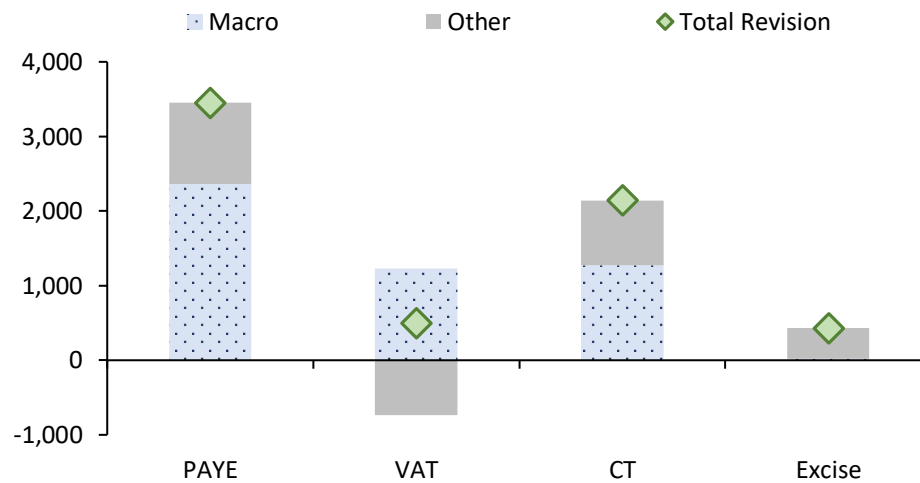


Appendix C: Tax Forecasts Decomposed

The first part of this Appendix explores the revisions to forecasts of the main tax heads for 2020. It shows how the 2020 forecasts in *Budget 2021* have changed relative to *SPU 2020*. Two categories are identified in this analysis as drivers of these revisions: (i) an update to the 2020 “**macro**” economic outlook relevant for each tax head; and (ii) an “**other**” source of revision, caused by use of incorrect estimates of any other component of the forecast. It is the residual of the “macro” after accounting for revisions to the macroeconomic outlook.⁸⁴

Appendix Figure C.1: Tax Forecast Revisions in 2020: Budget 2021 versus SPU 2020

€ million, *Budget 2021 – SPU 2020*



Sources: Department of Finance; and internal Fiscal Council workings.

Note: The chart breaks down the total revision into the macro component and an “other” component.

⁸⁴ A “starting point” error is not relevant in this case, as tax revenues for 2019 were not revised between April 2020 and October 2020

The second part of this Appendix examines the latest tax revenue forecasts produced by the Department of Finance in *Budget 2021* for the projection horizon 2020–2021. In particular, it shows the yearly changes in the forecasts of VAT, corporation tax, excise duties, and the PAYE and USC components of income tax (see Appendix Figure C.1).⁸⁵ For a detailed description of the Fiscal Council’s forecast replication model, see Hannon (2014).

The changes on the tax forecasts (year-on-year) are attributed to a number of components: (i) “**macro**” is the part of the forecast driven by the growth in the relevant macro driver (e.g. wage growth and its corresponding elasticity when analysing income tax); (ii) “**one-offs**” refer to non-recurring items that impact on expected tax receipts; (iii) “**policy**” impacts account for the estimated impacts from policy changes in a given year (e.g., discretionary tax cuts); (iv) “**carryover**” effects account for policy impacts carried over from previous years; (v) “**other**” represents potential elements affecting the forecasts (calculated as the difference between the Fiscal Council’s internal forecasting exercise and that carried out by the Department of Finance), including judgement applied by the Department of Finance.

For 2020, *Budget 2021* forecasts of tax revenue were based on the first nine months of data for the year. Forecasts for the remaining quarter were compiled in consultation with the Revenue Commissioners. For illustrative purposes, Figure C.1 shows how one could arrive at the *Budget 2021* forecasts for 2020. By identifying the other factors (the impact of the macroeconomic driver, one-offs, policy changes and carryover effects) that impact on tax receipts, we can arrive at an estimate of what judgement is implied by the forecasts in 2020. For 2021, this exercise is more precise, as the *Budget 2021* forecasts were compiled using the standard methodology.

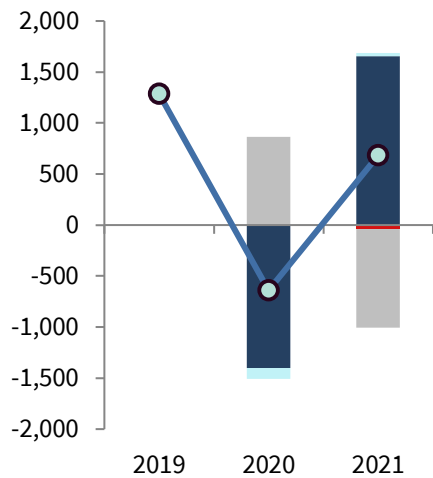
⁸⁵ The generic formula applied by the Department of Finance to forecast revenue in 2021 is given by: $Rev_{t+1} = (Rev_t - T_t) * (1 + B_{t+1} * E) + T_{t+1} + M_{t+1} + M_t + J_{t+1}$, where revenue forecasts (Rev_{t+1}) depend on their lag stripped of one-off items (T_t), one-off items in the current period (T_{t+1}), the macro drivers (B_{t+1}) and their associated elasticity (E), current policy (M_{t+1}) and carryover policy impacts (M_t), and judgement (J_{t+1}). See Hannon (2014) for a discussion of this approach. Rewriting the formula in terms of annual changes yields: $\Delta Rev_{t+1} = Rev_t * B_{t+1} * E - T_t * B_{t+1} * E + \Delta T_{t+1} + M_{t+1} + M_t + J_{t+1}$. In this way, yearly revenue changes for each tax head are attributed to the addition of: (i) the macro driver, which covers the parts of the formula affected by B_{t+1} ; (ii) changes in one-off items, as shown in ΔT_{t+1} ; (iii) current and previous policy changes (M_{t+1} and M_t , respectively); and other adjustments, mainly judgement, as covered in the component J_{t+1} .

Appendix Figure C.2: Tax forecasts decomposed

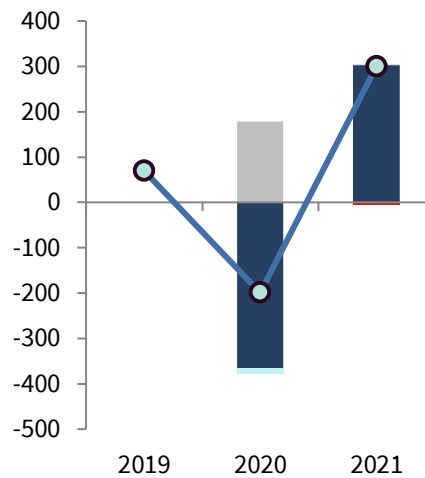
€ million, year-on-year change

Macro One-offs Policy Carryover Other/Judgement Total Revenue

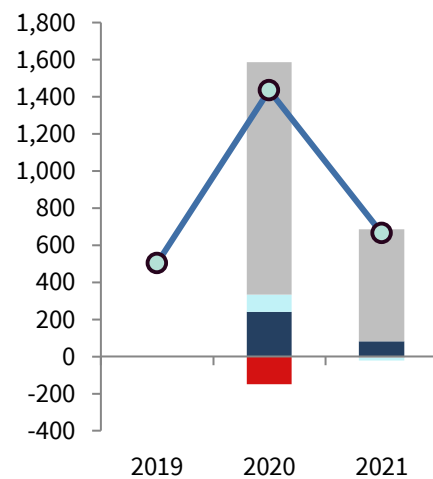
A. PAYE



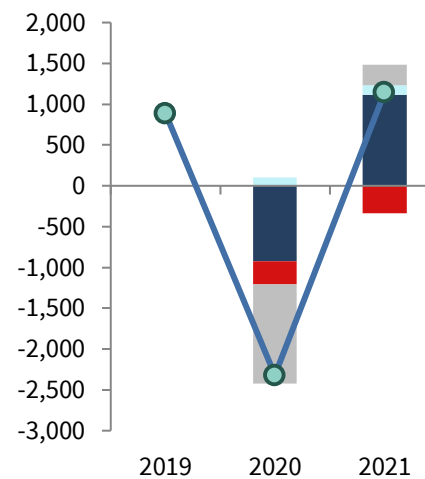
B. USC



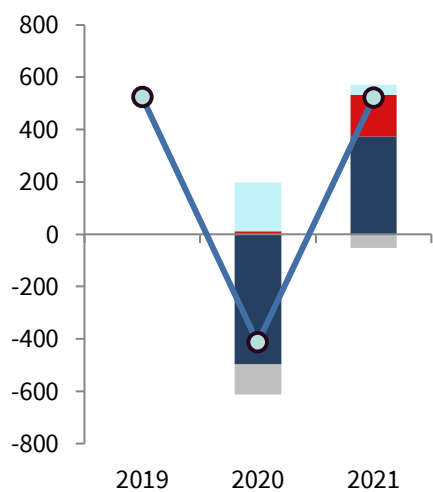
C. Corporation tax



D. VAT



E. Excise duties



Sources: Department of Finance; and internal Fiscal Council workings.