Inland Revenue
Te Tari Taake

26OIA1463

7 November 2025

[redacted]

Dear [redacted]

Thank you for your request made under the Official Information Act 1982 (OIA), received on 3 October 2025. You requested the following:

> *I note that in the Budget documents released on 4 September (copied below), Treasury estimate the fiscal cost of full expensing to be around $34b over the forecast period. I appreciate this was essentially scaled from your partial expensing calculations.*
> *https://www.budget.govt.nz/information-release/2025/pdf/b25-t2025-278-5140200.pdf*
> *In relation to this, could I please request the following under the OIA:*
> *• Any modelling, forecasts, or assumptions used to ascertain this figure.*
> *• Any internal reports or memos produced in relation to the costings of capital expensing*
> *• Any analysis or costings provided to Ministers which relies on these costings*

On 30 October 2025 we notified you that we had extended the time to make our decision on request by 5 working days, to 10 November 2025.

Information being released

I have identified three documents in scope of your request. Please find enclosed the following documents. Some information within these documents has been withheld under section 9(2)(a) of the OIA, to protect the privacy of natural persons.

Item	Date	Document	Decision
1.	28/08/2024	Costing request – Partial expensing – September 2024	Released with some information withheld under section 9(2)(a) of the OIA.
2.	17/10/2024	Costing request – Partial expensing – October 2024	Released with some information withheld under section 9(2)(a) of the OIA.

I am refusing the document *BN2025/244 – Partial expensive costing assumptions*, under section 18(d) of the OIA, as the information is publicly available. You can find a copy of this document on Inland Revenue's tax policy website via the following link: Further information release - Inland Revenue Budge 2025.

The $34bn figure mentioned in Treasury's estimate forecast included Investment Boost figures. Between February and May 2025, these figures were adjusted to account for dampening the first March year to allow for a part-year application date. This removed purchases in April 2025 and most of May 2025 and is the main cause of the drop in the total across the forecast period. Further to this, the introduction of manual accruals for booking policy changes within the first year smoothed out the timing profile but had no impact on the forecast period total.

Right of review

If you disagree with my decision on your OIA request, you have the right to ask the Ombudsman to investigate and review my decision under section 28(3) of the OIA. You can contact the office of the Ombudsman by email at: info@ombudsman.parliament.nz.

Publishing of OIA response

We intend to publish our response to your request on Inland Revenue's website (ird.govt.nz) as this information may be of interest to other members of the public. This letter, with your personal details removed, may be published in its entirety. Publishing responses increases the availability of information to the public and is consistent with the OIA's purpose of enabling more effective participation in the making and administration of laws and policies and promoting the accountability of officials.

Thank you again for your request.

Yours sincerely

Felicity Barker
Acting Policy Director

Policy costing process template

Security: In confident (Budget sensitivities)

Topic: Depreciation: Partial expensing, broad asset coverage including commercial buildings

Requestor: Steve Mack (also Economics team Elly/Adam/Matt B/Fliss)

Date of request: 28 August

Forecasting Lead Analyst: Sandra

Agreed timeframe: By 9 September

Fast turnaround but a PE model already exists. This time the intention is to also include buildings. The model only needs to deal with PE – there is no related accelerated depreciation of the residual.

UPDATED 16 September – assumption changes highlighted in green

--- Example Fiscal table ----------

There are other options. Details are in the costing spreadsheet.

Rounded fiscal impact of 20% partial expensing for selected* assets from 1 April 2026, by June year ($million)

Figures have been rounded to the nearest $5m.

	$ million increase / (decrease)				
Vote Revenue **Minister of Revenue**	**2023/24**	**2024/25**	**2025/26**	**2026/27**	**2027/28**
Tax Revenue:					
Company tax	-	-	-	(155)	(4690)
Other persons	-	-	-	(15)	(465)
Total operating	**-**	**-**	**-**	**170**	**5155**
	2028/29	**2029/30**	**2030/31**	**2031/32**	**2032/33 & Outyears**
Tax Revenue:					
Company tax	(1675)	(1630)	(1580)	(1565)	(1570)
Other persons	(165)	(160)	(160)	(155)	(155)
Total operating	**1840**	**1790**	**1740**	**1720**	**1725**

*asset types are transport equipment, plant and machinery, other construction, non-residential buildings

Note for requestor:

It is important that we are kept informed about progress of all policy proposals with fiscals. Ministerial sign off and Cabinet decisions trigger a number of steps in the forecast process, both for the IR and Treasury forecasting teams and for the non-departmental accounting team. Please keep us updated on progress, and provide proof (copies of signed memos/Cabinet minutes) as they come available.

Information to include in Policy reporting

Figures have been rounded to the nearest $5 million. The larger figures in the second year reflect estimations of the second, and part of the third, March years once information from the first year of filing arrives in the system. There is a chance that a methodology for accruing earlier (and successfully unwinding such estimates on a monthly basis without any double-counting) can be agreed between agencies but this is still an open issue.

--- Part One ---- Commissioning information----------

Context:

September 2024 - Early preparation for Work program / potential Budget 2025 topics.

Other advice on Partial Expensing has been proffered in the past

~ July 2020 looking at a time-limited 3 year treatment only. Context was COVID relief. Broad asset coverage

~analysis for MBIE budget bids prepared in November 2021, and October 2022. These were not time limited, but we explored in the context of accelerated depreciation of the residual. Limited to certain assets and certain industries.

The general idea of partial expensing (PE) is, on purchase of a new asset entering the tax base, a certain percentage is immediately expensed and only the residual is put on the depreciation schedule to depreciate at appropriate rates. On sale (or scrap), the sale price is compared to "cost less PE less accumulated depreciation" to determine if there should be any clawback treatment (or extra deduction) on sale.

The proposal this time is for

- PE of stated percentages
- New assets only
- Ordinary depreciation rates after PE applied
- Permanent, ie not time limited to assets purchased in certain years
- Broad range of asset types, including commercial and industrial buildings
- No filtering to specific industries
- Goods purchased second hand do not get PE treatment.
- On sale or scrap, the expensed amount is part of the clawback (or additional depreciation) calculation.

Agreed analytical specification:

Partial expensing percentages of 10%, 20%, 30%

From 1 April 2026.

Assets getting PE treatment: plant and machinery, transport equipment, other construction, commercial and industrial buildings

Assets not getting PE treatment: intangibles, land development, residential buildings

Agreed level of QA required

- Chief Economist to approve.
- Cost once
- QA check of the model by Economics team – after an explanatory walkthrough of the updated model they could investigate calculations and test assumptions
- Assumption debate and agreement with Economics team
- Timing agreement with Crown financial reporting team (Rachel/Michelle)

--- Part Two --- Model Development and record of iterative consultation ---------

Forecaster to complete as model is developed and include notes on anything discussed with requestor

Assumption disclosures:

- Counterfactual average depreciation rate (non buildings) 13%
- Counterfactual average depreciation rate (buildings) is 2% dv for accounting but 0% for tax
- Average tax rate of 22.5%
- Assumption that removing "public administration" industry code is an adequate way to remove govern-ment owned assets from the tax base.
- For non buildings 5% probability of sale and sales are on average 6.5% below market value ← Economics team subsequently requested this assumption be changed to sales at market value for non-building assets
- For non buildings 3% probability of scrap
- For buildings 5% probability of sale but sold at market value
- For buildings 0.6% probability of scrap
- New assumptionrequested by economics team – buildings have no tax consequence on sale or scrap – ie tax rate is zero both in the base case and in the alternate case.
- Investment growth beyond the forecast period of 5.9% pa, being a 10 year average.

Assumption Risks:

- They all have an impact – the counterfactual average depreciation rate matters a lot.

Model structure disclosures:

Model structure

This is a spreadsheet model. All calculations are done using averages or percentages applied to aggregates of capital formation.

The first step is to select the "in scope" assets from the available categories, this selection is parameterised and the four in-scope categories can be switched on or off by the user of the model.

For the counterfactual "base case" scenario the model takes each cohort of purchases (projected in-scope data) and applies a probability that an asset is scrapped or onsold within year. Onsold assets are assumed to remain in the tax base, ie the purchaser is assumed to also be a business. Discrepansies between sale price and book value are allowed for as "additional on sale or clawback" entries.

Depreciation at an average depreciation rate is then applied: for most assets the tax depreciation rate is assumed to be the same as the accounting depreciation rate. This is not the case for commercial buildings, so a separate model for buildings deals with this aspect and carries forward both tax and accounting concepts.

After these events the closing book value is calculated and carried forward into future years to be added to the next cohort of purchases etc.

The tax impact each year is calculated as the average tax rate times "depreciation + additional/clawback" in that year.

For the "policy change" scenario the model is essentially the same as the base case but assets are split into those purchased before the change and those purchased afterwards. For the latter an expensed amount is also calculated and applied (to the new purchases only, not to second hand assets). On scale or scrap, the expensed proportion is also considered for any square-up (additional deductions or recovery) tax treatment.

The tax rate is here applied to "expense + depreciation + additional/clawback".

The difference between the two models is the March year tax cost. The model extends out for multiple years beyond the forecast period so that a graph on the long term impacts can be displayed.

March years are then converted into June years, discussed below.

The costing is STATIC. No provision is made for potentially increased investment as a result of the policy change.

Data on investment

The model is built on aggregate data on capital formation (new assets), broken down by ASSET type for which data is available up until the March 2024 quarter. The model focus is on March year aggregates. Projections beyond the available data supply are based on the Treasury's Budget 2024 forecasts for business investment from which annual growth

percentages are taken. Beyond the end of the forecast period, a ten-year average investment growth rate is used. This 5.9% average annual growth rate is slightly higher than the Treasury's Budget 2024 forecast for the final forecast year, 2027/28, growth of 5.0%.

The SNZ aggregate data is in broad categories; we have selected

- Transport equipment
- Plant, machinery and non-transport equipment
- Other construction
- Non-residential buildings

We have ignored

- Intangibles
- Land improvement
- Weapons (because of trivial values)
- Residential buildings

Not all investment enters the tax base. A separate MBIE provided supply of data – a time series from 1987 to the end of 2019 - gives the various asset classes broken down by the "industry code" of the investor. Since government does not pay income tax, this data supply was used to remove government (in percentage terms beyond 2019) – by excluding investment of major Industry O – Public administration and Safety from the aggregates. For example, in 2019, industry O purchased 6% of transport equipment, 2.3% of plant, 1.9% of other construction and 12.1% of non-res buildings. A five year average of percentages was used for periods beyond 2019. This comes out at, in the same asset order, 5%, 3%, 1%, 12% removal.

Average tax rate

- IR uses an average tax rate of 22.54% for business fiscal costings. This average captures the point that some businesses are in loss (with no immediate tax impact) and that some business can capture lower personal rates.

Average counterfactual depreciation rate

Note **the smaller the depreciation counterfactual, the larger the fiscal from expensing**. This assumption matters.

- For commercial buildings this is 2% (accounting) or 0% (tax)

For other assets (collectively modelled):

- IR does not have ready access to full depreciation schedules. The assumption used for the 2018 Tax working group (TWG) work was a longstanding assumption of an overall average of 19.9%
- Other work on low value asset thresholds used a very small sample of available schedules which suggested an average depreciation rate of 21.43%. This was used for the 2020 advice.

- More recently and in relation to plant/machinery only (PE together with accelerated depreciation), MBIE have argued that plant and machinery have longer useful lives than some other assets and are depreciated more slowly. MBIE have described depreciation for machinery and plant as being commonly within the range of 12.5 to 20 years. Those useful lives imply DV rates of 16% (for a 12.5 year useful life) to 10% (20 year useful life). At the time they were happy (for plant/machinery only) for use to use a mid-point of this range, of 13% DV.
- Work carried out for the long term insights briefing (LTIB) used rates of 19.8% for transport, 16.8% for plant, and 3.3% for other construction. This implies useful lives[1] of, respectively, 10yrs, 12yrsm and 61 years. A weighted average applied to these rates on components of the costing base comes out as follows:
    - Assuming 19.8% for cars (base 7135m), 16.8% for plant (base 16555m), 3.3% for other construction (base 14099m) gives a weighted average rate of 12.3%.
- We have chosen to use 13% which is also the rate used for recent MBIE advice related to plant.

March year results

Snips of the model output for March years are below (13% counterfactual for non-buildings):

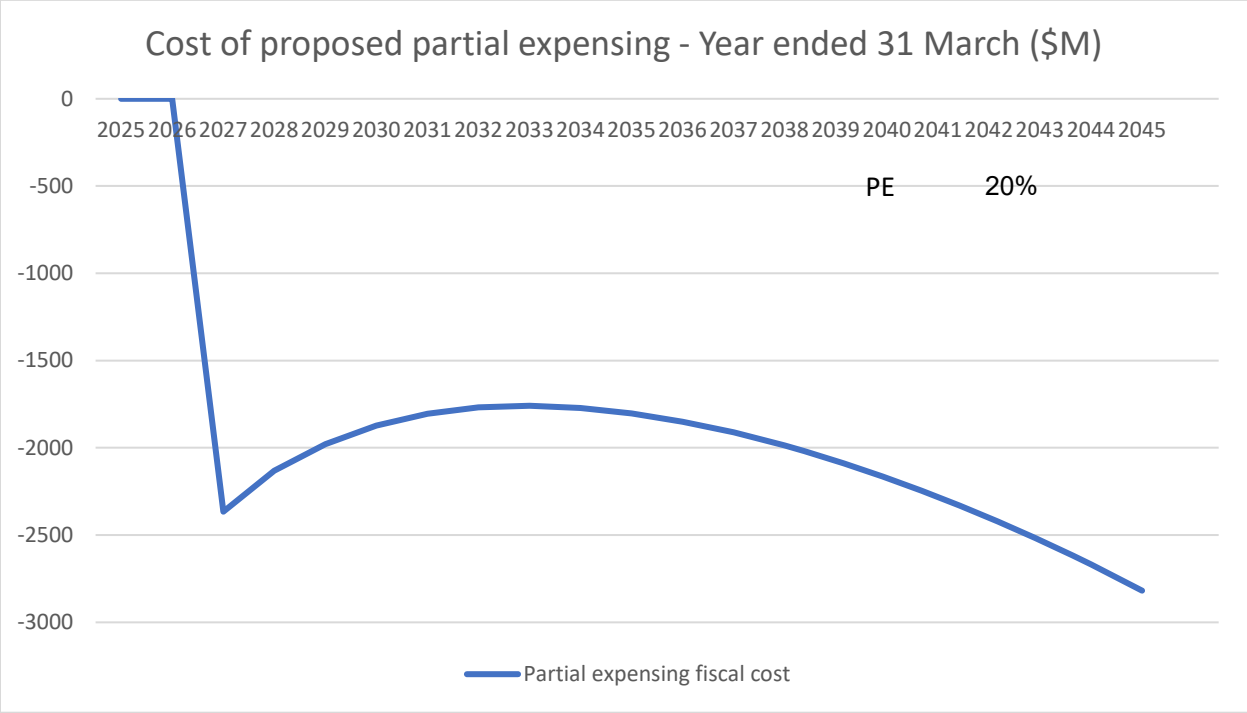
10%	Partial expensing rate									
Coverage is										
1	Transport equipment	(Costing excludes residential buildings, intangibles, weapons, land impr								
1	Plant, machinery and equipment									
1	Other construction									
1	Non-residential buildings									
March year (before timing of information flows is taken into account -for example "2024" is 1 April 2023 to 31 March 2024)										
					2025	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**
			buildings		0	0	-301	-316	-335	-355	-376
			other asset		0	0	-882	-749	-654	-582	-527
Chosen Partial Expensing		$million	total		0	0	-1183	-1066	-990	-936	-902

20%	Partial expensing rate									
Coverage is										
1	Transport equipment	(Costing excludes residential buildings, intangibles, weapons, land impro								
1	Plant, machinery and equipment									
1	Other construction									
1	Non-residential buildings									
March year (before timing of information flows is taken into account -for example "2024" is 1 April 2023 to 31 March 2024)										
					2025	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**
			buildings		0	0	-603	-633	-670	-710	-751
			other asset		0	0	-1763	-1499	-1309	-1163	-1053
Chosen Partial Expensing		$million	total		0	0	-2366	-2132	-1979	-1873	-1805

[1] Useful life = 200/DV rate, for example 200/16.8 is 11.9 years, rounded here to 12.

	30%	Partial expensing rate									
	Coverage is										
	1	Transport equipment		(Costing excludes residential buildings, intangibles, weapons, land impr							
	1	Plant, machinery and equipment									
	1	Other construction									
	1	Non-residential buildings									
March year (before timing of information flows is taken into account -for example "2024" is 1 April 2023 to 31 March 2024)											
					2025	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**
			buildings		0	0	-904	-949	-1005	-1064	-1127
			other asset		0	0	-2645	-2248	-1963	-1745	-1580
Chosen Partial Expensing		$million	total		0	0	-3550	-3198	-2969	-2809	-2707

Various elements can be switched on or off for variations of these. The remainder of this documents deals with the 20% all-four-asset-groups scenario, a March year graph of which is below.



March years and June years

This policy change reduces tax, i.e. people are going to pay less tax (than would be indicated from an uplift on the prior year) when it is in place This means that estimations will not "notice" the change until returns telling them otherwise are filed.

CASH

We assume that most affected taxpayers pay provisional tax and pick up the change by P3 (this might expose them to UOMI from estimation, but use of pools is also available). We assume only a small proportion (10%) lag into terminal tax in the following year:

March		June fiscal years					
years		2024/25	2025/26	2026/27	2027/28	2028/29	2029/30
CASH							
2026-27	y1			90.0%	10.0%		
2027-28	y2				100.0%		
2028-29	y3					100.0%	
2029-30	y4						100.0%
		0%	0%	90.0%	110.0%	100.0%	100.0%

Example: 20% partial expensing (assume 91% company tax, 9% other persons)

	Timing - expressed in June years (2025 means 2024/25 June year)							
		2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31
	$million	2025	2026	2027	2028	2029	2030	2031
		Jyr--->						
Cash Measure								
Myr27	-2366			-2130	-237			
MYr28	-2132				-2132	0		
Myr29	-1979					-1979	0	
Myr30	-1873						-1873	0
Myr31	-1805							-1805
Myr32	-1769							
Myr33	-1759							
Myr34	-1771							
Myr35	-1802							
Myr36	-1850							
		0	0	-2130	-2368	-1979	-1873	-1805

On the basis of share of RIT for business taxpayers, we assume this is split into 91% company tax and 9% other persons. We also round to the nearest $5m (Note however, that cash results are generally not reported, but this needs to be on record for the cash forecasts).

REVENUE

For the revenue measure, a decision will need to be made on whether or not to manually accrue the change into the appropriate years. (Audit NZ and increasingly the Treasury desire this approach to be applied but IR has reservations).

If it is decided to do this, there will need to be manual adjustments in the first 1-2 years as it is some time before the information arrives and feeds into automated calculations of revenue estimates. The difficulty is how to avoid double counting (via an appropriate series of reverse accruals) when that information does arrive, and *how* to manage that unwind for monthly reporting.

On an annual basis it might look a little like this (where an "e" is an estimate, and bold text is manual adjustment):

		June fiscal years						
		2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	
REVENUE with a manual accrual (bold)								
2026-27	y1		**25%y1e**	**y1e75%+-7.1%**(y1-**y1e)**	**92.9%**(y1- **y1e)**			
2027-28	y2			**25%y2e**	y1-**25%y2e**	y2-y1		
2028-29	y3				25%y1	y2*-25%y1	y3-y2	
2029-30	y4					25%y2	y3-25%y2	y4-y3
			25%	100%	100%	100%	etc	

The calculation would be considerably more complex on a *monthly* basis whilst progressively trying to reverse previous accruals during the year, by "estimating" how much has been filed each month and needs to be reversed to avoid double counting.

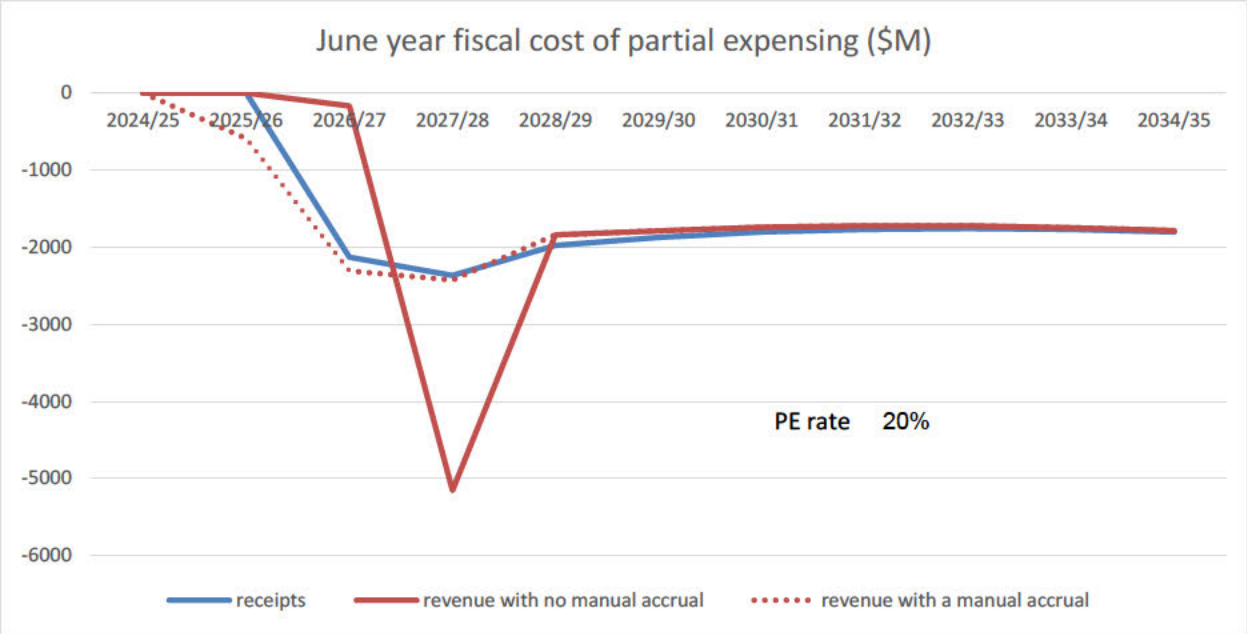
Inland Revenue is not in favour of introducing such complexity.

Which takes us back to waiting for the "system" to generate revenue once it has enough data to do so. The revenue pattern and catch-up estimations would look like this:

		June fiscal years					
		2024/25	2025/26	2026/27	2027/28	2028/29	2029/30
REVENUE with no manual accrual							
2026-27	y1			7.1%y1	92.9%y1		
2027-28	y2				y1	y2-y1	
2028-29	y3				25%y1	y2*-25%y1	y3-y2
2029-30	y4					25%y2	y3-25%y2
		0%	0%	7.1%	216%	100%	100% etc

Results using the two possible revenue patterns (the first one is preferred by IR Crown financial reporting):

		June years						
		2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31
Revenue Measure - assuming no manual accrual								
Myr27	-2366			-168	-2198			
MYr28	-2132				-2366	235		
Myr29	-1979				-592	-1540	153	
Myr30	-1873					-533	-1446	106
Myr31	-1805						-495	-1378
Myr32	-1769							-468
Myr33	-1759							
Myr34	-1771							
Myr35	-1802							
Myr36	-1850							
		0	0	-168	-5156	-1839	-1788	-1740
		cotax		-153	-4692	-1673	-1627	-1584
		opers		-15	-464	-165	-161	-157
		2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31
Revenue measure assuming full manual accrual at year end:								
Myr27	-2366		**-592**	**-1775**	0			
MYr28	-2132			**-533**	-1833	235		
Myr29	-1979				-592	-1540	153	
Myr30	-1873					-533	-1446	106
Myr31	-1805						-495	-1378
Myr32	-1769							-468
Myr33	-1759							
Myr34	-1771							
Myr35	-1802							
Myr36	-1850							
		0	-592	-2308	-2425	-1839	-1788	-1740
		cotax	-538	-2100	-2207	-1673	-1627	-1584
		opers	-53	-208	-218	-165	-161	-157



Assuming the timing ***without a manual accrual***, and applying other assumptions discussed in this document, **a 20% PE commencing on 1 April 2026** would be displayed as follows. The first row in the below table is the current forecast period. The forecast period extends to include 2028/29 in October 2024.

Revenue measure. Figures have been rounded to the nearest $5m.

	$ million increase / (decrease)				
Vote Revenue **Minister of Revenue**	**2023/24**	**2024/25**	**2025/26**	**2026/27**	**2027/28**
Tax Revenue:					
Company tax	-	-	-	(155)	(4690)
Other persons	-	-	-	(15)	(465)
Total operating	-	-	-	**170**	**5155**
	2028/29	**2029/30**	**2030/31**	**2031/32**	**2032/33 & Outyears**
Tax Revenue:					
Company tax	(1675)	(1630)	(1580)	(1565)	(1570)
Other persons	(165)	(160)	(160)	(155)	(155)
Total operating	**1840**	**1790**	**1740**	**1720**	**1725**

--- Part Three ---- Finish and Handover ----------

Special issues to note:

Outstanding matter of timing for Revenue – to be resolved between Crown financial reporting and the Treasury.

Biggest three factors affecting these fiscals are the

- Choice of asset coverage
- Counterfactual depreciation rate (non-buildings)
- PE rate

Quality checking statement:

Economics team (Elly) have had a second more thorough check through of the model. This revealed a few errors:

- A cell reference error had grabbed the wrong building data (annual total one quarter ahead picked up instead of annual total one year ahead)
- Onsold assets had inadvertently been given a PE haircut before depreciating them
- The formula for tax clawback of onsold assets was unnecessarily complex and was overstating the clawback.

All errors had inadvertently dampened the cost and fixing them increased the fiscal cost (the clawback formula had the biggest impact).

Assumptions: The Economics team have requested the buildings assumptions be changed as highlighted in green in the earlier part of the document. Essentially these removes tax consequences on sale or scrap of buildings, and any sales of other assets are now assumed to occur at accounting book value (previous assumption was slightly below book value).

Multiple discussions were held on the counterfactual depreciation rate and all have agreed on the 13%.

Revenue and Receipts timing approach discussed with Crown financial reporting on 10 and 11 September (Sean also involved). Crown are in the process of coming up with a durable approach to dealing with potentially earlier accrual and any associated accrual unwinds. Their preference is to no go down this "earlier" path because of the difficulties in managing it and they approve the usual approach (lag -then-estimate) timing suggested here. We told them we would footnote the risk of a change should Audit NZ's preference prevail.

Policy cost sheet updated? Not yet.

Handover sign out: Forecaster - Sandra 16/9/2024 9(2)(a)

Chief Economist sign out: 9(2)(a) **/ 17/09/2024**

Policy costing process template

Security: In confident (Budget sensitivities)

Topic: Depreciation: Partial expensing, broad asset coverage including commercial buildings

October 2024 enhancements to the model - text in blue

Requestor: Economics team (Elly/Adam/Matt B/Fliss)

Date of request: 28 August 2024 17 October

Forecasting Lead Analyst: Sandra

Agreed timeframe: By 9 September By early November

Fast turnaround but a PE model already exists. This time the intention is to also include buildings. The model only needs to deal with PE – there is no related accelerated depreciation of the residual.

UPDATED 16 September – assumption changes highlighted in green

Updated late October – highlighted in blue

--- Example Fiscal table ----------

There are other options. Details are in the costing spreadsheet.

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--- Part One ---- Commissioning information----------

Context:

September 2024 - Early preparation for Work program / potential Budget 2025 topics.

October 2024 – Enhancing existing model as follows:

- Option to include intangibles: Not all intangibles e.g. goodwill would be a "no". In practice and due to lack of data, this might mean just software, and only to the extent is is not developed in house. Functionality allows a "proportion" to be included.
- Inclusion of (a proportion of) land improvements
- Option to extend to 2nd hand purchases (including 2nd hand buildings)
- Option to vary application date

Other advice on Partial Expensing has been proffered in the past

~ July 2020 looking at a time-limited 3 year treatment only. Context was COVID relief. Broad asset coverage

~analysis for MBIE budget bids prepared in November 2021, and October 2022. These were not time limited, but we explored in the context of accelerated depreciation of the residual. Limited to certain assets and certain industries.

The general idea of partial expensing (PE) is, on purchase of a new asset entering the tax base, a certain percentage is immediately expensed and only the residual is put on the depreciation schedule to depreciate at appropriate rates. On sale (or scrap), the sale price is compared to "cost less PE less accumulated depreciation" to determine if there should be any clawback treatment (or extra deduction) on sale.

The proposal this time is for

- PE of stated percentages
- New assets only Now includes 2nd hand
- Ordinary depreciation rates after PE applied
- Permanent, ie not time limited to assets purchased in certain years
- Broad range of asset types, including commercial and industrial buildings Now includes some land improvements and some intangibles
- No filtering to specific industries
- Goods purchased second hand do not get PE treatment. (This is now optional in the model – ie an on/off toggle)
- On sale or scrap, the expensed amount is part of the clawback (or additional depreciation) calculation.

Agreed analytical specification:

Partial expensing percentages of ~~10%~~, 20%, ~~30%~~

From 1 April 2026. (Date can now vary)

Assets getting PE treatment: plant and machinery, transport equipment, other construction, commercial and industrial buildings, some intangibles, some land development

Assets not getting PE treatment: some intangibles, some land development, residential buildings

Agreed level of QA required

- Chief Economist to approve.
- Cost once
- QA check of the model by Economics team – after an explanatory walkthrough of the updated model they could investigate calculations and test assumptions
- Assumption debate and agreement with Economics team - Needs a revisit for the add-ons.
- Timing agreement with Crown financial reporting team (Rachel/Michelle)

--- Part Two --- Model Development and record of iterative consultation ---------

Forecaster to complete as model is developed and include notes on anything discussed with requestor

Assumption disclosures:

- Counterfactual average depreciation rate (intangibles) 50%
- Counterfactual average depreciation rate (other non buildings) 13%

- Counterfactual average depreciation rate (buildings) is 2% dv for accounting but 0% for tax
- Average tax rate of 22.5%
- Assumption that removing "public administration" industry code is an adequate way to remove government owned assets from the tax base. October 2024 – we have commissioned additional data from SNZ to help here but this will not be available until late November 2024.
- For non buildings 5% probability of sale and sales are on average 6.5% below market value ← Economics team subsequently requested this assumption be changed to sales at market value for non-building assets. The second-hand goods costing relies heavily on this assumed probability of onselling.
- For intangibles – no sales and hence no impact of second-hand settings.
- For non buildings 3% probability of scrap
- For buildings 5% probability of sale but sold at market value.
- No behavioural change from allowing commercial buildings into second-hand option. This is quite a strong assumption because buildings are not otherwise depreciable, incentivising any opportunities to regain deductions.
- For buildings 0.6% probability of scrap
- New assumption requested by economics team – buildings have no tax consequence on sale or scrap – ie tax rate is zero both in the base case and in the alternate case.
- Investment growth beyond the forecast period of 5.9% pa, being a 10 year average.

Assumption Risks:

- They <u>all</u> have an impact – the counterfactual average depreciation rate matters a lot.

Model structure disclosures:

Model structure

This is a spreadsheet model. All calculations are done using averages or percentages applied to aggregates of capital formation.

The first step is to select the "in scope" assets from the available categories, this selection is parameterised and the ~~four~~ in-scope categories can be switched on or off by the user of the model. For intangibles and land improvements a figure more than 0 but less than 1 is used to cover off that not the entire amount of these categories is intended to be in scope.

For the counterfactual "base case" scenario the model takes each cohort of purchases (projected in-scope data) and applies a probability that an asset is scrapped or onsold within year. Onsold assets are assumed to remain in the tax base, ie the purchaser is assumed to also be a business. Discrepansies between sale price and book value are allowed for as "additional on sale or clawback" entries.

Depreciation at an average depreciation rate is then applied: for most assets the tax depreciation rate is assumed to be the same as the accounting depreciation rate. This is

not the case for commercial buildings, so a separate model for buildings deals with this aspect and carries forward both tax and accounting concepts.

After these events the closing book value is calculated and carried forward into future years to be added to the next cohort of purchases etc.

The tax impact each year is calculated as the average tax rate times "depreciation + additional/clawback" in that year.

For the "policy change" scenario the model is essentially the same as the base case but assets are split into those purchased before the change and those purchased afterwards. For the latter an expensed amount is also calculated and applied (to the new purchases only, not to second hand assets). On scale or scrap, the expensed proportion is also considered for any square-up (additional deductions or recovery) tax treatment.

The second-hand aspect of the model had to be applied to both groups of assets: those purchased before the change and those assets purchased afterwards.

The tax rate is here applied to "expense + depreciation + additional/clawback".

The difference between the two models is the March year tax cost. The model extends out for multiple years beyond the forecast period so that a graph on the long term impacts can be displayed.

March years are then converted into June years, discussed below.

The costing is STATIC. No provision is made for potentially increased investment as a result of the policy change. No provision is made for a behaivoural change should second hand goods come within scope.

Data on investment

The model is built on aggregate data on capital formation (new assets), broken down by ASSET type for which data is available up until the March 2024 quarter. The model focus is on March year aggregates. Projections beyond the available data supply are based on the Treasury's Budget 2024 forecasts for business investment from which annual growth percentages are taken. Beyond the end of the forecast period, a ten-year average investment growth rate is used. This 5.9% average annual growth rate is slightly higher than the Treasury's Budget 2024 forecast for the final forecast year, 2027/28, growth of 5.0%.

The SNZ aggregate data is in broad categories; we have selected

- Transport equipment
- Plant, machinery and non-transport equipment
- Other construction
- Non-residential buildings
- Other see below

We have ignored

- Intangibles : now 42% * 50% = 21% included. The 42% is the computer-software share of intangible capital stock – latest figures. Other data categories available are R&D and mineral and other exploration). The 50% is to exclude in-house software for which the development expense is already deductible.
- Land improvement : now 50% included. The 50% is an assumption to exclude the sorts of land improvements which would not depreciate (eg site development).
- Weapons (because of trivial values and government sector)
- Residential buildings

Not all investment enters the tax base. A separate MBIE provided supply of data – a time series from 1987 to the end of 2019 - gives the various asset classes broken down by the "industry code" of the investor. Since government does not pay income tax, this data supply was used to remove government (in percentage terms beyond 2019) – by excluding investment of major Industry O – Public administration and Safety from the aggregates. For example, in 2019, industry O purchased 6% of transport equipment, 2.3% of plant, 1.9% of other construction and 12.1% of non-res buildings. A five year average of percentages was used for periods beyond 2019. This comes out at, in the same asset order, 5%, 3%, 1%, 12% removal.

Update – October – still using the above. Coming up in November when SNZ deliver it to us – will be a split of the "by asset type" data into sector of ownership – eg market and non-market. This will better allow us to remove government, private households and charities. However this updated data is not available for the November work.

Average tax rate

- IR uses an average tax rate of 22.54% for business fiscal costings. This average captures the point that some businesses are in loss (with no immediate tax impact) and that some business can capture lower personal rates.

Average counterfactual depreciation rate

Note **the smaller the depreciation counterfactual, the larger the fiscal from expensing**. This assumption matters.

- For commercial buildings this is 2% (accounting) or 0% (tax)
- For intangibles (software) we used 50% being the most likely used of the 2 software rates available, 100% or 50% (4 year useful life).

For other assets (collectively modelled):

- IR does not have ready access to full depreciation schedules. The assumption used for the 2018 Tax working group (TWG) work was a longstanding assumption of an overall average of 19.9%
- Other work on low value asset thresholds used a very small sample of available schedules which suggested an average depreciation rate of 21.43%. This was used for the 2020 advice.
- More recently and in relation to plant/machinery only (PE together with accelerated depreciation), MBIE have argued that plant and machinery have longer useful lives than some other assets and are depreciated more slowly.

MBIE have described depreciation for machinery and plant as being commonly within the range of 12.5 to 20 years. Those useful lives imply DV rates of 16% (for a 12.5 year useful life) to 10% (20 year useful life). At the time they were happy (for plant/machinery only) for use to use a mid-point of this range, of 13% DV.

- Work carried out for the long term insights briefing (LTIB) used rates of 19.8% for transport, 16.8% for plant, and 3.3% for other construction. This implies useful lives[1] of, respectively, 10yrs, 12yrsm and 61 years. A weighted average applied to these rates on components of the costing base comes out as follows:
    - Assuming 19.8% for cars (base 7135m), 16.8% for plant (base 16555m), 3.3% for other construction (base 14099m) gives a weighted average rate of 12.3%.
- We have chosen to use 13% which is also the rate used for recent MBIE advice related to plant. Unchanged.

March year results

Snips of the model output for March years are below (13% counterfactual for non-buildings):

These are older snips

10%	Partial expensing rate									
Coverage is										
1	Transport equipment			(Costing excludes residential buildings, intangibles, weapons, land impr						
1	Plant, machinery and equipment									
1	Other construction									
1	Non-residential buildings									
March year (before timing of information flows is taken into account -for example "2024" is 1 April 2023 to 31 March 2024)				**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**
			buildings	0	0	-301	-316	-335	-355	-376
			other asset	0	0	-882	-749	-654	-582	-527
Chosen Partial Expensing	$million		total	0	0	-1183	-1066	-990	-936	-902

20%	Partial expensing rate									
Coverage is										
1	Transport equipment			(Costing excludes residential buildings, intangibles, weapons, land impro						
1	Plant, machinery and equipment									
1	Other construction									
1	Non-residential buildings									
March year (before timing of information flows is taken into account -for example "2024" is 1 April 2023 to 31 March 2024)				**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**
			buildings	0	0	-603	-633	-670	-710	-751
			other asset	0	0	-1763	-1499	-1309	-1163	-1053
Chosen Partial Expensing	$million		total	0	0	-2366	-2132	-1979	-1873	-1805

[1] Useful life = 200/DV rate, for example 200/16.8 is 11.9 years, rounded here to 12.

30%	Partial expensing rate	
Coverage is		
1	Transport equipment	(Costing excludes residential buildings, intangibles, weapons, land impr
1	Plant, machinery and equipment	
1	Other construction	
1	Non-residential buildings	

March year (before timing of information flows is taken into account -for example "2024" is 1 April 2023 to 31 March 2024)

			2025	2026	2027	2028	2029	2030	2031
		buildings	0	0	-904	-949	-1005	-1064	-1127
		other asset	0	0	-2645	-2248	-1963	-1745	-1580
Chosen Partial Expensing	$million	total	0	0	-3550	-3198	-2969	-2809	-2707

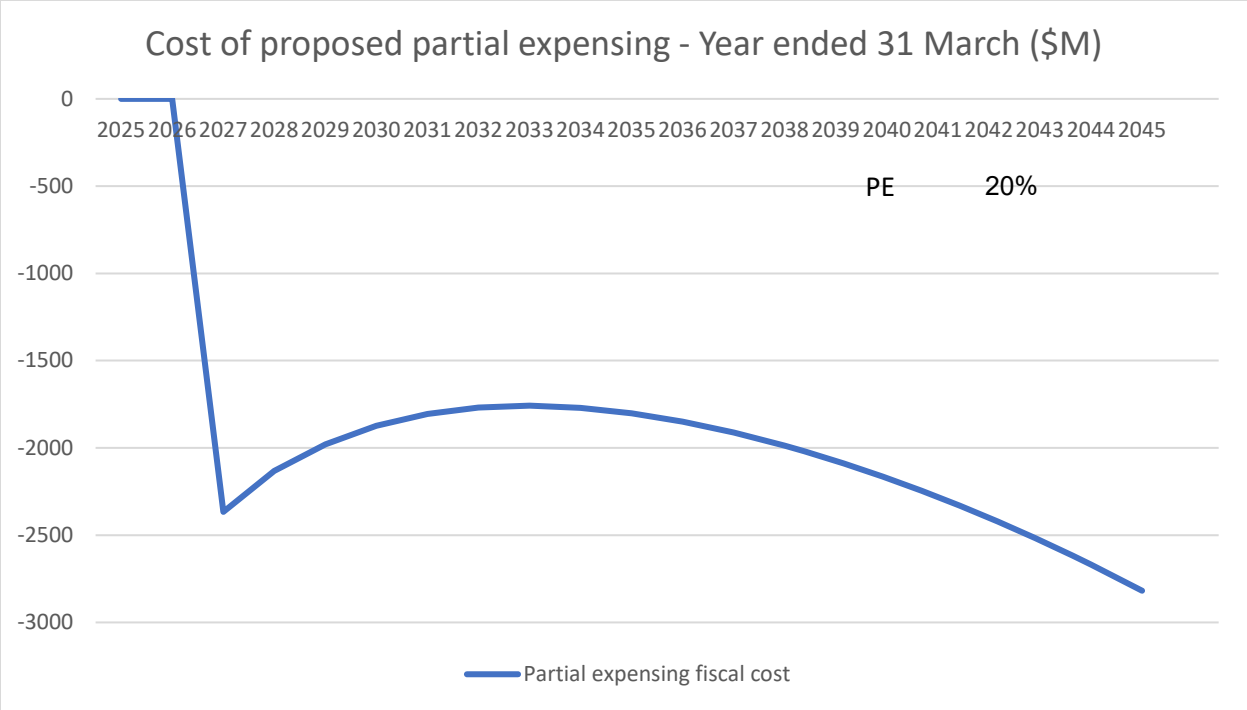
More recent snip – October changes with broader coverage:

20%	Partial expensing rate				
Coverage is					
1	Transport equipment		(Costing excludes residential buildings, intangibles, weapons, land impro		
1	Plant, machinery and equipment				
1	Other construction	other assets model	1	Second hand assets qualify (1=yes, 0=no)	
0.5	Land improvements		2027	First March year (Year ending 31 March yyyy)	
1	Non-residential buildings	own model			
0.211	Intangibles	own model	<===== 42.2% comes from intangibles-stock tab, attempting to isolate co		

March year (before timing of information flows is taken into account -for example "2024" is 1 April 2023 to 31 March 2024)

			2025	2026	2027	2028	2029	2030	2031
		buildings	0	0	-923	-974	-1034	-1097	-1164
		intangibles	0	0	-113	-60	-36	-25	-20
		other asset	0	0	-2162	-1834	-1591	-1404	-1261
Chosen Partial Expensing	$million	total	0	0	-3198	-2868	-2662	-2526	-2446

Various elements can be switched on or off for variations of these. The remainder of this documents deals with the 20% all-four-asset-groups scenario, a March year graph of which is below. {older snip}:



March years and June years ***{This entire section is older discussion – new tables at bottom after chief economist sign out}***

This policy change reduces tax, i.e. people are going to pay less tax (than would be indicated from an uplift on the prior year) when it is in place This means that estimations will not "notice" the change until returns telling them otherwise are filed.

CASH

We assume that most affected taxpayers pay provisional tax and pick up the change by P3 (this might expose them to UOMI from estimation, but use of pools is also available). We assume only a small proportion (10%) lag into terminal tax in the following year:

March		June fiscal years					
years		2024/25	2025/26	2026/27	2027/28	2028/29	2029/30
CASH							
2026-27	y1			90.0%	10.0%		
2027-28	y2				100.0%		
2028-29	y3					100.0%	
2029-30	y4						100.0%
		0%	0%	90.0%	110.0%	100.0%	100.0%

Example: 20% partial expensing (assume 91% company tax, 9% other persons)

	Timing - expressed in June years (2025 means 2024/25 June year)							
		2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31
	$million	2025	2026	2027	2028	2029	2030	2031
		Jyr--->						
Cash Measure								
Myr27	-2366			-2130	-237			
MYr28	-2132				-2132	0		
Myr29	-1979					-1979	0	
Myr30	-1873						-1873	0
Myr31	-1805							-1805
Myr32	-1769							
Myr33	-1759							
Myr34	-1771							
Myr35	-1802							
Myr36	-1850							
		0	0	-2130	-2368	-1979	-1873	-1805

On the basis of share of RIT for business taxpayers, we assume this is split into 91% company tax and 9% other persons. We also round to the nearest $5m (Note however, that cash results are generally not reported, but this needs to be on record for the cash forecasts).

REVENUE

For the revenue measure, a decision will need to be made on whether or not to manually accrue the change into the appropriate years. (Audit NZ and increasingly the Treasury desire this approach to be applied but IR has reservations).

If it is decided to do this, there will need to be manual adjustments in the first 1-2 years as it is some time before the information arrives and feeds into automated calculations of revenue estimates. The difficulty is how to avoid double counting (via an appropriate series of reverse accruals) when that information does arrive, and *how* to manage that unwind for monthly reporting.

On an annual basis it might look a little like this (where an "e" is an estimate, and bold text is manual adjustment):

		June fiscal years						
		2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	
REVENUE with a manual accrual (bold)								
2026-27	y1		**25%y1e**	**y1e75%+-7.1%**(y1-**y1e**)	**92.9%**(y1- **y1e**)			
2027-28	y2			**25%y2e**	y1-**25%y2e**	y2-y1		
2028-29	y3				25%y1	y2*-25%y1	y3-y2	
2029-30	y4					25%y2	y3-25%y2	y4-y3
			25%	100%	100%	100%	etc	

The calculation would be considerably more complex on a *monthly* basis whilst progressively trying to reverse previous accruals during the year, by "estimating" how much has been filed each month and needs to be reversed to avoid double counting.

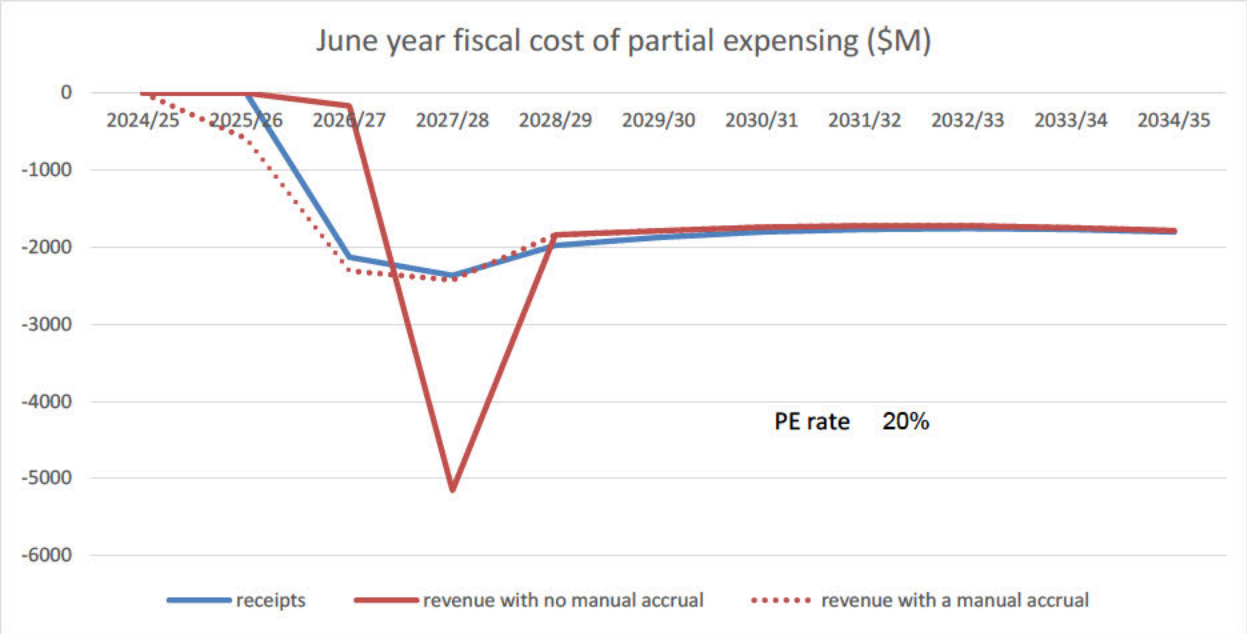
Inland Revenue is not in favour of introducing such complexity.

Which takes us back to waiting for the "system" to generate revenue once it has enough data to do so. The revenue pattern and catch-up estimations would look like this:

		June fiscal years					
		2024/25	2025/26	2026/27	2027/28	2028/29	2029/30
REVENUE with no manual accrual							
2026-27	y1			7.1%y1	92.9%y1		
2027-28	y2				y1	y2-y1	
2028-29	y3				25%y1	y2*-25%y1	y3-y2
2029-30	y4					25%y2	y3-25%y2
		0%	0%	7.1%	216%	100%	100% etc

Results using the two possible revenue patterns (the first one is preferred by IR Crown financial reporting):

		June years						
		2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31
Revenue Measure - assuming no manual accrual								
Myr27	-2366			-168	-2198			
MYr28	-2132				-2366	235		
Myr29	-1979				-592	-1540	153	
Myr30	-1873					-533	-1446	106
Myr31	-1805						-495	-1378
Myr32	-1769							-468
Myr33	-1759							
Myr34	-1771							
Myr35	-1802							
Myr36	-1850							
		0	0	-168	-5156	-1839	-1788	-1740
		cotax		-153	-4692	-1673	-1627	-1584
		opers		-15	-464	-165	-161	-157
		2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31
Revenue measure assuming full manual accrual at year end:								
Myr27	-2366		**-592**	**-1775**	0			
MYr28	-2132			**-533**	-1833	235		
Myr29	-1979				-592	-1540	153	
Myr30	-1873					-533	-1446	106
Myr31	-1805						-495	-1378
Myr32	-1769							-468
Myr33	-1759							
Myr34	-1771							
Myr35	-1802							
Myr36	-1850							
		0	-592	-2308	-2425	-1839	-1788	-1740
		cotax	-538	-2100	-2207	-1673	-1627	-1584
		opers	-53	-208	-218	-165	-161	-157



Assuming the timing ***without a manual accrual***, and applying other assumptions discussed in this document, **a 20% PE commencing on 1 April 2026** would be displayed as follows. The first row in the below table is the current forecast period. The forecast period extends to include 2028/29 in October 2024.

Revenue measure. Figures have been rounded to the nearest $5m.

	$ million increase / (decrease)				
Vote Revenue **Minister of Revenue**	**2023/24**	**2024/25**	**2025/26**	**2026/27**	**2027/28**
Tax Revenue:					
Company tax	-	-	-	(155)	(4690)
Other persons	-	-	-	(15)	(465)
Total operating	-	-	-	**170**	**5155**
	2028/29	**2029/30**	**2030/31**	**2031/32**	**2032/33 & Outyears**
Tax Revenue:					
Company tax	(1675)	(1630)	(1580)	(1565)	(1570)
Other persons	(165)	(160)	(160)	(155)	(155)
Total operating	**1840**	**1790**	**1740**	**1720**	**1725**

--- Part Three ---- Finish and Handover ----------

Special issues to note:

Outstanding matter of timing for Revenue – to be resolved between Crown financial reporting and the Treasury.

Biggest three factors affecting these fiscals are the

- Choice of asset coverage
- Counterfactual depreciation rate (non-buildings)
- PE rate

Quality checking statement:

Economics team (Elly) have had a second more thorough check through of the model. This revealed a few errors:

- A cell reference error had grabbed the wrong building data (annual total one quarter ahead picked up instead of annual total one year ahead)
- Onsold assets had inadvertently been given a PE haircut before depreciating them
- The formula for tax clawback of onsold assets was unnecessarily complex and was overstating the clawback.

All errors had inadvertently dampened the cost and fixing them increased the fiscal cost (the clawback formula had the biggest impact).

Assumptions: The Economics team have requested the buildings assumptions be changed as highlighted in green in the earlier part of the document. Essentially these removes tax consequences on sale or scrap of buildings, and any sales of other assets are now assumed to occur at accounting book value (previous assumption was slightly below book value).

Multiple discussions were held on the counterfactual depreciation rate and all have agreed on the 13%.

Revenue and Receipts timing approach discussed with Crown financial reporting on 10 and 11 September (Sean also involved). Crown are in the process of coming up with a durable approach to dealing with potentially earlier accrual and any associated accrual unwinds. Their preference is to no go down this "earlier" path because of the difficulties in managing it and they approve the usual approach (lag -then-estimate) timing suggested here. We told them we would footnote the risk of a change should Audit NZ's preference prevail.

Nov2024 – work progressing on timing approach, but for now must assume status quo for June year revenue

Policy cost sheet updated? Oct 2024 figures entered as a placeholder.

Handover sign out: Forecaster - Sandra 16/9/2024 9(2)(a)

Chief Economist sign out: 9(2)(a) **/ 17/09/2024**

October 2024 updated model results:

	20%	Partial expensing rate				
	Coverage is					
	1	Transport equipment		(Costing excludes residential buildings, weapons)		
	1	Plant, machinery and equipment				
	1	Other construction	other assets model	1	Second hand assets qualify (1=yes, 0=no)	
	0.5	Land improvements		2027	First March year (Year ending 31 March yyyy)	
	1	Non-residential buildings	own model			
	0.211	Intangibles	own model	<===== 42.2% comes from intangibles-stock tab, attempting to isolate co		

March year (before timing of information flows is taken into account -for example "2024" is 1 April 2023 to 31 March 2024)

			2025	2026	2027	2028	2029	2030	2031
		buildings	0	0	-923	-974	-1034	-1097	-1164
		intangibles	0	0	-113	-60	-36	-25	-20
		other asset	0	0	-2162	-1834	-1591	-1404	-1261
Chosen Partial Expensing	$million	total	0	0	-3198	-2868	-2662	-2526	-2446

Timing - expressed in June years (2025 means 2024/25 June year)

		2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	
	$million	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	
		Jyr--->											
Cash Measure													
2027	-3198			-2878	-320								
2028	-2868				-2868	0							
2029	-2662					-2662	0						
2030	-2526						-2526	0					
2031	-2446							-2446	0				
2032	-2409								-2409	0			
2033	-2409									-2409	0		
2034	-2439										-2439	0	
2035	-2495											-2495	0
2036	-2573												-2573
		0	0	-2878	-3188	-2662	-2526	-2446	-2409	-2409	-2439	-2495	

		June years											
		2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	2034/35	
		2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	
Revenue Measure - assuming no manual accrual													
2027	-3198			-227	-2971								
2028	-2868				-3198	329							
2029	-2662				-799	-2069	207						
2030	-2526					-717	-1944	136					
2031	-2446						-665	-1861	80				
2032	-2409							-631	-1814	36			
2033	-2409								-611	-1798	0		
2034	-2439									-602	-1806	-30	
2035	-2495										-602	-1836	-56
2036	-2573											-610	-1885
													-624
		0	0	-227	-6968	-2457	-2403	-2357	-2345	-2363	-2408	-2476	
		cotax		-207	-6341	-2235	-2187	-2145	-2134	-2151	-2192	-2253	
		oners		-20	-627	-221	-216	-212	-211	-213	-217	-223	