Box D: Three Macroeconomic Scenarios to 2025

There is exceptional uncertainty surrounding the economic outlook related to the Covid-19 shock. This box explores three scenarios. The three scenarios are (1) a Mild scenario where policy measures are more successful and lasting damages are kept to a minimum, (2) a Central scenario constructed using the same assumptions in *SPU 2020*, and (3) a Severe scenario where the recovery is protracted and marred by repeat lockdowns and wider financial distress. We extend these forecasts to 2025.

The Macroeconomic Scenarios

The scenarios we consider are quite different in nature.

The Mild scenario can be understood as one where containment measures are lifted relatively quickly and "hysteresis" effects (the lasting impacts or scarring from the initial shock) are much more limited than is assumed in the Department's projections. Employment rebounds quickly once lockdown measures are lifted, with two-thirds of jobs lost being recovered by Q3 2020 and a further 20 per cent by the end of the year. This would be broadly consistent with a view that policy measures to sustain businesses through the crisis, and progress towards treating/containing the virus, are more successful than assumed and that activity returns to normal at a quicker pace, unconstrained by precautionary saving or other behavioural responses by households and businesses.

By comparison, the Central scenario shows about half of the job losses occurring in Q2 2020 persisting into subsequent quarters and even through 2021. The Central scenario assumes that confinement measures are eased as planned by the Government, but some restrictions remain in place for some time.

For the Severe scenario, we explore the possibility that further waves of the virus—that is a rise and fall in transmissions of the virus again at later dates—result in further lockdown measures being enacted in line with past experience of "second waves" of infections (Figure D.1). The intermittent lockdowns could mean similar job losses in later quarters (Q4 2020 and Q2 2021) and more lasting impacts over the long run.

Figure D.1: A Severe scenario might see further surges in cases

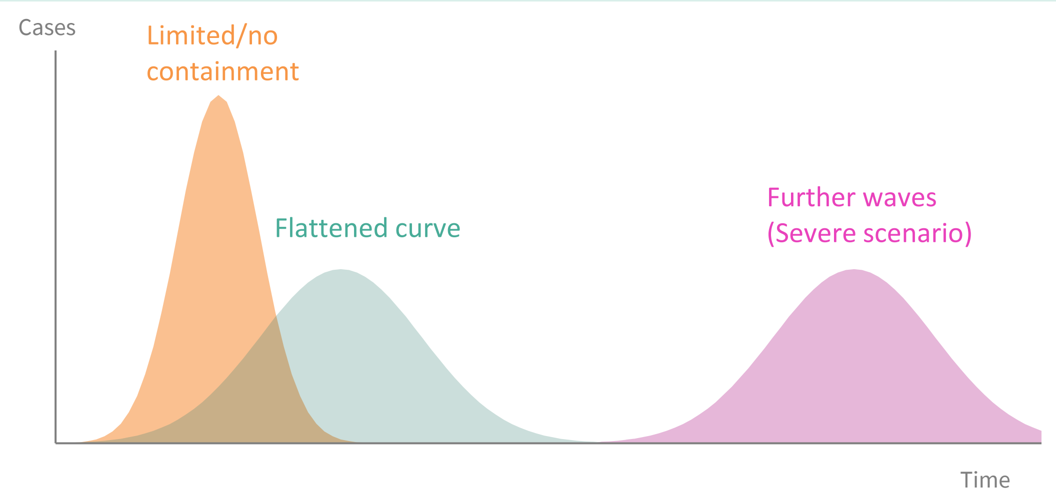


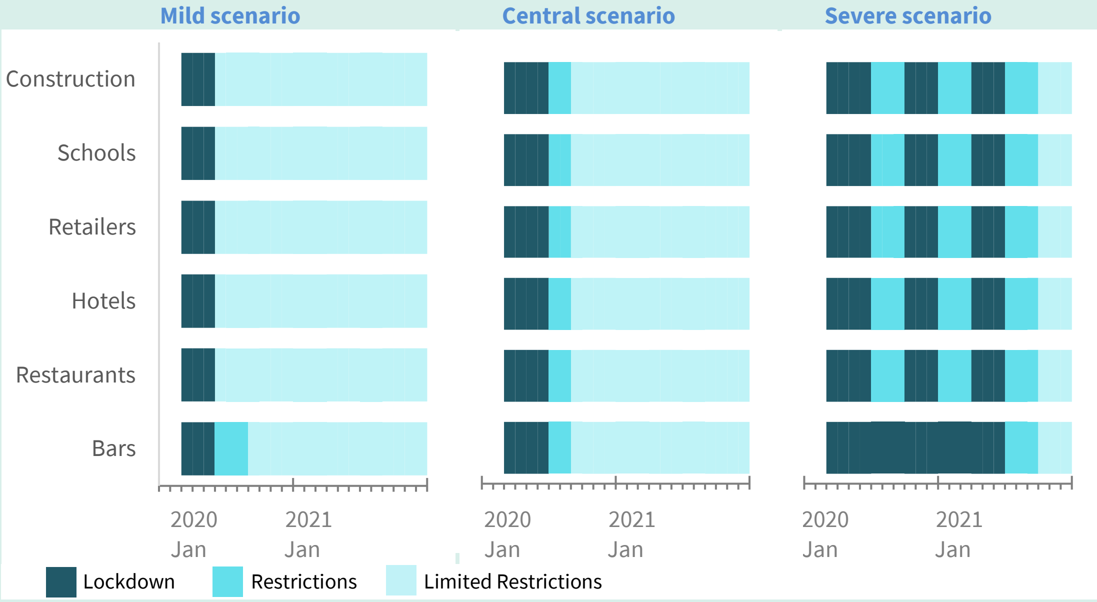
Table D.1 shows the main assumptions underpinning the three scenarios. Key to these scenarios are the assumptions about containment measures. We consider containment measures primarily in terms of the impacts on consumer spending, personal disposable income, construction and other business investment areas. It is therefore useful to think carefully through the assumptions on containment measures for key relevant areas (Figure

D.2). School closures, for instance, could impact 851,000 workers based on data for the numbers of working individuals with children. Bars could face more lasting impacts than other "social" economic activities. Though lockdown measures may be lifted, social distancing and other requirements might persist long after the lockdown has ceased.

Table D.1: Key assumptions for the scenarios

	Central scenario	Mild scenario	Severe scenario
Broad description	Government's *SPU 2020* forecasts assume a sharp contraction in Q2 2020, followed by a very protracted recovery.	Slightly milder initial contraction and faster recovery. More successful containment measures, economic supports, and progress on treatments.	Sharp initial contraction. Protracted recovery marred by repeat lockdowns and wider financial distress.
Containment measures	Strict lockdown measures last one quarter (Q2 2020). Containment measures are then relaxed over the summer.	Strict lockdown measures end in May, with limited measures remaining into Q3 2020.	Strict containment measures last until July 2020. Then intermittent lockdowns (Q4 2020 and Q2 2021) required to stem subsequent transmission increases.
Employment losses	Job losses of about 475,000 (-20%) in Q2 vs trend; half the job losses are still not recovered by Q4 2021.	Job losses of about 475,000 (-20%) in Q2 vs trend; but fewer (33%) of these losses last into Q3; down from 10% thereafter.	Job losses of about 620,000 (-26%) in Q2 vs trend and in subsequent lockdown quarters; four-fifths of job losses persist outside lockdowns.
Recovery	Economy only recovers to pre-crisis (Q4 2019) levels by Q4 2022.	Economy recovers to pre-crisis (Q4 2019) levels by Q3 2021.	Economy does not recover to pre-crisis (Q4 2019) levels until Q3 2023
Potential output	Growth reverts to previous projections of about 2.5 to 3% per annum over the medium term.	Growth reverts to previous projections of about 2.5 to 3% per annum over the medium term.	Permanent scarring on growth; remains closer to 2% per annum over the medium term.

Figure D.2: Assumptions on containment measures



Notes: "Lockdown" means that the sector is required to close. "Restrictions" means the sector is open but with restrictions on size of gatherings and requirements for social distancing. "Limited restrictions" means that the sector is open and that restrictions on size of gatherings and requirements for social distancing are fully loosened, but with scope for reintroduction.

The Approach Used

To develop the macroeconomic scenarios, we first produce a replica of the official government forecasts and extend them under similar assumptions to construct the Central scenario. We start with a counterfactual no-Covid-19 forecast (the January 2020 projections from the Department of Finance, 2020b). The nature of the restrictions in each scenario and the assumptions about the response vary in severity. We scale up or down the relevant shocks to underlying domestic demand consistent with our assumptions about containment measures and the extent of how persistent economic damages will be.

Consumer spending: We first impose shocks to incomes. These shocks are consistent with our assumptions for school closures, job losses, replacement rates, infection rates, time lost to work per illness (two weeks), prophylactic absences (30 per cent of employed for two weeks), mortality rates, and wages by sector. Next, we shock individual areas of consumption to varying extents consistent with how vulnerable areas are considered to be. For example, alcoholic beverages including pubs; recreation services; transport equipment; public transport; clothing; and household equipment are assumed to be among the worst affected with losses of at least 50 per cent.[16]

Investment: We assume that building and construction sites are closed for the lockdown periods and open otherwise. The associated reduction in hours worked is assumed to lead to equivalent percentage reductions in construction output. For machinery and equipment spending, we assume that declines are associated with the reduction in forecast external demand using standard elasticities (Conroy and Casey, 2017).

Government consumption: We assume that this is the same as forecast in *SPU 2020*—see Box I in chapter 3 for further details on possible fiscal impacts of the different scenarios.

Trade: Exports are assumed to evolve in line with changes in external demand, with adjustments made to this for the scenarios being consistent with our changes to underlying domestic demand. In other words, weaker underlying domestic demand is assumed to be mirrored by a similar weakening of demand among trading partners.

We calibrate all the shocks to be consistent with the official *SPU 2020* projections for the purposes of the Central scenario. The overarching approach is similar to that adopted in Keogh-Brown *et al.* (2010) and by the Department.

A wide range of outcomes is possible

The scenarios cover a wide range of different outcomes. For Mild, underlying domestic demand would recover to its pre-Covid-19 level by mid-2021. This is a faster recovery than in *SPU 2020*. In the Central scenario, output takes a further year to recover, and a further two years in the Severe scenario. These outcomes result in a permanent loss of output of 4, 10 and 15 per cent for the Mild, Central and Severe scenarios respectively, compared to the level it would have reached in the absence of Covid-19.

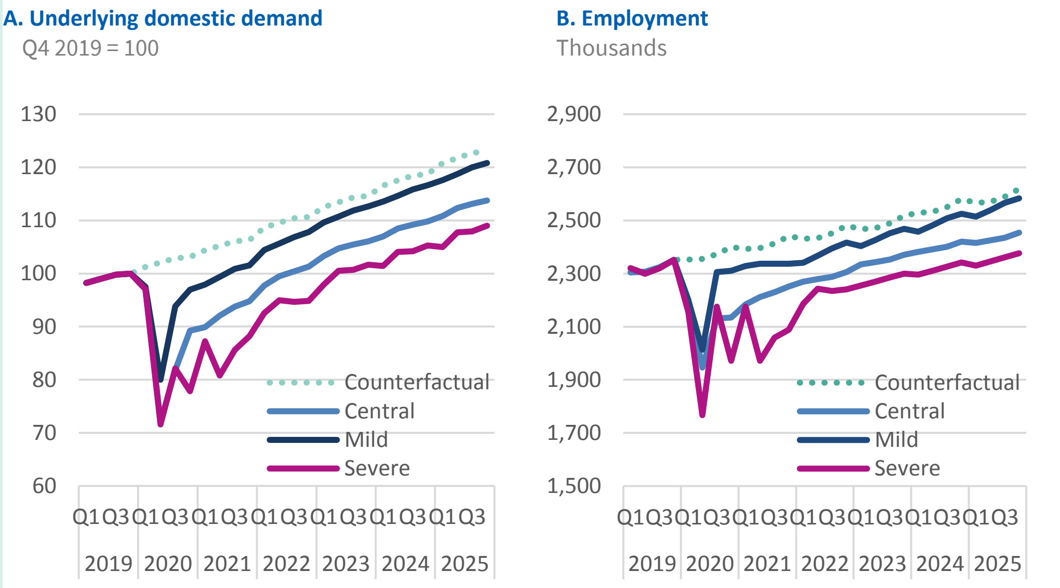
Employment outcomes also vary significantly across the scenarios with different rates of unemployment. In the Mild scenario employment makes a full recovery by 2022, whereas the Severe scenario would result in employment remaining below its Q4 2019 level until the latter half of 2023, as with underlying domestic demand. Permanent employment losses compared

[16] See Table 14 of the CSO's National and Income Expenditure Annual results at: https://statbank.cso.ie/px/pxeirestat/Statire/SelectVarVal/Define.asp?maintable=N1814&PLanguage=0

to a future level in the absence of Covid-19 would be 11 per cent for the Severe scenario, and 7 per cent for the Central scenario.

In each scenario, it is likely that permanent losses in activity and employment will result from the Covid-19 shock. As discussed in Chapter 1, besides causing a shock to demand, the economy's long-run potential level and growth rate might be negatively impacted by Covid-19. Although this is difficult to estimate, three key factors of production could be impacted including productivity, labour supply, and investment in capital, and on balance the Council assesses that long-run growth is likely to be somewhat lower following the Covid-19 shock. Impacts could include mismatch in skills for segments of the labour market, loss of capital in businesses and firm destruction, missed investment, and lower inward migration.

Figure D.3: Permanent losses to activity and employment are likely



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

Table D.1 summarises activity and employment levels for the three scenarios explored.

Table D.2: Mild and Severe scenarios provide a plausible range for activity levels

	2020	2021	2022	2023	2024	2025	Permanent loss, %
Underlying domestic demand, Q4 2019 = 100							
Central	85	93	100	105	109	113	10.1
Mild	92	100	106	111	115	119	4.1
Severe	82	85	94	100	104	107	14.6
Employment, thousands							
Central	2,103	2,219	2,286	2,351	2,399	2,433	7.1
Mild	2,208	2,335	2,380	2,437	2,493	2,551	3.0
Severe	2,018	2,074	2,226	2,278	2,319	2,353	10.7

Sources: Department of Finance, *SPU 2020*; and Fiscal Council workings.
Note: Permanent losses are calculated as the percentage difference to counterfactual following Q4 2019.

The scenarios detailed above are indicative for outcomes that are considered plausible. However, as noted in Box A in Chapter 1, there is continuing uncertainty surrounding the future path of Covid-19 and prospects for vaccines. As such, the scenarios presented here are not exhaustive, and do not cover all possible paths for economic activity in Ireland.