

Box 3: Horizon scanning – calibrating medium-term economic projections

The approach to constructing medium- and long-term economic projections is grounded on a ‘growth accounting’ framework, based on Robert Solow’s (1956) methodology. This involves decomposing growth in GNI* into the contribution of factor inputs (capital and labour) and total factor productivity (TFP). Long-term growth can then be captured through this production-function approach by forecasting the labour, capital and TFP components individually (figure 11A).[^]

The labour contribution to production is determined by the total hours worked in the economy. This depends, first of all, on the size of the population, which in turn is determined by the “natural increase” arising from births less deaths in a given year, as well as the level of net migration. With a rapidly ageing population, the natural increase in Ireland’s working age population is slowing over the forecast horizon.

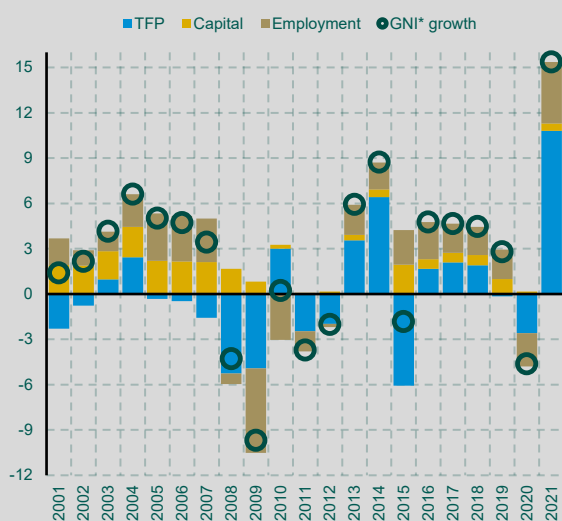
Given the demographic factors at work, with a higher share of older workers in the labour force, the participation rate is also expected to decline over the coming years. Unemployment is assumed to remain at its “natural rate” of slightly below 5 per cent over the forecast horizon, while average hours worked is assumed to be marginally below pre-pandemic levels. Combining all these factors gives a declining labour contribution to GNI* over the forecast period (figure 11B).

The capital contribution is determined by the rate of investment over the forecast period. The *National Development Plan* and private investment requirements for ‘greening’ should see levels of overall investment (as a share of GNI*) be at least as high as their long-term average over the horizon.^{^^}

TFP is expected to converge towards a yearly growth rate of 0.8 percentage points by 2030. This is consistent with the Fiscal Council (2020), the EU Ageing Working Group (2023), and the historical average of TFP in the most recent decade (2010-2019).

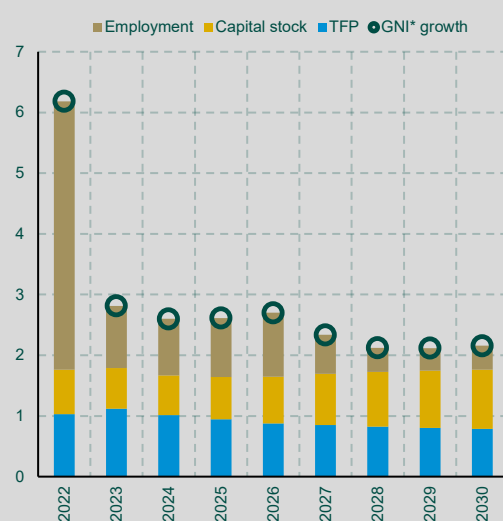
Figure 11: Accounting for growth in the medium-term

A: historical growth decomposition, 2001-2021



Source: Department of Finance.

B: medium-term projections, 2022-2030



Source: Department of Finance.

By putting these three components together, a forecast of the ‘supply side’ of the economy can be constructed. As expected it shows a declining contribution from labour due to demographic factors, while capital and TFP continue to contribute to most of GNI* growth.

These contributions result in GNI* growth of 2¼ percentage points by the end of the forecast horizon, compared to 2½ per cent on average over the previous decade. This figure is used to anchor the ‘demand side’ economic projections in this document, as well as labour market developments.

Given uncertainty regarding some of the key inputs, upside (high-growth) and downside (low-growth) scenarios based on this approach are described in later in this document (chapter 6).

[^] A similar analysis of GNI* per capita growth and changes in living standards over recent decades was conducted for the Department of Finance Economic Insights – Spring 2022 series.

^{^^} Department of Finance Economic Insights – Spring 2023; “*Climes are Changing: the possible macroeconomic implications.*”