Te Tāhuhu o te Mātauranga
Ministry of Education

ECE Forecast

High level explanation

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Te Kāwanatanga o Aotearoa
New Zealand Government

Te Tāhuhu o te Mātauranga
Ministry of Education

Baseline changes

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Baseline update process

- Every year there are at least two baseline updates to reflect latest funding changes, and appropriate additional funds required to fund the sector. These are the October Baseline Update (OBU) and March Baseline Update (MBU).
- Election years have an extra update round before the election (PREFU).
- The main two updates feed into Treasury's Half Year Economic Fiscal Update (HYEFU) and Budget Economic Fiscal Update (BEFU) respectively.
- ECE demand forms a major share of baseline. The ECE forecast is used to reflect changes in expected demand. This forecast is collated with other funds recently approved for policy changes or risk contingencies and submitted to Treasury as the baseline funding required for the next 5 years.

General baseline changes

- All baseline changes including forecast changes need to be Cabinet approved

- Baseline Changes are composed of the following:
  - Policy changes/Budget bids that have been approved
  - **Demand driven forecast changes**
  - Risk contingencies can be included in order to avoid appropriation breach. These are outside the scope of forecasting but can be applied through baseline as a risk mitigation tool by finance. As a part of the forecast, we produce medium, high and low forecast scenarios to inform risk assessment.

ECE Forecast

What is the ECE forecast?

Estimated Volume

Is there a child? How much do they participate?

=

Forecast Funded Child Hours (FCH)

Price

What are the characteristics of the child and the services (rates)?

Calculation

How will the Ministry fund those hours over the next 5 years? Estimated volume * price.

=

Forecast Spend on Early Childhood Education

What is the ECE forecast?

- Funded child hours will cost different amounts depending on the characteristics of the child, and the mix of services they participate in.
- The ECE forecast estimates expenditure for the following accounts five years into the future:
  - **ECE Subsidy - under twos**
  - **ECE Subsidy - twos and over**
  - **20 Hours ECE**
  - Equity Funding
  - Targeted Funding For Disadvantage (TFFD)
  - Isolated Services Payments
  - State Sector Retirement Scheme Subsidy (SSRSS)
  - Government Superannuation Fund (GSF)
  - Te Kohanga Reo Pay Parity.

- The vast majority of funding is through under two, over two, and 20 Hours ECE accounts.

What is the ECE forecast?

- The ECE forecast relates to non-departmental, demand driven expenditure.
- The ECE forecasts are intended to be a midpoint forecast created with the assumption that there is a 50% chance of overspend or underspend.
- The ECE expenditure forecast is updated based on changes in demand. They are combined with other funding changes in baseline update submissions for total baseline changes.
- Forecasts are based on current approved policy settings.
- Forecasts do not adjust for inflation. Cost adjustments are made through Budget bids, which impact on baseline in addition to the demand driven forecasts.

Why do we create an ECE forecast?

- Baseline Submission to Treasury
- Policy Modelling
- Monthly Phasing
- Internal and External Reporting

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Short term volume forecast

- The forecast is based primarily on a Seasonal Autoregressive Integrated Moving Average (SARIMA) model.
- Funded Child Hours are summarized monthly by service type level (e.g. Education and Care services, Kindergartens).
- Forecast forward using forecasting algorithms for the next 13 months, based on historic funded child hour data from the past 8 years.
- Can include behavioral changes in this short-term step, such as the inclusion of FamilyBoost related expected participation increases.

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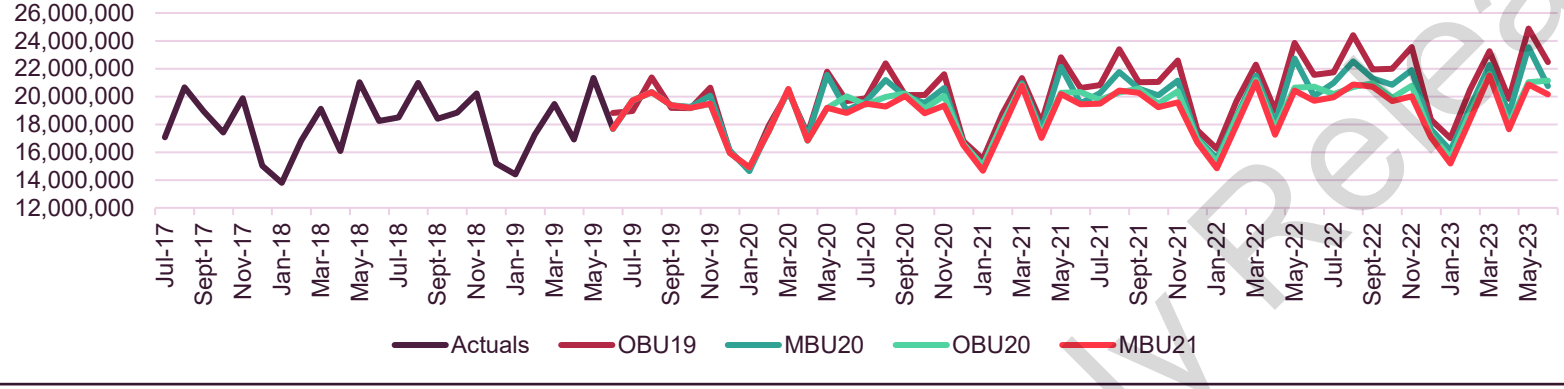
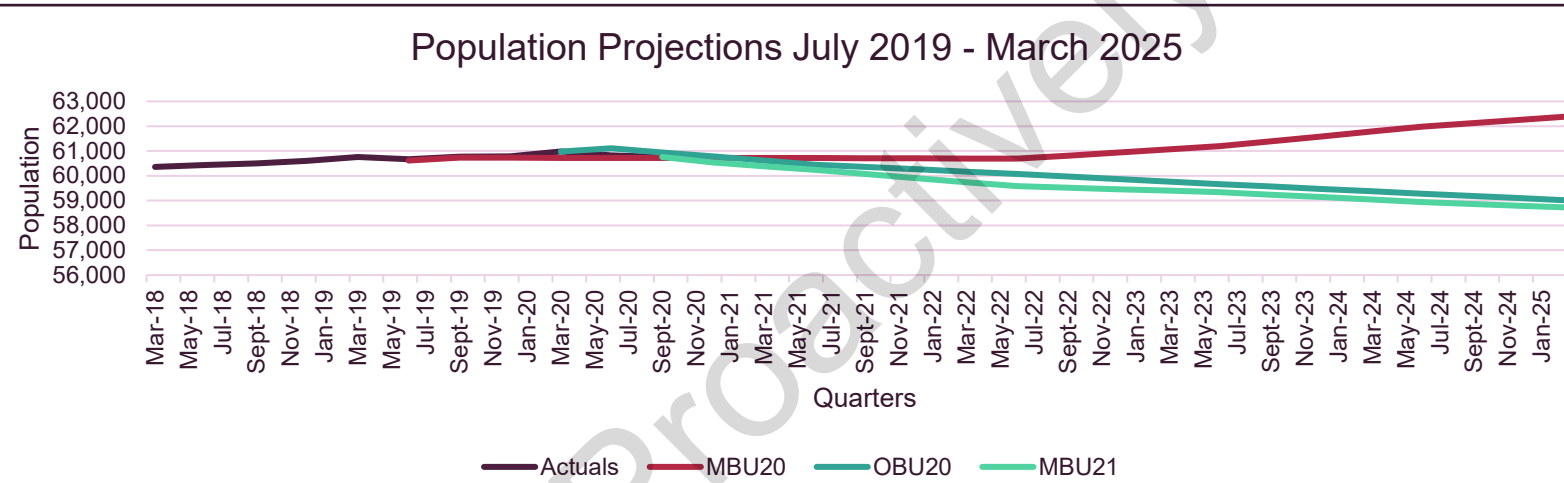
Long term volume forecast

- Incorporates annual growth from the Stats NZ population projections from 13 months forward.
- We compare recent historic participation at the annual ECE census to the ECE aged population from Stats NZ.
- Using these we create a growth expectation, weighting most heavily towards the more recent years' participation growth.
- This long-term growth assumption is applied to the seasonally affected short-term forecasts to scale them up into years 2-5 of the forecast.

Why short-term and long-term approaches?

Note – old data. Illustrative.





Striving for balance:

We try to achieve a balanced approach in estimating future volumes.

We do not want short-term volatility and shocks to the system to unduly affect outyear forecasts. But we also do not want long term trends which are often subtle, to lead to underfunding needs for the shorter term.

Price updates

- Latest approved ECE funding rates are used as a key input in ECE expenditure forecasts. Rate changes must be approved by the Minister, or by someone with delegated authority, where the funds have been appropriated by Cabinet.
- The price of funding rates only change in the forecast when there has been an approved change.
- However, the volume mix of rates can be updated between forecast rounds based on the latest data. The mix of rates is key to forming average price.
- The Targeted Funding for Disadvantage and Equity Funding payments are also scaled to the forecasted FCH trend.

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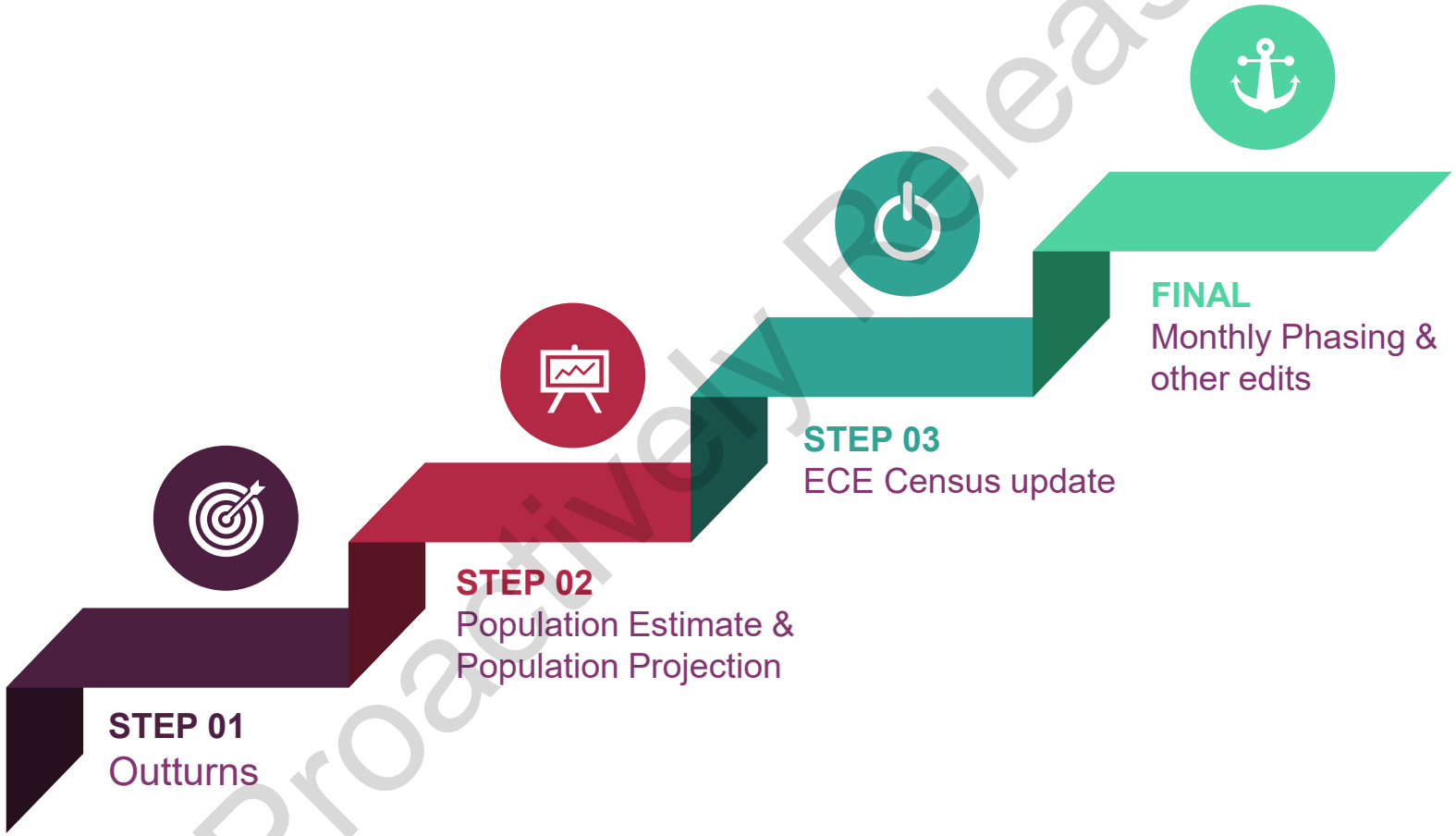
Forecast Model Update



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Forecast Drivers

- **Not all accounts are permitted to be changed in a forecast round**
- **All changes that occur through a forecast round have to be demand driven, meaning that they are a result of one of the following:**
  - Updated expectations for the volume of children that attend services based on historic volume information (outturns)
  - The change in distribution of volume between the funding bands (programme changes)
  - Updated expectations for the participation rate for children in the population (ECE census and participation)
  - Change in population projections for children in the early learning age range (population)
- The cost/savings due to changes to funding policy that aren't demand driven will be put through different accounts in the baseline from those that we include in the forecast.

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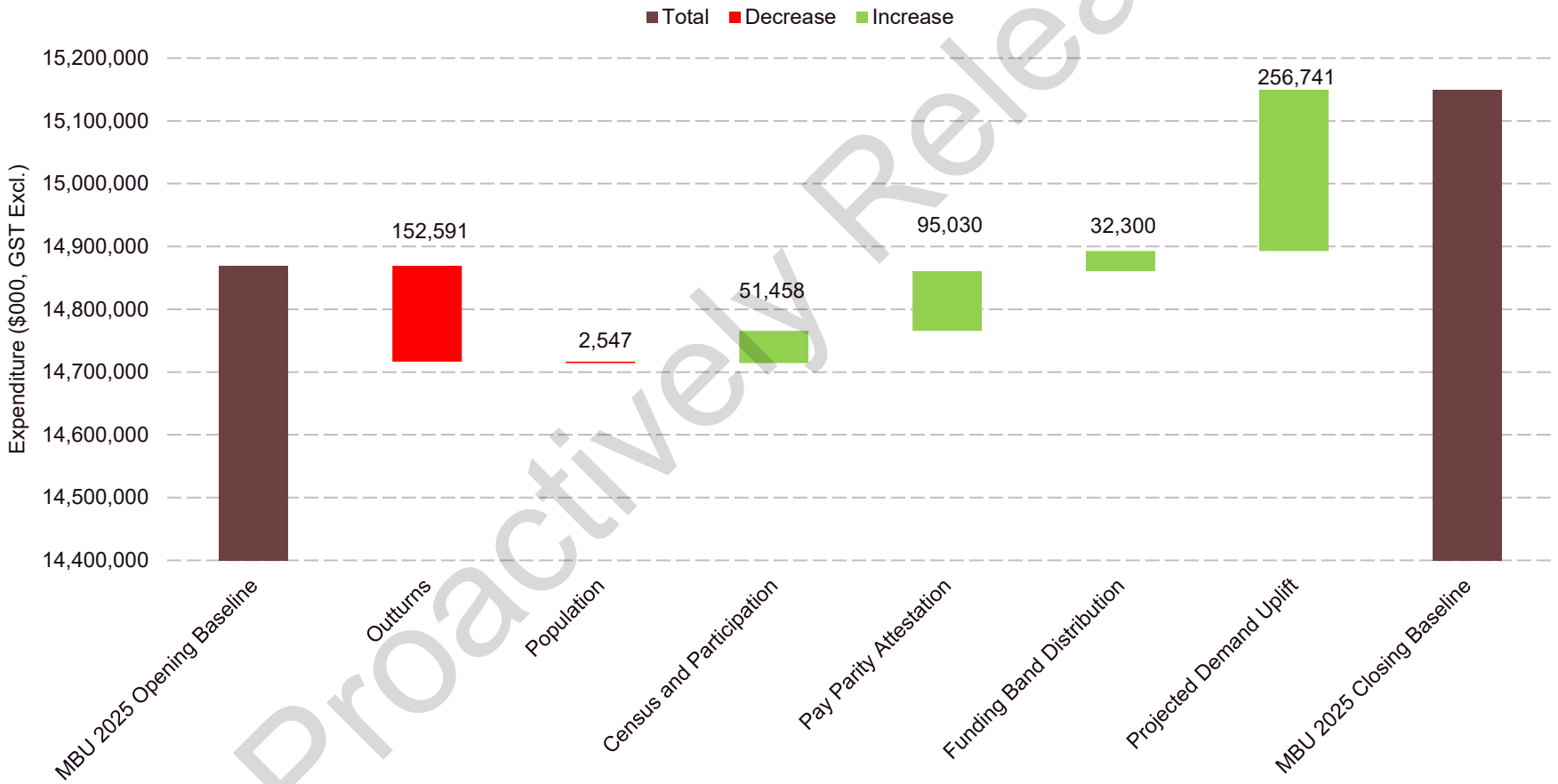
Drivers of change in the ECE forecast?

Impact of forecast and total changes from opening to closing baseline by driver. MBU 25



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Drivers of change in the ECE forecast

Constituent differences between Opening Baseline and Closing Baseline by Driver ($000; excl. GST)

$000 GST Excl.	2024/25	2025/26	2026/27	2027/28	2028/29	Total
OBU 2024 Closing Baseline	2,875,030	2,946,857	2,968,596	3,015,558	3,063,295	14,869,336
Baseline Adjustments	-	-	-	-	-	-
MBU 2025 Opening Baseline	2,875,030	2,946,857	2,968,596	3,015,558	3,063,295	14,869,336
Outturns	-14,670	-33,907	-34,181	-34,668	-35,165	-152,591
Population	-	-191	1,068	-764	-2,660	-2,547
Census and Participation	-	13,368	16,322	12,684	9,084	51,458
Pay Parity Attestation	14,165	19,767	20,032	20,365	20,701	95,030
Funding Band Distribution	4,746	7,265	6,917	6,743	6,629	32,300
Projected Demand Uplift	39,651	53,204	53,829	54,625	55,432	256,741
MBU 2025 Closing Baseline	2,918,922	3,006,363	3,032,583	3,074,543	3,117,316	15,149,727
Total Forecast Changes	43,892	59,506	63,987	58,985	54,021	280,391
Percentage Change	1.53%	2.02%	2.16%	1.96%	1.76%	1.89%

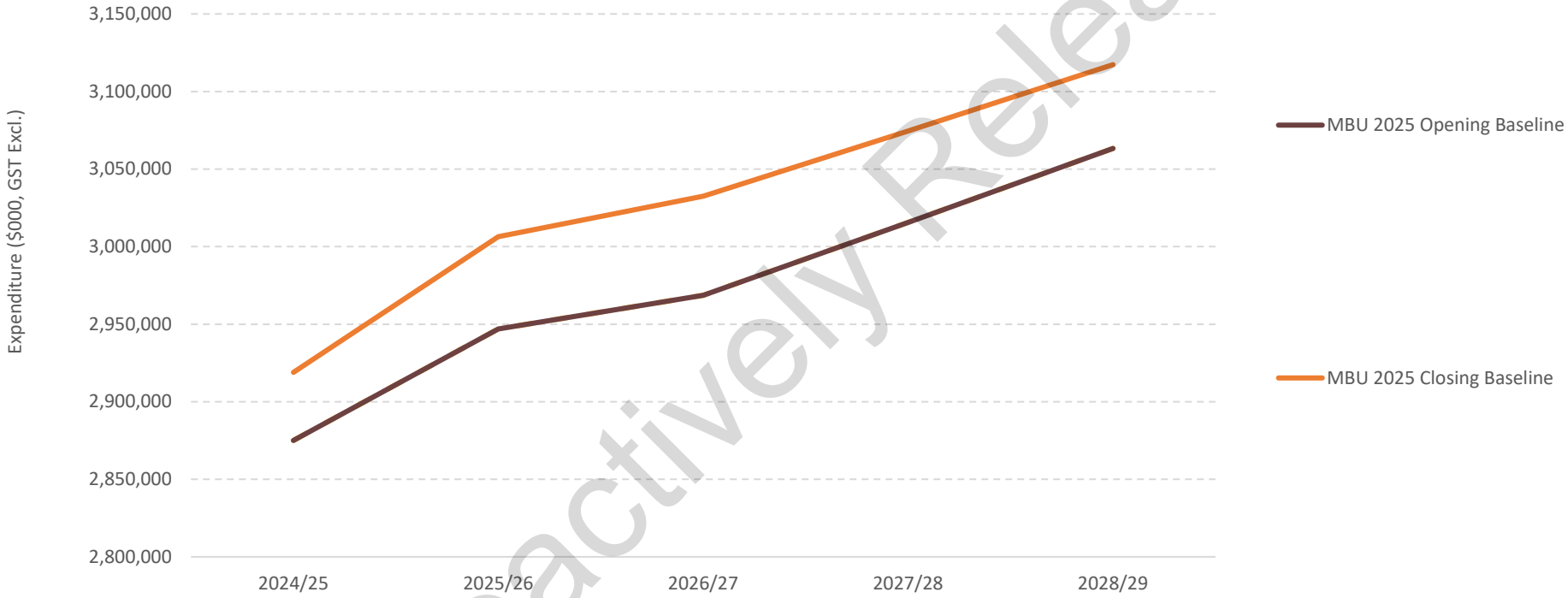
Drivers of change in the ECE forecast

Constituent differences between Opening Baseline and Closing Baseline ($000; excl. GST)

$000 GST Excl.	2024/25	2025/26	2026/27	2027/28	2028/29	Total
MBU 2025 Opening Baseline	2,875,030	2,946,857	2,968,596	3,015,558	3,063,295	14,869,336
Volume Growth	24,981	32,474	37,038	31,877	26,691	153,061
Average Price	18,911	27,032	26,949	27,108	27,330	127,330
MBU 2025 Closing Baseline	2,918,922	3,006,363	3,032,583	3,074,543	3,117,316	15,149,727
Total Forecast Changes	43,892	59,506	63,987	58,985	54,021	280,391
Percentage Forecast Change	1.53%	2.02%	2.16%	1.96%	1.76%	1.89%

Baseline changes due to forecast

Impact of forecast changes from opening to closing baseline by financial year. MBU 25



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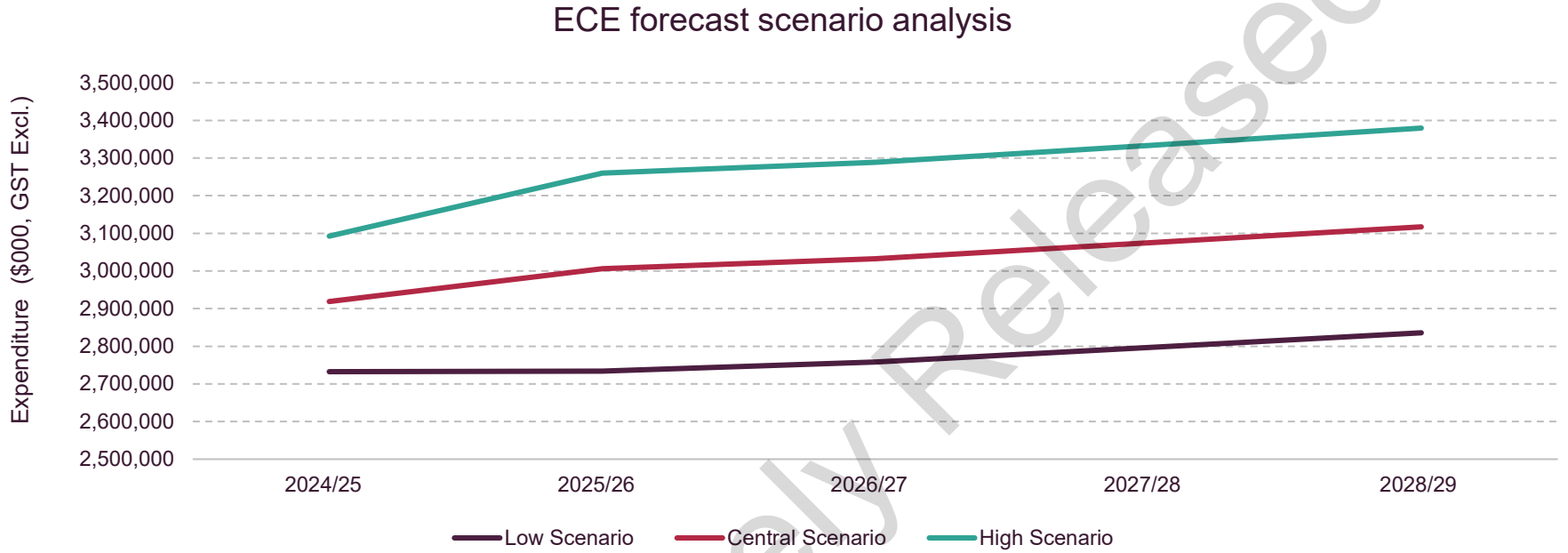
Scenario Analysis



Forecast ($000, GST Excl.)	2024/25	2025/26	2026/27	2027/28	2028/29	Total
Low Scenario	2,732,489	2,734,152	2,758,031	2,796,545	2,835,791	13,857,008
Central Scenario	2,918,922	3,006,363	3,032,583	3,074,543	3,117,316	15,149,727
High Scenario	3,092,684	3,260,323	3,288,631	3,333,746	3,379,752	16,355,136

Considerations

Fiscally neutral funding review

- The terms of reference for the Ministerial Advisory Group state “to consider options that are at least fiscally neutral for the Crown, that is, within total forecast expenditure in scope.”

- The 5-year baseline under a new model should carry the same cost as under the existing model.

- For any new funding model, expenditure could be compared against previous expenditure in a particular period to test neutrality, but future implications should also be considered. If changes were likely to change public or sector behaviour, this could increase cost in future years.

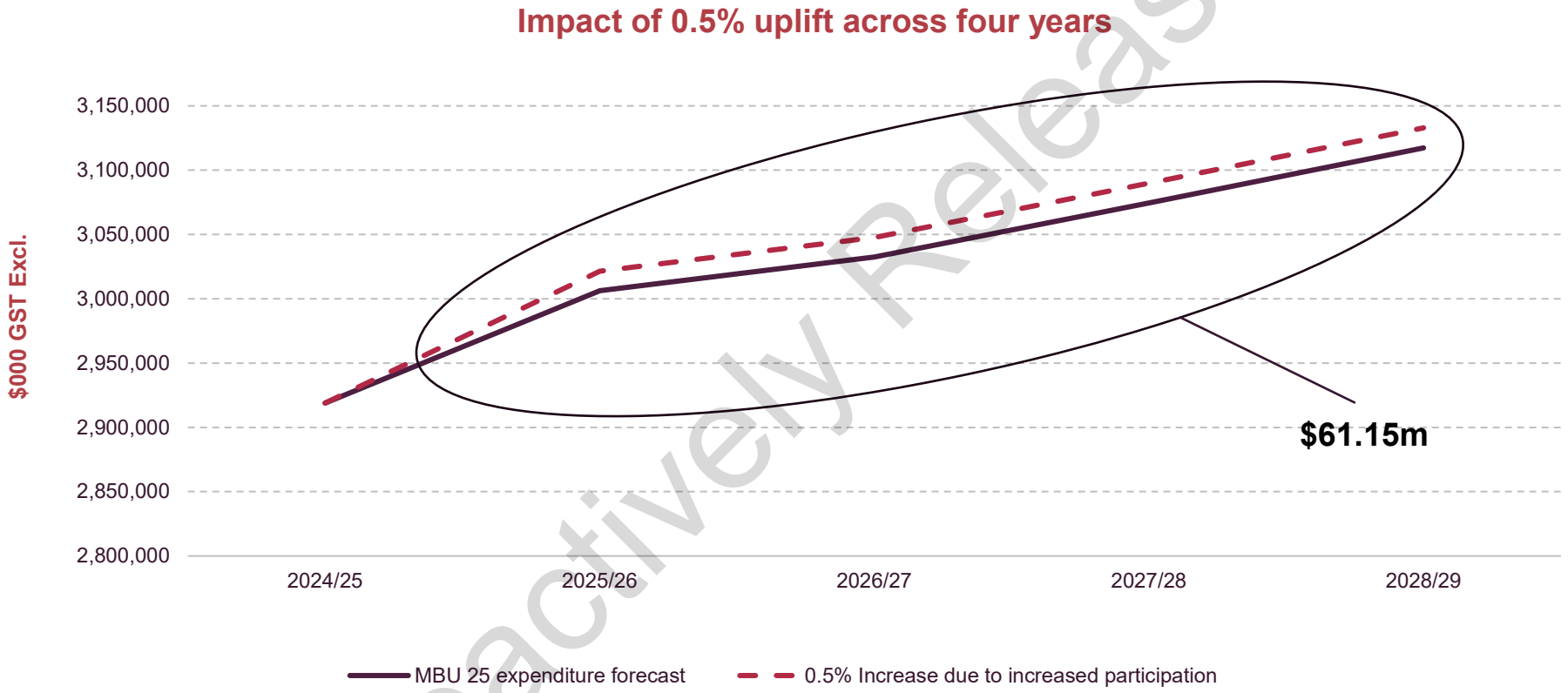
Interaction effects and behaviour changes

It is important to note that by varying one lever, this could impact the interaction with other drivers.

Example Scenario: New funding model expected to lead to increased future uptake in participation/volume (perhaps through an increase in the number of centres opening). Unless price was reduced accordingly, this would not be considered fiscally neutral across the five-year budget period.

It can be hard to predict what public or sector behaviour might be, and harder to predict the size of changes, but realistic assumptions should be set about what might occur based on any changes.

Example



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Modelling/forecasting inputs

When producing a model or forecast to consider fiscal impacts, information is required to produce a robust product.

A combination of existing data and informed assumptions may be used. Quantitative information is particularly important.

- ***Existing baseline data.*** Where there are gaps, collections can sometimes be used to get a current picture.

- ***Informed assumptions.*** These can be used to create weightings or apply to future expectation – particularly where proxy data or existing projections are available to aid in building assumptions.

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Modelling/forecasting inputs

Volume by price, changing over time.

When making changes do we have the data or information to let us know:

- Which volumes will price changes apply to (which parts of the ECE population/system)?
- Do we have information to base practical price changes on?
- Do we have existing information on the factors we intend to base funding on?
- How might the changes alter future volumes?
- What is the cap within existing baselines which we are working to?
- Are there any examples of previous impacts from similar changes?

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Key Messages

Key Messages

- ECE funding baselines are updated twice annually usually (three times in an election year).
- A large component in changing baseline funding for ECE is the demand driven forecast. The vast majority of the funding is through ECE subsidies for Under two, Two and over, and 20hrs ECE accounts.
- At a high level, demand driven forecasts are based on expected volume, and average price.
    - These are generated using a combined approach of examining short-term and long-term patterns
    - Average price is based on rates, and the mix of these based on participants, and service characteristics. It can be quite changeable.
- Demand driven forecasts do not usually include policy changes and are not adjusted for inflation.
- Drivers for change can have interaction effects.
- In considering fiscal neutrality, both past and future baseline expenditure should be considered.
- When revising funding models, data required for inputs and assumptions should be considered, to understand how well changes can be quantified..

Thank you for your time. Questions/Pātai?

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kia rangatira ai, kia mana taurite ai ōna huanga.

We shape an education system that delivers
equitable and excellent outcomes.

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