

Market study into the retail fuel sector:
Invitation to comment on preliminary issues
Commerce Commission New Zealand

A submission on Question 9:

“Trends in Profits”

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1 Introduction

The Commerce Commission has invited comment on a proposed market study into the retail fuel market to consider whether competition is promoting benefits to consumers over the long-term.

I am responding to **Q9: “Trends in profits”**.

2 Independence

This submission on Retail Fuel Sector has been prepared independent of any interested party.

I have had three decades of experience in the application of the “economic model” of business and the assessment of financial performance. In observing how the original “2017 Fuels Study”¹ has evolved, now being reconstituted in the form of a “Retail Fuels Market Study”², I offer comments which may assist the Commission.

3 Approach

As defined the Return on Average Capital Employed (“ROACE”) is not fit for purpose. A refined definition of ROACE is required as part of the Market Study. Using actual Fuel Majors’ publicly available financial information, I will demonstrate how a new definition of ROACE can be calculated and applied to each firm. The high-level outputs are the return on operating capital, the economic profit and an economic margin. Interpretations of the *first cut results* in this submission are left to the Commission and other interested parties.

4 “Trends in profits”

Q9: Is “return on average capital employed” (ROACE) a reasonable method to assess the reasonableness of prices (the approach taken by the 2017 Fuel Study)?

¹ NZIER, Grant Thornton, Cognitus Economic Insight, “New Zealand fuel market financial performance study”, (prepared for the Ministry of Business, Innovation and Employment, 29 May 2017) referred to as the (The 2017 Fuel Study), <https://www.mbie.govt.nz/building-and-energy/energy-and-natural-resources/energy-generation-and-markets/liquid-fuel-market/fuel-market-financial-performance-study-2017/>

² Commerce Commission, “Market study into the retail fuel sector, Invitation to comment on preliminary issues”, 31 January 2019.

The answer is conditionally yes, provided the Commission formulates a “return on capital” specifically for each of the “major fuel firms”³ under review. The objective of using a metric such as ROACE is, first to establish whether there are material excess returns and excess profits for each of the firms and industry and, second and then for a the Retail Fuels industry.

The 2017 Fuels Study flagged 5 data issues which prevented comparable ROACE assessments.⁴ It advised:

“Without ROACEs, there was nothing which we could compare WACCs to draw definitive conclusions about the reasonableness of returns and thus prices.”⁵

Because each Retail Fuels business is a part of an integrated supply and distribution wholesale/retail business, deriving reliable attributed data can be difficult. The other interests of the Fuel Majors also add complexity which must be unpicked.

Refer to **Attachment 1** for some of these issues and complexities.

4 Definition of ROACE

ROACE is defined in The 2017 Fuel Study:

“EBIT/Average Capital Employed and we define Average Capital Employed as: total assets less current liabilities”, and

“Capital employed is calculated on an historical cost basis with the exception of inventory which has been adjusted using replacement cost methodology (as previously discussed).”⁶

This simple high-level pre-tax specification of ROACE mixes accounting and economic information. That means it is not fit for the purposes of emulating cash flows generated, related to sum of cash invested in the business.⁷ For example, the LIFO inventory reserve accounting does not change cash flows and hence return on capital. Nevertheless, it is recognised that LIFO valuation accounting is suitable for fuel pricing. LIFO valuation option

³ The “major fuel firms” (or “Fuel Majors”) are BP New Zealand New Zealand Holdings Limited (“BP NZ”) Consolidated Financial Statements, ExxonMobil New Zealand Holdings Limited (“ExxonMobil NZ”) Consolidated Financial Statements, Z Energy Limited Annual Reports and Consolidated Financial Statements (“Z Energy”).

⁴ The 2017 Fuel Study 1.3 page 5.

⁵ Ibid.

⁶ Ibid., Fn 47 and 48.

⁷ As if undertaking a net present value or discounted cash analysis.

has generally been adopted for ROACE calculations for oil and gas firms (with varying definitions and applications).

Examples of Fuel Majors' approaches and definitions of ROACE, are set out in **Attachment 2**. They are not readily reconciled with each other from public sources.

5 A Way forward

With careful specification, the basic ROACE can be adapted to better identify and quantify excess returns and profits. That would start at the consolidated level. It should be sufficient to form a data base from which to consider competition issues in the subset Retail Fuels market.

The work requires hunting down the extent, timing and source of any material excess returns and profits of the Fuel Majors.

Based on their publicly available financial information I have applied a value-based framework.

The value-based framework is employed to derive a Return on Capital ("ROC") and Economic Profits (or "EVA"). This economic model framework has been well documented and practiced by McKinsey & Company, for example. The approach is set out in the textbook: "Valuation Measuring and Managing the Value of Companies"⁸. An excel spreadsheet model is also available.

The economic framework is at the heart of the Commission's approach for setting and monitoring the performance of Regulated Businesses such as Transpower, Vector, Powerco, Gas Pipeline Businesses, etc. The Commission sets and monitors financial performance on a principle of NPV = 0. Revenue is set for regulated companies such that there is an expectation of a "normal profit" over time. A benchmark for establishing a "normal" return is set at about the 67th percentile of a cost of capital⁹ for comparable businesses based on publicly securities markets. The "Input Methodologies" set out the application of this framework. The Input Methodologies adapt the economic model for its purposes: for instance, the Regulatory Asset Base ("the RAB") is the "Invested Capital". It

⁸ Koller, T., Goedhart, M. and Wessels, D. "Valuation Measuring and Managing the Value of Companies", John Wiley & Sons Ltd (6th edition).

⁹ The 67th percentile may add about 1% points to Cost of Capital.

is defined as Net Fixed Assets less capital work in progress and makes deferred tax adjustments. Net working capital is excluded.

The economic model has also been adopted for financial performance assessments of State-owned Enterprises.¹⁰

In preparing and implementing an economic model to use the Fuel Majors' published audited financial statements, the Commission is well positioned to hunt down the source of potential excess returns and profits. The onus should be on the Fuel Majors to provide requested information that always links back to the consolidated high-level financial statements. If the Commission allows or invites or requires Fuel Majors to depart from this the information produced by their own accounting systems, the study could become lost in needless complexities.

Refer to **Attachment 3** for the 8 steps.

6 An Economic Framework In Action

I have modelled the Fuel Majors to demonstrate a process and type of results by an enhanced specific and relevant ROACE.

For BP New Zealand Holdings and ExxonMobil New Zealand Holdings, I have analysed 10 years (2008 to 2017 December balance dates) of data extracted from the published consolidated financial statements available at the Companies Office. The Z Energy annual reports, investor presentations and announcement are available on its web site. I have analysed data for the period 2013 to 2018 (March balance date). The Caltex acquisition was dated 1 June 2016. The analysis and results include Caltex from this date. Otherwise, Caltex is excluded.

In calculating NOPAT and Capital Invested, selected adjustments are made, including from those listed in **Attachment 4**.

¹⁰ Ernst & Young, "SOE Economic Profit Analysis", for the NZ Treasury, 25 November 2011, <https://treasury.govt.nz/publications/information-release/soe-economic-profit-analysis>

7 Results (so far)

Based on my economic framework, and the comparative analysis the economic based metrics provide a sound “first cut” view of financial performance albeit at a high level.

Tables A, B and C on page 8 summarise the essential metrics:

- **Return on Average Operating Capital,**
[NOPAT/Operating Capital]
- **Economic Profits/Losses,** and
[NOPAT less a Capital Charge]
- **Economic Profit Margin.**¹³
[Economic Profit divided by Sales]

The trends and changes overtime are self-evident for each firm and for the industry. What happened in the market after 2015?

Double-digit excess returns leading up to the 2017 financial year (including Z Energy March 2018 year) are extraordinary. The sum of “excess” profits in the latest year is \$469 million.

In competitive markets, the theory and experience show that excess returns and profits get competed away. Excess returns and profits are sustained above a normal return being the cost of capital.

Answers may emerge from deep analysis. That is for the work of the Commission’s study.

In May 2019, the Fuel Majors are expected to publish their latest results.

¹³ “Economic Profit” is the profit after all costs, including debt and equity opportunity costs. The Income Statement and Balance Sheet collapses into one account through the inclusion of a capital charge. “Economic Profit Margin” is calculated as Economic Profit/Sales. It is the comprehensive and real margin of the business, net of all operating and capital costs.

Tables

Excess Returns, Profits and Margins: a first cut

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A

BP New Zealand Holdings
High level group operating summary

	Dec	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Economic Returns												
Return on Operating Capital		13.8%	8.9%	11.5%	16.4%	13.8%	9.7%	4.9%	12.3%	19.2%	22.8%	
Cost of Capital		10.1%	10.6%	9.3%	10.5%	10.3%	9.0%	8.8%	9.6%	8.7%	8.6%	
Excess Return		3.7%	-1.7%	2.2%	5.9%	3.5%	0.7%	-3.9%	2.7%	10.5%	14.2%	
Economic Profits												
NOPAT	\$m	104	75	106	139	110	88	49	113	172	255	
Capital Charge		76	90	86	89	82	82	87	88	78	96	
Excess Profits		28	-15	20	50	28	6	-39	25	94	159	
Economic Profit Margin												
Excess Profits to Sales		0.8%	-0.5%	0.6%	1.4%	0.8%	0.2%	-1.2%	0.9%	3.5%	5.0%	

Notes: roundings
2018 result due in May

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B

ExxonMobil New Zealand
High level group operating summary

	Dec	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Economic Returns												
Return on Operating Capital		-12.2%	5.1%	4.4%	5.2%	2.4%	8.2%	-2.1%	1.6%	15.6%	22.0%	
Cost of Capital		10.1%	10.6%	9.3%	10.5%	10.3%	9.0%	8.8%	9.6%	8.7%	8.6%	
Excess Return		-22.3%	-5.5%	-4.9%	-5.3%	-7.9%	-0.8%	-10.9%	-8.0%	6.9%	13.4%	
Economic Profits												
NOPAT	\$m	-91	38	34	40	18	65	-16	11	94	146	
Capital Charge		75	80	73	81	77	71	68	64	52	57	
Excess Profits		-166	-42	-38	-41	-59	-6	-84	-53	42	89	
Economic Profit Margin												
Excess Profits to Sales		-6.9%	-2.3%	-2.0%	-1.6%	-2.3%	-0.2%	-3.0%	-2.2%	1.9%	3.3%	

Notes: roundings
2018 result due in May

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C

Z Energy
High level group operating summary

	Mar	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Economic Returns													
Return on Operating Capital							16.7%	20.4%	6.7%	20.7%	29.5%	21.4%	
Cost of Capital							9.0%	8.8%	9.6%	8.7%	8.6%	8.5%	
Excess Return							7.7%	11.6%	-2.9%	12.0%	20.9%	12.9%	
Economic Profits													
NOPAT	\$m						117	135	46	136	353	367	
Capital Charge							63	58	66	57	103	146	
Excess Profits							54	77	-20	79	250	221	
Economic Profit Margin													
Excess Profits to Sales							1.5%	2.3%	-0.6%	3.1%	6.5%	4.8%	

Notes: roundings
March balance date is assumed to be "December" to line up with balance dates of BP and ExxonMobil.
Caltex acquisition 1 June 2016; no adjustment has been made for timing. Synergies are included.
2019 result due in May

Attachment 1

The 2017 Fuel Study¹⁴ identified potential areas of concern in applying ROACE (I have added some comments):

1. Treatment of investments in Refining NZ “Held available for Sale” [non-operating cash equivalent].
2. “Fixed assets” and carrying value and depreciation [to judge its importance and relevance, the differences among the Fuel Majors should be tested over 10 years].
3. It is asserted that ROACE should be on a “fair value” basis and also as a “Market ROACE” without being specific and what it is and how they would address excess returns and profits.¹⁵
4. “Leases capitalised” are different among majors [should be recalculated for comparability and consistency].
5. “Allocation of costs” (and “Unallocated items”) will always be a matter for judgement. The Group common costs is the benchmark to start analysis from the top. The Commission is experienced in such issues with Regulated Businesses and Input Methodologies.
6. Inventory fluctuations. These occur whether LIFO or FIFO is used. Historic cost reflects the actual investment. As the LIFO inventory reserve does not affect cash flows FIFO is not appropriate to the Commission purposes. Overtime FIFO reserve fluctuations should balance out. Besides, only one Fuel Major has published its Replacement Cost calculation.

An essential problem with the MBIE/2017 Fuel Study was that the companies were asked to provide wide ranging detailed information in a form expected to be convenient to the Study. Even if the Fuel companies had been eager to assist, it seems likely that much of what the Commission sought would not emerge readily from existing accounting approaches. The current study should focus more on what is feasible.

¹⁴ The 2017 Fuel Study 4.4.2, pages 42-44.

¹⁵ Ibid., page 44.

The process would have been better reversed. Presenting the firms with a ROACE template based on their Group public audited accounts instead of the Study's objectives could have generated more useful conclusions. The process starts from the overview. The framework specific to the firms and industry can be developed by the Commission in a transparent way. The Commission can make its own assumptions informed by addressing the public accounts.

A potential "specified ROACE" can be derived from the publicly available information in the form of annual reports and financial statements. The key issue then is how to practically isolate the Retail Fuel Sector from the other business of the Fuel Majors. This will not be easy. Many businesses are commercially linked to commercial fuel contracts, terminus operations and distribution. NZ Refining, and other investments, presents joint ownership complexities, etc.

A ROACE restricted to retail fuels, petrol and diesel (excluding petrol and diesel commercial contracts, jet fuel, bitumen and marine fuel) will necessarily involve some contentious cost and benefit allocations.

A ROACE methodology, with application in fine detail, will presumably need to meet a evidential standard for the Market Study.

Attachment 2

ROACE is a generic but non-standardised measure used the by upstream and downstream oil and gas related businesses. The range of definitions is shown below.

MBIE/2017 Fuel Study

EBIT/average capital employed (Capital is Total Assets less Current liabilities). How it links to each Fuel Majors' accounting information is unstated except through inventory was adjusted using replacement cost methodology.

The Royal Dutch Shell

"Return on average capital employed (ROACE) is defined as annual income, adjusted for after-tax interest expense, as a percentage of average capital employed during the year. Capital employed is the sum of total equity and total debt. ROACE measures the efficiency of our utilisation of the capital that we employ and is a common measure of business performance."

It is noted that "Income" for the period is the accounting net profit.

BP

"Return on average capital employed (ROACE) is underlying replacement cost profit, after adding back non-controlling interest and interest expense net of notional tax at an assumed 35%, divided by average capital employed, excluding cash and cash equivalents and goodwill. Interest expense is finance costs excluding the unwinding of the discount on provisions and other payables. BP believes it is helpful to disclose the ROACE because this measure gives an indication of the company's capital efficiency."¹⁶

Exxon Mobil Corporation:

"ROCE is a performance measure ratio. From the perspective of the business segments, ROCE is annual business segment earnings divided by average business segment capital employed (average of beginning and end-of-year amounts). These segment earnings include ExxonMobil's share of segment earnings of equity companies, consistent with our capital employed definition, and exclude the cost of financing. The

¹⁶ https://www.bp.com/content/dam/bp-country/de_de/PDFs/brochures/bp-annual-report-and-form-20f-2017.pdf page 283.

Corporation's total ROCE is net income attributable to ExxonMobil, excluding the after-tax cost of financing, divided by total corporate average capital employed. The Corporation has consistently applied its ROCE definition for many years and views it as the best measure of historical capital productivity in our capital-intensive, long-term industry, both to evaluate management's performance and to demonstrate to shareholders that capital has been used wisely over the long term. Additional measures, which are more cash-flow based, are used to make investment decisions.¹⁷

Z Energy:

In a 2015 reference to ROACE: Z Energy stated: "What today's results show is that Z's returns are reasonable and consumers continue to receive fair value from a highly competitive market." Z's Return on Average Capital Employed (ROACE) for the full year was 15%, comparable with returns generated from other listed retailer companies¹⁸. Recently, Z Energy has referred to NOPAT and Capital related to increasing infrastructure charges.¹⁹

Caltex Australia/Gull:

There are several described metrics in tables under "Comparative Financial Information" at pages 120-121 in the 2017 Annual Report. <https://www.caltex.com.au/our-company/investor-centre/annual-reports-and-reviews>

For the difference between historic cost and replacement cost basis refer to <https://www.caltex.com.au/our-company/investor-centre/understanding-financial-results>

Definitions of ROACE vary. They are not obviously close to an orthodox economic definition of return on capital such as NOPAT/Operating Capital. Linkages of ROACE to cost of capital is notably absent. ROACE, as a financial measure would need to be defined consistent with a cost of capital if "excess returns" are to be assessed correctly.

¹⁷ <https://cdn.exxonmobil.com/~media/global/files/investor-reports/frequently-used-terms.pdf> page 5.

¹⁸ Listed Retailers: Briscoe Group, Kathmandu, Michael Hill, Restaurant Brands, Spark New Zealand and the Warehouse.
<https://investor-centre.z.co.nz/investor-centre/assets/Uploads/NZX-FY15-Results-Announcement2.pdf>

See page 3:

¹⁹ "Commercial returns from Terminals",
<https://investor-centre.z.co.nz/investor-centre/assets/Uploads/Market-Disclosure-Full-Year-Results-FY18-3-May-2018-FINAL.pdf>, slide 17.

Attachment 3

The Way Forward: 8 steps ...**Step 1**

Start with the publicly available Group financial data for BP New Zealand Holdings, ExxonMobil New Zealand Holdings and Z Energy (and Caltex prior to acquisition) and perhaps, Caltex Australia (Gull). This covers almost the whole industry. The high-level accounting information has been audited by major accounting firms and signed off by directors. The companies own the information. There is much commonality among the firms (such as with accounting) as they cooperate in many aspects of the Fuels' businesses. BP, ExxonMobil have opted for a reduced information disclosure option under the Companies Act. Z Energy, a publicly listed company, provides fuller disclosure including interim financial accounts and periodic shareholder/investor presentations.

Step 2

Organise and model the data extracted for the financial statements including unwinding notes to accounts. This would likely be based on a "chart of accounts" or checklist, collating the information on a line by line basis for determining "NOPAT" and "Operating Capital".

Step 3

Translate accounting data into an economic model. The objective is to calculate the periodic "cash" return on "cash" invested in the business initially at group level. This is achieved by dividing Net Operating Profit (NOPAT) by Capital (total assets less non-interest-bearing liabilities). NOPAT excludes financing cost and bookkeeping entries that do not affecting cash flow. Converting the accounting to an economic model involves changing accrual to cash accounting; "successful efforts" to full cost accounting; separating operating and financing and separating operating from non-operating. The accounting Income Statement and Financial Statement should reconcile to NOPAT and Operating Capital respectively to preserve transparency.

The relevant non-operating entities and businesses in the form of joint ventures, associates, etc. should be treated as standalone businesses for determination of NOPAT and Capital and attribution to shareholders.

Step 4

Having calculated NOPAT and Operating Capital, including with adjustments, derive a return on capital (NOPAT/Average Operating Capital). The excess return and profits can be derived by subtracting the return from the separately calculated cost of capital²⁰ for the business. The Economic Profit, or Economic Value Added, is NOPAT less a capital charge (cost of capital times operating capital). As a first benchmark the Commission judges a normal profit as cost of capital, plus a margin of about 1% for most of its regulated businesses.

Step 5

A time series of up to ten-year of data adjustments and metrics, prepared on a reasonably common basis for all Fuel Majors derived from audited accounts, allows for an empirically based open discussion with the information providers. For instance, to ExxonMobil New Zealand: “You have combined depreciation and amortisation ... please separate and relate each of them to assets and describe the basis for each item.” Similar interrogation would be needed on other data disconnects, etc. that are apparent from comparing the Fuel Majors’ data. There seems to be a small number of material issues to be resolved.

Step 6

Tabulate the results through time and, for sub periods of interest. The analysis of the consolidated accounts sets up systematic “drill downs” by line and activity. A “value driver tree” and “components chart” would enable the Commission to reach down to the business fundamentals and hence, variations between Fuel Majors. The self-benchmarking of the Fuel Majors could become a powerful method for the Commission to support its market study. The key is the first order assessment of excess return and profits based on publicly available information audited by major accounting firms and signed by some of the world’s largest and important companies. The audit papers supporting the build up to the Audited accounts exist. This initial approach empowers the Commission.

Step 7

The Commission publishes the complete analysis with questions and testing of results. Any issues relating to accounting adjustments would be resolved, to the satisfaction of the Commission, in Step 3.

²⁰ In **Tables A, B** and **C** the cost of capital is standardised for all firms based on an asset beta of 0.8.

Step 8

The drill down through the complexity of the Fuel Majors to the “Retail Fuel Market” is informed by the helicopter views and the anchoring to audited accounts. However, inevitably the Commission will have to make judgements in the Market Study.

Attachment 4

Most of the data for adjustments to “correct” material accounting distortions relevant to the Fuel Majors can be found in the publicly available financial statements. They include:

1. Exclude non-operating assets such as cash and assets held for sale. exclude equity investment in Refining NZ, joint ventures and other non-controlling investments, etc. Separately, these assets should be subject to an enterprise basis evaluation with shareholders’ share of NOPAT and Capital being assessed.
2. Treat leased assets as owned by capitalising non-operating lease expense and determine an interest component assuming the leased assets are required by a business irrespective of how they are financed (rather than with the accounting standard present value of commitments method).
3. Reverse accounting entries for revaluation (and related deferred tax), fair value adjustments, impairments (including on held for sale assets), one-off gains and losses on sale of assets should be reversed and added back to Capital, etc.
4. Capitalise acquisition costs and add to Capital as part of the asset investment.
5. Intangible assets are generally not amortised.
6. The operating/cash taxation provision should be adjusted for deferred tax effects.
7. Where there is a cost of sales adjustment, net of tax, arising from valuation of inventories on LIFO basis it should be reversed to historic cost FIFO basis, as for the purpose of assess excess profits (LIFO is fine for pricing), there is no change in cash flows as result of the bookkeeping entry.
8. Precautionary provisions such as for doubtful debts and inventory reserves should be treated as “equity equivalents”.
9. Where the 2-point average is adopted, NOPAT and Capital should be adjusted for actual timing of material events such as an acquisition. These adjustments may also include Integration cost and synergies and assessed on a with and without basis.
10. Financial (but not operating) derivative issues can generally be avoided as NOPAT is not affected.

11. Off balance sheet unrecognised goodwill termed a “common control reserve” should be reversed to reflect the actual cost of an acquisition/arrangement.
12. Defined Benefit assets and liabilities can be ignored unless material.
13. Capital Work in Progress is treated as non-operating asset.
14. Refining NZ related pipeline outage costs may be treated as an abnormal expense in assessing NOPAT and Capital. Again, with and without should be tested.
15. FX expense should be divided between operating and financing.
16. Fuel Major “owned” and “franchised” service stations may have structural arrangements reflecting different risks and rewards. These would be reflected in NOPAT and Capital and cost of capital.