assumes a sharp fall relative to previous months.[35] In 2017 and 2018, the actual growth rate did not fall as rapidly as had been forecast, resulting in overruns in both years (Figure 3.3 Panels B–C). In 2017, the actual growth was lower than forecast for the first eleven months of the year, so signals of overruns were not apparent over the course of the year. However, the final outturn for the year resulted in an overrun. For 2018, while there had been overruns for the second half of the year, the overrun widened significantly in December, with the end-year overrun becoming substantial.

Turning to capital spending, some ongoing investments are experiencing significant overruns, as discussed in Box F.

### Box F: Capital Project Overruns in Ireland

A common feature of big capital investments in Ireland and internationally is that initially-set budgets tend to escalate over time, leading to overruns that can put pressure on the public finances. This Box examines the general drivers of this trend and provides an overview on the Irish experience, focusing on the case of the National Children's Hospital.

Internationally, investment in infrastructure megaprojects (i.e., projects worth over $1 billion) has gained momentum in recent years. Yet, nine out of ten megaprojects incur cost overruns (Flyvberg, 2014), largely caused by: (1) weak leadership by planners who lack experience in large projects, which can lead to major changes throughout the project cycle; (2) conflicts of interest in decision making by different stakeholders in the public and private domains; and (3) the long-term nature of the project, which increases the extent of potential risks. Exceeding initial budgets can have important consequences in the public finances, including resorting to in-year cuts in other spending areas or the use of temporary revenue gains.

#### Scale of Overruns in Ireland and their Impact

Ireland is not an exception to this systematic pattern of overruns in infrastructure projects (Table F.1). The construction of the Dublin Port Tunnel, for example, involved an overrun of 160 per cent of the initial budget. While lessons should have been learnt from past experience, some ongoing capital projects are still incurring substantial overruns. The National Broadband Plan, which has been approved by the Government, has seen the estimated cost increase from an initial €500 million to an estimated €3 billion (an increase of 500 per cent).

**Table F.1: Examples of Capital Investment Overruns in Ireland**

Approximate increases from initial budget to final cost/latest estimate

| | *Overrun (€ million)* | *Overrun (%)* |
|---|---|---|
| National Broadband Plan | 2,500 | 500 |
| National Children's Hospital | 983 | 94 |
| Luas Line [1] | 578 | 289 |
| Dublin Port Tunnel | 495 | 160 |

Sources: Internal IFAC calculations.

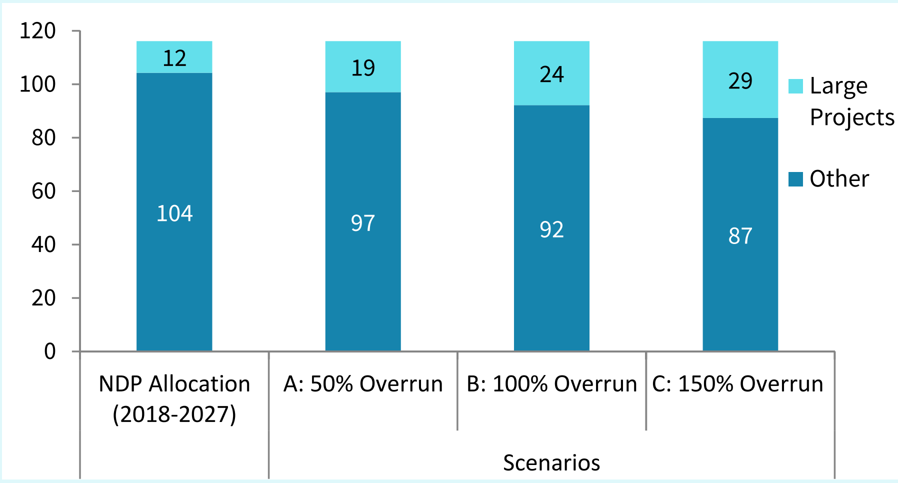
Note: [1] This refers to the first construction phase of the Luas line. The extension that followed, however, performed well in sticking to initially-budgeted costs.

[35] From an average expected growth of 5.6 per cent in November to 3.7 per cent for the end-year.

Deviating from initially planned budgets can have wider implications. As an illustration, Figure F.1 shows how overruns in the largest projects would squeeze the budget for the other investments set out in the National Development Plan (Department of Public Expenditure and Reform, 2018a) assuming that the overall envelope was maintained.[36,37] Under the baseline scenario from the National Development Plan, the large projects would imply an average annual cost of €1.3 billion, leaving on average €11.6 billion per annum for other projects. However, if these large projects overran by 150 per cent (except for the National Children's Hospital and the National Broadband Plan, for which the latest overrun estimates are incorporated), this would imply that the allocation for the large projects would increase to €3.2 billion annually, reducing the scope for the rest of the projects to €9.7 billion.[38]

**Figure F.1: Overruns in Large Projects Can Reduce the Scope for Other Investments**

**€ billion**




Sources: Department of Public Expenditure and Reform (2018a); and internal IFAC calculations.
Note: The National Development Plan (NDP) allocation is adjusted to take account of the outturn for 2018. Scenarios A, B and C assume overruns of 50 per cent, 100 per cent and 150 per cent, respectively, for the large projects considered in the exercise (except for the National Children's Hospital and the National Broadband Plan, for which the latest overrun estimates are considered final).

### Case study: the National Children's Hospital

The National Children's Hospital is the largest capital investment programme ever undertaken in Ireland's healthcare system. Since the project was established six years ago, the estimated cost of the investment has doubled, as shown in Figure F.2. In 2013, the estimated budget for the construction of the hospital was €790 million. In April 2017, the estimation increased to €983 million, which included costs related to the construction and equipment of the hospital

[36] The projects identified as "large" in this exercise refer to: the National Children's Hospital, the National Broadband Plan, the Dart Expansion, the Metro Link, the M20 Cork-Limerick, the BusConnects Programme, and the Eastern and Midlands Water Supply Project. For the National Children's Hospital and the National Broadband Plan, the latest overrun estimates are incorporated in the exercise, and no further assumptions are applied to these.

[37] The overall envelope from the National Development Plan refers to the total allocation committed for 2018–2027. This has been adjusted to take account of the 2018 outturns.

[38] The annual average, shown for illustrative purposes, should not be taken literally since it assumes that the cost of the projects is spread equally over the nine-year horizon (2019–2027), while this is not necessarily the case (e.g., the duration of some projects is below nine years) .

and the two satellite centres. In December 2018, the associated cost increased to €1.43 billion. After this, a further €293 million is expected to be needed to cover additional items (e.g., IT systems), increasing the latest estimate to €1.73 billion.

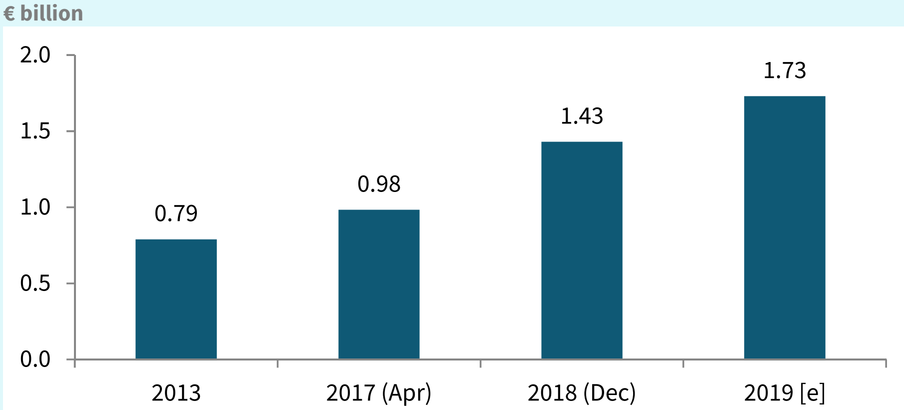
For 2019, cost developments in the Children's Hospital are expected to be covered through savings in other departments/capital projects. The Minister for Finance outlined in February that €99 million will be needed this year for timely provision of the National Children's Hospital.[39] This amount is planned to be accommodated as follows: €24 million arises from a scheduled draw-down in Health across 2019 and 2020; the remaining €75 million will be met through a number of savings elsewhere, the largest being a re-scheduling of €27 million arising in relation to the A5 Motorway in Northern Ireland.

A review by PwC (2019) helps understand the rationale for the cost-escalation up to end-2018. Three key deficiencies were identified as driving such re-estimations of the costs:

1. Planning. This relates to the lack of a solid cost-benefit analysis being undertaken prior to the construction process. This includes an underestimation of potential risks, besides the absence of robust planning to identify a guaranteed maximum price (i.e., a ceiling to the investment cost).
2. Execution. Once the investment had been committed, there was poor coordination and control of the guaranteed maximum price.
3. Governance. The body in charge of overseeing the project (the National Paediatric Hospital Development Board) did not adequately put into question the deficiencies of the project, allowing it to progress "too quickly" and without being challenged regularly.

**Figure F.2: The Estimated Cost of the Children's Hospital Has Doubled**

€ billion




Sources: PwC (2019).
Note: The 2019 figure refers to the latest estimate of the investment cost. However, this figure does not include additional costs that may well arise, including accommodation costs or inflation.

Key failures associated with health spending overruns were identified in Box D of IFAC (2018e). There are clear parallels between those failures, the conclusions noted in the review of the National Children's Hospital, and some deficiencies identified in Flyvberg (2014). These refer to: (i) unrealistic forecasts; and (ii) weak spending controls. This gives rise to the "soft budget constraint" problem, whereby the budgeted cost is surpassed repeatedly. In turn, this creates future problems by reinforcing the belief that upward revisions to the ceiling are very likely to be facilitated, hence weakening spending controls further. The interaction between unrealistic forecasts and a subsequent relaxation of ceilings can put the public finances at risk.

[39] Minister for Finance public statement on 12 February 2019, available here.