

25 May 2007

Manager, MCE Secretariat
Department of Industry, Tourism and Resources
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Dear Sir/Madam

Draft National Electricity Rules

We have provided our comments on the draft National Electricity Rules (**NER**) under cover of a separate letter.

In addition to ETSA Utilities' specific comments on the draft NER, ETSA Utilities is concerned with the arrangements for ensuring the provisions of the Electricity Pricing Order (**EPO**) are maintained and incorporated in the pricing principles to be administered by the AER.

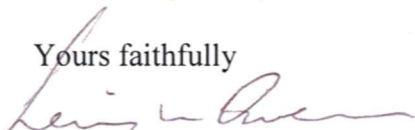
The EPO was issued on 11 October 1999 pursuant to section 35B of the *Electricity Act 1996* (SA) (the **Act**). Clause 7.3 of the EPO sets mandatory parameters for the setting of prices by the Regulator for regulatory periods after 2010. Section 35B(7) of the Act provides that the EPO cannot be varied (except as contemplated by the order) or revoked.

At the time the EPO was issued, differences between jurisdictions in relation to distribution network pricing were specifically acknowledged and approved, subject to compliance with the overall economic pricing principles in the then form of the NER. The EPO was specifically approved under that process, including by the ACCC. The pricing principles in the EPO were designed to provide certainty as to future distribution network prices both for the benefit of consumers and the distributors. To ensure the objectives of the EPO are maintained, clause 7.3 of the EPO must be incorporated into the new pricing principles.

We have raised our concern with the South Australian Government and we will be continuing our discussions about the incorporation of the EPO as part of the provisions applicable to South Australia.

We would be grateful if you can provide an indication as to how it is proposed to incorporate the existing arrangements in South Australia into the NER.

Yours faithfully



Lewis Owens
CHIEF EXECUTIVE OFFICER

cc Mr Garry Goddard, Department of Transport, Energy and Infrastructure.

March 2007

Bias in Indexed CGS Yields as a Proxy for the CAPM Risk Free Rate

A report for the ENA

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Summary of key conclusions

Bias in Indexed CGS relative to Nominal CGS

RBA analysis suggests that indexed CGS yields are depressed by supply and demand conditions peculiar to that bond - causing a relative bias in indexed CGS yields.

Based on bond market data, this bias first began appearing in late 2004 and currently is around 20bp.

To account for this, Australian regulators need to add 20bp to the real the cost of equity and debt (ie, to the cost that would be calculated using standard regulatory practice).

Regulatory precedent

UK regulatory precedent is of particular relevance for Australia given the similar reductions in yield on indexed government bonds and central bank commentary.

UK regulatory precedent unanimously involves adjustments to the Government indexed bond rate to set the CAPM real risk free rate. These adjustments are between 30bp and 50bp with an average of around 50bp.

Regulatory precedent in the US is similar. US regulators do not reflect historically low government bond yields in historically low equity returns.

Prior ESCV precedent also supports making an adjustment to the observed yield on government bonds.

Academic literature

It is well entrenched in the finance literature that government bonds yields are not perfect proxies for the CAPM risk free rate.

The literature identifies that government bonds have unique characteristics above and beyond their risk free characteristics. The market places a positive value on these characteristics leading to a 'uniqueness premium' - causing government bonds to be downward biased estimates of the CAPM risk free rate.

The empirical evidence strongly suggests that the uniqueness premium is inversely related to the supply of Government bonds.

Consistent with this, the empirical evidence also suggests that equity returns are not positively correlated with movements in government bond rates. (The other explanation for this is that the MRP is inversely related to government bond yields. Either way, it would be inconsistent with this literature to fully reflect historically low government bond yields in the CAPM risk free rate.)

Historically High Levels of Bias in Nominal CGS as a Proxy for the CAPM risk free rate

The 20bp bias estimate described above is *relative* to nominal CGS yields.

RBA commentary suggests that nominal CGS yields are also biased downwards - implying the absolute bias in indexed CGS is greater than 20bp.

Based on RBA data, the current yield on nominal CGS is downward biased as a proxy for the CAPM risk free rate by around 42-44bp. This is 27-29bp more biased than was the case in June 2003 using the same RBA data.

Further analysis is required to establish the robustness of the RBA data source.

The existence of an absolute bias has no effect on regulators' methodology for estimating the cost of debt - as this is benchmarked from nominal corporate debt. It would have an impact on the cost of equity assuming no change in the market risk premium.

1. Introduction and Summary

This report examines the extent to which the yield on indexed Commonwealth Government Securities (CGS) is a biased proxy of the ‘risk free’¹ rate as used in the capital asset pricing model (CAPM). We also examine the extent to which this bias has increased in recent years both: a) in absolute terms affecting both indexed and nominal CGS; and b) in the relative bias in indexed CGS versus nominal CGS yields. It is important to be clear that discussion of ‘bias’ in this report is a discussion of bias in CGS yields *as a proxy for the CAPM risk free rate*. The yield on CGS is, of course, an unbiased estimate of what investors’ are willing to pay for CGS; however, it does not follow that it is equal to the rate on zero beta equity which is the measure of the risk free rate in the CAPM.

The report has the following structure:

- § Section 2 quantifies the RBA’s analysis suggesting a lack of supply of indexed CGS has biased these yields down *relative* to the yields on nominal CGS. We find that this bias is currently around 20bp.
- § Section 3 examines UK regulators’ response to a similar analysis by the UK central bank. We find that UK regulatory precedent is to add between 30bp and 100bp to the indexed government bond rate. Section 3 also examines the relevant US regulatory precedent.
- § Section 4 summarises the academic finance literature explaining why government bond yields (both indexed and nominal) are likely to underestimate the true CAPM risk free rate (and why the supply of government bonds is likely to be a major determinant of this bias).
- § Section 5 attempts to quantify the separate RBA analysis that suggests there has been an increasing bias in nominal CGS yields (itself consistent with the Bank of England analysis in the UK)
- § Section 6 provides recommendations and conclusions.

¹ The CAPM expresses the required return on a particular share as the sum of the required return on a share with zero beta risk plus a risk-premium that varies with the risk of the particular share relative to the average share. That measure of relative risk is the share’s beta. The required return on a share with zero beta risk (i.e., with no relation between its future payoff and the return on the market or average share) is referred to as the risk-free rate in the CAPM. The use of this terminology does not imply that the expected return on zero beta shares is well measured by the yield on CGS securities. CGS securities may have zero beta risk, but they also have other characteristics unique to their government bond status.

2. Relative Bias in Indexed CGS Bonds

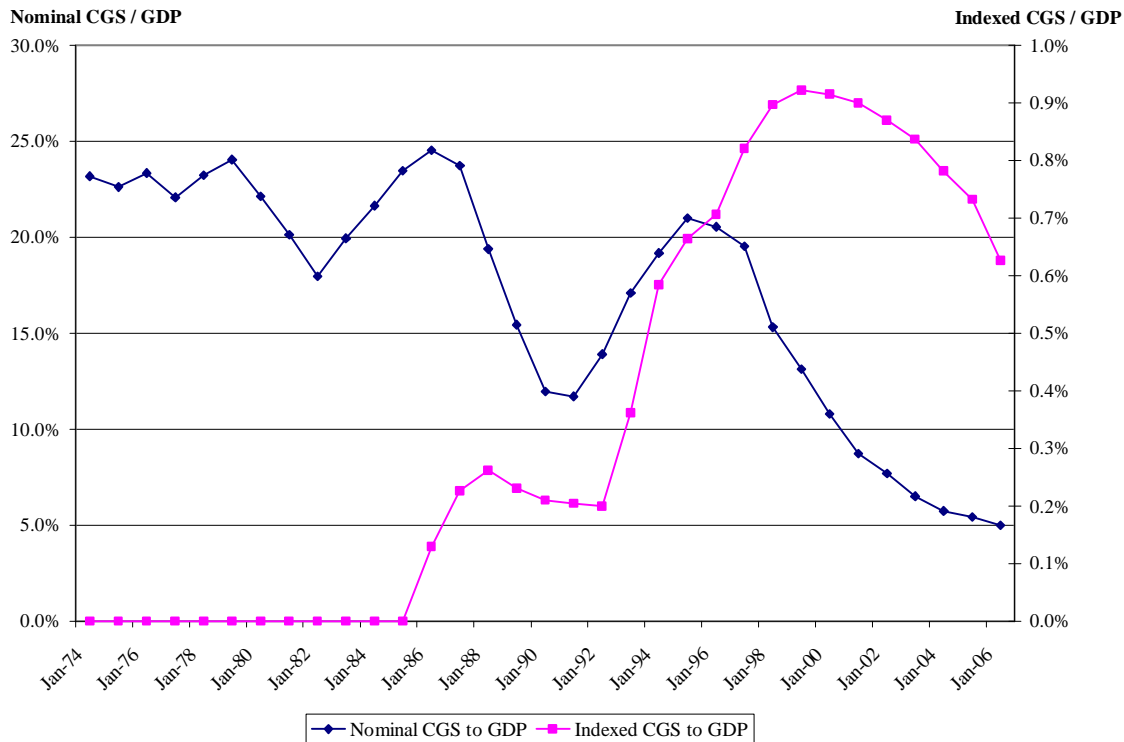
This section of our report focuses on measuring the bias in indexed CGS yields *relative to* nominal CGS yields. Any *relative* bias in indexed CGS yields provides a minimum estimate of the *absolute* bias in using these yields as a proxy for the risk free rate in the CAPM. If both nominal and indexed CGS yields are biased, as is likely given the dramatic recent reduction in supply of all CGS, then absolute bias will be equal to the relative bias in indexed CGS yields plus the absolute bias in nominal CGS yields:

Absolute bias in indexed yields = Relative bias in indexed yields + bias in nominal yields

2.1. Reduced supply of indexed CGS

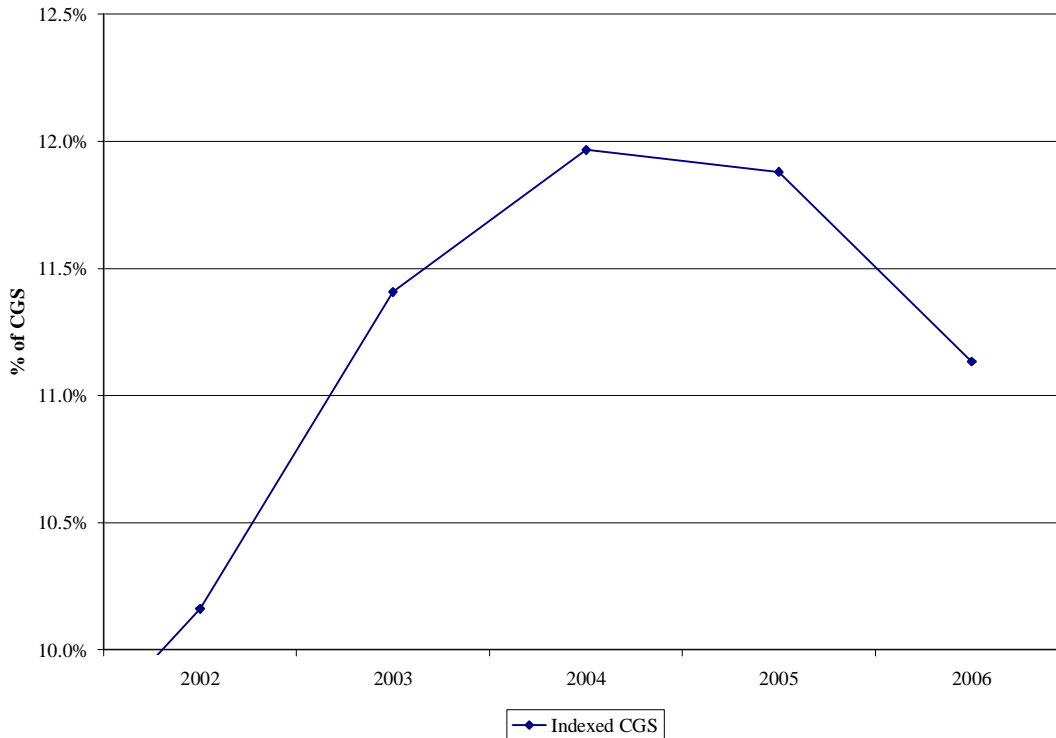
The extent to which there is any relative difference in bias between nominal and indexed CGS will depend on the interplay in demand and supply for these bonds. Both bonds have dramatically fallen in supply (measured as face value as a percentage of GDP). The left-hand scale measures the supply of Nominal Commonwealth Government Securities relative to GDP and the right-hand scale measures the supply of Indexed Commonwealth Government Securities relative to GDP.

Figure 2.1
Indexed and Nominal CGS as a % of GDP



The above graph shows that since 2000 both the value of nominal and indexed bonds have been falling as a proportion of GDP. The current value of CGS (both indexed and nominal) is at the historically low level of 5.6%. (Note that the value of nominal CGS to GDP is measured on the left hand vertical axis and the value of indexed CGS to GDP is measured on the right hand vertical axis.) The value of indexed CGS on issue grew rapidly from their introduction in 1986 and reached a peak as a percentage of GDP in 1999. Since then this value has fallen equally precipitously and are now 68% of their 1999 peak. Importantly, this reduction has been most accelerated since 2004 with indexed CGS falling 20% as a percentage of GDP in two years. This has also been associated with a reduction in supply of indexed CGS as a percentage of total CGS on issue.

Figure 2.2
Indexed CGS as a % of Total CGS



2.2. Increased demand for indexed CGS

The dramatic reduction in indexed CGS in 2004 (and the resulting reduction in indexed CGS relative to nominal CGS) occurred at the same time when our data suggests that indexed CGS yields became *relatively* more downward biased than nominal CGS yields (see below). It also came at a time when, according to the RBA, institutional demand for indexed CGS increased as super funds and other institutions with inflation-indexed long-dated liabilities attempted to match those liabilities with inflation indexed CGS.

“One development of particular note over the past year or so has been the fall in yields on inflation-indexed bonds. Yields on 10-year indexed bonds fell by 85 basis points from the beginning of 2005 to mid January 2006. This took them below 2 per cent, by far the lowest level since their introduction in the mid 80s and, as a result, the spread between 10-year nominal and real yields widened to 3.2 per cent, compared with around 2.7 per cent in the first half of 2005 (Graph 49). While this spread is usually seen as a measure of expected inflation, its recent increase is at odds with other measures of inflation expectations and reflected special factors, unrelated to inflationary pressures. As noted in the earlier chapter on international markets, regulatory changes abroad have encouraged life insurers and superannuation funds to acquire long-dated bonds as an asset class that better matches their liabilities. Other investors, such as hedge funds, are said to have recognised that this process is likely to continue for some time and

have added to demand. These developments, against a background of a small, tightly-held domestic supply of indexed bonds, have seen their prices rise (yields fall) significantly. As a consequence, and despite having fallen a little in February, the current spread between yields on nominal and indexed government bonds overstates the market's expectations of inflation.”²

This is not the only time the RBA has made similar comments. In the November 2006 Statement on Monetary policy the RBA said:

“The implied medium-term inflation expectations of financial market participants, as measured by the difference between nominal and indexed bond yields were around 3¼ per cent in early November. However, as noted in previous Statements, this measure can be affected by factors unrelated to expectations about inflation, such as changes in institutional demand for indexed securities.” (Page 59)

The text from the May 2006 RBA Statement on Monetary Policy states:

“The implied medium-term inflationary expectations of financial market participants have traditionally been calculated as the difference between nominal and indexed bond yields. This measure has continued to edge higher since the February Statement, to be around 3.2 per cent in early May. However, this rise in part reflects developments in the indexed bond market that are unrelated to inflation expectations. In particular, the limited supply of indexed securities and increasing institutional demand for these securities has pushed down their yields relative to those on conventional bonds. (Page 58)

In the February 2007 Statement Monetary Policy the RBA states:

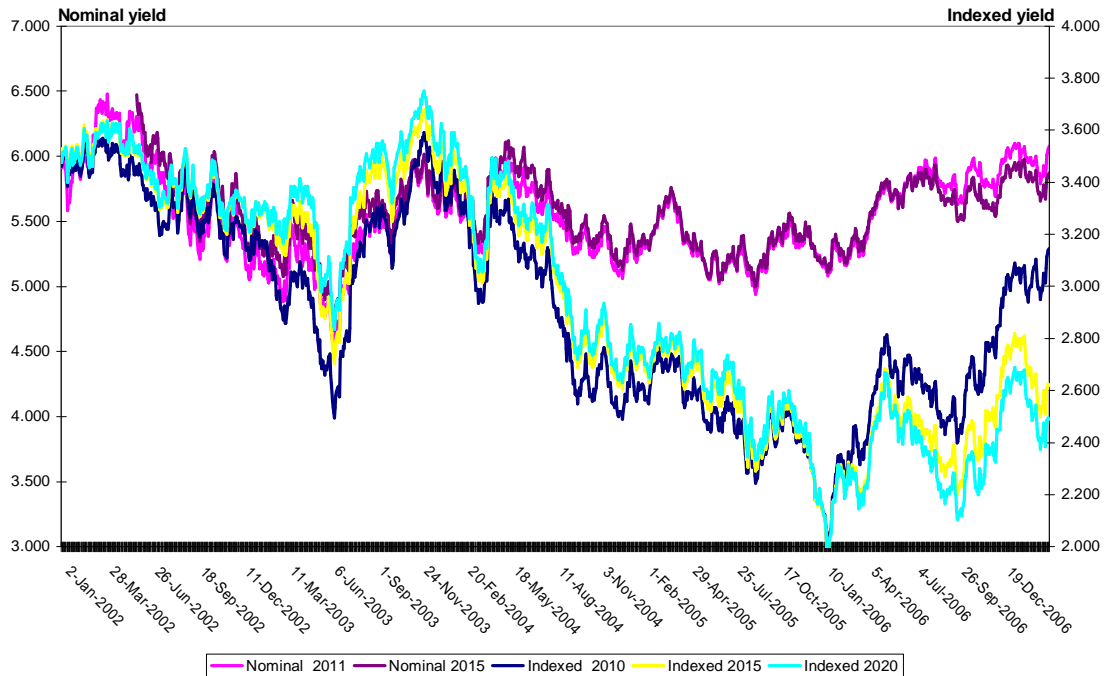
“The implied medium-term inflation expectations of financial market participants, as measured by the difference between nominal and indexed bond yields, were a little over 3 per cent in early February. Given the institutional factors noted in previous Statements, this figure may overstate actual inflation expectations.” (Page 54)

2.3. Alternative explanations difficult to sustain

The changes the RBA is describing are illustrated in the graph below. Yields on nominal bonds are shown on the left-hand-axis. The right-hand-axis related to yields on indexed bonds.

² RBA February 2006 Statement on Monetary policy (pages 48 to 49).

Figure 2.3
Yield on Nominal and Indexed CGS



The above demonstrates that from 2002 to late 2004 nominal and indexed bond yields followed a similar trend (measured on different vertical axes). From late 2004 onwards, nominal CGS yields (with 2011 and 2015 maturities)³ continued to move together, however, there was a precipitous decline in indexed CGS yields. Moreover, the decline in yields on indexed CGS (with 2010, 2015 and 2020 maturities) has been most pronounced for longest dated indexed bonds. Since February 2007 the yield on longer dated indexed CGS has also started to diverge from the yield on shorter dated indexed CGS.

The above data and analysis is suggestive of a bias in indexed CGS yields *relative* to nominal CGS yields as a proxy for the real/nominal risk free rate. However, it is not determinative as other explanations may explain this result. The most obvious other explanation is that in late 2004:

1. Real, as opposed to nominal, CGS yields fell dramatically (as per the above graph); and
2. Inflation expectations plus any inflation risk premium increased by the almost exactly offsetting amount required to keep nominal CGS bond yields relatively constant. (Note that if there is no relative bias then nominal yields are simply equal to real yields plus expected inflation plus any inflation risk premium).

³ No 2010 maturity nominal bonds are available.

Both events 1 and 2 must have occurred simultaneously in order to explain the data described in the above graph. This contrasts with the simpler explanation, espoused by the RBA, that falling supply and rising demand for indexed CGS depressed their yields relative to nominal CGS yields.

Moreover, in order to explain the data in the above graph in terms of events 1 and 2 above one would have to argue that:

- § The long term real CAPM risk free rate has fallen by more than the short term real risk free rate (yields on 2020 indexed bonds are below 2015 which are below 2010 indexed yields);
- § Long term inflation expectations exceed short term inflation expectations (nominal yields are only fractionally different by maturity date but real yields are materially different).

The second dot point involves accepting a highly unusual structure to inflation expectations. The implied inflation forecasts, assuming no relative bias or inflation risk premium, for each of the three periods 2007 to 2010, 2010 to 2015 and 2015 to 2020 are set out in the table below.⁴

Table 2.1
Implied Inflation Forecasts Assuming No Relative Bias
21 March 2007

Period	Implied inflation forecast
21 March 2007 to August 2010	2.90%
August 2010 to August 2015	3.35%
August 2015 to August 2020	3.27%

Source: CGS yields from the RBA website and NERA analysis.

The RBA, in the above February 2006 quote, suggests that it believes indexed CGS are relatively downward biased compared to nominal CGS. As a result, the RBA suggested that implied inflation forecasts were overstated. At that time, all indexed CGS were yielding approximately the same amount relative to the comparable nominal CGS security. Since

⁴ The calculation of implied expected inflation from 21 March to August 2010 is based on simple application of the Fisher equation comparing yields on indexed and nominal CGS maturing on 15 August 2010. The calculation of expected inflation between August 2010 and 2015 is performed by: first, estimating the implied annual expected inflation between 21 March 2007 and August 2015 using the Fisher equation; second, using this to calculate the total percentage change in CPI from 21 March 2007; third, removing the portion of this that is due to implied inflation to August 2010; fourth, calculating an average annual rate of inflation over 5 years that is consistent with this. The same sort of analysis is then used to calculate implied inflation between August 2015 and August 2020.

then, yields on long dated indexed CGS have fallen below those on shorter dated CGS without a commensurate relative reduction in long dated nominal CGS yields. The net result is that, if there has been no change in relative bias or inflation risk premium, implied expected inflation in the distant future has increased relative to the near future. One important implication of this is that, in order to defend the position that the differences in yields purely reflect differences in inflation expectations, one must argue that investors believe average inflation from 2010 to 2020 will be well above the RBA's range of 2 to 3%. Moreover, investors must hold this view despite also believing that over the next 3 ½ years inflation will only be 2.90%.

Such predictions are inconsistent with professional economists' current forecasts of future inflation. Credible economic forecasters universally predict inflation will fall below the RBA's target range from 2008/09 onwards and will continue within (or below) that range over the foreseeable future.

Table 2.2
Inflation Forecasts

Forecaster	07/08	08/09	09/10	10/11	11/12	12/13	13/14
Econtech	3.1	2.9	2.5	1.8	1.1	1.5	3
Access Economics	2.1	2.8	2.2	2.4			
ANZ	2.4	2.6					
Westpac	2.6	2.5	2.5	2.5			
Comm Bank	2.3	2.6					
RBA	2.5-3	2.5-3					
Treasury (Budget)	2.5	2.5					
OECD	2.7	2.3					

Sources: See references at appendix A

In our view, the above analysis creates an extremely strong '*prima facie*' case that the yield on long term indexed CGS are biased downward relative to nominal CGS. However, it is a more difficult matter to estimate the extent of this relative bias. This is the subject of the next sections.

2.4. Estimating the relative bias in indexed vs nominal CGS yields

For corporations with both index linked and nominal bonds we examine the relative movement in the spreads to similar maturity CGS bonds. If both nominal and indexed CGS are equally biased (or are both unbiased) then the spread to corporate bonds issued by an identical corporation and with an identical maturity/duration should also be identical. That

is, both nominal and indexed corporate bonds should have the same spread to nominal and indexed CGS.

However, if index linked CGS are more biased than nominal CGS (ie, the market will pay a higher premium for indexed CGS) then this will depress the yield on indexed bonds more than nominal bonds - causing the observed corporate spread to these bonds to rise above the observed spread to nominal bonds.⁵

If this empirical test is to support the RBA's analysis then it will show two things:

1. That current spreads of indexed corporate securities to indexed CGS are greater than spreads of nominal corporate securities to nominal CGS. This finding will support the RBA's view that indexed CGS yields are currently relatively more downward biased than nominal CGS yields; and
2. That this phenomenon will have developed in late 2004 and 2005 when falls in indexed CGS yields began outstripping falls in nominal CGS yields (as observed by the RBA above).

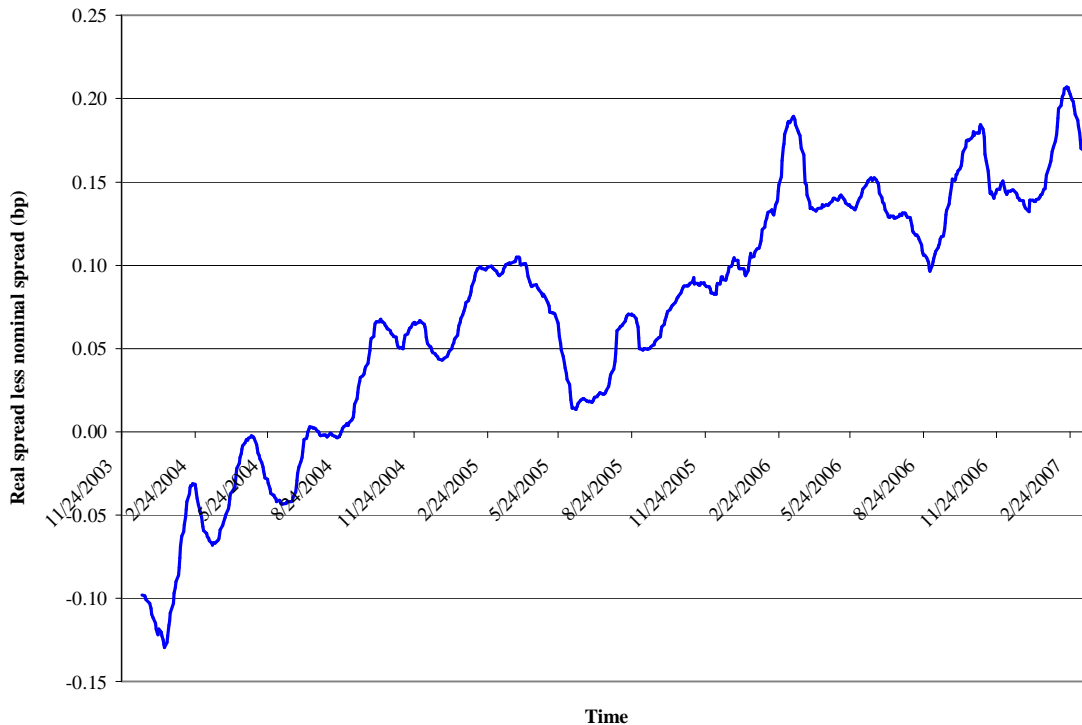
Put simply, if falling supply and increased demand creates a relatively stronger bias for indexed than nominal CGS, then corporate spreads to indexed CGS should rise relative to corporate spreads to nominal CGS.

This is precisely what we do observe when we examine spreads on indexed and nominal bonds issued by both Electranet and Envestra. As demonstrated in the following graphs, prior to late 2004 spreads on indexed corporate bonds were around the same (or less) than spreads on corporate nominal bonds. However, in late 2004 spreads on indexed corporate bonds began rising relative to spreads to nominal corporate bonds and indexed bond spreads have since remained 15 to 20bp higher than nominal bonds spreads.

The corporate bond yield data used below was sourced from both the ABN AMRO and Macquarie data set available on Bloomberg. The data reported represents all the available data from these time series (noting that ABN AMRO has a longer time series). The yield data for CGS bonds was sourced from the RBA website. All figures present a 20 day moving average. The data used ends at 21 March 2007 and final results on that date are also presented at the end of this section.

⁵ In reaching this conclusion we assume that corporate indexed bonds are not affected by a reduced supply/increased demand for indexed CGS. That is, we assume that there is no 'spill over' of demand from indexed CGS to indexed corporate bonds. This is a conservative assumption because it is likely that some excess demand for indexed CGS will spill-over into highly rated indexed corporate bonds

Figure 2.4
Spread to CGS of Electranet's Indexed 2010 versus Nominal 2009
 Data source: ABN AMRO

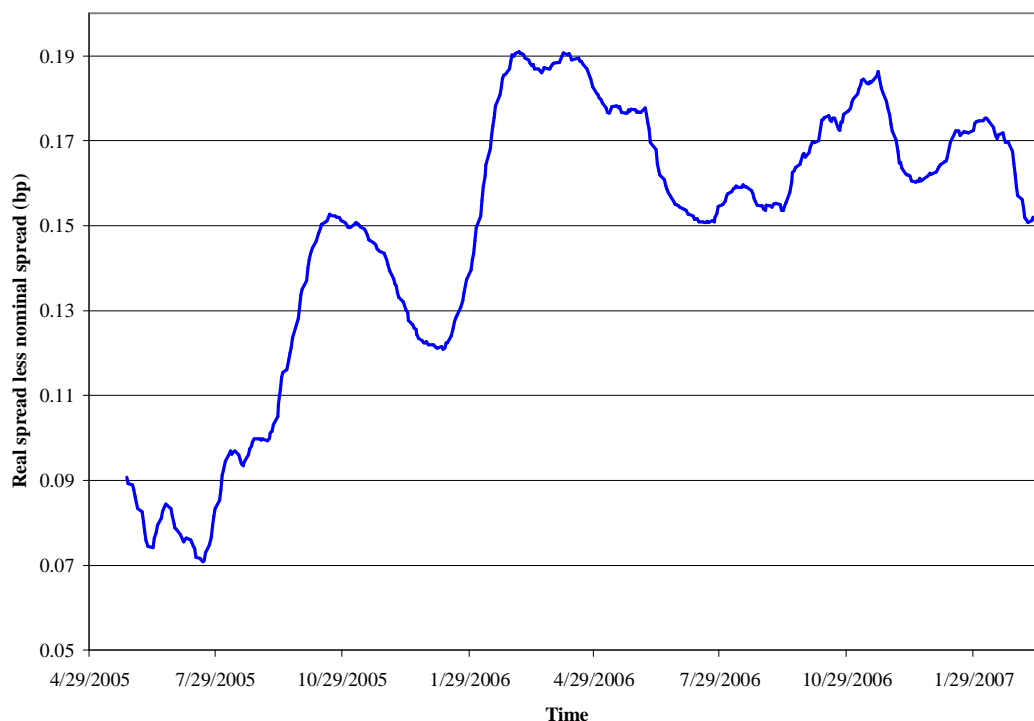


The above graph reports a 20 day moving average of the difference in spreads on Electranet's indexed bond maturing on 20 August 2010 (4.905% coupon) with the spread on Electranet's nominal bond maturing on 17 November 2009 (coupon 6.5%).

The spread on the indexed corporate bond is measured relative to the yield on CGS maturing on the same date (20 August 2010) with a coupon of 4%. The spread on the nominal corporate bond maturing on 17 November 2009 is measured relative to the yield on the nominal CGS with 15 September 2009 maturity (7.5% coupon).

As illustrated in Figure 2.4, the real spread less the nominal spread shows a positive trend as it moved from approximately -3bp in March 2004 to 19bp on 21 March 2007 (20 day moving average is 17bp). As predicted the divergence developed in 2004 when indexed CGS fell as a proportion of total CGS (see figure 2.2). This is consistent with the reduction in supply combined with the increased demand discussed in 3.2, forcing the price of indexed CGS upwards and simultaneously pushing down the yield. As a result a higher and growing spread to CGS is observable on inflation indexed bonds in comparison to nominal bonds.

Figure 2.5
Spread to CGS of Electranet's Indexed 2010 versus Nominal 2009
 Data source: Macquarie Bank



The above graph reports the same 20 day moving average as figure 2.4 with the exception that it is based on yield data sourced from Macquarie Bank. (ABN AMRO and Macquarie bank provide the only historical data series available on Bloomberg that have yields for *both* of the Electranet nominal and Electranet indexed bonds.) The above figures depict all the available data from these time series; ie, data from the Macquarie Bank time series only goes back to only to mid 2005.

The observation of an increasing relative bias in the ABN AMRO data is confirmed by the Macquarie Bank data (noting that the Macquarie data covers a shorter period).

While the corporate and CGS bonds we compare have similar, or identical, maturity dates they do have different coupons. If two bonds have an identical maturity but one pays a higher coupon then it is said to have a shorter duration (on average cash is received earlier). For example, despite having identical maturity dates, the duration on the Electranet indexed bond is shorter than the duration on the matched indexed CGS bond because of its higher coupon rate (4.9% vs 4%). By contrast, the coupon on the nominal Electranet bond is lower than for the nominal CGS (6.5% vs 7.5%). This means that despite the Electranet bond maturing 2 months after the matched nominal CGS, its actual duration was much closer or even longer than the matched CGS over the relevant period.

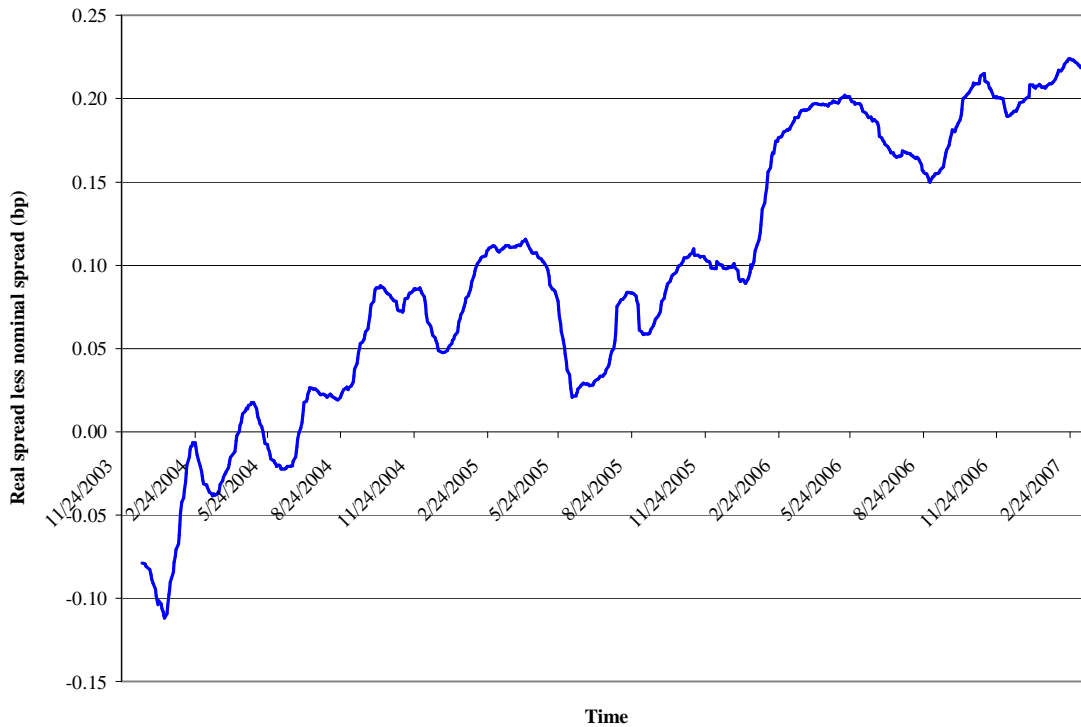
Had we accounted for difference in durations induced by the difference in coupons, then the estimated bias would have been greater than described in the above figure. This reflects the fact that currently, and over much of the period covered above, the term structure (both real and nominal) was downward sloping. Thus even if Electranet's bonds were default free we would expect a higher yield on Electranet's nominal debt than on equivalent maturity date but longer duration CGS nominal debt and a lower yield on Electranet's real debt than on equivalent maturity date but shorter duration CGS real debt. The effect on the relative default spreads of Electranet's nominal and real debt is in the opposite direction to what is observed and hence the higher relative spread to CGS on Envestra real bonds cannot be attributed to this cause.

This observation holds true of all other bonds we examine – see Table 2.3 below. Namely, the coupons on the indexed corporate bonds are higher than for the matched CGS and the coupons on the nominal corporate bonds are lower than the matched nominal CGS.

It is also true that the indexed corporate bond examined above matures 9 months later than the nominal corporate bond examined. That is, while there is a very close matching of maturity/duration *within* bonds of each type (indexed and nominal) there is only an imperfect matching of maturity *across* bond types. This mismatch cannot be resolved by interpolating between yields on nominal Electranet bonds because pricing for only one such bond is available on Bloomberg (from either ABN AMRO or Macquarie Bank sources). However, the above results are not sensitive to differences in maturity *across* bond types. Specifically, the spread on the Electranet 2015 maturity indexed bond is, on average, only 0.8 to 2.5bp⁶ higher than on the Electranet 2010 indexed bond. That is, if a five year longer maturity only increases the spread by 0.8 to 2.5bp then a 9 month mismatch between maturity on indexed and nominal bonds can be assumed to have an immaterial impact on the measure of relative bias.

⁶ Depending on whether Macquarie or ABN AMRO data is used.

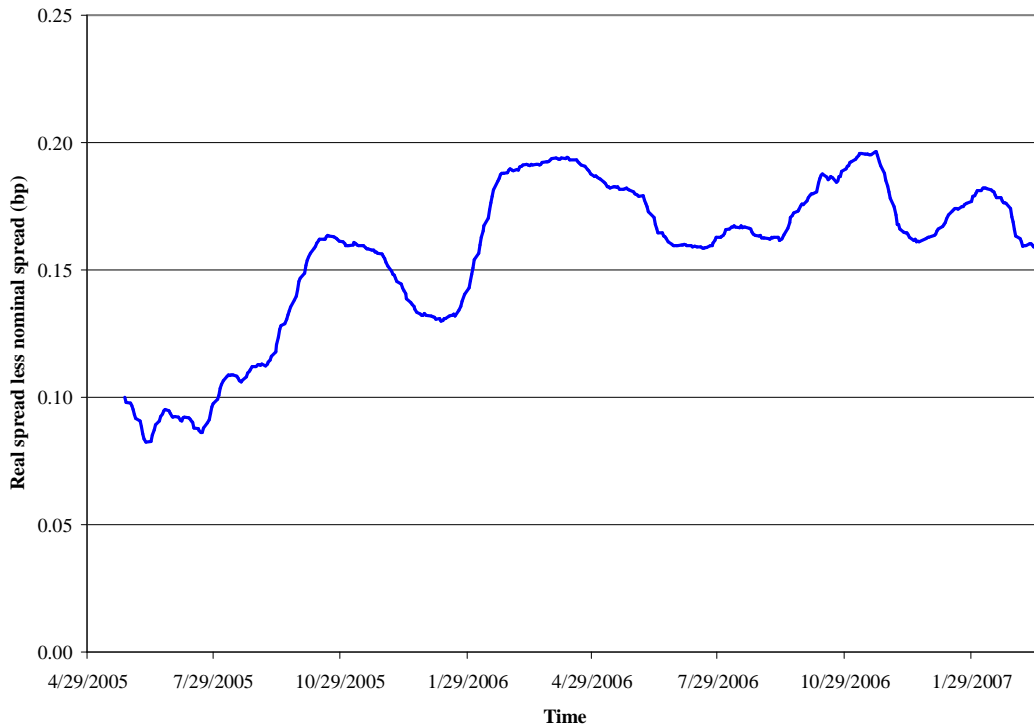
Figure 2.6
Spread to CGS of Electranet's Indexed 2015 versus Nominal 2009
 Data source: ABN AMRO



The above graph reports a 20 day moving average of the difference in spreads on Electranet's indexed bond maturing on 20 August 2015 (5.205% coupon) with the spread on Electranet's nominal bond maturing on 17 November 2009 (coupon 6.5%).⁷ The spread on the indexed corporate bond is measured relative to the yield on the 20 August 2015 indexed CGS (coupon 4%) as reported on the RBA website. The spread on the nominal corporate bond is measured relative to the yield on the nominal CGS with 15 September 2009 maturity (7.5% coupon).

⁷ The yield data for these bonds was sourced from the ABN AMRO data set available on Bloomberg. The above data represents all the available data from these time series.

Figure 2.7
Spread to CGS of Electranet's Indexed 2015 versus Nominal 2009
 Data source: Macquarie Bank

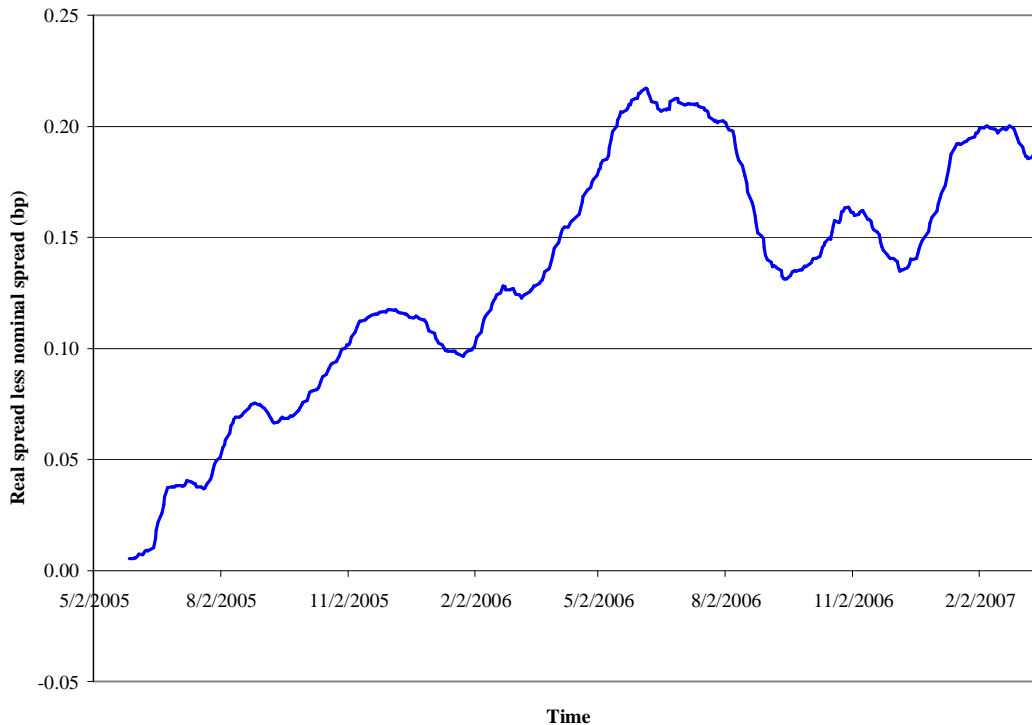


As in figure 3.43, the above graph reports a 20 day moving average on the real spread less the nominal spread. The difference is that this is based on yield data sourced from Macquarie Bank⁸.

This data tells a similar story to the data on the Electranet 2010 indexed bond examined immediately above. That is, the difference between the spread to CGS on real bonds and nominal bonds grows following the reduction in indexed CGS as a proportion of total CGS in 2004.

⁸ These are the only historical data series available on Bloomberg that have yields for *both* of the Electranet nominal and indexed bonds. The above data represents all the available data from these time series (ie, data from the Macquarie Bank time series goes back to only to mid 2005)

Figure 2.8
Spread to CGS of Envestra Indexed 2011 versus Interpolated Envestra Nominal 2011
 Data source: Macquarie Bank



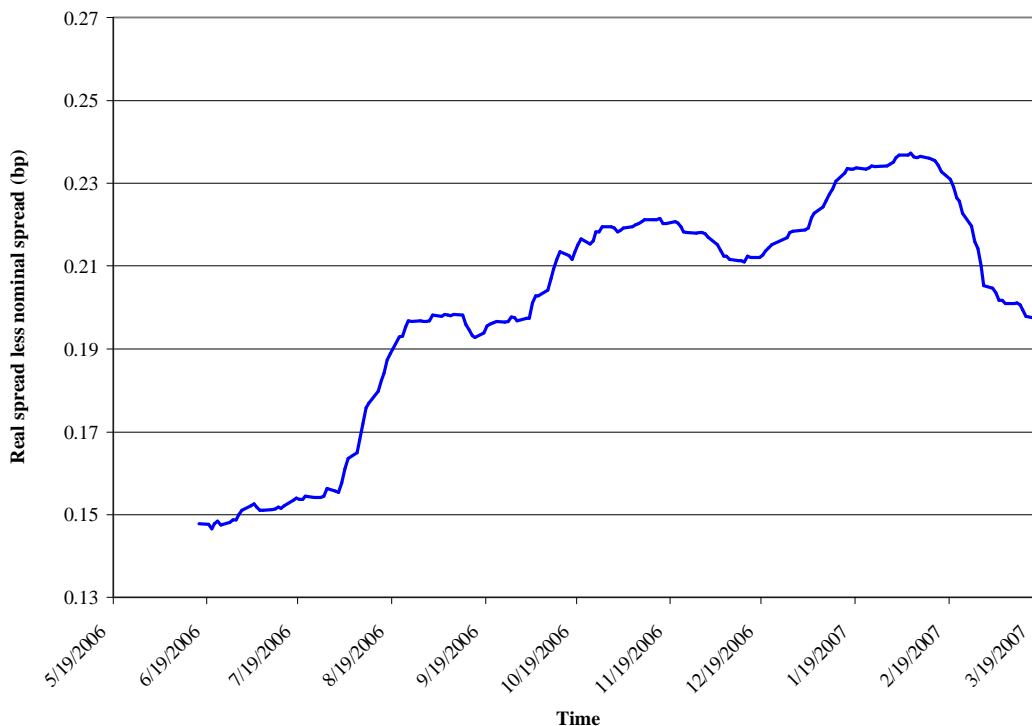
The above graph reports the difference in spreads on Envestra's indexed bond maturing on 20 May 2011 (4.255% coupon) with the spread on a hypothetical Envestra nominal bond maturing on 20 May 2011. The spread on the indexed corporate bond is measured relative to the linearly interpolated yield on indexed CGS (coupon 4%) - where interpolation occurs between the 20 August 2010 and 2015 indexed CGS yields. In order to estimate the yield on a hypothetical Envestra nominal bond of 20 May 2011 maturity we have linearly interpolated between the yields on Envestra's 21 February 2008 and 14 October 2015 nominal bonds (coupons 5.75% and 6.25% respectively)⁹. The spread on this hypothetical 20 May 2011 bond is then calculated relative to the yield on the nominal CGS maturing on 15 June 2011 (coupon 5.75%).¹⁰

⁹ Only Macquarie Bank historical yield data was available for both Envestra real and nominal bonds.

¹⁰ No interpolation of nominal CGS is used as the maturity dates of the nominal Envestra bond and the nominal CGS bond are less than 1 month apart.

This data illustrates that over time, the difference between the real spread and the nominal spread has grown. This confirms the results for the Electranet 2010 and 2015 indexed bonds discussed above.

Figure 2.9
Spread to CGS of Envestra Indexed 2025 versus Extrapolated Envestra Nominal 2025
 Data source: Macquarie Bank



We have also attempted to perform a similar analysis for the Envestra indexed bond with 2025 maturity. The usefulness of this analysis is somewhat limited by the lack of pricing for other bonds (CGS and nominal Envestra bonds) with similar maturity. The latest-dated CGS bonds are 2020 (indexed) and 2019 (nominal) and the latest-dated Envestra bond with historical pricing on Bloomberg is 2015. Thus, in order to draw conclusions on 2025 yields we must extrapolate rather than interpolate - this reduces our confidence in the results generated.

Nevertheless, employing extrapolation techniques tends to confirm the earlier more robust analysis. The above figure, Figure 2.9, shows the difference in:

- § Spread on Envestra's indexed bond maturing on 20 April 2025 (3.04% coupon) to a straight line extrapolation of indexed CGS yields¹¹; and
- § the spread on Envestra's 14 October 2015 nominal bond to the 15 April 2015 nominal CGS (both with a coupon of 6.25%).

The above graph is consistent in both trend and level with the results discussed previously.

2.5. Bias is not an 'inflation risk premium'

It is important to note that the bias in CGS examined here is a separate issue to any inflation risk premium. An inflation risk premium exists where investors require more than just expected inflation to compensate them for the exposure to inflation associated with nominally defined debt repayments.

We have shown that that the difference in yields between nominal and indexed corporate bonds is around 20bp higher than the difference in yields between nominal and indexed CGS. This can not be explained by an inflation risk premium as an 'inflation premium' must be explained by inflation and not by who issues the bond. Rather, the explanation must be that something other than the 'inflation premium' is driving indexed CGS yields lower (specifically a lack of supply relative to demand for indexed CGS).

An implication of our work is that there is something other than an inflation risk premium that currently explains the difference between indexed and nominal CGS. That does not mean to say that there is no inflation risk premium. Our work is not intended to shed any light on that issue one way or the other.

2.6. Summary of results

Table 2.3 below summarises the data and results used in the above graph as at 21 March 2007.

¹¹ The longest dated indexed CGS is 2020 maturity. A hypothetical 2025 maturity CGS is created by straight line extrapolation between the 2015 and 2020 maturity indexed CGS yields.

3. Regulatory precedent and implications

3.1. UK regulatory precedent

3.1.1. Central Bank Analysis

In the UK the supply of and yields on indexed linked government bonds (indexed linked 'gilts' (ILGs) - similar to indexed CGS in Australia) have also fallen dramatically. As in Australia, the UK central bank (the Bank of England (BoE)) has ascribed this fall, at least in part, to supply and demand conditions peculiar to the market for ILGs.

“The Minimum Funding Requirement led to strong institutional demand for ILGs. The combination of strong and rather price-insensitive demand (largely from pension funds) with limited supply, has pushed real yields down, perhaps more than in the conventional gilt market. Consequently, real yields in the ILG market may not be a good guide to the real yields prevailing in the economy at large”¹²

Importantly, the BoE has gone on to argue that nominal gilt yields are also depressed by a lack of supply - suggesting that the absolute bias in ILG yields is higher than the bias relative to nominal gilts.

Long-dated gilt yields are currently well below the comparable German and US government bond yields for the first time in many years. This article considers what factors are likely to have contributed to these changes in nominal rates of return. We conclude that much of the decline in long gilt yields can be attributed to a decline in UK inflation expectations since the mid-1970s. However, we find evidence to suggest that gilt yields have more recently also fallen in response to a significant reduction in net gilt issuance combined with an increase in demand for gilts from UK institutional investors.¹³

3.1.2. Regulatory Decisions

UK regulatory precedent is arguably of most relevance to Australia. Regulatory regimes in the countries are similar and the CAPM is the accepted theoretical framework for determining the regulatory cost of capital. The UK and Australia also share the experience of dramatically falling indexed government bond yields and central bank analysis suggesting that these yields are biased downward.

¹² BoE, 1999 *Quarterly Bulletin*, May.

¹³ BoE, 2000, *A comparison of long bond yields in the United Kingdom, the United States, and Germany*

All UK economic regulators have headed the BoE's statements and universally set the real risk free rate in excess of the prevailing yields on ILGs. Ofcom, the UK telecommunications regulator, has stated:

“the nominal rate for 5-year gilts has fallen over the last year and mechanistically applying a 3 month average of the most recent data would lead to a risk free rate of 4.5% or less. Such an estimate would, however, be low by historic standards, and Ofcom believes that some weight should be given to a longer-term perspective, suggesting that the use of a slightly higher risk free rate would be more appropriate.”...

“Taking account of both current and recent historical evidence, Ofcom’s view is that it is appropriate to use a value of 4.6% for the nominal risk free rate. This is somewhat higher than the current rate of about 4.2% to 4.3% (which are lower than historic averages), but consistent with a longer term averages and a real risk free rate of 2.0% and a rate of inflation of 2.5%.”¹⁴
(Emphasis added.)

This decision involved an increase to the nominal (real) WACC of 30 to 40 bp (20 bp) above what it would otherwise have been had Ofcom simply adopted the mechanistic approach that has, to date, been used by Australian regulators.

Ofwat, the UK water regulator, has similarly argued that it would be inappropriate to fully reflect historically low interest rates in the regulatory cost of capital.

“Real yields on medium maturity index-linked gilts (maturity of ten years and above) have averaged just under 2% over the last six months and just above 2% over the last five years. Consequently, the short-term data supports a risk-free rate of just 2.0%. Current gilt yields are significantly below the long-term average. Analysis of time series data confirms a shift from yields in the range of 3-4% to yields of just over 2% from late 1998. The average gilt yield is 2.5% if averaged over eight years; it is 3.0% if averaged over 13 years. Over the period since 1980, real returns have averaged 4.2%

...

“Our estimate for the risk-free rate is in the range 2.5% to 3%. It is based on the longer run level of yields on medium term index-linked gilts rather than the current rate which the evidence suggests is historically low. Since our draft determinations, real yields have declined further, albeit very marginally. We do not think this is sufficient to warrant a change in our approach and

¹⁴ Office of Communications, Ofcom’s approach to risk in the assessment of the cost of capital, 23 June 2005, p 15.

to simply take account of the current market spot rate would not lead to a sustainable WACC over the medium term.”¹⁵

This amounts to a 50bp to a 100bp increment to the then prevailing yield on ILGs. Ofwat has also stated:

“Recent regulatory determinations have placed little weight on the current very low gilt rates. The Competition Commission has also noted that current yields should be used with caution when estimating the risk-free rate due to the volatility of the markets. In its most recent decision the Competition Commission adopted a range of 2.5% to 2.75% compared with a range of 2.75% to 3.25% which it adopted in its decisions on the price limit referrals of Mid Kent and Sutton & East Surrey in 2000. The Smithers (2003) study undertaken on behalf of the regulators concludes that a reasonable assumption for the risk-free rate is 2.5%.

“In its March 2004 document on the price control for the distribution network operators Ofgem concluded that it could be appropriate to adopt a slightly wider range than the most recent Competition Commission decision using a range for the risk free rate of 2.25% to 3.0%.

Our estimate for the risk-free rate is in the range 2.5% to 3%. It is based on the longer run level of yields on medium term index-linked gilts rather than the current rate which the evidence suggests is historically low

We also note that the interest rate history described above is very similar to Australian experience. Ofwat was recently supported by the UK Government for this decision:

“At this Periodic Review, Ofwat has recommended that there is no strong case for setting the cost of capital for the industry as a whole any lower than it did in 1999, as set out in Setting water and sewerage price limits for 2005-10: Overview of companies' draft business plans. Although debt finance is currently available at historically low interest rates, Ofwat believes a cautious view towards current market data on the cost of debt is necessary.”¹⁶

The Competition Commission (a UK appeals body) also added a premium to the estimate of the risk free rate¹⁷ to reflect this concern.

“In the most recent (2003) inquiry into call termination charges, the Commission estimated a real risk free range of 2.50% - 2.75%, which represented an upward adjustment of 0.3% - 0.55% to the prevailing ILG yield of 2.2%.”¹⁸

¹⁵ Ofwat, Future water and sewerage charges 2005-10: Final determinations, Appendix 5, Cost of Capital.

¹⁶ <http://www.publications.parliament.uk/pa/cm200304/cmselect/cmenvfru/420/42004.htm>

¹⁷ This is, in effect, equivalent to adding an amount to the estimate of the equity premium to reflect the belief that it is higher when the risk free rate is lower.

Ofgem (the UK energy regulator) has similarly decided not to reflect the full reduction in the risk free rate in the cost of capital.

“Also, it had been argued that yields on government bonds were at historically low levels. In setting the cost of capital modeling assumption for Initial Proposals, Ofgem therefore used a cost of debt figure above that implied by current market rates.”

In Ofgem’s December 2006 Final Proposals for the [gas and electricity] Transmission Price Control Review it states:

“In setting the cost of capital modeling assumption, we therefore used a cost of debt figure above that implied by current market levels. Our analysis of long term average spreads supports a debt premium within the range 1.0 to 1.5 per cent.” (Page 53)

Ofgem also sets the real risk free rate at 2.5%¹⁹ on the advice of Smithers and Co (discussed below) despite this being more than 50bp higher than the yield on prevailing yield on ILGs.²⁰

The UK adjustments can be summarised in the below table. They range from 30bp to 100bp with an average of around 50bp.

Table 3.1
UK regulatory precedent

UK Regulator	Adjustments to the risk free rate (bp)
Ofcom	+30 to +40
Ofwat	+50 to +100
Competition Commission	+30 to +55
Ofgem	+50

¹⁸ Competition Commission (2003) “Reports on references under Section 13 of the Telecommunications Act 1984 on the charges made by Vodafone, O2, Orange and T-Mobile for terminating calls from fixed and mobile networks”

¹⁹ See table on page 55 of Final Proposal.

²⁰ See chart 8.2 on page 40 of Smithers and Co (2006)

3.1.3. U.K. Academic Advice to Regulators

The above decisions are also consistent with academic advice sought by regulators. UK regulators have jointly sought the advice of academic experts on contentious cost of capital issues. In 2003 the economic regulators²¹ in the UK commissioned a report from professors Mason and Miles and Dr Wright provided under the banner of Smithers and Co.²² In 2006 Ofgem commissioned an update of this report from Smithers and Co.^{23,24}

In those reports the authors describe the problem's associated with measurement of the of the risk free rate. In their 2003 report, Smithers and Co counseled against simply adopting the prevailing ILG yield as the appropriate measure of the risk free rate:

“However, information from indexed bonds should be treated with some caution.” (Page 42)

Smithers and Co argue that variations in the observed government bond yield should not be mechanically passed through into higher or lower equity returns. In effect, they advise that when the government bond rate is historically low the market risk premium (measured relative to that bond rate) is likely to be historically high. The end result is that movements in the government bond rates should not be mechanically reflected in the cost of equity by calculating the required return on the market as the sum of the government bond rate and a constant equity risk-premium.

“A commonly used estimate of the equilibrium short-term rate (based on a sample of data from around 1980) is of the order of 2 ½ %. Using this figure, the implied equity risk premium is of the order of 3 percentage points (geometric) and 4-5 percentage points (arithmetic). Given our preferred strategy of fixing on an estimate of the equity return, any higher (or lower) desired figure for the safe rate would be precisely offset by a lower (or higher) equity premium, thus leaving the central estimate of the cost of equity capital unaffected.” (Page 49)

An important implication of this conclusion is that the currently historically low yields on indexed CGS should not be fully passed through in historically low regulated returns on equity.

In their 2006 advice Smithers and Co are more definitive on the bias in prevailing ILG yields.

²¹ Office of Fair Trading, The Civil Aviation Authority (CAA), Office of Water Services (OFWAT), Office of Gas and Electricity Markets (Ofgem), Office of Telecommunications (Ofcom), Office of the Rail Regulator (ORR) and Office for the Regulation of Electricity and Gas (OFREG).

²² A Study into Certain Aspects of the Cost of Capital for Regulated Utilities in the U.K, Smithers and Co 2003.

²³ Report on the Cost of Capital, Smithers and Co 2006 (professors Mason, Miles, Satchell, Hori and Baskaya)

²⁴ This time from professors Mason and Miles plus professors Satchell, Hori and Baskaya

“Recent yields on UK indexed bonds give a distorted impression of real yields. Regulated companies still predominantly issue nominal bonds. Thus, given the evidence of bias in indexed yields, risk-free government nominal bonds should be used to provide a benchmark estimate of the term premium.” (Page 37)

Smithers and Co proposed that nominal bond yields less a forecast of inflation based on the BoE target inflation range be adopted.

“If the term premium is indeed close to zero, the best current market-based estimate of the forward-looking real interest rate is the nominal yield on medium-dated bonds, less the Bank of England’s inflation target of 2%: thus a figure of around 2 to 2 ½%....” (Page 37)

Smithers and Co eschew forecasts of inflation based on differences in yields between ILGs and nominal gilts on the basis that ILG yields are biased downwards.

“The recent path of the implicit inflation forecasts lends some support to the widely held suspicion that indexed yields are providing an unduly depressed picture of forward-looking real returns (the usual explanation being the funding requirements on major pension funds). In 2003 the Bank of England’s inflation target was officially lowered from 2 ½% to 2%, yet in the period since this change implicit inflation forecasts have risen rather than fallen, to a figure closer to 3%. The most likely explanation is that the gap between nominal and real yields is not purely a forecast of inflation, but also contains a risk premium element (or, put another way, that indexed bonds have traded at an increasing risk discount). Since regulated companies issue barely any indexed debt this suggests that using indexed yields as a benchmark in setting the cost of capital may tend to bias the cost of debt downwards, and that it would be more appropriate to focus on nominal yields, and their associated term premia.” (Page 39)

The latter finding is particularly relevant in the current Australian circumstances. As we have already shown, the relatively more inversely sloped indexed CGS yield curve implies that either long term inflation is expected to accelerate well outside the RBA’s target range or indexed CGS yields are biased down relative to nominal CGS yields.

3.2. U.S. regulatory precedent

In the US it is standard regulatory practice to set the required return on equity by reference to the dividend growth model. This requires regulators to estimate the total CAPM required return on equity directly rather than attempting to estimate its component parts (ie, risk free rate, beta and market risk premium). This is done by estimating the market’s best estimate of future dividends and calculating the discount rate (being the return on equity) that equalises this with current equity prices.

The fact that the dividend growth model jointly estimates the equity premium and the risk free rate means that changes in government bonds yields due to changes in supply and demand conditions peculiar to that market have no effect on the cost of capital *per se*. This

can be illustrated by reference to the following table that lists all US regulatory decisions for energy distributors between January 2003 and September 2005. A casual examination of the final column reveals that the highest equity premiums (measured relative to the government bond yield) tend to occur in decisions that have the lowest interest rates.

Table 3.2
US Regulatory Authorised Equity Returns

Date	Company (State)	ROE %	Government bond yield	Equity premium
31/01/2003	South Carolina Electric & Gas (SC)	12.45	4.00	8.45
28/02/2003	Madison Gas and Electric (WI) - G	12.30	3.71	8.59
6/03/2003	PacifiCorp (WY)	10.75	3.67	7.08
7/03/2003	Rochester Gas & Electric (NY)	9.96	3.63	6.33
3/04/2003	Wisconsin Power and Light (WI) - G	12.00	3.93	8.07
15/04/2003	Interstate Power & Light (IA) - U	11.15	3.98	7.17
25/06/2003	Aquila (CO)	10.75	3.38	7.37
26/06/2003	Public Service of Colorado	10.75	3.55	7.2
9/07/2003	Public Service Electric & Gas (NJ)	9.75	3.73	6.02
16/07/2003	Rockland Electric (NJ)	9.75	3.97	5.78
1/08/2003	Jersey Central Power & Light (NJ)	9.50	4.44	5.06
26/08/2003	PacifiCorp (OR)	10.50	4.50	6
3/09/2003	Maine Public Service (ME)	10.25	4.60	5.65
17/12/2003	Connecticut Light & Power (CT)	9.85	4.19	5.66
17/12/2003	PacifiCorp (UT)	10.70	4.19	6.51
18/12/2003	Montana-Dakota Utilities (ND)	11.50	4.16	7.34
19/12/2003	Wisconsin Power and Light (WI) - G	12.00	4.15	7.85
19/12/2003	Wisconsin Public Service (WI) - G	12.00	4.15	7.85
13/01/2004	Madison Gas and Electric (WI) - G	12.00	4.05	7.95
2/03/2004	PacifiCorp (WY)	10.75	4.05	6.7
26/03/2004	Nevada Power (NV)	10.25	3.85	6.4
5/04/2004	Interstate Power & Light (MN)	11.00	4.24	6.76
18/05/2004	PSI Energy (IN)	10.50	4.74	5.76
25/05/2004	Idaho Power (ID)	10.25	4.73	5.52
27/05/2004	Sierra Pacific Power (NV)	10.25	4.60	5.65
30/06/2004	Kentucky Utilities (KY) - G	10.50	4.62	5.88
30/06/2004	Louisville Gas and Electric (KY) - G	10.50	4.62	5.88
25/08/2004	Aquila (CO)	10.25	4.26	5.99
9/09/2004	Avista Corp. (ID)	10.40	4.22	6.18
9/11/2004	Narragansett Electric (RI) - E	10.50	4.22	6.28
23/11/2004	Detroit Edison (MI)	11.00	4.19	6.81
14/12/2004	Interstate Power & Light (IA)	10.97	4.14	6.83

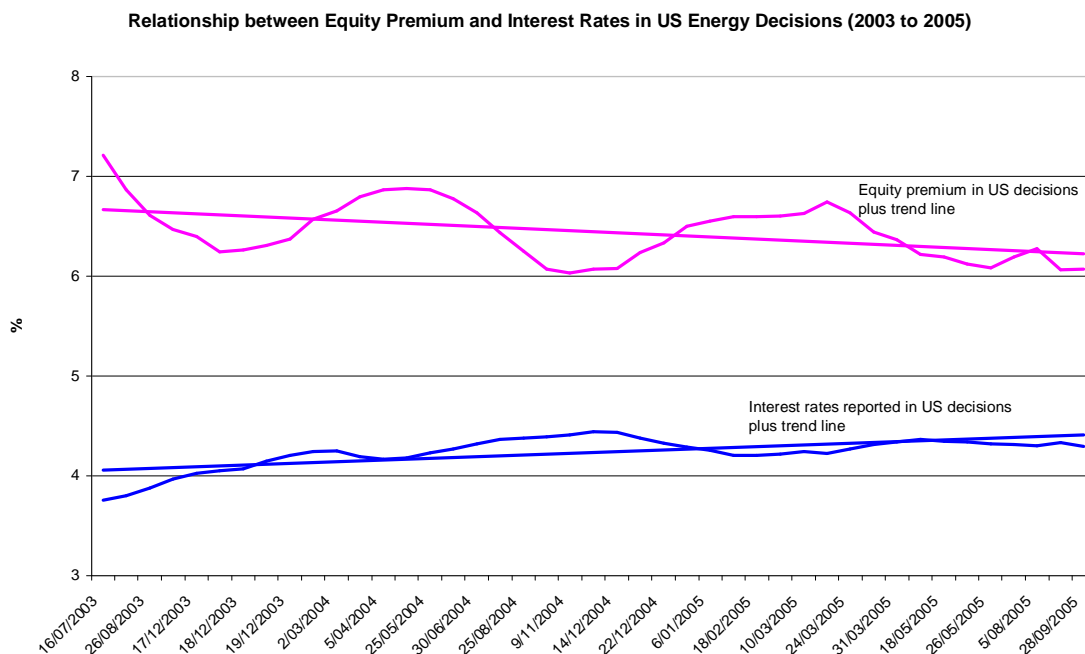
Date	Company (State)	ROE %	Government bond yield	Equity premium
21/12/2004	Wisconsin Public Service (WI) - G	11.50	4.18	7.32
22/12/2004	PPL-Electric Utilities (PA)	10.70	4.21	6.49
22/12/2004	Madison Gas and Electric (WI) - G	11.50	4.21	7.29
6/01/2005	South Carolina Electric & Gas (SC)	10.70	4.29	6.41
28/01/2005	Aquila Networks-WPK (KS)	10.50	4.16	6.34
18/02/2005	Puget Sound Energy (WA)	10.30	4.27	6.03
25/02/2005	PacifiCorp (UT)	10.50	4.27	6.23
10/03/2005	Empire District Electric (MO)	11.00	4.48	6.52
20/03/2003	Wisconsin Public Service (WI) -G	12.00	4.01	7.99
24/03/2005	Consolidated Edison of New York (NY)	10.30	4.60	5.7
29/03/2005	Central Vermont Public Service (VT)	10.00	4.60	5.4
31/03/2005	Texas-New Mexico Power (TX)	10.25	4.50	5.75
7/04/2005	Arizona Public Service (AZ)	10.25	4.49	5.76
18/05/2005	Entergy Louisiana (LA)	10.25	4.07	6.18
25/05/2005	Jersey Central Power & Light (NJ)	9.75	4.08	5.67
26/05/2005	Atlantic City Electric (NJ)	9.75	4.08	5.67
19/07/2005	Wisconsin Power and Light (WI)-G	11.50	4.20	7.3
5/08/2005	Cap Rock Energy (TX) - Hy	11.75	4.40	7.35
15/08/2005	AEP Texas Central (TX)	10.13	4.27	5.86
28/09/2005	PacifiCorp (OR)	10.00	4.26	5.74

† The data is a combination of the rates of return contained in two reports from Regulatory Research Associates, Inc. ie, 14 January 2005, *Major Rate Case Decisions – January 2003 – December 2004 Supplemental Study* and 4 October 2005, *Major Rate Decisions – January – September 2005*.

‡ The Federal Reserve Board, *Statistics: Releases and Historical Data* h15 Daily yields on ten year Treasury securities.

The casual observation referred to previously is confirmed in the following graph which plots the moving average (based on the ten most recent regulatory decisions) of government bond yields and equity premium in US regulatory decisions. This clearly shows that US regulators have responded to an upward trend in US government bond yields by allowing an almost identical inverse trend in equity premium.

Figure 3.1



It is important to note that the above inverse relationship in US regulatory decisions is not a statistical artefact but is the result of deliberate and explicit policy decisions on behalf of US regulators. In the words of the Californian regulator, which is responsible for regulated assets in excess of the value of Australian regulated assets:

“We consistently consider the current estimate and anomalous behavior of interest rates when making a final decision on authorizing a fair ROE. In PG&E’s 1997 cost of capital proceeding we stated “Our consistent practice has been to moderate changes in ROE relative to changes in interest rates in order to increase the stability of ROE over time”

“...consistent with the Commission’s practice of adjusting ROE’s by one half to two-thirds of the change in the benchmark interest rate.”²⁵

3.3. Australian regulatory precedent

The most relevant Australian regulatory precedent in this regard comes from the Victorian ESC’s most recent electricity decision (EDPR 2006-2010). In that decision the ESC accepted that the yields on indexed CGS can be a biased estimator of the true risk free rate. It accepted that its original sampling period (the last 20 trading days in August 2005) may have been affected by a ‘one off event’, namely, the maturity of Treasury Indexed Bond (TIB)

²⁵ Californian PUC, Decision 00-12-062 December 21, 2000, ROE for Sierra Pacific Power Company.

402 on August 20, 2005 - which reduced the number of indexed CGS issues in the market from four to three.

“In order to address the downward bias the Commission considers that it is appropriate to make an adjustment to the real risk-free rate. Subsequently, the issue to be addressed is to determine the most appropriate approach to adjust for the bias.” (Page 343 of Final Decision EDPR 2006-2010.)

The ESC rejected a proposed correction to this bias associated with the use of an econometric model developed by the Commonwealth Bank of Australia. Instead, it proposed to adopt a sampling period that was one month earlier and therefore excluded the ‘one off event’.

In making this decision the ESC has accepted that a reduction in the supply of indexed CGS led to a reduction in yields on these securities - a reduction that does not reflect a reduction in the true real risk free rate. The reason this is important can be seen by noting that the reduction in the maturity of TIB 402 is just one of many maturities that has led to a reduction in the supply of indexed and nominal CGS.

Figure 3.2
Recent Declines in CGS on Issue

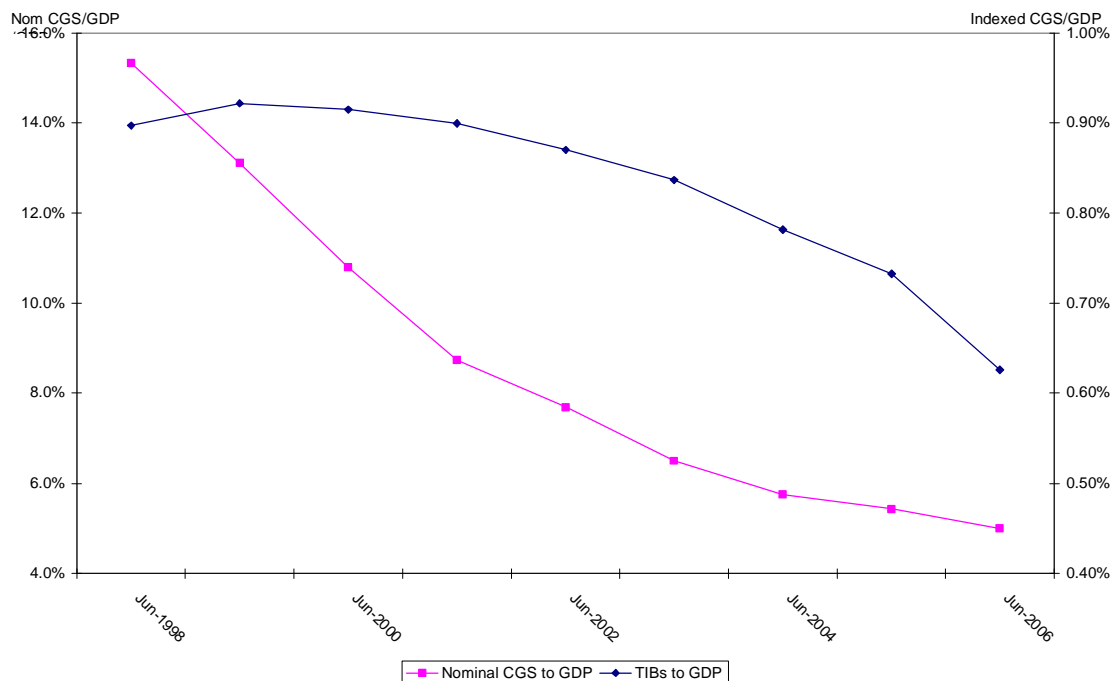


Figure 3.2 above illustrates that the supply of both nominal and indexed CGS has fallen dramatically over the last ten years. The maturity of Treasury Indexed bond (TIB) 402 is just one of a long line of reductions in supply. If the removal of TIB 402 had an impact on yields then one might expect other reductions in supply have had similar impacts. Indeed, this is

precisely what central banks (discussed above) and finance academics (discussed below) believe.

In order to conclude that the fall in supply of CGS has had no impact on CGS yields then the ESC would either need to conclude that it was wrong in its electricity determination or that falling supply only has a 'temporary' impact on CGS markets - with the yield on CGS returning to the CAPM risk free rate after a short delay.

3.4. Conclusion

Conclusion: Regulatory precedent

UK regulatory precedent is of particular relevance for Australia given the similar reductions in yield on indexed government bonds and central bank commentary.

UK regulatory precedent unanimously involves adjustments to the risk free rate of between 30bp and 50bp with an average of around 50bp.

Regulatory precedent in the US is similar. US regulators do not reflect historically low government bond yields in historically low equity returns.

Prior ESC precedent also supports making an adjustment to the observed yield on government bonds.

4. Review of the Relevant Finance Literature

There is a large body of academic empirical work which argues that the CAPM zero-beta rate, the CAPM risk-free rate, is generally materially above the yield on government securities. The great majority of empirical research has come to the conclusion that rates on nominal government bonds are downward biased measures of the benchmark nominal risk-free rate used by participants in capital markets. Government securities have unique characteristics that cause investors to be willing to hold them even though they offer yields below the rates available on other default-free instruments. These unique characteristics include:

1. the high liquidity of Treasury securities relative to other securities;
2. the preference of foreign and domestic government authorities for investing in Treasury securities in preference to non-government securities;
3. the acceptance of treasuries as collateral for stock loans and as margin “good-faith money” for positions in futures markets; and
4. their surety and simplicity that makes them a preferred habitat for less sophisticated investors.

These unique characteristics imply that government bonds are, to some extent, in a separate market to other assets - with their prices affected by supply and demand conditions peculiar to that market. The overwhelming conclusion of academic studies is that only a small amount of the spread of corporate rates to government bond rates is explained by default risk with the remainder reflecting a price premium investors are willing to pay for the unique characteristic of government bonds. An implication of this premium's existence is that the yield on government bonds overestimates the true risk free rate. Quantifying this bias, based on current market evidence in Australia, is addressed elsewhere in this report.

The RBA's statements (reproduced in section 2) rely on precisely this analysis. Increased foreign demand for CGS would not depress the discount rate underlying all investment decisions (ie, the CAPM risk free rate). If increased foreign demand for CGS did depress the discount rate underlying all investment decisions then the fall in CGS yields would not cause spreads to corporate bonds to rise: a fall in the CGS rate would cause an identical fall in corporate bond yields (other things constant). The RBA has expressed precisely the opposite view in the context of analysing the true default premium embedded in corporate debt. In its March 2004 Financial Stability Review the RBA expressed the view that spreads between corporate debt and nominal CGS overestimated default risk due to downward bias in nominal CGS yields.

“Premia for credit default swaps (CDS), which measure the cost of insurance against a specific company defaulting, have fallen sharply in the past year and spreads between corporate bond and swap rates have also fallen (Graph 21). In contrast, interest rate spreads between corporate bonds and Commonwealth Government securities (CGS) have risen over the past six months, although this appears to reflect strong demand for CGS, particularly from overseas investors, rather than a judgment about credit quality in the Australian corporate sector.” (Page 15)

Most strikingly, other things were not equal in the period analysed by the RBA. In that period credit risk premia attached to corporate bonds, as measured by CDS premia, were falling. Despite this, spreads to CGS were rising. These facts are inconsistent with the yield on CGS representing the CAPM risk free rate. The RBA’s commentary only makes sense if one accepts that yields on CGS are equal to the risk free rate less a ‘uniqueness’ premium determined by supply and demand conditions peculiar to the CGS market.

4.1. Credit spreads on corporate bonds are wider than is implied by default risk

One part of the literature examines credit spreads on corporate debt (i.e., the difference between the yields on corporate bonds and the yields on Treasury bonds). Collin-Dufresne, Goldstein and Martin (2001) and Huang and Huang (2003) recognize that if there is, say, a 1% chance of default on a particular corporate bond in any year and a 50% recovery rate in the event of default (meaning that the bondholders will eventually recover one half of what they are owed) then that corporate bond would have to offer at least ½% more than an equivalent maturity Treasury bond.²⁶ The research concludes that credit spreads are simply too high to be explained by the likelihood of default and the risk premium associated with default. The researchers conclude that a major part of observed credit spreads, and almost all the spread on high grade AAA bonds, is actually due to unique characteristics of Treasury bonds that make them particularly appealing investment vehicles and cause them to offer yields below the rate on a “benchmark risk-free security” where a “benchmark risk-free security” is a risk-free security without the characteristics unique to government bonds. The rate on a benchmark risk-free security is the CAPM zero beta risk-free rate.

Collin-Dufresne, Goldstein and Martin (2001) conclude that “[v]ariables that should in theory determine credit spread changes have rather limited explanatory power. ... Our results suggest that monthly credit spread changes are ... independent of both credit-risk factors and standard proxies for liquidity.” Huang and Huang (2003) consider the complete set of structural models used to analyze corporate bond yields and conclude that “for investment grade bonds (those with a credit rating not lower than [BBB]) of all maturities,

²⁶ The research also recognizes that because default is more likely to occur in recessions and hence an investor in a corporate bond is actually purchasing a positive beta asset, the corporate bond would have to offer not only ½% more but an additional premium to compensate the holders for the beta risk they bear.

credit risk accounts for only a small fraction—typically around 20%, and, for [BBB]-rated bonds, in the 30% range—of the observed corporate-Treasury yield spreads, and it accounts for a smaller fraction of the observed spreads for bonds of shorter maturities.”

4.2. Swaps rates imply that the CAPM zero beta rate (ie, the reference risk-free rate) exceeds the rate on Treasury securities

The 10-year swap rate is defined as the fixed rate on a 10-year fixed for floating swap, where the floating component is the rate on AA bonds and is similar to the rate on a AA-rated fixed rate bond. It is not the same because a AA-rated bond might suffer a downgrade over a 10-year period, while the fixed component of the swap has less credit risk. The fixed component of the swap reflects the credit risk inherent in a bond that is rated AA throughout its entire life. Duffie and Singleton (1997) show how to price the credit risk inherent in the fixed rate component and conclude that the spread between the swap rate and the Treasury rate has a significant non-default component. Liu, Longstaff and Mandell (2006) and Feldhütter and Lando (2006) have subsequently reached the same conclusion. Feldhütter and Lando (2006) conclude that “A convenience yield from holding Treasuries ... is by far the largest component of spreads” between swap rates and Treasury rates. These papers conclude that the reference risk-free rate used in capital markets when pricing swaps is only around 10 basis points below the rate on similar maturity AAA bonds; i.e., the CAPM zero beta rate exceeds the rate on CGS securities.

4.3. Credit default swap spreads imply that the reference risk-free rate exceeds the rate on Treasury securities

Perhaps the cleanest measure of the rate on a benchmark risk-free interest that lacks the unique characteristics of Treasury securities is provided by considering a portfolio of a corporate bond and an insurance policy that guarantees that in the event of the corporate bond’s default the policy will pay off in full. Such insurance policies are termed credit default swap (CDS) agreements and the insurance premium is paid annually. The insurance premium is referred to as the CDS spread. A five-year contract on *XYZ Corp* with a principal of \$10 million and an annual insurance premium of \$30,000 (30 basis points) would give the buyer of the insurance the right to sell bonds with a face value of \$10 million issued by *XYZ Corp* in the event of a default by *XYZ Corp*. If *XYZ Corp*’s bonds offer a yield of 8.0%, the buyer of *XYZ Corp* bonds who enters a CDS agreement can earn a riskless rate of return of 7.7% (= 8.0% – 0.3%) per annum.

Grinblatt (2001) and Hull, Predescu and White (2004) are careful to recognize two features of a CDS agreement: (1) a CDS agreement only insures the principal and not the accrued interest on a bond and (2) counterparty risk. Counterparty risk is the low risk that not only does *XYZ Corp* default, the seller of the insurance policy also defaults. Taking both these features into account these authors conclude that the benchmark risk-free rate on a default-free security that lacks the unique features of Treasury securities was on average about 10

basis points lower than the swap rate over the period January 1998 to May 2002. (The 'swap rate' was explained in the preceding section.)

Blanco, Brennan, and Marsh (The Journal of Finance, 2005) examine the efficiency of the CDS market in pricing credit risk. They find that CDS prices lead spreads to swaps in the price discovery process and that there is parity between CDS and spreads to swaps in equilibrium. Importantly, in the context of our report, they note that:

“...it is well known that government bonds are no longer an ideal proxy for the unobservable risk free rate”²⁷

Nonetheless they test this empirically in their sample and find:

“We compute credit spreads using swap rates rather than government bonds as the proxy for the default-free interest rates in our subsequent analysis”²⁸

It is likely that the current CDS rate reflects particularly low probabilities of default given strong growth and growth prospects for the Australian economy. This is consistent with the RBA reporting a CDS rate on AA bonds of 20bp in 2003 (the first year it began reporting this rate) - despite a healthy economy in 2003. It seems reasonable to assume that average historical CDS rates prior to 2003, had they existed, would have been materially larger. It also appears likely that the low probabilities of default on corporate bonds today are not fully reflected in low spreads to CGS due to an increased downward bias in CGS yields (reflecting the historically low supply of Treasury securities).

4.4. The empirical analysis of Krishnamurthy and Vissing-Jorgensen

One pertinent recent study by Krishnamurthy and Vissing-Jorgenson (KV) has shown that the spread from corporate to government bonds in the US (Treasury) is strongly inversely related to the level of supply of government bonds. The lower the supply of Treasuries (measured as a percentage of GDP) the higher the spread - as per the below figure from that study.

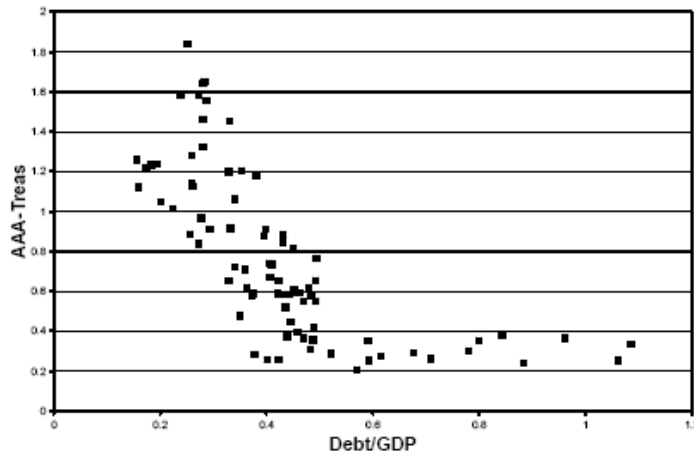
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²⁷ Blanco, Brennan, and Marsh, *An Empirical Analysis of the Dynamic Relation between Investment-Grade Bonds and Credit Default Swaps* The Journal Of Finance Vol. LX, no. 5 October 2005, p2261.

²⁸ *Ibid*, p2265.

Figure 4.1
Figure 1 from KV Study

Figure 1: Corporate Bond Spread and Government Debt



The corporate bond spread (y -axis) is graphed versus the $Debt/GDP$ ratio (x -axis) based on annual observations from 1925 to 2005. The bond spread is the difference between the percentage yield on Moody's AAA long maturity bond index and the percentage yield on long maturity Treasury bonds.

The author's conclusion is that this inverse relationship is explained by the fact that when supply of Treasuries is low their prices are bid up and their yields depressed. However, the reference risk free rate remains unchanged so the yield on nominal corporate bonds is unaffected and, consequently, the spread on corporate bonds increases. When supply of Treasuries is sufficiently high the price 'premium' on government bonds falls to close to zero and the spread on corporate bonds asymptotes to something close to the true default risk premium. KV perform numerous statistical tests for this relationship including controlling for variations in credit risk²⁹ over time. In all of these regressions the supply of Treasuries (as a percentage of GDP) is a statistically significant determinant of the corporate spread to Treasuries. One of their conclusions is that:

"We have argued that the observed Treasury rate is ... lower than the "true" riskless interest rate ... implied by the standard discrete-time C-CAPM model."

²⁹ Using the spread between AAA and BBB bonds as a proxy for credit risk.

4.5. The empirical work of Lettau and Ludvigson

Empirical work suggests that the MRP *measured relative to the government bond rate* is inversely related to the government bond rate. In 2001, in one of the most cited finance papers in recent times, Lettau and Ludvigson empirically tested for the determinants of variations in the prevailing MRP measured relative to government bond yields.³⁰ Amongst other findings, they found a strongly statistically significant inverse relationship between the change in US Treasury yields and the change in the observed MRP *relative to Treasury yields*. That is, Lettau and Ludvigson found that when Treasury yields fell the MRP *relative to Treasury yields* tended to rise - leaving the overall return on equity to change by less than the underlying change in interest rates.

Such an inverse relationship held true without controlling for other potential variables that might effect the MRP (ie, a simple correlation suggested that the MRP rose 0.3% for every 1% reduction in the risk free rate). However, when Lettau and Ludvigson included controls for other variables³¹ the inverse relationship between the risk free rate and the MRP strengthened. In fact, Lettau and Ludvigson found that when the risk free rate fell the MRP tended to rise by the same amount as the fall in the risk free rate and vice versa. That is, a 1% reduction/increase in the risk free rate tended to be associated with a 1% increase/reduction in the MRP (measured relative to Treasury yields)

This empirical finding is entirely consistent with a model where the reference CAPM risk free rate is constant but the government bond rate is not. When we observe a change in the government bond rate the reason we see an offsetting change in the equity premium *relative to the government bond rate* may be that the expected return on equity is unchanged and the reference risk free rate is unchanged. All that has happened in that our risk free rate proxy (the government bond rate) has changed.

It is worth noting that, even if one rejects the above explanation of Lettau and Ludvigson's result, one should still not reflect lower bond rates in lower returns on equity. Lettau and Ludvigson find that the return on equity is largely independent of the government bond rate. This might be because:

- § The government bond rate is not the reference risk free rate; or
- § The government bond rate is the true risk free rate but the true MRP is inversely related to the government bond rate.

³⁰ Lettau, Martin and Sydney Ludvigson, 2001, "Consumption, Aggregate Wealth and Expected Stock Returns," *Journal of Finance* 56 (3), pp. 815—849.

³¹ Specifically, changes in dividend yields; changes in dividend payout ratios; changes in the shape of the term structure of interest rates; and changes in the default spread on corporate bonds.

Whichever explanation holds, it would still be wrong to reflect historically low government bond rates in equally low allowed returns on equity.

Conclusion: Academic literature

It is well entrenched in the finance literature that government bonds yields are not perfect proxies for the CAPM risk free rate.

The literature identifies that government bonds have unique characteristics above and beyond their risk free characteristics. The market places a positive value on these characteristics leading to a 'uniqueness premium' - causing government bonds to be downward biased estimates of the CAPM risk free rate.

The empirical evidence strongly suggests that the uniqueness premium is inversely related to the supply of Government bonds.

Consistent with this, the empirical evidence also suggests that equity returns are not positively correlated with movements in government bond rates. (The other explanation for this is that the MRP is inversely related to government bond yields. Either way, it would be inconsistent with this literature to fully reflect historically low government bond yields in the CAPM risk free rate.)

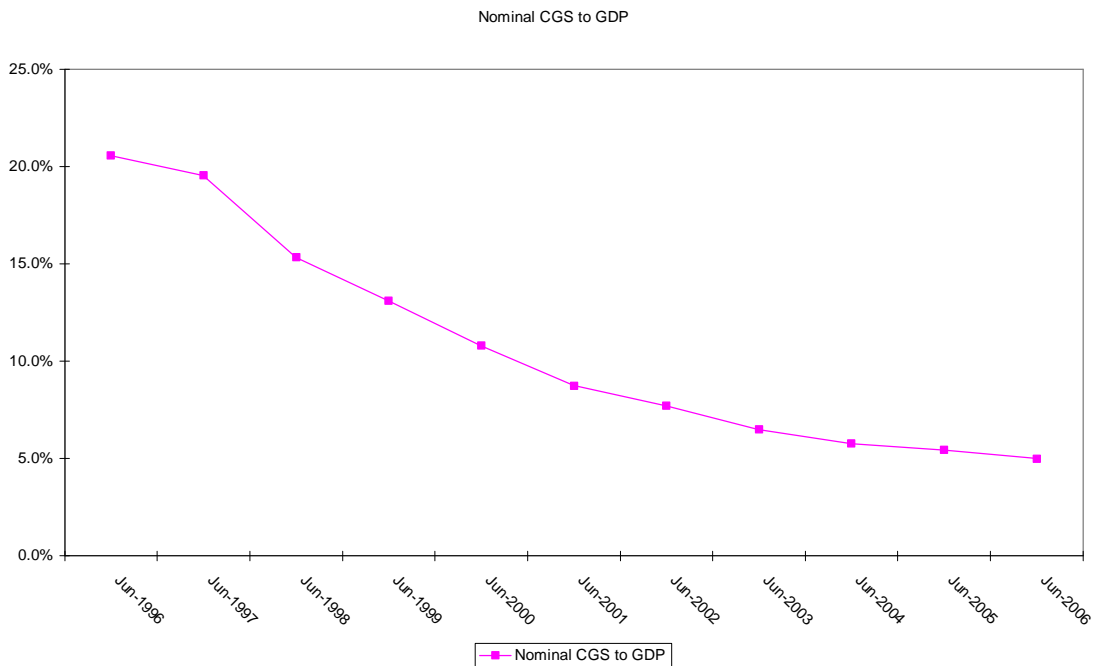
5. Absolute Bias in (Nominal) CGS Bonds

In section 2 we set out to test and quantify the RBA’s belief that indexed CGS yields are downward biased *relative* to the yield on nominal CGS. We estimated this relative bias to be around 20bp. However, if nominal CGS yields are also biased down by a lack of supply then the absolute bias on indexed CGS bonds will be more than 20bp.

5.1. Shortage of supply relative to demand depressing nominal CGS Yields

Indeed, the reduction in the supply of indexed CGS relative to nominal CGS has been much smaller than the absolute reduction in supply of total CGS (nominal and indexed). The fall in the supply of nominal CGS over the last decade is illustrated in figure 4.1 below.

Figure 5.1
Indexed and Nominal CGS as a % of GDP



Since reaching a local peak in 1996 the supply of nominal CGS has fallen from 20.6% of GDP to only 5% in 2006. This leaves nominal CGS at historically low levels of supply (half its previous (short lived) low of 11.7% in 1991). To the extent that demand for CGS has grown in line with the level of economic activity then, other things equal, one might expect this to result in a premium being paid for a nominal CGS security (and its yield being artificially depressed as a result).

As described in the previous section, the RBA has expressed precisely this view in the relation to the *relative* level of indexed and nominal CGS yields. In its March 2004 Financial Stability Review the RBA *also* expressed the view that spreads between nominal corporate debt and nominal CGS overestimated default risk due to downward bias in nominal CGS yields.

“Premia for credit default swaps (CDS), which measure the cost of insurance against a specific company defaulting, have fallen sharply in the past year and spreads between corporate bond and swap rates have also fallen (Graph 21). In contrast, interest rate spreads between corporate bonds and Commonwealth Government securities (CGS) have risen over the past six months, although this appears to reflect strong demand for CGS, particularly from overseas investors, rather than a judgment about credit quality in the Australian corporate sector.”³²

Since that time the RBA appears to have completely disregarded spreads to CGS as an indicator of credit risk. In its place, the RBA has focused primarily on the CDS premium and secondarily on the spread to the BBSW.³³ For example, since March 2004 the RBA has produced the Financial Stability Review report biannually. In each issue of that report the CDS and the spread to BBSW have been the sole indicators of the price of credit default risk. The only mention of spread to CGS has been to discount its usefulness due to yields on CGS being depressed by a shortage of supply relative to demand.

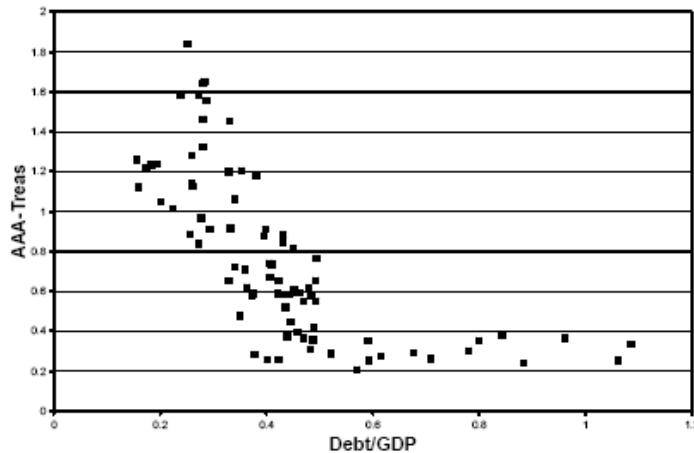
The RBA’s position is supported by empirical evidence from the US. The study by Krishnamurthy and Vissing-Jorgenson (KV) discussed in section 4 is particularly pertinent. As discussed above, KV shows that the spread from corporate to government bonds in the US (Treasuries) is strongly inversely related to the level of supply of government bonds. The lower the supply of Treasuries (measured as a percentage of GDP) the higher the spread - as per the below figure from that study.

³² Page 15.

³³ Bank bill swap rate.

Figure 5.2
Figure 1 from KV Study

Figure 1: Corporate Bond Spread and Government Debt



The corporate bond spread (*y*-axis) is graphed versus the *Debt/GDP* ratio (*x*-axis) based on annual observations from 1925 to 2005. The bond spread is the difference between the percentage yield on Moody's AAA long maturity bond index and the percentage yield on long maturity Treasury bonds.

The author's conclusion is that this inverse relationship is explained by the fact that when supply of Treasuries is low their prices are bid up and their yields depressed. However, the reference risk free rate remains unchanged so the yield on nominal corporate bonds is unaffected and, consequently, the spread on corporate bonds increases. When the supply of Treasuries is sufficiently high (around 60% of GDP in the above graph) the 'premium' on government bonds falls to zero and the spread on corporate bonds asymptotes to the true default risk premium (between 20 and 40bp in the above graph).

5.2. Bias in nominal CGS appears to be at historic highs

Given that the supply of nominal CGS is at historically low levels then it is reasonable to expect that the 'uniqueness' premium paid for CGS may be at historically high levels (ie, the bias in CGS yields as a proxy for the CAPM risk-free rate is at historically high levels). This is precisely what the financial market data extracted from the RBA Bulletin suggest.

In the last ten to five years the market in credit insurance for corporate bonds has matured. Credit default swaps (CDSs) are essentially an insurance policy to protect against the risk that a bond's issuer will suffer credit default event (including a downgrade to its credit

status). In November 2006 the Financial Times described the growth in the CDS market as ‘exponential’.

“The credit derivatives market has experienced a period of exponential growth over the last few years. Since their appearance in Europe around 10 years ago, credit default swaps have won wide acceptance from many quarters – banks, asset managers, insurance companies, hedge funds and pension funds. The attraction lies in their liquidity, flexibility, and diversity, qualities in which they outstrip the physical corporate bond market. Nevertheless, CDS are derivatives, and derivatives still make many investors nervous – and with some justification.

“The British Bankers’ Association in a survey in September this year estimated the total volume of global credit derivatives at \$20,000bn (€15,639bn). This is more than double the \$8000bn that was predicted for 2006 in the BBA’s previous survey in 2004. The BBA estimates that by 2008 the market will have expanded a further 50 per cent to \$33,000bn.”³⁴

The development of the CDS market has made it simpler to estimate the degree of bias in CGS yields as a proxy for the risk free rate. Prior to the development of the CDS market it was not possible to rely on market data to split the corporate spread to CGS into a) corporate default risk premium; and b) the uniqueness premium paid for CGS. However, this has been made easier since the development of the CDS market - with the uniqueness premium being equal to the corporate spread to CGS less the CDS price.³⁵

The RBA began publishing CDS premiums in the RBA Bulletin publication in 2003. As discussed above, it now relies primarily on CDS premiums as the relevant measure of the price of credit default risk. Since 2003, the rise in the ‘uniqueness’ premium attached to nominal CGS can be measured from market data reported in the RBA Bulletin as described in the table below.

³⁴ http://www.ftmandate.com/news/fullstory.php/aid/1274/Filling_the_supply_gap_sees_massive_CDS_swell.html

³⁵ That said, the CDS market is still not very deep for lower credit rated bonds (below AA rated). It may be unreliable to attempt to rely on CDS for lower rated bonds as an indication of the average credit risk associated with that rating class. This is less of a problem for AA rated bond category where the CDS market is deepest.

Table 5.1
Change in Nominal CGS Bias Since 2003

	A rated bonds			A rated Bonds			Implied CGS Bias
	CDS (AA)**	Spread to CGS (AA)*	Diff.	CDS (A)**	Spread to CGS (A)*	Diff.	
June 2003	20	35	15	46	61	15	15bp to 15 bp
Jan 2007	7	49	42	19	63	44	42bp to 44bp

Source: RBA Bulletin: Table F3: Capital Market Yields and Spreads - Non Government Instruments:

***Corporate bonds used by the RBA to calculate spreads to CGS have a maturity of 1 to 5 years.**

**** CDS rates quoted by the RBA are 5-year credit default swap rates**

The above table tells us that in June 2003 the average cost of insuring for default on an AA rated bond was 20bp per annum. At the same time, the spread to CGS for the same bond was 35bp suggesting that 15bp of that spread was not a default premium (ie, reflected a 'uniqueness' premium for CGS). This suggests that the nominal CGS yield was around 15bp below the CAPM risk free rate in June 2003.

The same analysis can be performed using RBA data on A rated corporate bonds as a check on the above analysis. This should yield a similar result to using AA rated bond data. As it turns out using A rated bonds yields exactly the same result. While the spread on A rated bonds to CGS is 26bp higher for A rated bonds so is the CDS rate on A rated bonds - leaving the implied bias unchanged. This result suggests that the entirety of the additional spread to CGS on A rated bonds versus AA rated bonds is explained by higher credit risk attached to A rated bonds (as one would expect). These two results provide evidence for a 15bp estimate of bias in June 2003.

Performing the same analysis using the most recently available January 2007 RBA data suggests the magnitude of this bias is now around 42bp to 44bp. Since June 2003 the CDS rate on AA rated bonds has fallen 13bp (from 20bp to 7bp) while the spread to CGS has risen by 14bp. The combination of these two effects suggests that the CGS uniqueness premium has risen by 27bp (from 15bp to 42bp). Performing the same analysis using A rated bonds suggests that the uniqueness premium is now 44bp (ie, within 2bp of the result using AA rated bonds).

Importantly, credit risk for both A rated and AA rated bonds as implied by the CDS rate has more than *halved* since 2003. However, over the same period the spread to CGS has *increased*. This is precisely the same phenomenon (falling credit risk but rising spread to CGS) which the RBA has put down to demand and supply conditions peculiar to the CGS market.

Conclusion: Historically High Levels of Bias in Nominal CGS as a Proxy for the CAPM risk free rate

Based on RBA data, the current yield on nominal CGS is downward biased as a proxy for the CAPM risk free rate by around 42-44bp.

This is 27-29bp more biased than was the case in June 2003 using the same RBA data.

5.3. Additional research required

The dramatic increase in bias over the last four years, using RBA data, is somewhat surprising. The reduction in the supply of CGS began well before 2003 and one might have expected to see higher levels of bias even in 2003. We are currently in the process of interrogating other data sources, including the underlying data sources relied on by the RBA, in an attempt to through further light on this issue.

Part of this empirical work will also involve testing whether data sources can be relied on to make adjustments to government bond yields in an attempt to determine the CAPM risk free rate. For example, it may be that the RBA CDS data, or some other form of CDS data, could reasonably be used in a transparent 'formulaic' way to inform the appropriate adjustment to the CGS rate (allowing the current regulatory reliance on transparent and prevailing market data to be retained). If this is not possible then it may be that a more ad hoc approach (similar to UK regulatory precedent) may need to be adopted.

This work should be completed in the next month or so.

6. Conclusion and Recommendations

6.1. Conclusions - empirical and theoretical

The Reserve Bank of Australia believes that the yield on both nominal and indexed CGS has been depressed in recent years due to supply and demand conditions peculiar to the CGS market. This is consistent with (indeed, can only be reconciled if one accepts) the finding of the finance literature that the government bond rate will tend to be a downward biased proxy for the CAPM risk free rate. The same finance literature suggests that the historically low supply of CGS is likely to result in a historically high level of bias in CGS yields as a proxy for the CAPM risk free rate.

In this report we have used Australian market data to test the predictions of the literature and to quantify the analysis of the RBA. We estimate, using several data sources and with considerable confidence, that the level of bias in yields for indexed CGS exceeds that for nominal CGS by around 20bp. We estimate that this *relative* bias appears to have developed since late 2004 (around the time that the RBA first started commenting on this).

However, this is a minimum appropriate adjustment to the indexed CGS bond yield. It is only appropriate if the nominal CGS yield is an unbiased estimate of the nominal risk free rate.³⁶ It appears highly likely that the nominal CGS yield is also biased down by a lack of (historically low) supply. RBA analysis and commentary suggests that this is the case. Relying on RBA data the nominal risk free rate appears to be biased downward by 42-44bp which is a 27bp increase since June 2003.

This suggests that a total adjustment to the indexed CGS of between 47bp (20+27) to 62/64bp (20+42/44) may be appropriate. The former will ensure consistency with decisions made in 2003 (ie, it will remove the increase in the bias since 2003). The latter will entirely remove the full extent of the bias. However, the latter may also require some adjustment to the MRP if the MRP is estimated relative to an historically biased risk free rate.

6.2. Qualifications to these conclusions

We believe that our estimate of the relative bias in indexed CGS is highly accurate and should be adopted by regulators. This 20bp adjustment should be added to both the cost of debt and the cost of equity.

We are less confident of our estimates of the 'absolute bias' in nominal CGS. We are performing further analysis to test this with alternative data sources.

³⁶ The real risk free rate plus an premium for inflation exposure.

Even if the results based on the RBA data are proved correct, it must be noted that the level of bias on nominal CGS will not affect the cost of debt given the methodology used by regulators. This is because any increase in the nominal risk free rate will reduce the estimated debt premium by a corresponding amount (where the debt premium is estimated as the nominal yield on corporate bonds less the nominal risk free rate).

Appendix A. References

A.1. CPI forecasts

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25 May 2007

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Dear Sir/Madam

DISTRIBUTION REVENUE AND PRICING RULES

Thank you for the opportunity to comment on the proposed changes to the National Electricity Rules to establish a national regulatory framework for the economic regulation of electricity distribution.

ETSA Utilities is the South Australian electricity distributor which will be directly affected by the proposed amendments to the National Electricity Rules. There are many positive steps incorporated into the draft Rules.

We would like to point out some areas of concern. We have set these out in the document following in the clause order of the draft Rules. Whilst we have endeavoured to be to the point, the scope of the draft Rules have necessitated this lengthy response. We have also participated in the preparation of the Energy Networks Association submission which addresses several key issues.

We have highlighted some key areas of concern below.

- The absence of merit review processes for the cost of capital parameters.
- The lack of defined transition arrangements for introducing post-tax WACC.
- Need for clarification of the regulatory tax treatment of customer contributions.
- The use of a one step regulatory proposal process rather than a sequenced two step process which allows for separate consideration of the form of regulatory control.
- The 'fit-for-purpose' model not being adopted for the service incentive scheme. The national arrangement proposed will be less likely to deliver effective outcomes across the jurisdictions because of local distribution-related issues.

If you wish to discuss this submission, please contact Eric Lindner on (08) 8404 5694 or James Bennett on (08) 8404 5261.

Eric Lindner
GENERAL MANAGER CORPORATE AFFAIRS

Part B Division 1 and 2 – Classification of Distribution Services, Basis of Control Mechanisms

Distributors are required to propose classifications of distribution services. The AER will subsequently approve a classification following the requirements of the NER. ETSA Utilities would propose some amendments to the draft NER.

1. The intent of the classification system detailed in clause 6.2 is to classify distribution services as either direct control service, or negotiated distribution service or unregulated distribution service. The Note under this clause states that if a service is not classified it is unregulated. We consider that the rules should explicitly state that an unclassified distribution service is unregulated, ie the note under clause 6.2.1(a) should be promoted to a sub-clause.
2. There should be criteria included in 6.2.1(b) for distinguishing between those services subject to regulatory overview and those that should be unregulated. The key element here is the presence of competition for an unregulated service.
3. The criteria included in 6.2.2 should recognise that standard control services are used by all customers in that tariff class whereas alternate control services are suitable to classify those services which are likely to be used by specific customers, and at a variable frequency of use. An example of this is special meter reading which many customers would not use in a given year, but which other customers may use on one or more occasions in that year.
4. Under a fair and reasonable arrangement, a building blocks test is not required to be submitted to a Regulator at the price Reset. Given this, we consider that Clause 6.2.6(d) places unnecessary emphasis on alternative control services being based on building blocks and so should be deleted.
5. The alternate control services should be dynamic enough to be able to cope with additional services that may be discovered and/or created during a Reset. It could comprise a subsequent approval process by the AER, or it could (preferably) be a more light-handed approach whereby such monopoly services are identified by the distributor and automatically classified as alternate control, priced on a fair and reasonable basis with any subsequent disputes arising prior to the next Reset referred to the AER. Standard control services would continue to handle such issues when they arise as a pass-through.
6. It is too late to wait until the AER's draft decision to find out if the distributor's proposed distribution service classification (and basis of control mechanisms) has been approved. It may be that an initial, short process of these two points (distribution service classification and basis of control mechanisms) could be included at say 18 months before Reset followed by a two month AER review. Because of the short time period until the distributor submission then needs to be lodged, it would be impractical to conduct any merit-based review at that time. This would require that any formal decision review on appeal is delayed until after the revenue determination. Alternately, greater weight could be given to the existing arrangements currently in use, with a separate time window available for any amendment to these arrangements in the event that the Distributor and/or the AER wished to pursue them. This would mimic the

current arrangement (ie conclude two years prior to Reset if a review is required), with an appeal mechanism available prior to the 't-13 month' Reset submission.

7. The control mechanisms for alternate control services should explicitly allow a light-handed approach whereby certain monopoly services are priced on a fair and reasonable basis, with disputes reviewed by the AER. This 'fair and reasonable' basis is mentioned in the explanatory notes for alternate control services, but is not explicitly replicated in the draft NER. This 'fair and reasonable' arrangement is currently in place in many jurisdictions. The services involved are typically monopoly in nature but are not of the character we presume to be implied by the proposed 'negotiated services'.
8. The ability of the AER to amend existing regulatory arrangements at Reset without demonstrating good and just reasons has the potential to enable the AER to have a constantly changing regulatory environment. These amendments would potentially be imposed on the business once every five years with perhaps two to six months notice, which could significantly impact on the distribution businesses activity for the next five years. It is suggested that some of these core regulatory arrangements are better treated as the equivalent of the Gas Code's 'fixed principle' which require the mutual agreement of the regulator and distributor. At a minimum, the AER needs to demonstrate good and just reasons to make such amendments. The current proposal gives too much latitude for the AER to arbitrarily vary these regulatory arrangements at each Reset.
9. Clause 6.2.8 (Guidelines) applies to all guidelines issued by the AER (see 6.2.8 (a) (4)). Under 6.2.8 (c), these guidelines are not binding on the AER but the AER must explain why if they elect to depart from that guideline in making a determination. It is unclear what the purpose of these guidelines are, whether distributors are expected to comply with all of these guidelines at all times, or whether distributors are able to argue that whilst compliance with the NER is mandatory, guideline compliance is optional (more akin to a safe harbour). An obvious symmetrical requirement is that any obligations of regulatory instrument compliance should apply equally to the AER and to distributors. The ability for the AER to exempt a distributor from compliance with a rule or a guideline is also required, as systems and local issues may make complete compliance impractical or impossible.

Part C Revenue Determinations for Standard Control Services

Clause 6.3 Revenue Determinations

Proposed clause 6.3.1(c)(1) requires that the revenue proposal must be prepared in accord with a post-tax revenue model. This requires a Network Service Provider that currently has its revenues determined under a pre-tax model to convert to a post-tax revenue model at its next price reset.

The rules are unfortunately silent as to the transitional rules for transferring to a post-tax model. It is noted at page 41 of the Explanatory Material that savings and transitional rules for distribution have not as yet been drafted. The lack of transitional rules makes comment on the veracity and fairness of the proposed rules difficult.

Particular transitional rules are discussed at page 41 and following in relation to the ACT and NSW distribution businesses. At page 45 it is proposed for these businesses that the allowance for tax depreciation on the tax value of assets in the regulatory asset base will be based on the tax value of assets adopted by the ACT and NSW businesses for the purposes of calculating tax expense in the case of ActewAGL and tax-equivalent payments in the case of the NSW distributors. If the regulatory process is going to adopt a 'tax-wedge' post-tax approach, then the derivation of that tax wedge must be based on taxation law and taxation law determined values. These outcomes are already incorporated in taxation returns lodged with the Australian Taxation Office. ETSA Utilities supports these proposed rules and in our view these principles should apply broadly to network service providers transitioning to a post-tax revenue model.

Importantly, network services providers require certainty as to the method by which revenues will be determined at their next resets. The current lack of certainty in the proposed rules is a matter of some concern.

Clause 6.4.1 Preparation, publication and amendment of post-tax revenue model

Proposed clause 6.4.1(b) enables the AER to amend or replace the post-tax revenue model in accordance with the distribution consultation procedures. This suggests that the AER could amend the model at any time leading up to the lodgement of a network service provider's revenue proposal.

ETSA Utilities considers that it is reasonable and appropriate for network service providers to have some level of certainty in relation to the methodology by which the post-tax revenue model will apply in the lead up to lodging their revenue proposal. The rules as currently worded would enable the model to be amended on the last day prior to the lodgement of a revenue proposal and as such the current rules are unworkable.

Accordingly, ETSA Utilities suggests that amendments or replacements of the post-tax revenue model not apply three months prior to the earlier of:

- the actual lodgement of the revenue proposal; or
- the due date for lodgement of the revenue proposal

unless agreement has been obtained from the affected distributor.

Clause 6.4.3(a)(5) Negative Efficiency Carry-over.

The rules propose that the AER be permitted to carry forward negative carry-overs. Carrying forward a negative amount will, all else being equal, reduce the reasonable

expenditure forecasts of the distributor. In each subsequent regulatory period the available efficiency gains to a distributor diminish as the distributor approaches the efficient frontier. Further the expenditure allowances provided to distributors are routinely revised by regulators below what was sought. Under such circumstances it would be expected that future revenues would fall below that reasonably required as a result of the carry forward of negative amount.

It has also being common practice for Australian regulators to incorporate an explicit efficiency factor into expenditure allowances. In some instances this maybe in addition to efficiencies already included by the distributor. Because of this it is not enough for a distributor to reduce costs below their historical levels. In order to achieve a positive efficiency carry over allowance it needs to lower costs below their historical levels and below the efficiency factor incorporated by the regulator. The inclusion of an efficiency factor in the underlying expenditure forecasts means it is possible that a negative carry forward amount may arise not because the distributor has increased costs, but because the efficiency factor incorporated by the regulator proved excessive or too onerous. In such circumstances it would inappropriate that a distributor be punished on the basis of an unreasonable efficiency factor calculated by the regulator.

The possible consequences of a distributor's allowed revenues falling below that reasonably required may be profound and impact directly on customers. In an effort to remain financially viable it would be expected that the distributor will reduce expenditure on the network and consequently service performance decline. So whilst customers are receiving lower tariffs, they are also experiencing more frequent and extended outages. Declining network performance will invoke further penalties through the service incentive scheme. Again customer tariffs will fall further, but service performance will also fall further as the network is gradually starved of investment.

There should not be a carryover of negative efficiencies into subsequent regulatory periods.

Further comments on efficiency carryover schemes are made below in reference to clause 6.5.5.

Clause 6.4.3 Building blocks generally

The building blocks listed in 6.4.3(a) are quite specific but do not provide for the AER to consider other cost items which may arise. One such category which should be specifically included is 'savings and transitional' requirements. It may be that costs incurred under these requirements may not otherwise be able to be included by the AER in their revenue determinations.

Proposed clause 6.4.3(b)(1)(ii) states that 'For the purposes of paragraph (a) for indexation of the regulatory asset base the building block comprises a negative

adjustment equal to the amount referred to in clause S6.2.4(c)(4) for that year'. The purpose and meaning of this proposed clause is unclear and requires clarification.

Clause 6.5.2 Return of Capital

The rules should recognise that network service providers require an allowance for the cost of raising debt and equity finance. This may either form part of the operating and maintenance expenditure allowance or alternatively be included in the determination of the post-tax weighted average cost of capital.

Clause 6.5.2(c): Nominal risk free rate and inflation

Clause 6.5.2 (c) requires that the nominal risk free rate be determined from the yields on Commonwealth Government Bonds with a maturity of 10 years. Attachment 1 contains recent analysis by NERA providing evidence that there is a downward bias in nominal yields on Commonwealth Government Bonds. The NER should therefore not be prescriptive about procedures for determining the nominal risk free rate.

Additionally, the building blocks approach in the draft NER results in the value of annual revenue requirement being sensitive to assumptions about inflation. However it is noted that the review of rate of return parameters under clause 6.5.2(i) does not identify inflation as a reviewable parameter. If the intention of the MCE is to continue with the five yearly rate of return review approach, it is recommended that the procedures for calculating inflation are also reviewable, given that:

- It is standard Australian regulatory practice to infer inflation from real and nominal ten year yields on Commonwealth Bonds; and
- Recent evidence presented by NERA strongly indicates that since 2004 there has been a 20 basis point downward bias in real yields relative to nominal yields (see attachment 1).

At the time of the 2006-10 Victorian Electricity Distribution Price Determination Final Decision one of the four Indexed Commonwealth Government Bonds matured. The Essential Services Commission of Victoria accepted that yields were distorted around the time of the maturity of the Bond and hence had to adjust their approach to finding a proxy for the real risk free rate. The next indexed bond will mature in August 2010, around the time of the next Victorian Electricity Distribution Price Determination. The longest dated Indexed Commonwealth Government Bond is one that matures in 2020. Therefore from 2010 there will be no ten year indexed bond to use as a proxy for the ten year risk free rate. The Rules need to identify how inflation will be determined.

Clause 6.5.2 Return of Capital – Review of Rate of Return Parameters

ETSA Utilities considers it essential that weighted average cost of capital decisions and in particular the values attributed to individual rate of return parameters must be capable of merits review. It is inconceivable that the proposed rules do not allow for a

merits review of decisions that comprise the single most important determinate of regulated revenues.

This is a significant and unwarranted departure from the rules that currently apply in each jurisdiction and has the capacity to impact on the economic viability of network businesses. Decisions with respect to individual parameter values require individual judgement, increasing the potential for error. There needs to be appropriate accountability for these fundamental decisions. Network service providers should have the ability to seek a review of these critical judgement decisions. It is self evidently inappropriate for the body responsible for administering the rules to be given quasi-legislative decision making authority in relation to the determination of the weighted average cost of capital parameters without any independent scrutiny.

ETSA Utilities primary concern is the right to a merits review. A merits review system is critical given the importance of cost of capital determinations in setting allowed revenues and providing sufficient incentive to invest in capital intensive network assets. We consider that weighted average cost of capital decisions and the values attributed to individual parameters must be capable of merits review at the time of a network service providers determination.

This presupposes a departure from the proposed rules which suggests the AER would initiate a review of rate of return parameter values every five years. Should the AER remain with a 5-yearly review system it is our expectation that there would be a period of time following the decision that the network businesses could challenge the decision through a properly constituted merits review mechanism.

The proposed rules, which incorporate a 5-yearly review system, have not given sufficient consideration to the transitional arrangements that must apply. There is an imminent need for transitional parameters to be included in the rules. ETSA Utilities considers it appropriate for the current transmission cost of capital parameters to apply to price determinations for submissions that are required to be lodged prior to the completion of the first 5-yearly AER review. These transitional parameters (ie the current transmission WACC parameters) would then form the basis for applying proposed clause 6.5.2(j)(4) where there must be persuasive evidence before adopting a value for a parameter that differs from the value that has previously been adopted for it. This is essential for two reasons:

- this would provide certainty and transparency in relation to revenue proposals that are lodged or required to be lodged prior to the first AER review being completed.
- as noted the proposed rules require a persuasive evidence test. For the first review there are currently no parameter values recognised for which this persuasive evidence test is to apply. This failure is a significant concern. The introduction of transitional rules, as suggested above, would ensure that there were existing values to which the persuasive evidence test would apply.

The use of the transmission weighted average cost of capital parameters is consistent with the transitional rules that are being considered, in the Explanatory Material with respect to the ACT and NSW distributors.

Clause 6.5.4 Estimated cost of corporate income tax

The extent of customer contributions and gifted assets in distribution businesses is a significant difference to transmission network services providers.

The treatment of customer contributions and gifted assets under the Income Tax Assessment Act is that such 'contributions' form part of taxable income in the year of receipt. If not recognised in the post-tax revenue model, this creates a mismatch in the timing of company tax payable on the income, and the deductions, which are received by way of tax depreciation on the respective asset. For long life distribution assets this mismatch is considerable.

It is important that the post-tax revenue model reflect the treatment of customer contributions and gifted assets in the Income Tax Assessment Act, and this should be recognised in the rules.

Clause 6.5.5 Efficiency benefits sharing scheme

ETSA Utilities strongly considers in circumstances where the Jurisdictional Regulator has clearly established the efficiency carryover mechanism to apply in relation to the current regulatory period, then the mechanism as determined by that Regulator should apply. This should be clearly enunciated in the transitional rules.

Clause 6.5.5 proposes that the AER may amend the efficiency benefit sharing scheme and the efficiency benefit sharing scheme parameters. The application of amendments are defined in the proposed rules.

ETSA Utilities considers that amendments to the scheme and / or parameters would be inappropriate if they were to apply to the sharing of current period efficiency gains derived in an existing regulatory period. Distributors require certainty as to how the efficiency model will operate from the beginning of the regulatory period. To have the model adjusted and amended during the period is tantamount to a retrospective regulatory decision.

Accordingly, ETSA Utilities considers that amendments to the scheme and / or parameter values should not apply to efficiency gains in the regulatory period once that period is in progress. Again, clarification is sought in the rules (clause 6.5.5(g)) with respect to this matter.

Clause 6.6.1 (f) Pass-throughs

The negative pass-through proposal (clause 6.6.1(f)) requires the distributor to prepare a submission within 60 days of an event whereas the time allowance for a positive pass-through proposal (6.6.1 (c)) is 90 days. Both clauses should utilise 90 business days.

ETSA Utilities submits that an additional criterion should be added to the factors the AER must take into consideration under clause 6.6.1(j). The additional criterion should be to consider the outcome of previous pass through applications, whether positive or negative, which have been disallowed on the grounds of materiality. This criterion currently applies to the factors the SA jurisdiction considers when deciding whether to allow a pass through.

The definition of pass-through events (positive and negative) use the words ‘materially increases/reduces the costs of direct control services’. There is no guidance as to how material is to be interpreted. This definition needs to be understood when regulatory submissions are prepared. For example, some pass-through items in our current EDPD (eg line under grounding) may fail a latter-defined materiality test, to the detriment of the distributor.

The proposed definition of distribution regulatory change event leaves a window of time where an event could occur and a distributor would never be able to seek a pass through. This window is between the distributor’s submission in response to the AER’s Draft decision associated with a determination and the start of that determination. This issue also applies to a Distribution tax change event. There is sufficient criteria under clause 6.6 to eliminate pass through events that are not warranted. Accordingly, there is no need to limit pass through events to those that occur on or after the commencement of the determination, and so this clause should be deleted.

Clause 6.6.2– Service Target Performance Incentive Schemes - Jurisdictional/Distributor versus Nationally Consistent

The NER includes provision for the distributor to initiate the discussion on the form of regulation and the definition of services between the different categories of regulatory control. This was proposed because of the significant variation across the jurisdictions in the regulatory arrangements for the distributors.

In the Service Standard and Incentive area, a similarly wide range of arrangements exist. There are varying minimum service standards across all distributors and these are expected to continue, to be administered within the local jurisdiction in some manner to be advised. There are varying Service Incentive schemes, primarily in operation in Victoria and South Australia but considered for operation in other jurisdictions. There are varying GSL payment schemes operating in some jurisdictions and considered for the other jurisdictions. There are different seasonal weather

conditions whose volatility can effect the reported performance of a distributor. This is a critical issue if incentive schemes are to reflect distributor performance and not simply pose a risk to the distributor that significantly reflects a weather outcome. There are also different expectations of customers across the different distributor which a distributor is well placed to identify and initiate. A quick summary of three schemes is set out below.

- In SA, the customer preference survey determined in 2003 that most customers (85%) considered that the reliability performance they were receiving was acceptable and were not willing to pay for improved service. However, the other 15% of customers were willing to pay for improved service and therefore the SA incentive scheme focused on the worst served customers. However, there are no regulatory standards associated with these customers and therefore it would seem unlikely that the AER's service incentive scheme could target these customers.
- In Victoria the S-scheme focuses on improving the average performance delivered to all customers. We presume that this scheme is also based on what customers want. This implies that customer willingness to pay is varies across jurisdictions and therefore different scheme should operate in different states.
- In comparison the Transmission Service Incentive Scheme is not designed to improve the performance received by customers but to ensure that a transmission outage does not impact on the wholesale price which is eventually passed onto customers (ie financial impact not reliability impact). This financial objective applies in all jurisdictions and therefore it is appropriate to have on centrally based scheme whereas distribution is based on a service improvement objective that is valued differently across jurisdictions.

One of the enabling systems for such reliability incentive measures is the distributor's reliability reporting system and the ability to track outages back to individual customers. The quality and maturity of these systems varies across Australia, far more so than such systems would vary in the transmission sector. Any move from a distributor-based transitional arrangement to a nationally-consistent scheme would also require successful implementation of quality outage management systems by all distributors as a pre-requisite. Consequently, a national distribution system is likely to be reduced to the lowest common denominator which will be affected by the number of years that reliable outage data is available.

Given this variation in pre-existing schemes, in outage system data, in local weather conditions and customer expectations, it will be challenging for a nationally consistent Service Standard Incentive Scheme to be established. ETSA Utilities recommends that this matter be subject to similar regulatory treatment to that proposed for the form of distribution control, ie that the distributor initiates the discussion on the Service Standard and Incentive areas. This would result in a far more effective scheme operating in each jurisdiction. Customers would also get better value for money from such an arrangement.

In the Pricing section, a series of Pricing Principles are published which distributors must follow. A set of Service Incentive Scheme Principles could be included which would facilitate distributors establishing appropriate schemes that will meet the AER's requirements and provide an effective outcome for customers.

Part D Negotiated Distribution Services

ETSA Utilities can not see a mandatory role for this service category at this time. The only possible candidates are those monopoly or near-monopoly services which are currently managed under the light-handed 'fair and reasonable' pricing test in an efficient and effective manner. The supporting information document makes it clear that this light handed approach is to continue, so we cannot identify any negotiated distribution services.

The mandatory obligation in the draft NER for a distributor to submit negotiated service arrangements should be amended to optional. It is quite probable that a distributor will not have any negotiated services.

Part E Regulatory Proposal

In our response to Part B (see point 3 above), we commented on the need for alternate arrangements preceding the lodgement of a regulatory proposal to deal with the service classifications and the regulatory mechanisms for direct control and alternate control services.

Part G Cost Allocation

The ability of the AER to amend existing cost allocation arrangements previously approved by Regulators and implemented within business, especially if permitted without any requirement to demonstrate good and just reasons, has the potential to enable the AER to impose a constantly changing regulatory environment with significant business implications for distributors. These amendments would potentially be imposed on the business at any time with limited notice. It is considered that these regulatory arrangements are better treated as the equivalent of a Gas Code 'fixed principle' which would require the mutual agreement of the regulator and distributor for the amendment of a previously agreed cost allocation process. It would provide greater certainty and consistency in approach over time.

The proposed rules fail to set out the principles by which the AER may develop guidelines and / or approve a distributor's Cost Allocation Method. The rules should ensure that where a network service provider is fully compliant with generally accepted accounting principles that the AER will accept that Cost Allocation Method.

The new AER guidelines and / or subsequent amendments to the guidelines should give appropriate consideration to the capacity of a network service provider to comply

due to system limitations. This is appropriate where the (amended) guideline reflects a change in existing treatment that has been sanctioned by the previous regulator.

Proposed clause 6.15.4(h) requires that the network service provider maintain a current copy of its Cost Allocation Method on its website. We consider this requirement to be unnecessarily onerous, particularly given the AER will have already approved the Method. This is also likely to give rise to issues of commercial confidentiality where there is information disclosed in relation to services that are subject to competition. South Australia currently has competition in the areas of new customer connection and necessary system extensions).

Part I Ring Fencing Arrangements for DNSP's

Clause 6.17.2 would empower the AER to exercise quite intrusive powers into the operation of distribution businesses. This goes beyond the current regulatory arrangements, and implies a possible move to more heavy-handed regulation. We do not believe that the present drafting of the NER represents the MCE's policy intention on this matter.

The draft NER clause 6.17.2.(b) would enable the AER to issue a Distribution Ring Fencing Guideline which required the legal separation of the network services activity from other parts of a distributor's business. This is a significant level of ring-fencing to enforce onto a distributor as part of a guideline which could (if the AER elected) go far beyond any current jurisdiction arrangements for distribution. We consider that this matter would be better considered as an amendment to the NER if and when specific requirements are identified. This clause may have been copied from that applicable to transmission whilst failing to recognise the different nature of transmission and distribution businesses. Alternately, the clause may be referring to the possible legal separation of a competitive retail entity which has already occurred in many jurisdictions.

Part J Distribution Pricing Rules

In clause 6.18.5, three distribution pricing principles are proposed which require demonstrated compliance by the distributor's. The three principles are economically sound but will be difficult (and costly) in practical terms to demonstrate compliance. Some of these principles may compromise existing pricing arrangements depending on the interpretation of tariff class and those customers served by that tariff. For example, ETSA Utilities has an obligation under the Electricity Pricing Order to undertake state-wide pricing. It is debateable whether the stand-alone cost of serving remote rural customers is within the current level of revenue recovered from these customers, although capital contributions at the time of connection may offset the initial shortfalls. However, as these assets are replaced over time, the long run marginal cost of these services becomes more important and this too may exceed the current tariff arrangements.

The policy intent of the MCE on distributor-wide pricing is unclear at this time. ETSA Utilities presumes that the Electricity Pricing Order continues to apply, and will take precedence over the NER. We would also prefer that these pricing principles are amended to require the distributor to consider these requirements when preparing prices as opposed to demonstrating compliance. Our current regulatory practice has been to consider these pricing principles in our Price Reset submission, but not to consider them explicitly nor demonstrate compliance with them in any subsequent annual pricing approval submissions.

In clause 6.18.6 (d), the side constraint on average prices for a tariff class is $CPI-X+2\%$. This is a very small side constraint, and would result in minimal price movements within a Reset period. A minimum variation for distribution is 3.5% which should be applied in addition to the average tariff movement for the year. This latter issue is designed to recognise the potential variation in price movements each year away from the forecast $CPI-X$ due to the impact of service incentive schemes and revenue control correcting mechanisms (which will be necessary if a price cap is not used for direct control services). For example, a service incentive scheme outcome in one year that penalised a distributor by 2% of revenue would lower prices by that 2%. If in the following year the distributor was to be rewarded 2% under the service incentive scheme (ie move from 2% underperformance against the baseline to 2% out performance against that same baseline) then prices would need to increase by 4% in that subsequent year. Any side-constraint limited price increases to $CPI+2\%$ would result in the distributor under-recovering revenue. We would prefer that the side constraint was the greater of CPI and the average tariff-movement required to recover that year's forecast revenue plus 3.5%.

Part K Billing and Settlements

Clause 6.20.1 permits distributors to charge for distribution services but it does not appear to explicitly allow distributors to recover transmission use of system charges from distribution customers. However, clause 6.20.1(b) requires distributors to calculate transmission use of system (TUoS) charges for each connection point in their distribution network and to pay TUoS to the TNSP. We consider that clause 6.20.1(b) and (c) should be specifically amended to include billing Market Customers and Distribution Customers for DUoS and TUoS.

Clause 6.20.1(c) should reflect that the Distribution Customer, Market Customer and the DNSP must agree prior to the DNSP billing the Distribution Customer directly in accordance with clause 6.20.1(a)(2).

Clause 6.20.1(g) must be identical to clause 6.20.1(b) except that the Market Customer is replaced by the Local Retailer. Currently in SA, there is no relationship between the Local Retailer and the DNSP and therefore the rules need to appropriately recognise the different relationship in different jurisdictions.

Clause 6.20.4 requires a Distribution Network User to pay distribution service charges by the due date. However, we are required to bill the Distribution Customer through the Market Customer under clause (b) and the Local Retailer under clause (g). There is no corresponding requirement for the Market Customer (Local Retailer) to pay the Distributor even where the Distribution Customer does not pay the Market Customer or Local Retailer. The present regime in all jurisdictions requires that the Local retailer pay the distributor irrespective of the payment by the distribution customer. If this existing requirement is not included in the rules it will significantly increase the DNSP's risk and exposure to bad debts.

Currently, the arrangements for connecting customers including prudential requirements are contained within the SA Electricity Distribution Code. The clauses in this section are wanting and presumably will be addressed in the non-economic rules when drafted.

Part L Prepayments and Capital Contributions

6.22.1(b) refers to a distributor's ability to receive a capital contribution from a customer up to the future revenue for that direct control service. We consider that the clause should retain the current arrangements and should refer to the distributor's future costs for that distribution service.

Part M Dispute Resolution

It would seem inappropriate for all small and large customers to be able to dispute their terms and conditions of access to direct control services. ETSA Utilities currently has about 770,000 customers who could each potentially dispute their terms and condition of access which would create enormous workload for the AER and ETSA Utilities for little benefit. This clause may be appropriate for a transmission business but not for a distribution business.

Currently, the SA Electricity Distribution Code Part B establishes the default terms and conditions for small customers (less than 160MWh per annum) for access to the distribution system in SA. These terms and conditions were established by ESCOSA through a public consultation process. Large customers have been able to negotiate changes to these default terms and conditions although the vast majority continue to use the standard terms and conditions. Such a regime should continue under the proposed arrangements.

ETSA Utilities considers that a dispute of the terms and conditions of access should only be permitted by customers whose arrangements do not utilise the standard terms and conditions of access.

Schedule 6.2 Regulatory Asset Base

On our reading of the proposed rules, the method for adjusting the value of the regulatory asset base in the immediately preceding regulatory control period set out in clause S6.2.1(c) fails to provide for an annual adjustment for inflation. To the extent this is the case then this proposed clause requires revision.

Proposed clause S6.2.1(e)(7) removes, from the regulated asset base, assets that are no longer to be used to provide standard control services. Presumably, the AER is intended to have the power to define such issues in a determination. The potential removal of stranded assets in circumstances that are outside the control of the network service provider would significantly and unfairly increase regulatory risk. The intention of this proposed clause requires clarification as it allows outcomes at variance with that outlined in the Explanatory Memorandum.

Transitional Arrangements – NSW, Queensland and SA Electricity Distribution

Transitional arrangements have been proposed for the NSW electricity distribution price reset for 2009 as final NER arrangements have not been confirmed. Subject to the likely rate of progress in respective jurisdictional governments approving the NER, it is likely that some transitional arrangements will be required for the Queensland and SA electricity distribution price resets for 30 June 2010. It may be that transitional arrangements are needed for the initial requirements of these Resets such as the form of regulation control, the identification of different regulated services against those controls and the WACC arrangements. There will also need to be advance clarification by the Jurisdiction (presumably) on the service standards to apply in 2010. ETSA Utilities is concerned as to the extent that the AER information requirements and models will be available in adequate time to enable the May 2009 submission required for these 2010 Price Resets (eg PTRM, efficiency carryover).

The need and urgency for transitional arrangements for the June 30 2010 Price Resets should not be overlooked.



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