

19 December 2001

Treasury Circular 2001/16

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CAPITAL CHARGE –FORMULA AND RATES FOR 2002/03

Summary

- 1 This Circular replaces Treasury Circular 2000/16 regarding the capital charge regime. A separate Circular (2001/15) updates and replaces the balance of 2000/16 relating to the differential capital charge pilot scheme.
- 2 The changes arising from this year's review of capital charging are:
 - A technical change to the formula used to set the capital charge rate is required so the preferred accounting treatment for capital charges is consistent with Generally Accepted Accounting Practice (GAAP). The formula introduced for 2001/02 assumed that taxpayers' funds for each department are entirely equity capital. Backdated to 1 July 2001, an assumption of equal proportions of debt and equity capital will apply. The formula change is minor and does not alter the capital charge rate for 2001/02 once rounding to the nearest 0.5% is applied. Accordingly there are no implications for departments.
 - Reduce the capital charge rate by 0.5% - from 9.0% to 8.5% - from 1 July 2002, based on downward movements in underlying assumptions for inflation and interest rates. All departments will need to take account of this in developing their financial forecasts for 2002/03.
 - Reduce the deposit and penalty interest rates for the differential capital charge scheme to 5.1% and 10.6% respectively from 1 July 2002, as a direct consequence of the proposed reduction in the capital charge rate. This will affect the two departments currently participating in the pilot scheme and any departments who join the pilot for 2002/03.

3 The Minister of Finance has approved these changes under Cabinet's delegated authority. For completeness, this circular also sets out the capital charge compensation regime. There are no changes to the regime previously announced (in Treasury Circular 2000/16).

Capital Charge Formula

4 Capital charge is a cost levied on the Crown's investment in each department. It reflects the cost to the Crown of investing in a department versus other uses of that money.

5 In December 2000, changes to the Capital Charge scheme were announced in Treasury Circular 2000/16. One of the major changes to the formula involved shifting from an assumption of 50% debt and 50% leveraging to one of no leveraging (i.e. 100% equity). Other changes included:

- use of a three-year moving average rounded to the nearest 0.5%;
- setting the rate for 2001/02, based on the revised methodology;
- changes to the compensation regime for departments from 1 July 2002, with eligibility for compensation for movements in capital charges as a result of rate changes or asset revaluation changes being determined by set criteria;
- announcing the intention to pilot a differential capital charge scheme during 2001/02.

6 The changes to the capital charge calculation formula were introduced with effect from 1 July 2001. These changes were designed to:

- strengthen incentives for departments to maintain efficient asset levels;
- encourage departments to manage and minimise capital charge costs by allowing savings to be used to offset fiscal pressures and risks elsewhere within votes; and
- reduce compliance costs for Ministers and departments, and achieve more consistency across departments and over time.

7 The principal reasons for a move to an unlevered cost of capital were so that the underlying model of departmental capital better reflected the preclusion (under the Public Finance Act 1989) on departments borrowing, and to ensure departments faced a similar cost of capital to other entities such as SOEs and Crown entities. This was done to minimise any pricing distortions between different options for delivery of various interventions.

8 Subsequent to implementing the above changes, Treasury received advice that treating capital charges calculated using an unlevered cost of capital as an expense would depart from generally accepted accounting practice (GAAP). The concern centres on the leveraging assumption used in the calculation formula, rather than being any fundamental problem with the formula. The Office of the Auditor-General (OAG)

have also indicated that reverting to a 50/50 leveraging assumption would ensure departments can continue to treat capital charges as an expense item under GAAP.

9 Not addressing the concern would expose a number of departments to a risk of qualified audit opinions on the basis of accounting treatment of capital charges.

10 Accordingly, the capital charge rate calculation formula will revert to a 50/50 leveraging assumption, with the change to be backdated to be effective from 1 July 2001. Once rounding is taken into account, the capital charge rate for 2001/02 will remain unchanged at 9.0%. Similarly, there is no direct impact on the rate for 2002/03. This change is technical in nature and does not require any action from departments.

11 Details of the capital charge rate calculation formula are provided in Annex 1.

Setting the Capital Charge Rate

12 The rate of capital charge applying for a given year is set using a three-year moving average of the real rate calculated for the current year and two previous years, rounded to the nearest 0.5%. Use of a moving average should ensure that rates will be less affected by short-term fluctuations in interest rates or inflation, whilst still capturing underlying trends in the cost of capital. Reducing the frequency of rate changes will reduce compliance costs and should assist departments with their long-term forecasting.

13 At the end of each calendar year, Treasury will recommend a capital charge rate for the following financial year to Ministers. These recommendations will be based on the latest available forecast information for inflation and interest rates.

Capital Charge Rate for 2002/03

14 Using current forecasts of inflation and interest rates and the calculation method noted above, the capital charge rate for **2002/03** will decrease to **8.5%** (the 2001/02 rate is 9.0%). This rate applies to all departments from 1 July 2002, and was approved by the Minister of Finance on 6 December 2001.

15 The impact of these changes on each department's baselines should be calculated using the compensation rules detailed in Annex 2.

Differential Capital Charge Deposit and Penalty Rates

16 The differential capital charge pilot scheme will continue during 2002/03. Full details of the scheme are covered in Treasury Circular 2001/15. As with 2001/02, the differential rates will continue to be set as 60% of the capital charge rate for deposits, and 125% of the capital charge rate for penalty interest on early drawdowns of appropriations.

17 The applicable rates for 2002/03 are therefore:

- Deposits: 5.1% per annum
- Penalty (early drawdown) rate: 10.6% per annum

Capital Charge Compensation Regime

18 Historically, departmental baselines have been fully adjusted whenever the capital charge rate has changed. There has, however, been mixed practice for baseline adjustments when taxpayer's funds change due to capital injections or asset revaluations. In most cases, departments have been compensated for increases to capital charges arising from increases in taxpayer's funds. This can, in practice, weaken the incentives for departments to manage changes in their cost of capital.

19 There is no automatic compensation for changes to the cost or amount of other inputs used. Requests for changes to funding levels as a result of pressures from input prices must be justified to Cabinet before baseline increases will be agreed to. The previous treatment of changes to capital charge funding levels has therefore been inconsistent with that of other inputs.

20 Changes to the capital charge compensation regime (detailed below and in Annex 2) ensure consistency of treatment between capital charges and other input costs. This means that each Chief Executive can choose the input mix to produce a given set of outputs, with capital charge being the input cost associated with the choice of capital employed in the production process.

21 From 1 July 2002:

- For most departments, the presumption will be that baselines will not change as a result of changes in capital charge but, if warranted, the department or Treasury can seek a baseline change through the normal budget process; and
- For a small number of capital-intensive departments, price changes in response to changes in capital charge will be automatically supported by Treasury over the thresholds set out in the table in Annex 2, providing departments meet certain information requirements to demonstrate operating efficiency (outlined in paragraph 24). Departments currently within this capital-intensive category are the Ministry of Education, NZ Defence Force, Department of Corrections, Department for Courts, Police, National Library, Archives New Zealand and Ministry of Foreign Affairs and Trade.

22 Implications of these compensation rules are detailed in Annex 2. The changes apply equally to increases and decreases in capital charge payable. This means that if a department would be expected to absorb an increase in capital charge (or part of one), then that department would retain savings (or part) from a decrease in capital charge payable. Further, in the case of either increases or decreases, the department or Treasury can put forward a case to Ministers for changing baselines.

Process for Baseline Adjustments in Response to Changes in Capital Charge

Capital-intensive Departments

23 "Capital intensive" departments are those that meet the thresholds described in the table in Annex 2. These departments will need to demonstrate efficient use of inputs in the production of outputs before Treasury will automatically support a business case for baseline increases arising from a change in capital charge. This will necessarily require evidence of an active and well-managed programme of identifying

and selling surplus assets and ongoing self-assessment of the level of fixed assets required.

24 Demonstrating efficient use of capital resources will help ensure the partial baseline adjustments regime is broadly consistent with the information requirements for seeking a baseline increase for other reasons.

25 For capital-intensive departments, baseline adjustments for changes in capital charge will continue to occur as part of the February Baseline Update.

All Other Departments

26 A department that does not meet the capital-intensive criteria for automatic Treasury support of partial baseline adjustments can make a business case to Ministers for increases to baselines to meet increased capital charges payable. It will be necessary to demonstrate the efficient use of inputs in the production of outputs before consideration to a baseline increase will be given.

27 Conversely, Treasury can make a case to Ministers to reduce baselines where there has been a decrease in capital charge payable for a department.

28 Where baseline increases are sought, issues that will be considered when assessing a request for a baseline increase include:

- how the existing baselines were set;
- whether any offsetting savings are available and whether these could be applied to the cost pressure rather than to new policy initiatives;
- whether the assets are integral to the business, and whether there is scope to rationalise or shed non-integral assets;
- whether or not the department has a robust asset management/review plan, and any implementation plans where one is not already in place – an interim adjustment may need to be made until this solution is implemented and the effect of it assessed;
- considering cheaper alternatives or options that could be pursued in the medium term (e.g. leasing) – an interim adjustment may need to be made until this solution is implemented and the effect of it assessed;
- the overall reasonableness and sustainability of the baseline against suitable price benchmarks (e.g. as compared to equivalent outputs in Australia or the private sector).

29 Explicit Cabinet decisions will be required for baseline changes in response to changes in capital charges for departments that are not capital-intensive. The most appropriate timing for these decisions is the initiatives phase of the Budget round. This will allow any bids for additional resources to meet capital charges to be assessed against other competing priorities within the department and the Government as a whole.

Further Information

30 For further information, departments should contact their Treasury vote team.

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CAPITAL CHARGE CALCULATION FORMULA

Real and Nominal Cost of Capital

31 The following formula is used to calculate the nominal capital charge rate:

$$\begin{aligned} &\text{Nominal weighted average cost of capital} \\ &= (\text{cost of debt} \times \text{debt ratio}) + (\text{cost of equity} \times \text{equity ratio}) \end{aligned}$$

32 This nominal rate is then converted to a real rate using the following formula:

$$\text{Real Weighted Average Cost of Capital} = \frac{1 + \text{nominal rate}}{1 + \text{inflation rate}} - 1$$

Debt and Equity Ratios

33 A modelling assumption of equal proportions of debt and equity capital is used. The debt and equity ratios are therefore both 0.5.

Cost of Debt

34 The cost of debt is calculated as being the risk free rate plus a risk premium. The forecast 10-year government bond rate is used as a proxy for the risk free rate, and the debt risk premium for the NZ public sector is currently set at 1%. For the 2002/03 rate calculation, the forecast 10-year government rate for 31 March 2002 has been used.

Cost of Equity

35 The cost of equity is calculated as being:

$$\frac{(\text{Risk free rate} \times (1 - \text{tax rate})) + (\text{Market Risk Premium for Equity} \times \text{Equity Beta})}{1 - \text{tax rate}}$$

36 The corporate tax rate (33%) is used to ensure that the cost of equity capital is comparable with that paid by corporate taxpayers such as SOE's and private sector companies.

37 The equity beta (β_e) measures the relative equity market risk of the entity, and is derived as a function of the asset beta (β_a – which measures the riskiness of an entity's investments). The formula for calculating β_e is:

$$\beta_e = \beta_a \times \left(1 + \frac{\text{Debt ratio}}{\text{Equity ratio}} \right)$$

38 The asset beta for the NZ public sector has been assessed as 0.3. Using the formula above, this in turn gives an equity beta of 0.6.

Inflation

39 The forecast consumer price index (CPI) is used as a measure of expected inflation. For the 2002/03 financial year, the forecast CPI for the year ended 31 March 2002 has been used.

Use of Forecast versus Historic Rates

40 Forecast rates for inflation (i.e. the CPI) and the 10-year government bond rate are used rather than historic rates. This is because we are calculating the expected cost of capital for a future period.

CALCULATION OF CHANGES TO DEPARTMENTAL BASELINES AS A RESULT OF CHANGES TO CAPITAL CHARGES PAYABLE

41 The following table sets out the effect on baselines from a change to the level of capital charges payable by a department. These changes would be caused by one or more of the factors detailed in the first column.

Reason for Change in Capital Charge Payable	Impact on Departmental Baselines
<p>Either</p> <p>1 Capital charge rate change</p> <p>or</p> <p>2 Net Asset Valuation Change</p> <p>or</p> <p>3 Accounting Policy Changes (e.g. those arising from implementation of new financial reporting standards)</p>	<p>Baselines adjusted on a variable scale:</p> <p>Net Taxpayer's Funds >\$200m and total capital charge payable >50% of total output expenses:</p> <ul style="list-style-type: none"> • Full adjustment of baseline <p>Net Taxpayer's Funds >\$200m and total capital charge payable <50% of total output expenses:</p> <ul style="list-style-type: none"> • Department absorbs or retains changes equivalent to 0.1% of net taxpayer's funds; • Baseline adjusted for remainder of change in capital charge payable, providing department meets information requirements detailed in paragraph 24. <p>Net Taxpayer's Funds <\$200m and total capital charge payable >15% of total output expenses:</p> <ul style="list-style-type: none"> • Department absorbs/retains changes equivalent to up to 0.2% of net taxpayer's funds; • Baseline adjusted for remainder of change in capital charge payable, providing department meets information requirements detailed in paragraph 24. <p>All Other Departments:</p> <ul style="list-style-type: none"> • No change in baseline, unless department or Treasury can make a case to Ministers for a change.
<p>4 New Capital Contribution</p>	<p>Funding for additional capital charge as a result of a new capital contribution would be based on the business case. There is no automatic assumption that capital charge should be funded as part of the business case – each proposal would be considered on its merits.</p>
<p>5 Voluntary Capital Withdrawal</p>	<p>No change in baseline. Department retains all savings in capital charge payable.</p>

42 The thresholds of \$200 million in net taxpayer's funds and capital charge of more than 15% of output expenses are proxies for asset specificity and capital intensity. Asset specificity and capital-intensity impact on a department's ability to make significant savings in output expenses by adjusting the means of production (input mix).