

to the downside, as discussed in relation to the Department’s methodology, and the caveats to the estimated impacts of a disorderly Brexit (Table 2.1).

Given the significant uncertainty surrounding the forecasts, it is important to consider the possible impacts of a less benign scenario due to a disorderly Brexit— or an orderly Brexit with less benign impacts than currently envisaged in the Budget forecasts. Box D analyses downturns in domestic economic activity in Ireland and comparable European countries over the past six decades, and finds that investment declines have been particularly severe manifestations of downturns in Ireland. Although a downturn is not forecast following a disorderly Brexit, the historical experience of downturns provides context for possible impacts on the domestic economy and labour market if a less benign scenario were to materialise.

With the decline in 2019 of high-frequency consumer and business sentiment indicators for Ireland, it is relevant to query whether sentiment can provide advance warning of a forthcoming slowdown in the economy. The analysis in Box E suggests that the relationship between sentiment indicators and real economic activity has historically not been very strong, with signals often mixed. For example, in contrast to the sentiment data, other indicators of economic activity such as the quarterly national accounts and retail sales have held up quite well so far in 2019. This matches findings elsewhere: for example, Stock and Watson (2003) find that US consumer confidence declined sharply before and during the 1990 recession, yet it maintained strength well into the 2001 recession.

Box D: Characterising downturns in Ireland’s domestic economy

Budget 2020 forecasts a slowdown in economic growth for Ireland in 2020. However, as discussed in this chapter, a great deal of uncertainty surrounds short-term forecasts of economic growth in a disorderly Brexit. With a view to quantifying possible downside risks to the Budget forecasts, this box considers how downturns have historically manifested in relevant indicators of economic activity, for Ireland and comparable European countries.

Methodology

Downturn episodes in Ireland and a group of small European countries are analysed using 59 years of European Commission AMECO data (in volumes) for personal consumption, investment, employment, and (HICP-deflated) compensation of employees.³² A standardised definition of a downturn episode in final domestic demand (excluding stocks) is taken as an

³² Latest CSO data are used for Ireland, and investments in aircraft and intangibles are excluded from Ireland’s gross fixed capital formation data since 1995, due to their high import content and association with activities of multinational enterprises.

annual growth rate that is one standard deviation below the country-specific long-run average. Downturn impacts are then calculated as peak-to-trough falls in the four variables listed above for up to seven years around each downturn year—that is, from year $t-1$ to $t+6$ for a downturn in year t . This approach to assessing the impacts of downturns is very mechanical, however, and does not account for different causes of downturn episodes across countries.

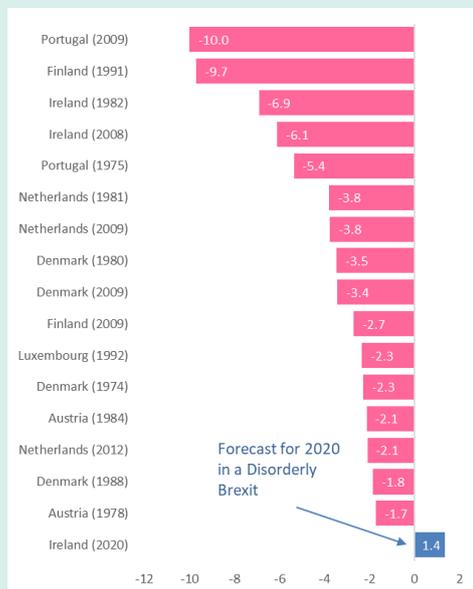
What happens to personal consumption and investment in downturns?

Figure D.1 presents the performances of personal consumption and investment (gross fixed capital formation) during domestic downturns in Ireland and comparable European countries. The two panels show a typical feature of business cycles: investment is more sensitive to downturns than personal consumption, which is evident in both the relative size of the impacts and the relative number of episodes.

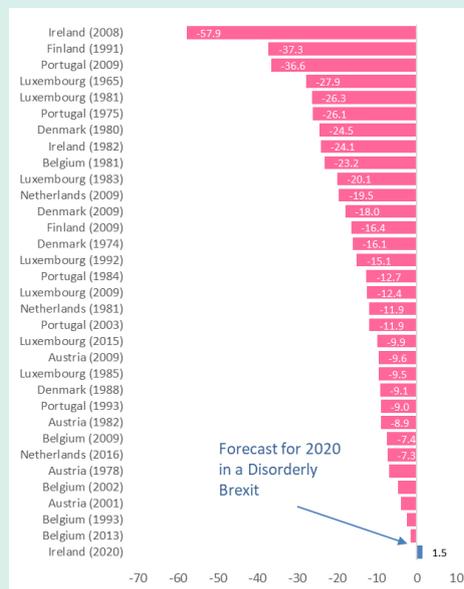
Figure D.1: Investment falls by more than consumption in downturns

Peak-to-trough percentage change in volume; country and first year of downturn episode

A. Personal consumption



B. Investment*



Sources: European Commission, AMECO database; CSO; and internal Fiscal Council calculations.

Notes: Downturns are defined as growth in final domestic demand (excluding stocks) one standard deviation below its long-run (1961–2018) average. Bars show peak-to-trough percentage change from years $t-1$ to $t+6$, with a downturn occurring in year t .

*The latest CSO data are used for Ireland for 1995–2018, and underlying investment (excluding investments in aircraft and intangibles) is used instead of unadjusted gross fixed capital formation.

The most severe investment downturn in the sample took place in Ireland during the recent crisis period, when underlying investment fell 57.9 per cent between 2008 and 2012. Personal consumption in Ireland fell 6.9 per cent in 1982, which is its worst peak-to-trough decline since 1960, and later fell by 6.1 per cent during the recent crisis period (2009–2013).

Despite the assumption of a disorderly Brexit, *Budget 2020* forecasts growth in underlying domestic demand in 2020 of 1.4 per cent. This does not meet the criteria for a “downturn” as defined in this box, as one standard deviation below the 1961–2018 average involves a fall of 0.5 per cent. However, the risk of a more adverse impact is illustrated by the range of episodes experienced in comparable European countries—based on which, the average reduction in personal consumption is 4.2 per cent, and 16.6 per cent for investment. As noted previously, this analysis does not attempt to account for differences in the causes of downturns across countries and over time, and instead mechanically compares episodes in a broader sense.

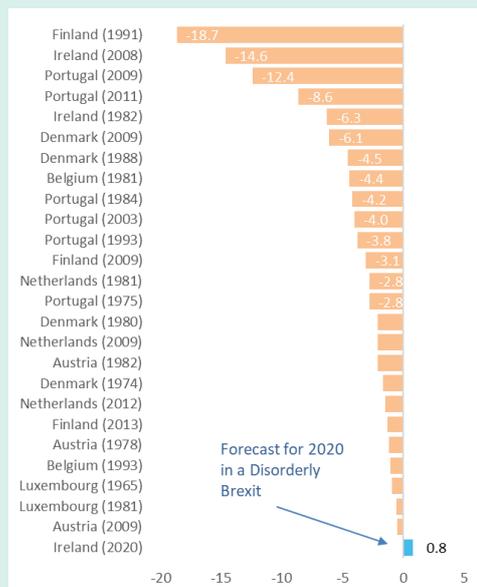
What happens to employment and employees' wages in downturns?

Figure D.2 shows corresponding labour-market impacts of downturns in Ireland and similar European countries. Ireland's largest downturns have severely impacted employment and real compensation of employees, although impacts have been worse elsewhere, for example in Finland (for employment) and Portugal (for wages). While *Budget 2020* does not forecast a downturn episode in 2020, the historical context shows an average impact across country downturn episodes of -4.5 per cent for employment and -15 per cent for real compensation of employees.

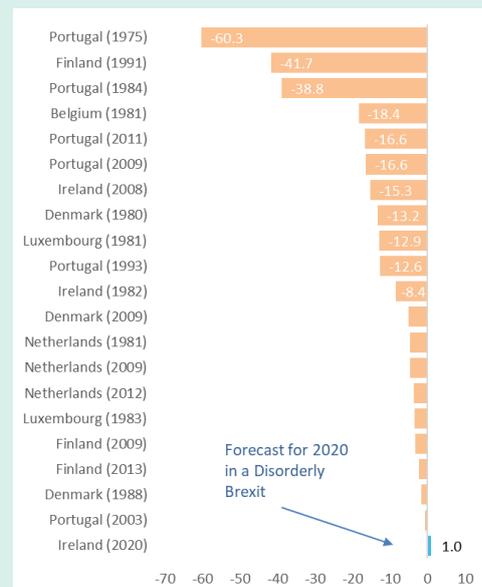
Figure D.2: Wages often fall by more than employment in downturns

Peak-to-trough percentage change in volumes, by country and first year of downturn episode

A. Employment



B. Compensation of employees (HICP deflated)



Sources: European Commission, AMECO database; CSO; and internal Fiscal Council calculations.

Notes: Downturns are defined as growth in final domestic demand (excluding stocks) one standard deviation below its long-run (1961–2018) average. Bars show peak-to-trough percentage change from years $t-1$ to $t+6$, with a downturn occurring in year t . The latest CSO data are used for Ireland for 1999–2018.

Implications

These findings suggest that Ireland's downturns have been relatively severe, in particular for underlying investment. Although all downturn episodes are unique, the examples included in this box suggest that investment and real compensation of employees have been exposed to particularly large peak-to-trough falls of over one tenth in many cases. As such, if a disorderly Brexit causes a downturn to occur, there could be large downside risks to the Budget's forecasts for 2020.

Box E: How well do consumer and business sentiment correspond to real economic activity?

A number of surveys are used to measure consumer and firm assessments of their financial circumstances and their expectations for the general economy. Among these are the KBC consumer sentiment index, and the European Commission's indices for consumer and business sentiment (which includes sub-indices for industry and services).