

**COMMERCE COMMISSION**

Regulation of Electricity Lines Businesses

Targeted Control Regime

Draft Assessment and Inquiry Guidelines

(Process and Analytical Framework)

**7 August 2003**

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## **EXECUTIVE SUMMARY**

### **Introduction**

- 1 Part 4A of the Commerce Act 1986 (the Act), which is related to regulatory policy in relation to large electricity lines businesses (lines businesses), came into effect on 8 August 2001. Under subpart 1 of Part 4A, the Commission is required to implement a targeted control regime. As part of that regime, the Commission must set thresholds for the declaration of control in relation to lines businesses, assess lines businesses against the thresholds set, identify any lines business that breaches the thresholds, and determine whether or not to make a declaration of control in relation to goods or services supplied by a lines business that is so identified.
- 2 On 6 June 2003, after consulting with interested parties as to possible thresholds, the Commission set two thresholds; a price path threshold and a quality threshold.
- 3 The Commission intends to set new thresholds for distribution businesses to apply from 1 April 2004, and for Transpower to apply from 1 July 2004.
- 4 The incentives to achieve compliance with the thresholds set by the Commission will to some extent depend on the consequences of breaching the thresholds perceived by the lines businesses. The Commission therefore considers that some certainty in relation to post-breach consequences is necessary and desirable if the aim of the targeted control regime under subpart 1 of Part 4A of the Act is to be met.
- 5 Accordingly, the purpose of these guidelines is to communicate the Commission's views on processes and decision criteria in relation to making assessments against thresholds and carrying out inquiries into breaches of the thresholds to determine whether or not to declare control. After considering any submissions from interested parties on these guidelines, the Commission will release final guidelines.
- 6 Although guidelines are an important part of the communication process, they are only one component of an ongoing work in progress to develop a regulatory regime for lines businesses in accordance with Part 4A of the Act. As such, the guidelines will not provide all the answers to the implementation details of that regime. Further implementation details will be made available by the Commission over time as the regime continues to unfold.

## Overview of the Targeted Control Regime

- 7 As noted above, subpart 1 of Part 4A of the Act provides for the Commission introducing a targeted control regime for lines businesses. The purpose of subpart 1 is contained in s 57E of the Act. Control in relation to lines businesses, as provided for under subpart 1, is *targeted*, meaning it is not universal control.
- 8 Control is targeted by virtue of the processes set out in subpart 1. Those processes include that the Commission must:
  - set thresholds for the declaration of control in relation to lines businesses;
  - assess lines businesses against the thresholds set;
  - identify any lines business that breaches the thresholds;
  - in respect of each lines business identified as having breached the thresholds, either make a control declaration or publish the reasons for not making a declaration of control.
- 9 In determining whether or not to declare control in relation to a lines business, the Commission will undertake an inquiry. The Commission distinguishes between two possible stages of an inquiry:
  - **Stage 1** comprises any inquiry and analysis prior to the Commission forming an intention to declare control; and
  - **Stage 2** comprises further inquiry and analysis subsequent to the Commission publishing its intention to declare control (during which stage the Commission must invite and consider the views of interested persons).
- 10 A declaration of control under subpart 1 of Part 4A means (as with a declaration of control by Order in Council under Part IV of the Act) that no persons may supply the controlled goods or services unless an authorisation under ss 70 and 71 of the Act, or an undertaking under s 72 of the Act, has come into effect in respect of those goods or services.
- 11 Section 57K(1) of the Act gives the Commission the ability to prioritise its duties under subpart 1 of Part 4A. In prioritising its duties, the Commission must have regard to the purpose of subpart 1 of Part 4A and may also have regard to any other factors it considers relevant.

## Assessment and Control Determination Processes

- 12 Each lines business is required to provide the Commission with a threshold compliance statement in accordance with the notice in

the *Gazette* which publishes the thresholds set by the Commission. The threshold compliance statement should indicate, with sufficient supporting evidence, whether or not the lines business complies with the thresholds set.

- 13 The Commission will complete an initial review of the threshold compliance statements. This initial review is to give the Commission the opportunity to obtain further explanations or clarifications in relation to the threshold compliance statements, including details of any goods or services excluded on the grounds that they are supplied in an effectively competitive market. In any case, the Commission will not enter into discussions with lines businesses about matters to be contained in their threshold compliance statements until the time of the initial review, following the Commission receiving from lines businesses their certified threshold compliance statements.
- 14 The Commission will assess lines businesses against the thresholds once it is satisfied the necessary information is contained in the threshold compliance statement and in any supporting documentation.
- 15 Although the Commission has the ability under s 57K of the Act to prioritise its assessments against the thresholds, at this stage it intends to assess all lines businesses before commencing an inquiry into any breaches of the thresholds by a lines business. If the Commission chooses to prioritise its post-breach inquiries, it will do so after applying the Commission's enforcement criteria namely: conduct, detriment and public interest. The Commission considers these criteria, in addition to the purpose of subpart 1 of Part 4A of the Act and s 57K(2) of the Act, are relevant to the prioritisation of post-breach inquiries and the decision to declare control under Part 4A.
- 16 A breach of the thresholds set by the Commission by any lines business would set in train a process that could result, ultimately, in a declaration of control in relation to the lines business. During a post-breach inquiry, the Commission will consider the available evidence and decide whether to:
  - (a) publish its intention to declare control;
  - (b) continue to inquire into whether a declaration of control may be warranted; or
  - (c) resolve the inquiry by entering into an administrative settlement with the lines business; or
  - (d) cease the inquiry and take no other action.

- 17 An administrative settlement option is a well established way of resolving Commission investigations in relation to Parts II and III of the Act and the Fair Trading Act 1986. The Commission considers that an administrative settlement may in some circumstances produce a satisfactory outcome in terms of the Part 4A regulatory objectives, and it will retain the discretion to use this option in carrying out its duties under Part 4A.
- 18 If the Commission forms an intention to declare control, it would then proceed beyond a stage 1 inquiry to a stage 2 inquiry process.
- 19 In order to protect commercially sensitive information during assessments and inquiries that may follow a breach, the Commission may consider making orders under s 100 of the Act.

### **Analytical Framework**

- 20 The guidelines set out the analytical framework the Commission will use when determining whether or not to declare control following a breach of the thresholds by a lines business.
- 21 An intention by the Commission to declare control would only be formed once the Commission was satisfied that, based on the available evidence and analysis, control would result in long-term net benefits to consumers. An actual declaration of control would use the same decision criterion, except that the Commission would, after publishing its intention to declare control, also have regard to the views of interested parties and to any further evidence or analysis. The long-term direct net benefits to consumers of control would be assessed in terms of:
  - allocative efficiency gains or losses;
  - productive efficiency gains or losses;
  - dynamic efficiency gains or losses; and
  - transfers between consumers and suppliers.
- 22 The above approach to net benefits analysis is similar, in principle, to that used by the Commission in its report to the Minister of Commerce in relation to the control of certain airfield activities, and also to the framework the Commission expects to use for the purposes of its current Part IV control inquiry into gas pipeline services. In making judgements about the costs and benefits of control, the Commission will be guided by the specific outcomes to be achieved and the reference in the purpose statement contained in s 57E of the Act to “the long-term benefit of consumers”.
- 23 The control decision criterion would involve a comparison of the prices and/or quality that would result from the imposition of

control (the “factual”) and those that would result from a continuation of the status quo where prices and/or quality would be set in accordance with the lines business’ policies (the “counterfactual”). The direct net benefits to consumers of control would then be estimated, using supply and demand models for the relevant services, in terms of allocative efficiency, productive efficiency, dynamic efficiency, and transfers to consumers.

- 24 In addition, the Commission would factor into its control decision the potential costs of control, depending on the nature of the threshold breach and the potential form of control. However, these may be offset to some extent by potential indirect benefits of control; for example, enhancing the credibility of the regulatory regime for lines businesses and modifying or tempering the behaviour of non-controlled lines businesses as well as controlled lines businesses. The Commission considers that any potential indirect benefits of control should be factored in when determining the overall net benefits of control.
- 25 In determining the efficient level of prices, the Commission considers it has two options; comparative benchmarking and building block analysis. While either of these approaches may be used alone, it is also possible that the Commission could use both, possibly in sequence, to determine the level of efficient prices.
- 26 With respect to the building block approach, the objective is to establish: the efficient level of capital required by the lines business to supply lines services; the efficient rate of return on capital; the efficient rate of return of capital (depreciation); and the efficient level of operating costs. The valuation of the relevant assets and the weighted average cost of capital are intrinsic to the building block approach.

## **Inquiry Scenarios**

- 27 The guidelines include a number of hypothetical scenarios in which a lines business breaches one or more of the thresholds for declaration of control set by the Commission. The scenarios described include breaches of the price path threshold and quality threshold (reliability criterion and consumer engagement criterion), as well as situations that may arise as a result of merger or acquisition activity involving lines businesses.

## INTRODUCTION

### Background and Purpose

- 28 Part 4A of the Commerce Act 1986 (the Act) came into effect on 8 August 2001. Among other things, Part 4A contains provisions relating to the targeted control of goods and services supplied by large electricity lines businesses (lines businesses).
- 29 The Commission must set thresholds for the declaration of control of goods or services provided by lines businesses. The Commission also must assess lines businesses against the thresholds set, identify any lines business that breaches the thresholds, and determine whether or not to declare control in relation to the goods or services supplied by an identified lines business, taking into account the purpose statement contained in s 57E of the Act. In determining whether or not to declare control in relation to any lines business breaching the thresholds, the Commission may conduct an inquiry.
- 30 After consulting with interested parties on possible forms of thresholds, on 6 June 2003 the Commission set two thresholds – a price path threshold and a quality threshold.<sup>1</sup> To comply with the price path threshold, a lines business must hold its average price, in nominal terms, at or below the level as at 8 August 2001. To comply with the quality threshold, a lines business must record no material deterioration in reliability and must demonstrate it has effective business processes to understand and respond to consumers' demands for quality.
- 31 The Commission will for the first time assess all lines businesses against the price path threshold as at 6 September 2003. Distribution businesses' prices will be assessed again as at 31 March 2004 and Transpower's prices will be assessed again as at 30 June 2004. The quality threshold for distribution businesses and Transpower will also be assessed as at 31 March 2004 and 30 June 2004, respectively.
- 32 The Commission intends to set new thresholds for distribution businesses to apply from 1 April 2004, and for Transpower to apply from 1 July 2004.
- 33 Lines businesses' incentives to comply with the Commission's thresholds depend, to some extent, on what they consider might happen if they were identified to have breached thresholds. As

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<sup>1</sup> *Commerce Act (Electricity Lines Thresholds) Notice 2003*, Supplement to *New Zealand Gazette*, Issue No. 62, 6 June 2003.



discussed in its 6 June 2003 threshold decisions paper,<sup>2</sup> the Commission considers the regulatory objectives may not be achieved if lines businesses were inclined to be unduly cautious or averse to uncertainty about the consequences of their conduct in relation to thresholds.

- 34 Accordingly, the Commission has commenced a process through which it will communicate its views on processes and decision criteria in relation to assessments, inquiries (following breach), and forms of control, including for example:
- the role, if any, of administrative settlements;
  - the manner in which the Commission would seek and consider the views of interested parties;
  - the role of comparative benchmarking of lines businesses;
  - the role of asset valuation and the Commission's approach to identifying excessive profits and/or inefficient prices.
- 35 These guidelines are an important part of that communication process. At this stage the Commission expects, after considering any feedback from interested parties, to refine and confirm its views in the form of final guidelines for the assessment and inquiry process and analytical framework.
- 36 The guidelines are one element in a development process that is not complete. Accordingly, the guidelines do not seek to provide a complete or comprehensive picture of the Commission's regulatory regime applying to lines businesses. However, as the regime unfolds, the Commission intends to provide further information on the overall framework within which the Commission will further develop its processes and decision criteria.

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<sup>2</sup> Commerce Commission, *Regulation of Electricity Lines Businesses, Targeted Control Regime: Thresholds Decisions*, 6 June 2003.

## Structure of the Guidelines

37 The guidelines are structured as follows.

Section Heading	Content
Introduction	Background and purpose of the guidelines
Overview of the Targeted Control Regime	A summary of the statutory provisions relevant to targeted control
Assessment and Control Determination Processes	A description of process steps and timeframes following receipt of threshold compliance statements
Analytical Framework	A description of the various components of analysis the Commission proposes to use when determining whether to declare control
Inquiry Scenarios	A description of how the Commission might respond to different types of threshold breaches, and to other hypothetical scenarios

## OVERVIEW OF THE TARGETED CONTROL REGIME

- 38 This section summarises the purpose and the various statutory process steps and decision points associated with the targeted control regime.

### Statutory Framework

- 39 The purpose of subpart 1 of Part 4A is contained in s 57E of the Act. It reads as follows:

The purpose of this subpart is to promote the efficient operation of markets directly related to electricity distribution and transmission services through targeted control for the long-term benefit of consumers by ensuring that suppliers –

- (a) are limited in their ability to extract excessive profits; and
- (b) face strong incentives to improve efficiency and provide services at a quality that reflects consumer demands; and
- (c) share the benefits of efficiency gains with consumers, including through lower prices.

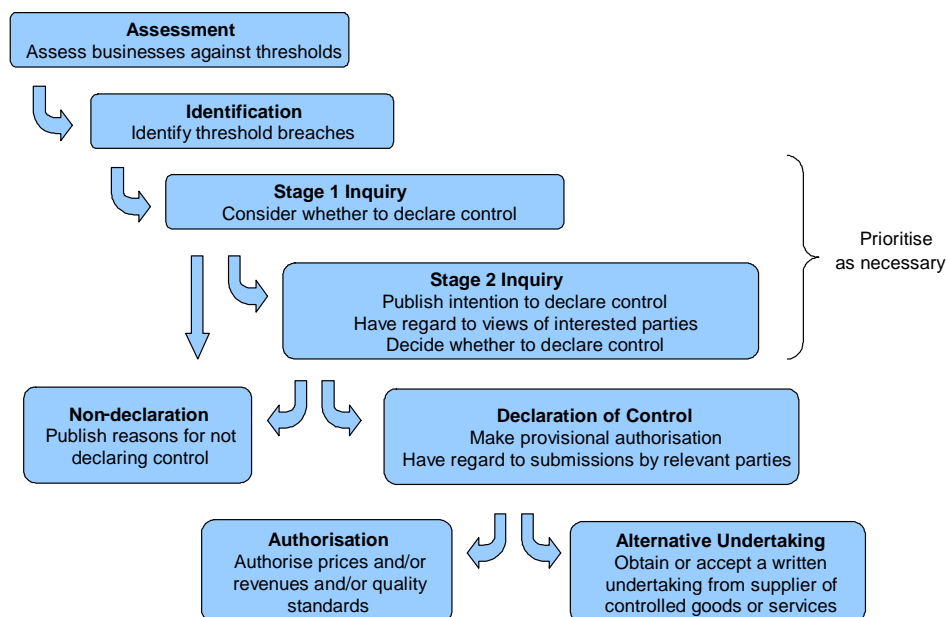
- 40 Control is *targeted*, in the sense that it is not universal, by virtue of the processes set out in subpart 1.

- 41 Subpart 1 of Part 4A, together with ss 70 to 73 in Part V of the Act, sets out a number of processes the Commission must follow in relation to:

- setting thresholds;
- assessing businesses against the thresholds set;
- identifying any lines business that breaches the thresholds;
- determining whether or not to declare control of any or all goods or services supplied by any or all lines businesses breaching the thresholds; and
- authorising any or all components of prices, revenues and quality standards in respect of controlled goods or services, or accepting alternative undertakings.

- 42 These processes are illustrated in Figure 1, in which various process steps are grouped and labelled.

**Figure 1 – Targeted Control Process Steps**



## Assessment and Identification

43 Before determining whether to declare control in relation to any lines business, s 57H of the Act requires that the Commission must:

- assess lines businesses against the thresholds set under s 57G; and
- identify any lines business that breaches the thresholds.

## Inquiry

44 Under s 57H(c), the Commission must determine whether or not to declare all or any of the goods or services supplied by all or any of the identified lines businesses to be controlled, taking into account the purpose of subpart 1 of Part 4A.

45 In addition, s 57I(1) states that, before making any declaration of control under s 57F, the Commission must:

- publish its intention to make a declaration and invite interested persons to give their views on the matter;
- give a reasonable opportunity to interested persons to give those views; and
- have regard to those views.

- 46 The Commission considers it convenient to distinguish between two possible stages of the inquiry process for determining whether or not to impose control:
- **Stage 1** comprises any inquiry and analysis prior to the Commission forming an intention to declare control; and
  - **Stage 2** comprises further inquiry and analysis subsequent to the Commission publishing its intention to declare control (during which stage the Commission must invite and consider the views of interested persons).

### **Reasons for Not Declaring Control**

- 47 Notwithstanding the prioritisation provision in subpart 1 of Part 4A (discussed below), in respect of each lines business identified as having breached the thresholds, the Commission must either make a control declaration or publish the reasons for not making a declaration of control.

### **Authorisations and Undertakings**

- 48 A declaration of control under Part 4A means (as with a declaration of control by Order in Council under Part IV of the Act) that no persons may supply the controlled goods or services unless an authorisation under ss 70 or 71 of the Act, or an undertaking under s 72, has come into effect in respect of those goods or services.<sup>3</sup>
- 49 Section 70 of the Act provides for the Commission to make an authorisation in respect of all or any component of the prices, revenues, or quality standards that apply in respect of the supply of controlled goods or services. The Commission may use whatever approach it considers appropriate, which may include the use of formulas or other methods from which prices or revenues, or any part of a price or revenue, may be determined.
- 50 Section 71 provides for the Commission to make a provisional authorisation in relation to controlled goods or services, pending the making of a final authorisation.
- 51 Section 72 provides that the Commission may, instead of making an authorisation in respect of controlled goods or services, obtain or accept a written undertaking from the supplier of those goods or services in relation to those goods or services.

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<sup>3</sup> However, the Commission must have regard only to the purpose set out in s 57E of the Act when exercising its powers under ss 70 to 72 in relation to goods and services supplied by a lines business, and not to the matters stated in s 70A, and ss 70 to 72 apply with necessary modifications (see s 57M of the Act).

- 52 Section 70B requires the Commission to have regard to submissions made to it by the supplier or any acquirer of the controlled goods or services.
- 53 Under s 73, the Commission has discretion to hold a conference (according to the procedures set out in s 64 of the Act) before making an authorisation, or obtaining or accepting an undertaking, in respect of any controlled goods or services.

## **Prioritisation**

- 54 Section 57K(1) of the Act provides for the Commission to prioritise its duties under subpart 1 of Part 4A. Specifically:

The Commission may prioritise its duties ... by (without limitation) –

- (a) assessing 1 or any (but not necessarily all) of the [lines businesses]; or
  - (b) exercising its powers to make a declaration of control in relation to 1 or any (but not necessarily all) of the [lines businesses] that are identified as having breached any thresholds set under this subpart; or
  - (c) making provisional authorisations or accepting undertakings (rather than making final authorisations) in respect of 1 or more [lines businesses] to which a declaration of control relates.
- 55 In prioritising its duties under s 57K(1), s 57K(2) provides that the Commission *must* have regard to the purpose set out in s 57E and *may* also have regard to any other factors it considers relevant, including (without limitation) all, any, or none of the following:
- the size of the lines business;
  - the recent performance of the lines business, including prices charged and the extent of any excess profits;
  - the quality of the information provided to the Commission;
  - the extent to which lines businesses have breached the thresholds.

## **ASSESSMENT AND CONTROL DETERMINATION PROCESSES**

- 56 This section discusses the threshold assessment process and the subsequent control determination process should a lines business breach the thresholds.

### **Review of Threshold Compliance Statements**

- 57 To facilitate the assessment of lines businesses, each lines business must provide the Commission with a written statement, confirming its compliance, or otherwise, with each of the thresholds set by the Commission. The first such information disclosure requirements, set pursuant to ss 57T and 57U of the Act, were published in the *New Zealand Gazette* on 6 June 2003.<sup>4</sup>
- 58 Lines businesses must provide the Commission with their threshold compliance statements within 40 working days of each assessment date, and within 5 working days of the same information being publicly disclosed. The threshold compliance statements should include sufficient evidence in the form of revenues, prices, costs, reliability indices and other data, supporting the statements.
- 59 Before assessing lines businesses against the thresholds, the Commission will undertake an initial review of the threshold compliance statements. During this initial review process, the Commission may seek clarification or confirmation of the information provided. The Commission may require further information to be provided under s 57U(1)(b) of the Act if it considers the information disclosure requirements have not been met.
- 60 The initial review is an opportunity for lines businesses, at the Commission's request, to explain or clarify aspects of their compliance statements.
- 61 The Commission does not intend to discuss with lines businesses, before receiving their certified threshold compliance statements, any matters to be contained in those statements. The time for any such discussion is during the Commission's review of the statements.
- 62 In relation to the assessment of the price path threshold in 2003 and 2004, the information disclosure requirements set by the Commission on 6 June 2003 allow for specific services to be

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<sup>4</sup> Supra n 1.

excluded if there is effective competition for those services.<sup>5</sup> If a lines business proposes to exclude any services on these grounds, the Commission may review the arguments made for their exclusion.

- 63 In particular, the Commission does not intend to “pre-approve” the exclusion of a particular service (from the set of specified services) where the lines business considers there may be some room for reasonable doubt about the condition for its exclusion (for example, that it is provided in an effectively competitive market). However, after reviewing the threshold compliance statement, the Commission may challenge any such exclusion, and the lines business may be required to disclose a new threshold compliance statement in which the relevant service is included.
- 64 Similarly, the Commission does not intend to pre-approve the removal of sensitive information from public disclosures. If a lines business has removed some information from its publicly disclosed threshold compliance statement, on the grounds of confidentiality, and the Commission does not agree the information should be removed, the Commission may require the lines business to publicly disclose an amended compliance statement containing the relevant information.

## **Assessment**

- 65 The Commission will commence its assessment of each lines business’ threshold compliance once it is satisfied the necessary information has been provided in the threshold compliance statement and any further documents that may have been provided.
- 66 The Commission expects that in some cases the assessment will be straightforward, and in other cases it may require careful consideration of the material provided in the threshold compliance statement.
- 67 At this stage, where the Commission’s assessment indicates a lines business has breached the thresholds, the Commission will inform the lines business before publicly identifying the breach. This provides the Commission an opportunity to confirm the accuracy of its assessment.
- 68 The Commission may consider making orders under s 100 of the Act to ensure confidentiality of information during assessments, and during inquiries that may follow a breach. Confidentiality orders may be appropriate, for example, in order to mitigate the

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<sup>5</sup> The term “effective competition” is consistent with its meaning as provided in s 3(1A) of the Act.



potential for reputational damage that may be caused to lines businesses as a result of the Commission identifying ‘false positive’ threshold breaches. A confidentiality order may also give the lines business an opportunity to prepare an initial public response in respect of the breach.

## **Prioritisation of Inquiries and Control Declarations**

- 69 The Commission intends to assess all lines businesses against the thresholds it has set. However, depending on the number of lines businesses identified as breaching the thresholds as a result of the assessment, the Commission may prioritise its post-breach inquiries. In other words, if two lines businesses were to be identified as breaching the thresholds, the Commission would consider completing an inquiry into one before commencing an inquiry into the other. The Commission might also consider carrying out an inquiry into both lines businesses in parallel, but with more resources assigned to one than the other.
- 70 In relation to its other activities, the Commission typically applies three criteria when determining what action to take in response to information indicating a prima facie breach of a statute under which the Commission has an enforcement role. The three enforcement criteria may be labelled: "conduct", "detriment" and "public interest". The Commission considers these criteria, in addition to the purpose of subpart 1 of Part 4A of the Act and s 57K(2) of the Act, are relevant to the prioritisation of post-breach inquiries and the decision to declare control under Part 4A.
- 71 Under the "conduct" criterion, the Commission may consider matters such as:
- the degree to which the breach was avoidable;
  - the degree of cooperation offered by the lines business to the Commission during its assessment and inquiry;
  - the manner in which the lines business sought to explain or justify the breach; and
  - whether the breach followed a pattern of previous breaches.
- 72 Some breaches may be in the nature of a “technicality”, or arising from events that are not fully controllable by the lines business (such as severe storms contributing to an abnormally high level of supply interruptions). In such cases, the Commission may be satisfied the breach was not material, or did not warrant further inquiry.
- 73 Under the "detriment" criterion, the Commission may consider the extent of the breach (e.g. the number of customers affected or

the size of the business, the magnitude of any price increase or of any quality deterioration), which may reflect the degree of detriment to consumers. This criterion is reflected in s 57K(2) of the Act.

- 74 The materiality or extent of a breach would not automatically or necessarily reflect the materiality or extent of any long-term detriment to consumers. Nevertheless, if a threshold were breached by a significant margin that could not readily be explained, it is likely the Commission would proceed to investigate more fully the circumstances of the breach.
- 75 Under the "public interest" criterion, the Commission may consider whether a decision not to investigate further, or not to declare control, might adversely affect the credibility of the regulatory regime or erode public confidence in it to the detriment of consumers in the long term.

### **Stage 1 Inquiry Process**

- 76 A threshold breach would set in train a process that could result, ultimately, in the lines business being subject to a declaration of control. However, not all inquiries need follow the same route. At any stage the Commission could, based on the available evidence and analysis, decide to:
- (a) publish its intention to declare control; or
  - (b) continue to inquire into whether control may be warranted; or
  - (c) resolve the inquiry by entering into an administrative settlement with the lines business; or
  - (d) cease the inquiry and take no other action.
- 77 Whenever the Commission resolves an inquiry and does not publish an intention to declare control, it will publish its reasons for doing so.

### ***Acquisition and Treatment of Information***

- 78 As part of its inquiry following a threshold breach the Commission may seek information from the lines business via orders made under s 98 of the Act. Where information obtained by the Commission is commercially sensitive, the Commission may make an order under s 100 of the Act to ensure its confidentiality.

### *Timeframe for Stage 1 Inquiry*

- 79 The timeframe for assessment and subsequent inquiry into breaches is likely to be dependent on factors that are unknown at this stage. For example, it is not clear to what extent the threshold compliance statements will be complete and provide unambiguous evidence of compliance with the thresholds. The number of lines businesses deemed to have breached will also be an important factor. The Commission may therefore prioritise and/or sequence inquiries in the case of multiple breaches.
- 80 The Commission's expectations for its assessment and inquiry timetable are set out in Table 1. This timetable assumes a small number of breaches.

**Table 1 -Indicative Timetable for Assessment and Stage 1 Inquiry**

Nature of Decision	Indicative Timeframe
Threshold assessment – are any of the thresholds breached (strictly)?	Within weeks of receiving threshold compliance statements
Stage 1 inquiry - is there prima facie evidence that consumers would not benefit from control?	At any time following identification
Alternative responses - would an administrative settlement be appropriate at this point, or is further inquiry and analysis warranted?	At any time following identification
Intention to declare - given the evidence and analysis to hand, would consumers benefit from a declaration of control?	Up to 6 months following identification

### **Stage 2 Inquiry Process**

- 81 Having formed an intention to declare control, the Commission would undertake further investigation and analysis with a more formal process to consider the views of interested parties. In principle, administrative settlements could be agreed during this stage, but the Commission may be inclined to do so only after formally considering the views of interested parties.
- 82 The stage 2 inquiry process would commence with the Commission publishing (including by notice in the *Gazette*) its intention to declare control, and releasing, at the same time or soon after, a paper setting out the Commission's conclusions based on the inquiry and analysis undertaken to date (the stage 1 inquiry).

- 83 The Commission would seek written submissions from interested parties on its draft decisions, and may hold a conference after receiving and publishing the written submissions.
- 84 After considering the views of interested parties the Commission would issue its decision, being either to declare control or not, and in either case would publish a paper setting out its reasons.
- 85 The Commission considers the stage 2 inquiry process could take about three months, following publication of its intention to declare control. This may be compared with the period between publications of the draft and final reports to the Minister, in relation to an inquiry under s 56 of the Act.

### **Administrative Settlement**

- 86 Instead of the Commission undertaking all of the components of stage 1 and 2 inquiries described above, it may be possible for the matter to be resolved by administrative settlement between the Commission and the lines business. This would involve the lines business and the Commission agreeing the terms and conditions of the settlement offer (not to be confused with a written undertaking pursuant to s 72 of the Act). In considering any administrative settlement, the Commission would take into account the purpose of subpart 1 of Part 4A.
- 87 An administrative settlement is a well established instrument of enforcement action employed by the Commission, as an alternative option to the Commission pursuing penalty action, in relation to investigations under the Act or the Fair Trading Act 1986.<sup>6</sup> Where the Commission's investigation produces evidence that the relevant Act has been breached and it considers that a better outcome may be achievable through a settlement than some other form of enforcement action, the Commission may agree to pursue an administrative settlement.
- 88 Administrative settlements could be agreed during either a stage 1 inquiry process or stage 2 inquiry process, but, in the case of the latter, the Commission may be inclined to do so only after formally considering the views of interested parties.
- 89 It should be noted that the Commission would continue with its inquiry to determine whether or not to declare control alongside any negotiations in respect of a proposed administrative settlement.

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<sup>6</sup> It should be noted that there are no specific provisions in either of these statutes for the Commission to enter into administrative settlements.

- 90 If the Commission and lines business agree an administrative settlement, the Commission will cease its inquiry and publish its reasons for not making a control declaration. Those reasons would likely refer to the terms and conditions of the administrative settlement. Any subsequent non-compliance with the settlement will potentially result in the Commission reopening its inquiry to determine whether or not to declare control.

## **ANALYTICAL FRAMEWORK**

- 91 This section sets out the analytical framework the Commission proposes to use when determining whether to declare control of lines services, following a threshold breach by a lines business.

### **The Decision to Declare Control**

- 92 When determining whether to declare control of goods or services provided by a lines business, the Commission must have regard to the purpose statement contained in s 57E of the Act. The purpose of the targeted control regime "... is to promote the efficient operation of markets ... for the long-term benefit of consumers ...."
- 93 In practice, having regard to the purpose statement, the Commission would form an intention to declare control only if it were satisfied, on the basis of available evidence and analysis, that the long-term benefits to consumers of control exceed the costs. The decision criterion for declaring control would be identical, except that the Commission would have regard to the views of interested parties (on its intention to declare control), and would consider any further evidence and analysis as part of that process.
- 94 The potential direct costs and benefits to consumers of control may be classified as:
- allocative efficiency gains or losses;
  - productive efficiency gains or losses;
  - dynamic efficiency gains or losses; and
  - transfers between consumers and suppliers.
- 95 This form of net benefit analysis is similar, in principle, to that used by the Commission in its report to the Minister of Commerce on the control of certain airfield activities.<sup>7</sup> The Commission also expects to use this framework when reporting to the Minister of Energy on the current control inquiry into gas services.
- 96 However, although the analytical framework is similar, the decision criterion applicable under Part 4A of the Act is not strictly identical to that applied under Part IV of the Act. Whereas Part IV refers to the "interests of acquirers" alone, Part 4A refers to "the long-term benefit of consumers" and outlines some specific outcomes that demonstrate how that objective is to be

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<sup>7</sup> Commerce Commission, *Airports Inquiry: Final Report*, 1 August 2002.

achieved. Accordingly, in making judgements about the costs and benefits of control, the Commission will be guided by the specific outcomes to be achieved and the reference in the purpose statement contained in s 57E of the Act to “the long-term benefit of consumers”. This may require consideration of other criteria not readily quantifiable in a net benefit analysis, such as the criteria outlined in paragraphs 70 to 75 above.

## **The Counterfactual**

- 97 The control decision criterion involves comparing the prices and/or quality, for those services that would be obtained under control with those that would be obtained in the absence of control. This is a comparison between two hypothetical scenarios – one with control and one without – and the Commission must form a view based on pragmatic considerations of each scenario.
- 98 The Commission considers the “no control” scenario (the “counterfactual”) would be a continuation of the status quo. That is, prices and quality would be set in accordance with the lines business’ current policies, taking into account relevant information from business plans and associated forecasts of demand and relevant expenditures.
- 99 Given the lines business has breached a threshold, the counterfactual would not necessarily assume future compliance with thresholds. Similarly, at this point, the Commission would not necessarily assume that efficient prices, consistent with services at a quality that reflects consumer demands, should comply with the existing price path and quality thresholds.
- 100 In the “control” scenario (the “factual”), prices would, in general, be at the level deemed efficient for a given level of service quality, but with some allowance for the fact that controlled prices may not perfectly reflect efficient prices. That is, controlled prices may be slightly higher than those observed in a (hypothetical) market with effective competition, reflecting slightly higher costs attributable to the adverse efficiency incentive effects of control. In other words, control may not achieve all of the theoretical benefits of efficient prices.
- 101 Having derived two sets of prices, and associated costs and revenues, for each of the two scenarios, the net benefits of control could be estimated, using models of supply and demand for the relevant services. These models allow the Commission to estimate net benefits to consumers in terms of allocative efficiency, productive efficiency, dynamic efficiency, and transfers to consumers.

## Potential Benefits of Control

- 102 The potential direct benefits of control relate to reducing any inefficiencies (allocative, productive and dynamic) and/or excess returns in a market. An analysis of performance in the counterfactual compared to an efficiently operating market could be used to measure these benefits. However, it cannot be assumed that all of the potential benefits would actually be realised in practice through the imposition of control. Clearly, different forms of control may be more or less effective.
- 103 A useful starting point for the analysis of the direct benefits of control remains the inefficiencies that may be present in the counterfactual. The sources of potential direct benefit include:
- Allocative inefficiency being reduced by control. Inefficient levels of service quality for the price charged could also be addressed through control. There may also be indirect or spill-over benefits to related markets from changes in prices.
  - Excess returns being reduced by control, with a transfer of wealth from suppliers to consumers (being a net benefit to consumers). The increase in consumers' wealth is matched by a reduction in suppliers' wealth (resulting in zero net public benefit).
  - Productive inefficiency being reduced by control (with resulting cost savings likely to be passed on to consumers in lower prices).
  - Dynamic inefficiency being reduced by control, because of better utilisation/allocation of resources over time, resulting in lower prices and/or improved service quality for consumers.
- 104 The sources of potential benefits are now discussed below. The models to be used to quantify the potential benefits of control over time are also introduced.

### *Allocative Efficiency Effects*

- 105 The evaluation of allocative inefficiencies within the lines business would require a calculation of the efficient price for line services over time. The total revenue and cost for line services could be used to do this. Cost would be measured by the sum of appropriate line services expenses and a normal return on investment, the latter being calculated by multiplying the appropriate asset base by an appropriate weighted average cost of capital (WACC). Revenue would be measured by multiplying prices by the relevant quantity of service provided.

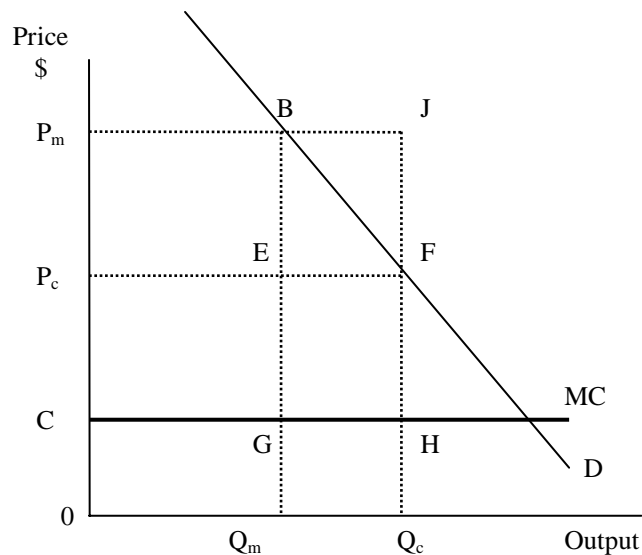


- 106 Where revenue exceeds cost, or equivalently, where the lines business' actual returns on line services (after allowing for expenses) are greater than normal returns, prices would be above the efficient level. From this, the potential benefits to consumers can be estimated, if control were to have the effect of reducing prices for line services to a level closer to the efficient level.

### *Analysing Current and Future Performance*

- 107 Assuming relatively inelastic demand for line services, large price increases would likely have limited adverse impact on demand by consumers. Deadweight losses associated with inefficient pricing would emerge in the line services market, but these would be likely to be small relative to the size of the distribution effects (i.e. the wealth transfer from consumers to suppliers through the higher prices). These effects are explained in Figure 2.
- 108 The cost structure of line services is such that fixed costs make up a large proportion of total costs, while marginal costs are very low so long as excess capacity exists. The point at which the demand curve (D) meets the price axis is not shown on the chart, but is termed point A. The demand curve is assumed to be linear for simplicity.

**Figure 2 – Measuring Allocative Inefficiency**



- 109 A lines business must cover all of its costs, including fixed and overhead costs, so the competitive average price is assumed to be set above marginal cost (MC) at P<sub>c</sub>, with output at Q<sub>c</sub> (P<sub>c</sub> includes an appropriate level of normal returns reflecting an appropriate asset base and WACC).

- 110 Inefficient pricing would be reflected in the price being raised above the competitive level to, say,  $P_m$ , with output in consequence shrinking to  $Q_m$ . This would result in:
- a loss of net surplus equal to the area BFHG. This loss is shared between consumers' surplus of BFE and the supplier's surplus of EFHG;
  - resources no longer required because of the reduction in output, represented by the area  $GHQ_cQ_m$ , which are assumed to be absorbed elsewhere in the economy, with no impact on welfare; and
  - additional surplus gained by the supplier at the expense of consumers, depicted by area  $P_cP_mBE$ , which is a wealth transfer from consumers. In efficiency terms, this transfer is assumed to have no direct effect, since one party gains at the expense of the other.
- 111 Hence, the detriment arising from the loss of allocative efficiency in the line services market is represented by the area BFHG. The supplier earns excess returns equal to the value of area  $P_cP_mBE$ .<sup>8</sup>
- 112 An alternative possibility is that the actual price could be below the competitive price. To generate that outcome using Figure 2, the 'm' subscript can now be treated as indicating the competitive position, and the 'c' subscript the actual position. In this case, consumers of line services benefit at the expense of the service provider, who earns less than normal returns. The total revenue produced by the service is represented by the area  $OP_cFQ_c$ , and the total cost is equal to  $OP_mJQ_c$ , leaving a loss to the lines business of  $P_cP_mJF$ .<sup>9</sup> The deadweight loss from the over-production by  $Q_mQ_c$  is shown by the triangular area BJF. In this scenario, as in the previous one, the deadweight loss is likely to be very small relative to the wealth transfer from, in this case, suppliers to consumers.

### *Incentives for Allocative Efficiency*

- 113 An unregulated profit-maximising business may have incentives to establish an efficient structure of prices based on Ramsey pricing principles since by charging higher prices to price-inelastic consumers, businesses are likely to maximise revenues. However, allocative efficiency might be lost to the extent that

<sup>8</sup> This analysis assumes for simplicity that the average cost curve is actually horizontal, rather than downward sloping, in the range between points E and F. In any case, given the price inelastic demand curve, the output difference between the two points is unlikely to be significant, so that the average costs at those two points are likewise not expected to differ significantly.

<sup>9</sup> This statement is subject to the same qualification as given in the previous footnote.

overall price levels were “too high”. Such efficiency losses may be small if the price elasticity of demand were low.

- 114 Control could constrain line service price levels, potentially achieving modest allocative efficiency gains, as long as the regulator gets the price path right. However, control could force price levels too low, or could allow them to remain too high, which would also involve inefficiencies compared with the theoretical benchmark.

### *Productive Efficiency Effects*

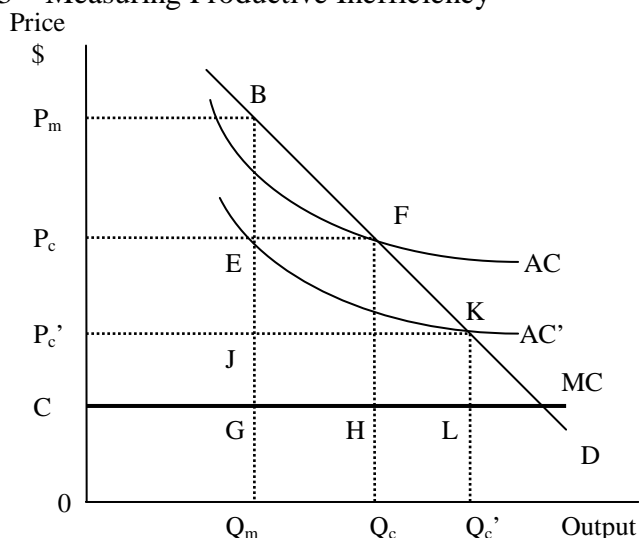
- 115 A productively efficient operation is one that meets demand at the lowest possible cost. The impact of productive inefficiencies in the line services market can be modelled by further developing Figure 2, as shown in Figure 3. The further assumptions built into the model are:

- the competitive price and output is assumed to be found, as before, at the point where the existing average cost (AC) curve intersects with the demand (D) curve; and
- all productive inefficiency is assumed to be felt in fixed costs, so that average fixed costs are inflated, and the AC curve is ‘too high’. This assumption is made to simplify the graphical illustration of the effects of productive inefficiency.<sup>10</sup> The level of the average cost curve when costs are minimised is at AC’.

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<sup>10</sup> Similar effects would be seen if it were assumed that productive inefficiency were felt in variable costs, although an additional shift of the MC curve downward would have to be shown in addition to the AC curve shift.

Figure 3 – Measuring Productive Inefficiency



- 116 The inefficiently high level of costs results in welfare effects that can be analysed at two levels. First, as a productive inefficiency, the wastage of resources is an outright loss, as their transfer to other productive employment would lead to no loss of output in line services. In terms of Figure 3, this loss is measured at a given output by the vertical distance between AC and AC', multiplied by that output.
- 117 Second, in an efficient setting the inflated costs would not be present, so that the competitive average cost curve would be AC', not AC as assumed so far. This, in turn, would mean that the efficient price and output would be  $P_c'$  and  $Q_c'$ , respectively, not  $P_c$  and  $Q_c$  as assumed in Figure 2. As a consequence, the allocative inefficiency loss and wealth transfer flowing from price at  $P_m$  being above the efficient level is larger than previously estimated. The allocative efficiency loss increases from BEF to BJK, and the transfer increases from  $P_c P_m BE$  to  $P_c' P_m BJ$ .
- 118 In summary, the model used in Figure 3 shows that, if productive inefficiency in the counterfactual were found in the costs, and if those inefficiencies were to be reduced under control through the pressure of lower prices forcing greater efficiency, this would allow a further reduction in prices beyond that described in Figure 2.
- 119 However, without a precise measure of the slope of the AC' curve, it is not possible to calculate the additional allocative efficiency effect (or those proportions that reflect consumer, and producer, surplus gains, respectively). Accordingly, a conservative approach will be taken, with only wasted resource measured as a potential benefit of control.

### *Incentives for Productive Efficiency*

- 120 An unregulated profit-maximising business generally has strong incentives for cost efficiency since cost reductions translate into increased profits. Shareholders and the board have a number of options for constraining agency costs which might otherwise lead to cost inefficiencies. Options include the use of external benchmarking of the business' performance, increasing debt and dividends to reduce free cash flows, the use of outside directors, the use of incentive schemes for managers, and requiring managers to contract out certain functions. Competition in capital markets (i.e. the threat of takeover of poorly performing firms) reinforces these incentives.
- 121 Unless profit constraints apply (as may occur with the threat of regulation) shareholders would generally not be content to forgo returns achievable through cost efficiencies even if they were already earning above normal returns.
- 122 Forms of control that constrain rates of profit may reduce incentives for cost efficiency since a regulated business can expect to retain a smaller proportion of any cost reductions it achieves. Control may also divert management from running the business, and may involve substantial direct costs. Price cap forms of control may mitigate the adverse incentive effects of rate-of-return forms of control.

### *Dynamic Efficiency Effects*

- 123 Dynamic efficiency refers to businesses having the appropriate incentives to invest, innovate, improve the quality and range of services offered, increase productivity and reduce costs over time. Unlike allocative efficiency and productive efficiency, which are concepts of static efficiency, dynamic efficiency involves an intertemporal dimension.
- 124 Control risks damaging dynamic efficiency because it introduces the possibility that a regulated business will not be able to earn an adequate return on investment because of decisions by the regulator. The incentives to innovate to reduce costs may be weakened by control, because the business gets to keep a smaller share of any benefits.

### **Potential Costs of Control**

- 125 In general, the costs of control comprise direct and indirect costs. The direct costs of control include:

- the compliance costs of the regulated entities and other market participants involved in the regulatory process (e.g. the cost of staff time, the information supply costs, the diversion of time of senior executives); and
  - the administrative costs of the regulatory body.
- 126 The indirect costs of control are related to the inefficient forms of behaviour stimulated by control, and can theoretically include:
- the distortions to behaviour caused by the potential for poor, or uncertain, regulatory decision making (in terms of allocative, productive and dynamic inefficiencies);
  - the scope given for opportunistic behaviour on the part of the regulator and the regulated firm; and
  - the potential for regulatory capture (with the regulator coming to serve particular groups' interests), and a subsequent movement away from efficient outcomes.
- 127 The costs of control will be viewed in a dynamic setting. For example, costs may increase over time if there were a succession of poor decisions, or costs could decline over time as the entities involved become more familiar with the regime. Costs will also be dependant on how enlightened, transparent and consistent are the regime and the actions of the regulator. The effectiveness of the regime is likely to be greater the more information is available to all parties.
- 128 The Commission considers that the costs of control can only be assessed when the nature of that control is made explicit. However, the Commission does not wish to prejudge the form that control might take, in the event that it was introduced.
- 129 While not wanting to predetermine the form of control in the event that it declares control, for the purposes of evaluating the costs of control in relation to the targeted control regime under subpart 1 of Part 4A of the Act, the Commission proposes to use price cap regulation. This was the form of control used to evaluate the costs of control in the Airports Control Inquiry,<sup>11</sup> and is the most frequently used form of control used overseas. Overseas experience demonstrates that this form of control can be used in either a heavy-handed or light-handed way. However, price cap regulation may be implemented to encompass standards and/or incentives for lines businesses to provide services at a quality demanded by consumers.
- 130 Direct and indirect costs are further discussed below. The Commission considers that the direct costs of control can be evaluated more generically, although reference to price cap forms

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<sup>11</sup> Supra n 7.

of control will be made as necessary. The indirect costs of control are more dependent on the form of control used and how it is applied, and price cap forms of control are evaluated more closely in this regard.

### *Direct Costs*

- 131 The direct costs of control fall on market participants (compliance costs) and the regulator (and ultimately on the public).
- 132 The direct costs of control for all parties occur largely at the time of price reviews and price-resetting. At these times, the costs may be substantial. At other times, the regulatory body largely has a monitoring role, while the regulated entity must ensure that compliance is maintained.<sup>12</sup> Users may also engage in monitoring activity. The intention of price cap regulation is that price reviews are infrequent, and at pre-set intervals, when compared to rate-of-return regulation.
- 133 Compliance costs are currently incurred as a result of the information disclosure regime applicable to lines businesses. The imposition of control would inevitably raise the level of compliance costs incurred by lines businesses. The calculation of the compliance cost increase could be based on an average employee cost multiplied by the number of employees, the likely consultant costs and any direct compliance costs.
- 134 Likewise the cost of administering any regime would be also roughly equivalent to the average employee cost multiplied by the number of employees plus direct inquiry costs.

### *Indirect Costs*

- 135 The indirect costs associated with regulation are difficult to quantify. Any approach to measuring indirect costs can be done, at best, only on an arbitrary basis.
- 136 Ideally it would be desirable to estimate indirect costs independently of the theoretical benefits that control would aim to achieve. However, there is no historical data for New Zealand that would allow such an estimation to be made.
- 137 One approach therefore is to assess indirect costs by scaling down the size of the benefits that control seeks to obtain. This was the approach used by the Commission in the Airports Control

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<sup>12</sup> Costs between reviews may be higher if the regulator has to consider application for cost pass throughs in respect of new investment.

Inquiry,<sup>13</sup> and is the approach proposed for the targeted control regime in relation to lines businesses.

- 138 Another approach is to consider the incentives for efficiency under control, and to then derive quantitative assessments consistent with the strength of those incentives (relative to the counterfactual). The Commission may also consider this approach for the targeted control regime.
- 139 However, these indirect costs may be offset to some extent by potential indirect benefits of control; for example, enhancing the credibility of the regulatory regime for lines businesses and modifying or tempering the behaviour of non-controlled lines businesses as well as controlled lines businesses. The Commission considers that any potential indirect benefits of control should be factored in when determining the overall net benefits of control.

### *Conclusion*

- 140 The Commission considers that the benefits and costs of control can be determined by comparing outcomes in the counterfactual against the likely outcomes under control. The Commission considers that the counterfactual for each lines business is likely to resemble the status quo. However, there may be specific issues that have to be considered, which may modify this general view.
- 141 The costs of control are not easy to estimate. There is uncertainty surrounding the factors to be considered in measuring them, and there is a lack of data for New Zealand, which has not had any price control for almost two decades.
- 142 The costs of control are those that are additional to the counterfactual and can be seen as being both direct and indirect in nature. Any potential indirect benefits of control should however be offset against these costs.
- 143 The Commission considers that, in the absence of any superior alternatives, the indirect costs of control can largely be measured by considering how much of the benefits of control can be realised by control.

### **Determining Efficient Prices**

- 144 There are two broad approaches the Commission could consider in determining efficient prices. The first involves benchmarking the lines business' prices against those of comparable services

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<sup>13</sup> Supra n 7.



provided by other lines businesses. The other is to construct efficient prices using theoretical models. These approaches are not mutually exclusive, and the Commission may well use them both, possibly in sequence.

### *Comparative Benchmarking*

- 145 Comparative benchmarking would not necessarily confirm the relevant prices were, or were not, efficient, but it might help the Commission judge the level of potential detriment, or determine the level of priority to assign to the inquiry.
- 146 The Commission is considering comparative benchmarking as a basis for setting thresholds from 2004. Assuming such thresholds were set in the future, the further use of benchmarking at the start of an inquiry may still be useful. For example, it may be informative to benchmark (as part of a post-breach inquiry) using a wider range of analytical techniques, and/or using a wider range of cost normalisation methodologies, and/or using a larger pool of comparator businesses (perhaps international). In other words, any comparative benchmarking at the inquiry stage would not be constrained to the specific methodology chosen to set thresholds.
- 147 After considering the results of a range of comparative benchmarking analyses, the Commission may conclude that no further inquiry is warranted, or it may give the inquiry a lower priority. Either way, the inquiry could potentially cease at this point, and the Commission would publish reasons for not declaring control.

### *Building Block Analysis*

- 148 The second approach is the building block approach used by the Commission in its report to the Minister of Commerce on the possible control of certain airfield activities.<sup>14</sup> The Commission also expects to use this approach in its current inquiry into the control of gas services.<sup>15</sup>
- 149 The building block approach involves determining:
- the efficient level of capital required by the lines business to provide lines services;
  - the efficient rate of return on capital;
  - the efficient rate of return of capital (depreciation); and
  - the efficient level of operating costs.

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<sup>14</sup> *Supra* n 7.

<sup>15</sup> See Commerce Commission, *Gas Control Inquiry: Draft Framework Paper*, 16 July 2003.

- 150 In general, these “efficient cost” building blocks are used to calculate the efficient revenue in a period, as follows:

$$R_t = A_{t-1} \times WACC_t + D_t + O_t$$

where:  $R_t$  is the efficient revenue in period  $t$   
 $A_t$  is the efficient asset value at the end of period  $t$   
 $D_t$  is the efficient depreciation in period  $t$   
 $O_t$  is the efficient operating cost (including tax)  
 $WACC$  is the weighted average cost of capital in period  $t$ .

- 151 Should a lines business' revenues exceed its efficient costs (estimated via building blocks), the business will earn excessive profits. Although this could happen in several different circumstances, a lines business that persistently earns excessive profits over time may be doing so by exploiting a position of market power to the detriment of consumers.
- 152 In the context of an inquiry, the Commission proposes to estimate efficient prices, using the building block approach, in order to identify evidence of persistent excess profits and/or excessive costs. Evidence of persistent and materially excessive profits and/or costs could lead the Commission towards an intention to declare control, if it were satisfied that control would result in net benefits to consumers.
- 153 The Commission proposes to undertake this analysis in respect of future costs and prices, based on the target business' current pricing policy and forecasts of demand, prices, costs, and revenues.

## **Asset Valuation**

- 154 The valuation of assets employed to deliver the relevant services is central to the building block approach to determining efficient prices. In general, the asset value used in the building block approach is the value of all fixed assets and net working capital. For lines businesses, this amount is generally dominated by the value of lines business system fixed assets, being only those fixed assets associated with the conveyance of electricity. The discussion below therefore focuses on the valuation of lines business system fixed assets.

### *Commission's draft decisions*

- 155 In its draft decisions relating to a proposed profit threshold, released on 23 December 2002,<sup>16</sup> the Commission proposed an opening asset valuation for lines business system fixed assets based on optimised deprival valuation (ODV) prepared in accordance with the Ministry of Economic Development's (MED's) ODV Handbook.<sup>17</sup>
- 156 The Commission's draft decision on the opening regulatory asset valuation of system fixed assets does not mean it considers ODV to be the optimal asset valuation methodology for these or other specialised assets. Nor does it mean the Commission considers the MED's current ODV Handbook to be the optimal specification of the ODV methodology.
- 157 Among the reasons supporting its draft decision, the Commission noted that:
- the use of ODV as the opening valuation for a profit threshold would be consistent with the profit monitoring mechanisms in the electricity information disclosure regime, which have applied since 1995; and
  - reconstructing opening values based on reconstructed original costs would (at best) require specific analysis of each lines business, incurring considerable cost, and necessarily involving approximations and arbitrary judgements (and, at worst, may not be possible with any reasonable degree of accuracy).
- 158 The Commission's draft decision related to a proposed profit threshold. Although the Commission has not set a profit threshold, the Commission considers its reasons for that draft decision are also relevant in the context of determining opening asset values to use in a building block analysis of efficient prices during an inquiry under Part 4A of the Act.
- 159 The Commission proposes to derive opening asset values based, as a starting point, on the ODV valuation reports prepared by lines businesses as at 31 March 2001 (30 June 2001 in the case of Transpower) and audited by the Commission in 2002 pursuant to subpart 3 of Part 4A of the Act (i.e. the opening regulatory valuation described in the Commission's 23 December 2002 draft decisions paper).<sup>18</sup>

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<sup>16</sup> Commerce Commission, *Regulation of Electricity Lines Businesses: Targeted Control Regime, Draft Decisions*, 23 December 2002.

<sup>17</sup> Ministry of Economic Development, *Handbook for Optimised Deprival Valuation of System Fixed Assets of Electricity Lines Businesses*, Fourth Edition, October 2000.

<sup>18</sup> Supra n 16.

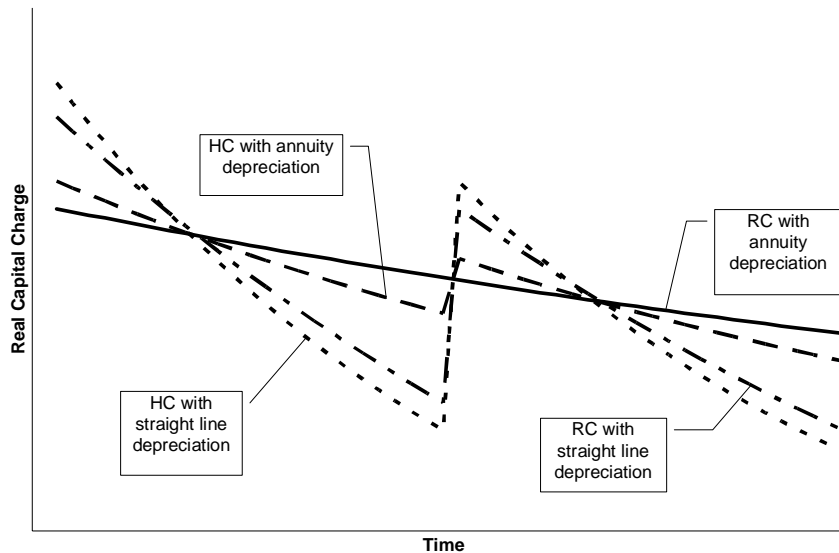
- 160 However, the Commission may also consider alternative approaches to determining opening asset valuations for system fixed assets, including:
- an “updated ODV”, using up-to-date replacement costs but the same depreciation and optimisation methodologies as provided in the MED’s ODV Handbook;
  - a “new ODV”, using up-to-date replacement costs and different optimisation and/or depreciation methodologies from those provided in the MED’s ODV Handbook.
- 161 Accordingly, the Commission is investigating the need for, and the impact of, a new ODV handbook, containing up-to-date maximum replacement costs, and possibly containing different optimisation and depreciation rules to those set out in the MED’s ODV Handbook. Additionally, the Commission will consider the benefits and costs of periodically reviewing the ODV handbook to ensure it is kept up to date.
- 162 Arguably, the Commission could consider the above alternative approaches as part of a particular inquiry. However, at this stage, the Commission considers it would be undesirable to develop, for the purposes of determining opening values for system fixed assets, an asset valuation methodology as part of an inquiry into a particular lines business.
- 163 With respect to the ongoing future valuation of lines business system fixed assets, the Commission decided in its draft decisions of 23 December 2002 that the regulatory objectives of Part 4A can be met by using either the ODV or depreciated historic cost (DHC) methodologies. According to its draft decision, the Commission intends at this stage to require each lines business to commit to either ODV or DHC, and to apply the chosen methodology consistently thereafter. In any case however, it is proposed that the opening system fixed asset valuation would be based on ODV as discussed above.
- 164 As noted in the Commission’s October 2002 discussion paper on the review of asset valuation methodologies,<sup>19</sup> the trajectory of prices for line services over time can be very dependent on the chosen depreciation profile (using the building block approach). Some depreciation policies may give rise to prices that fall and rise sharply with the capital investment undertaken, as illustrated in Figure 4. The more lumpy the investment, the more dramatic would be the associated price movements under such policies.

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<sup>19</sup> Commerce Commission, *Review of Asset Valuation Methodologies: Electricity Lines Businesses’ System Fixed Assets, Discussion Paper*, 1 October 2002.

165 Similarly, where the building block approach is used together with ODV (which may involve periodic asset revaluations), the derived trajectory of prices may also be volatile. This is because the term labelled "efficient depreciation" in paragraph 150 must reflect the "appreciation" associated with any asset revaluation.

**Figure 4 – Asset Valuation and Depreciation Policies and Price Paths**



166 The Commission does not intend to impose any particular depreciation policy on lines businesses. However, it notes that policies giving rise to sporadic jumps in price over time are more likely to result in breaches of the price path threshold, which is predicated on relatively smooth price trajectories. If the Commission were to carry out an inquiry into a lines business following a breach of the price path threshold, it would need to consider the extent to which past and current depreciation policies, and asset valuation methodologies, were contributory or explanatory factors.

## Cost of Capital

167 The Commission considered submissions received on its draft decisions<sup>20</sup> in relation to the appropriate weighted average cost of capital (WACC) for lines businesses.

168 At this stage, the Commission proposes to adopt the WACC methodology set out in a paper prepared for the Commission by Dr. Martin Lally.<sup>21</sup>

<sup>20</sup> Commerce Commission, *Regulation of Electricity Lines Businesses: Targeted Control Regime – Implementation Details, Draft Decisions*, 31 January 2003.

<sup>21</sup> Lally, M. *The Weighted Average Cost of Capital for Electricity Lines Businesses*, Wellington, 4 August 2003. This paper can be found on the Commission's website.

- 169 The WACC model proposed by the Commission is outlined in Annex 1 of these guidelines, and may be expressed as:

$$WACC = k_e(1 - L) + k_d(1 - .33)L$$

where:  $k_e$  is the cost of equity capital,

$k_d$  the current interest rate on debt capital, and

$L$  the leverage ratio.

- 170 In this model,  $k_d$  is estimated as the sum of the current risk free rate ( $R_f$ ) and a premium ( $p$ ) to reflect marketability and exposure to the possibility of default:

$$k_d = R_f + p.$$

- 171 The cost of equity is determined by a simplified version of the Brennan-Lally model of the Capital Asset Pricing Model (see Annex 1):

$$k_e = R_f(1 - T_l) + \phi\beta_e$$

where:  $T_l$  is the average tax rate on interest income (assumed to be 0.33),

$\phi$  the market risk premium, and

$\beta_e$  the beta of equity capital.

- 172 The equity beta is related to the leverage ratio  $L$ , according to:

$$\beta_e = \beta_a \left[ 1 + \frac{L}{1 - L} \right]$$

where  $\beta_a$  is the asset beta (equity beta in the absence of debt).

## WACC Parameters

- 173 When calculating WACC for the purposes of determining whether to declare control in relation to a lines business following a breach of the thresholds, the Commission intends to be guided by the WACC parameters recommended in Dr. Lally's paper.<sup>22</sup> The WACC parameters are summarised in Table 2 below.

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Dr. Lally's paper was initially publicly released on 31 January 2003, and has been updated in light of written submissions from interested parties, and oral submissions received during the Commission's conference held in March 2003.

<sup>22</sup> Ibid.

**Table 2 – Indicative WACC Model Parameters<sup>23</sup>**

Parameter	Value / Range
Market risk premium	6 - 8%
Risk free rate	Based on term commensurate with the price-resetting period
Asset Beta	0.3 - 0.5
Debt premium	1% - 1.5%
Leverage	40%, or actual leverage

<sup>23</sup> Note that these parameter ranges differ slightly from those tabulated in the Commission's draft decisions dated 31 January 2003 (supra n 20), which were proposed in the context of a five-year profit threshold.

## **INQUIRY SCENARIOS**

- 174 This section describes a number of hypothetical scenarios in which a lines business breaches one or more thresholds. The purpose is to illustrate how the Commission would likely proceed to investigate or decide not to investigate further. This material is provided to reduce uncertainty about the Commission's response to certain types of breaches, but it does not limit in any way the Commission's discretion during an inquiry.

### **Threshold Breach Scenarios**

#### *Price Path Threshold*

- 175 In this scenario, a lines business is found to breach the price path threshold, and the breach is not due to errors in forecasting pass-through costs, or other reasons that might qualify as "technicalities".
- 176 At this point the Commission would likely turn its attention to any reason offered by the lines business for having raised its prices.
- 177 In support of such reasons, the lines business might provide evidence in the form of its business plans and financial projections, indicating some or all of the following:
- the level and timing of planned operating and capital expenditures;
  - justification for planned expenditures (whether in terms of consumers' preferences for quality, or otherwise), as set out in asset management plans or similar;
  - the level and timing of expected interest repayments;
  - the level and timing of planned payments to providers of equity; and
  - the level or value of equity capital invested in the business.
- 178 The lines business might also offer relevant contextual information in the form of its earnings history, and price and efficiency performance compared with other businesses in New Zealand or elsewhere.
- 179 Although the Commission would consider the relevance of any contextual information, such as relative performance, it is likely the Commission's focus will be on business-specific financial



information. In this regard, the Commission is likely to form a preliminary view on what it considers to be an efficient level of operating and capital costs, using the framework set out in this paper.

### *Quality Threshold - Reliability Criterion*

- 180 In this scenario the lines business records a SAIDI or SAIFI result higher than the previous five-year average, thereby breaching the reliability criterion. The lines business might offer some explanation or background information, suggesting, for example, the breach was attributable to:
- normal variation in the reliability performance measure associated with events such as tree contact due to wind and rain, car accidents, wildlife, and third party human error, etc;
  - one or a small number of rare but high-impact events, such as a very severe storm, or a major equipment failure;
  - increased frequency and/or duration of planned outages associated with major development or refurbishment of the network (perhaps due to significant load growth).
- 181 Regarding the "normal variation" explanation, the Commission might attempt to assess the statistical likelihood of the breach, using a classical hypothesis test, based on some assumptions about the underlying distribution of the reliability statistics. For example, the Commission may assume, for the sake of this analysis, that reliability is stationary over time, and that each year's result is independent of previous years' results. The Commission might also look at the distribution of results for other lines businesses, to estimate the underlying variance in the reliability statistics. The Commission would likely conclude the breach was not due to normal variation if the hypothesis was rejected with a type I probability of 10% or less.
- 182 Regarding the extreme event explanation, the Commission would again look at the underlying distribution of reliability statistics. In this case the Commission might focus on the contribution provided by the alleged extreme event, in comparison to the contributions from other (more normal) events. The Commission would likely accept this explanation if there were evidence that the event was indeed rare and that it contributed a significant portion of the total interruption numbers or duration (e.g. more than 20% of the total SAIDI minutes recorded for that year, or more than 5% of the total SAIDI minutes recorded over the last five years).

- 183 Having concluded that the breach was not consistent with normal variation and not consistent with some rare but high-impact event, the Commission might then look to review any associated changes in operating practice or operating expenditure (e.g. variances between actual and budgeted costs or variance from historical patterns in costs relevant to reliability).
- 184 The Commission recognises that improving reliability to resolve the issue causing the breach could require additional costs to be incurred, and therefore could require higher prices. Should the associated price increase be such that the new price would now breach the price path threshold, then the Commission would consider whether to make a declaration of control using the framework set out earlier in these guidelines.
- 185 If the Commission were to find evidence that the breach was symptomatic of a general deterioration in reliability, which appeared to be a consequence of a deliberate cost reduction policy, such as through sustained underinvestment, then the Commission would consider whether to make a declaration of control, using the same framework.

#### *Quality Threshold – Consumer Engagement Criterion*

- 186 In this scenario a lines business is deemed to have breached the consumer engagement criterion. That means the lines business has not been able to satisfy the Commission it has adequate business processes in place to consult with consumers to identify or respond to their preferences for service quality.
- 187 This could be an area where an administrative settlement might effectively be able to resolve the issue in a manner consistent with the purpose of subpart 1 of Part 4A of the Act.
- 188 The Commission also recognises that improving processes, like improving reliability, may come at a higher cost. If such is the case, then the Commission would consider whether price increases could be warranted, in a similar manner to the case of improved reliability discussed above.

#### **Merger or Acquisition Scenarios**

- 189 Given the time required to complete an inquiry following a threshold breach, a number of events could occur during the inquiry that could materially affect its outcome. For example, the lines business might voluntarily change its pricing policies, or otherwise modify its conduct in a way that would materially affect the assessment of the net benefits of control. The sustainability of

such a voluntary action could possibly be achieved through an administrative settlement.

- 190 Another type of event requiring attention would be a business merger or acquisition involving the lines business that is subject to an inquiry. There are several scenarios to consider here.
- 191 The first scenario is that the merger or acquisition occurs prior to the threshold assessment date. This would not affect the threshold assessment except to the extent the new merged entity does not have sufficient information with which to demonstrate compliance with the thresholds. At this stage the Commission considers it would, if possible, use its statutory information gathering powers to require the missing information from the relevant party or parties.
- 192 A second possible scenario is that the merger or acquisition occurs after an assessment, in which one of the parties was identified to have breached a threshold. In this case the Commission may look for evidence that the merged entity would not have breached the same threshold (had the merger or acquisition occurred before the assessment date). If there were evidence that the merged entity would have complied with the threshold, the Commission would likely cease the inquiry.
- 193 A third possibility is that the new entity would have breached the threshold (had it applied), but the Commission considers there would be no net benefit to consumers from declaring control of the new entity (contrary perhaps to the case for the original business). In this case the Commission would not declare control in respect of services provided by the merged entity.
- 194 Finally, a lines business that is already subject to a declaration of control could be involved in a merger or acquisition. In this case the Commission might need to consider whether to revoke the control authorisation or release the business from its undertaking (whichever applies) in light of the event. This scenario provides a specific example of the more general considerations of when and how an authorisation should be reviewed, and when and how a declaration of control should be reviewed and potentially revoked. These questions are not discussed further in the draft guidelines, but will be addressed by the Commission in due course.

## ANNEX 1 WACC MODEL

This annex summarises the weighted average cost of capital (WACC) model proposed by the Commission, which is the same as that applied by the Commission in its recent Airport Control Inquiry.<sup>24</sup>

Businesses are typically funded by a combination of debt and equity. WACC is the weighted average cost of each new dollar of capital raised at the margin. It is the cost of debt and the cost of equity weighed by the relative proportions of debt and equity, as expressed by the following formula:

$$WACC = W_d R_d (1 - t_c) + W_e R_e$$

where:  $W_d$  = proportion (weight) of debt funding

$R_d$  = cost of debt (before tax deduction)

$t_c$  = statutory corporate tax rate

$W_e$  = proportion (weight) of equity funding

$R_e$  = cost of equity.

Determination of the elements of WACC is subjective and involves uncertainty. Careful and detailed examination is required to ensure that assumptions made are both reasonable and defensible. If WACC were set too high, lines businesses would be able to achieve excess returns, while if it were set too low, investment could be discouraged.

### *Cost of Debt*

The relevant cost of debt is the interest rate required by investors to earn their desired return on debt. In specific instances it can be observed directly as the yield on debt issued by the company (through a bond issue with specified return), but is typically determined by way of a margin over and above the risk free rate. This rate is assumed to reflect the cost for which a firm of similar credit risk with an efficient capital structure could be expected to obtain financing. Computed in this way, the cost of debt ( $R_d$ ) is expressed by the following formula:

$$R_d = R_f + \text{Debt Premium}$$

where:  $R_f$  = risk free rate.

The debt premium determines the premium over and above the risk free rate that is required by investors for holding the debt. It reflects both marketability and the possibility of default. It represents the incremental cost of raising funding through debt.

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<sup>24</sup> Supra n 9.

The key consideration in determining the debt margin is the cost at which a firm of similar credit risk with an efficient capital structure could be expected to obtain financing.

### *Cost of Equity*

The cost of equity is the expected rate of return just compensating for risk. While the cost of debt can often be observed directly as the yield on debt issued by the company, the cost of equity cannot, and must be estimated. A number of methods are available to estimate the cost of equity, however, the Capital Asset Pricing Model (CAPM) is the most popular, due to both intuitive appeal and relative ease of application.

The CAPM develops a relationship between the non-diversifiable risk of an asset (measured by its beta) and the opportunity cost of investing in that asset.<sup>25</sup> The essential principle underlying CAPM is that risk-averse investors will not hold risky assets unless they are adequately compensated for the non-diversifiable risks that they bear. Therefore, the greater an asset's non-diversifiable risk, the greater the expected return. The CAPM links the risk free rate, the asset's non-diversifiable risk, and the expected return on the market portfolio. Given the non-diversifiable risk of an asset, it provides the premium that investors can expect in terms of the expected rate of return (over and above the risk-free rate) – it determines non-diversifiable risk adjusted expected return on equity.<sup>26</sup>

The standard CAPM model for return on equity ( $R_e$ ) was developed by Sharpe and Lintner and is expressed by the following formula:<sup>27</sup>

$$R_e = R_f + \beta_e MRP$$

Where:  $\beta_e$  = equity beta

$$\text{Market Risk Premium (MRP)} = R_m - R_f$$

$R_m$  = expected rate of return on the market portfolio.

### *Taxation*

In developing costs for the different capital components, tax issues arise. The standard CAPM does not take personal taxation incurred by investors explicitly into account and, therefore, does not adjust for the effect of any imputation credits attaching to dividends. Building on the

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<sup>25</sup> Ramesh, R. *Financial Management: Concepts and Applications*, Maxwell McMillan Publishing, Second Edition, 1992, p 327.

<sup>26</sup> Ibid pp 330-331.

<sup>27</sup> Sharpe, W F. 'Capital Asset Prices: A Theory of Market Equilibrium Under Conditions of Risk', *Journal of Finance*, Vol. 19, 1964, pp 425-442. Lintner, J. 'The Valuation of Risky Assets and the Selection of Investments in Sock Portfolios and Capital Budgets', *Review of Economics and Statistics*, Vol. 47, 1965, pp 13-37.

work of Brennan, Lally has developed a version of the CAPM that explicitly takes account of personal tax rates that differ across both investors and sources of income, and which is applicable to the New Zealand tax regime. However, the resulting cost of equity is still an expected rate of return before personal taxes.<sup>28</sup>

The Brennan-Lally model can be expressed as follows:

$$R_e = t_{div} Div + R_f(1-t_{int}) + \beta_e TAMRP$$

where:  $t_{div}$  = excess of personal tax on dividends over capital gains tax

$Div$  = dividend yield of the company

$t_{int}$  = excess of personal tax on interest over capital gains tax

Tax Adjusted MRP ( $TAMRP$ ) =  $R_m - R_f(1 - t_{int}) - t_{divm}$   
 $Divm$

$t_{divm}$  = weighted average of  $t_{div}$  over the individual companies in the market portfolio

$Divm$  = dividend yield of market portfolio.

Assuming fully imputed dividends (and that investors have the ability to fully utilise them), the average investor faces a 33% marginal tax rate on interest, and capital gains are not taxed. It follows that  $t_{div}$  and  $t_{divm}$  are zero and  $t_{int}$  is 33%. These assumptions result in a simplified version of the Brennan-Lally model expressed as follows:

$$R_e = R_f(1 - t_{int}) + \beta_e TAMRP$$

where:  $TAMRP = R_m - R_f(1 - 0.33)$ .

While there has recently been a change to the top marginal tax rate, the assumption that the average investor faces a 33% marginal tax rate remains valid.

<sup>28</sup> Brennan, M. 'Taxes, Market Valuation and Corporate Finance Policy', *National Tax Journal* 23, 1970, pp 417-427. Lally, M. 'The CAPM under Dividend Imputation', *Pacific Accounting Review*, Vol. 4, 1992, pp 31-44.