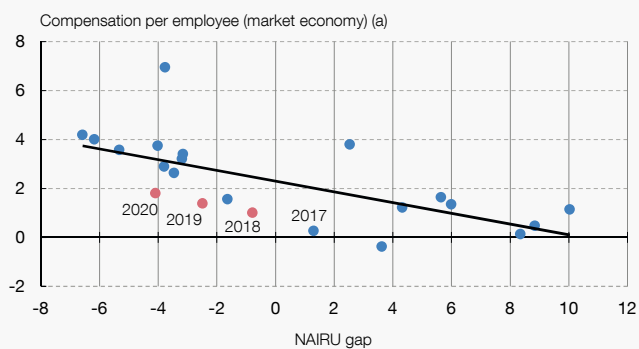
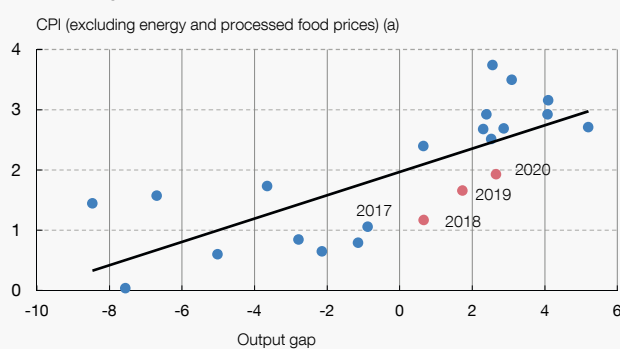


Chart 4
CYCLICAL POSITION AND INFLATION BETWEEN 1999 AND 2020
Rates of change



SOURCES: INE and Banco de España.

- a Rates of change.
- b Output gap defined as the percentage difference between the level of actual and potential GDP, in relation to potential GDP.