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Some thoughts on leverage

Analysts can be misled by measured levels of gearing based on accounting standards, as opposed to actual gearing levels that require appropriate adjustments to disclosed liabilities. This paper re-examines the concept of leverage and identifies key areas where a new approach to assessing leverage is required, very different from that of 20th Century financial analysis.

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THE ISSUE OF LEVERAGE has been the subject of considerable discussion since the onset of the global financial crisis. In the financial sector, it has become apparent that actual leverage had blown out to extraordinary levels. 'US investment banks moved towards very high leverage levels of around 34:1',[1] compared to the Basel Accord maximum leverage for banks of 12.5:1. Leverage has been a concern of the Bank for International Settlements ('BIS') for many years and, as a result, both Basel I and Basel II have capital requirements for credit exposures, which effectively control banks' leverage levels. In many countries, non-bank financial intermediaries were exempt from the Basel requirements, but this is now being addressed both by national prudential regulators and by the BIS itself.

Measuring effective gearing levels

It seems that it is time for a re-examination of how leverage is measured by companies. Traditional measures of gearing do not include operating leases and this may be misleading; moreover, when looking at gearing, it is also useful to undertake some sensitivity testing for companies with large amounts of intangibles. For example, what would be the impact on measured gearing if intangibles were written down by 25% or 50%? It is also important to consider the risks associated with companies that rely heavily on income from associates.

Traditionally, analysts' reviews of leverage have revolved around two sets of ratios: (i) a measure of the relationship between shareholders' funds and funds contributed by third parties; and (ii) the capacity of the enterprise to service the external obligations of the enterprise. Thus, leverage has been measured by reference to total liabilities to shareholders' funds (for corporates) and borrowers' equity to total borrowings (for residential mortgages). Debt service capacity has been measured by reference to some measure of interest cover, such as EBIT/interest or EBITDA/interest.

Financial analysts in lending organisations also examine a range of other factors that affect a company's leverage. Debt maturities are an increasing concern and, as a result, we have recently sighted the emergence of a new (fee-generating) financing product — the forward start facility, which represents a bank's commitment to make a new credit facility available on maturity of a maturing facility up to 18 months ahead.[2]

Lenders also try to reduce their exposure to the risks of excess leverage by imposing financial covenants on leverage levels. However, there appear to be two potential problems with such covenants:

1. Some lawyers responsible for drafting financial covenants are not well versed in the intricacies of accounting policies. There have been instances of financial covenants being drafted without careful definitions of the terms contained in them.

2. Even if the terms are defined adequately, the calculation of the financial covenants will be dependent on the financial statements, and therefore on the applicable accounting policies.

There has always been an uneasy relationship between measures of leverage and accounting policies. News Corporation is probably the best example of why accounting policies are so critical to the assessment of effective leverage. For many years, News had a track record of renaming and then capitalising losses, and of revaluing mastheads and other intangible assets, to boost the value of assets and thereby minimising the impact on the leverage covenants of its relentless borrowings.[3] Most bankers, and many lawyers, now understand the need to define 'assets' more rigorously to prevent treatment of this sort.

In Australia, there are two exceptional examples of the misuse of accounting standards to circumvent traditional leverage covenants.

Manipulation of debt/equity ratios

Appendix 1 sets out the corporate structure of the Adsteam Group just before the group was placed in de facto liquidation by its bankers. Table 1 summarises Sir Ron Brierley's quasi-consolidation of the group.[4]

The significance of Sir Ron Brierley's work is twofold:

1. He was prepared to do the work to look beyond the formal accounting policies to discover the economic reality of Adsteam, which was that the group was grossly overgeared;
2. His work identified that compliance with accounting standards, far from enhancing corporate disclosure and transparency, effectively distorted the economic reality of Adsteam's liabilities: $6 billion of liabilities were concealed through adherence to the existing accounting standard.

The second example, also from the 1980s, was Entrad, where $800 million of borrowings were placed in a trust so as to circumvent the existing consolidation rules.

These, and many other similar 'tricks', resulted in significant adjustments to the accounting standards. The requirement to consolidate was changed *in Australia* from 'majority of shares of the subsidiary company' to 'control of the controlled entity'. It is important to recognise that this standard applies in Australia. International Accounting Standard IAS 27 defines control as the power to govern the financial and operating policies of an entity so as to obtain benefits from its activities. The Australian standard, regarded as an innovation at the time, is therefore now incorporated into IFRS. However, many countries continue to apply the 'majority of shares' requirement for consolidation. It appears that the 'old standard' continues to apply in the majority of countries in the Asia-Pacific region where Australian companies are progressively building significant economic exposure.

These changes to the requirement to consolidate have, in theory at least, negated many avenues for manipulation of the old accounting standard for consolidation in the Australian market and, therefore, for manipulation of measures of leverage. However, material ways of understating leverage still remain.

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As I illustrated in an earlier essay,[5] ABC Learning Centres was able to claim a leverage ratio of 1.14:1 in 2007 whereas, with careful analysis, the true leverage was, in my estimation, 2.03:1. The adjustments that resulted in a near-doubling of leverage included:

- Treating 100% of ABC's redeemable convertible preference share and redeemable convertible reset notes as debt; and
- Bringing the operating leases back onto the balance sheet.

TABLE 1: Sir Ron Brierley's proforma consolidation of the Adsteam associated companies

	Formal consolidation $m	2nd consolidation* $m	3rd consolidation** $m
Total assets	5,979	10,513	11,991
Total liabilities[A]	4,627	8,873	10,347
Total shareholders funds[A]	1,309	1,344	1,358
Debt/equity	*3.53*	*6.60*	*7.62*

Notes: A Excluding minority interests.
* Incorporating David Jones, Tooth & Co, National Consolidated & Petersville Sleigh
** Incorporating IEL & most joint ventures.

There has been continuous debate about the treatment of operating leases. The argument for not including them as debt is that operating leases are structured so that the lessee is responsible for significantly less than the full value of the leased asset. Nevertheless, is there really any difference between operating and finance leases so far as the obligation to service the lease obligations?

In the case of a company leasing industrial premises, there is an argument that, at any time, they can walk away from the premises and, provided they fulfil the terms of the lease, there is no residual obligation. But is that true of ABC's specially designed buildings? They are subject to long-term leases (at what are currently alleged by potential purchasers of individual businesses to be onerous terms) to an associated lessor – the Australian Education Trust, of which Austock Property Management Limited (a company associated with ABC's longest-standing 'independent' director) was the responsible entity.

A second example is the Qantas 2008 annual report, which disclosed the following consolidated liabilities and shareholders' funds:

- Total liabilities $13,965.2 million
- Total shareholders' funds $5,734.9 million.

Prima facie, therefore, consolidated leverage was 2.44:1. However, note 27 disclosed that Qantas had, as at 30 June 2008, a further $3,361.3 million in *non-cancellable* operating leases of aircraft. As an analyst, I would consider it appropriate to include these operating leases in committed debt facilities. The impact of this would be to increase leverage to 3.02:1.

The same adjustment process can be applied to Virgin Blue. The equivalent figures for Virgin Blue Holdings (as at 30 June 2008) are as in Table 2.

This is consistent with the approach advocated for analysis of ABC Learning Centres. Analysts should measure leverage by reference to all committed debt facilities, regardless of whether the accounting treatment requires them to be included in the balance sheet or disclosed only in the notes. This is not to argue that *all* leasing facilities should be added to balance sheet liabilities; only those leases that are integral to the company's operations and are not general purpose assets with widespread general usage.

Conventional leverage ratios are used to determine whether a company has achieved the appropriate mix of debt and equity to finance its assets. The underlying assumption is that all assets are worth at least the values stated in the accounts. Under IFRS, companies are required to assess and confirm that the assets are, in the opinion of the directors, worth no less than such amounts.

However, this still involves the judgment of the directors. It is open to the analyst to review alternative approaches to the valuation, in particular, of intangibles. This question is becoming increasingly moot as (i) an increasing component of Australia's GDP comes from service companies with negligible tangible assets, and (ii) particular sectors can go into consolidation phases, involving mergers and acquisitions and, in many cases, very substantial amounts of goodwill.

The easy approach, and one which is advocated by some banks, is to regard all intangibles as worthless, deduct them from shareholders' funds and recalculate leverage accordingly. This is what the Permanent Secretary to the Prime Minister in the BBC program 'Yes, Prime Minister' would describe as 'a courageous decision'. It implies that the whole of the goodwill or other intangibles is worthless, which suggests that the directors have wasted shareholders' money.

Arguably, a better approach is to explore the impact on leverage of different assumptions as to the value of the intangibles. Table 3 illustrates how this might work with:

- Book value of intangibles: $20 million
- Book value of shareholders' funds: $35 million
- Total assets: $70 million (therefore geared 1:1).

TABLE 2: Restatement of Virgin Blue Holdings Limited's leverage

	Balance sheet (excluding operating leases of aircraft)	Including operating leases of aircraft
Total liabilities ($m)	2,412.6	3,269.8
Total shareholders' funds ($m)	925.3	925.3
Leverage	2.61:1	3.53:1

TABLE 3: Impact on leverage of different assumptions as to value of intangible assets

% Write-down	Written-down value of intangibles $	Write-down of shareholders' funds $	Adjusted shareholders' funds $	Implied Leverage
25%	15,000	5,000	30,000	1.17:1
50%	10,000	10,000	25,000	1.40:1
75%	5,000	15,000	20,000	1.75:1
100%	Nil	20,000	15,000	2.33:1

Analysts should measure leverage by reference to all committed debt facilities, regardless of whether the accounting treatment requires them to be included in the balance sheet or disclosed only in the notes.

In other words, the extent to which intangible assets are written down by the analyst directly affects the analyst's judgment of the level of effective gearing: if the analyst assumes a 50% write-down, the implied gearing ratio increases from 1:1 to 1.40:1.

Debt service capacity

The second measure of leverage involves various measures that attempt to assess the capacity of a company or group of companies to service their income-bearing liabilities. The easiest ratio, and the most common, is EBIT/interest. Like so many ratios, this is fairly easily manipulated, while remaining in compliance with current accounting standards.

In the case of ABC Learning Centres, a 'conventional' interest cover of 5.76:1 could quickly be calculated from the published financials. However, when the above logic in regard to operating leases was applied, interest & operating lease rental cover was only 1.52:1 in 2007, the last year before ABC collapsed.

Turning to Qantas and Virgin Blue again, the 2008 annual reports disclose that Qantas had an EBIT/interest ratio of 5.7 times, which would appear strong. However, the profit statement shows that Qantas paid out non-cancellable operating lease rentals of $399.9 million. Adding these back to profit before related income tax and expense, and net finance income/(costs) and to finance costs gives an adjusted EBIT/finance cost figure of 2.76 times[6] or less than half the disclosed figure.

The equivalent figures for Virgin Blue were as follows:

- EBIT/interest 314.2
- Adjusted EBIT/finance costs 215.7
- Adjusted EBIT/finance cost 1.46 times.

Regardless of the accounting treatment, it is fundamental that analysts examine the underlying structure of companies. ABC Learning Centres was organising the construction of purpose-built child care centres. These were not structures from which ABC was going to walk away after the expiry of the current lease (particularly in view of the association with the lessor). Qantas and Virgin Blue are highly likely to hold on to the aircraft for a significantly extended term. In all three cases, is there any material difference between the legal arrangements giving access to the respective assets and secured debt?

In these three cases, for the alert analyst, the companies' debt service capacity should incorporate the implicit debt service requirements of these off-balance sheet obligations.

A further concern arises when analysts attempt to calculate the debt service capacity for companies that operate what has become known recently as The Macquarie Bank model. This 'model' refers to companies that spin off a series of unit trusts, whether open-ended or closed-ended, and from which the companies derive substantial fees.[7]

By way of example, the following figures are taken from the Centro Properties Limited 2008 annual report.

(All figures in $m)	June 2008	June 2007
Centro properties group consolidated revenue	687.4	365.8
Derived from syndicates		
Property management	82.9	17.7
Development & leasing	30.8	5.9
Funds management	139.2	100.8
Total	252.9	124.4
Percentage of revenue from 'captive' funds	36.8%	34.0%

Appendix 2 contains the equivalent calculations for other 'Macquarie Bank model' companies, not all of which have survived the current economic downturn. In each case, the table identifies the stated amount that non-consolidated associates contributed to group profits. It can be argued that a conventional EBIT/interest ratio should not be applied to Macquarie Group, as the holding company for a licensed bank. However, I have chosen to ignore this for the sake of the discussion.

The figures in Appendix 2 demonstrate that each of the four companies examined shows the same vulnerability to loss of income from associates, and therefore the same

TABLE 4: **Restatement of Qantas Holdings Limited's and Virgin Blue Holdings Limited's interest cover**

	Qantas $m	Virgin Blue $m
Profit before related income tax expense and net finance income/(costs)	1,362.0	167.7
Finance costs	239.1	69.2

vulnerability of their respective capacity to service debt at the holding company level. Subsequent events have demonstrated the value of this analysis: Babcock & Brown and Allco have both experienced 'unit-holder revolts', resulting in the loss of management fee income to the group. However, the loss of revenue goes beyond simply a loss of fund management fee income, in two ways:

1. The fund management company also loses the capacity to generate additional transactions, route them through the captive associates and charge significant transaction-related fees.

2. Fund management fees from captive funds and other associates are regarded as a sustainable profit stream, which can be valued on a stand-alone basis. Loss of that stream of future earnings therefore significantly detracts from the value of the fund management company which will, in turn, impact on shareholders' funds and therefore gearing.

Therefore, from an analyst's point of view, closer attention needs to be paid to the proportion of revenue derived from non-consolidated associates, and the vulnerability of the group's debt service capacity to loss of such income.

Recent events demonstrate that analysts need to be continuously aware of the risks attached to earnings streams from associated entities: in late July 2009, City Pacific lost the right to manage the First Mortgage Fund (described by *The Australian Financial Review* as its main source of income), and Macquarie Airports announced that it was internalising its management by buying out the management agreement from Macquarie Group.

It is arguable that every company with a spread of customers is vulnerable to loss of future income from a loss of those clients. In general terms, however, companies are unlikely to be so dependent on one or more customers that the loss of those clients will imperil the company's debt service capacity. The figures in Appendix 2 illustrate, for four companies deriving income from associated unconsolidated entities, the extent to which their debt service capacity seems to be vulnerable to the loss of income, hitherto considered sustainable, from such entities.

It would not be appropriate to exclude revenues from associates completely from a debt service calculation. Good companies as well as unsuccessful companies regularly

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structure themselves so as to generate sustainable revenue flows from non-consolidated associated companies. A better approach would be to examine the vulnerability of the companies under analysis to loss of some or all of this associated company revenue, particularly as the compensation for such loss might amount to a one-off fee, compared to the loss of (hitherto considered) sustainable operating revenue flows. Applying this logic (which mirrors the approach to intangibles discussed above) to the City Pacific 2007 results, allows Table 5 to be generated.

This table demonstrates that different assumptions as to the vulnerability of associate & SPE interest income included in a Statement of Financial Performance result in different levels of debt service capacity. Thus, if City Pacific were to 'lose' 25% of its hitherto assumed sustainable associate & SPE income, EBIT/interest would fall from 11.0 times to 8.8 times.

Similar calculations could (and should) be made for other companies whose debt service capacity is dependent on a continuing flow of revenues, whether by way of fund management fees or other less recurrent transaction-related fees from associated parties.

Indeed, it appears that, in relation to some associated parties, there has been a growing realisation by directors that their primary duty is to the company of which they are directors, and not necessarily to the company that was responsible for their establishment, for directing the transactions to them and for (in some cases) removing large performance-related fees from them. As this realisation becomes incorporated into the corporate governance debate, it is likely that there will be more, rather than fewer, 'defections' by such associated entities.

TABLE 5: **Impact on interest cover of different assumptions as to sustainability of associated and SPE income**

Stated EBIT '000	Stated interest expense '000	Stated EBIT/ interest	Associate & SPE[8] interest income included '000	% loss of associate income	Resultant EBIT '000	Amended EBIT/interest
150,323	13,605	11.0	123,762	0	150,323	11.0
			92,822	25%	119,383	8.8
			61,881	50%	88,442	6.5
			30,941	75%	57,501	4.2
			0	100%	26,561	2.0

A further observation concerns the reappearance of equity accounting. Those of us who were around during the last significant downturn remember Westmex, whose equity accounting represented a very material proportion of its profits, right up to the time when it collapsed. At the time, equity accounting seemed to have been 'seen off'. And yet what do we find? Allco and Macquarie Bank have both implemented equity accounting. At the time of their last published annual reports, equity accounted profits did not make a material contribution to aggregate profits for either company, but analysts should also be taking equity accounted profits into account when calculating sustainable debt service capacity.

This might be accomplished by undertaking the same sort of 'vulnerability analysis' as was illustrated in Table 5.

More generally, this discussion emphasises the need for analysts and readers of financials to focus on 'form over substance', to identify the 'genuine' external debt service obligations of corporations, regardless of the legal form or the accounting treatment, and to incorporate their own understanding into their analysis and risk rating.

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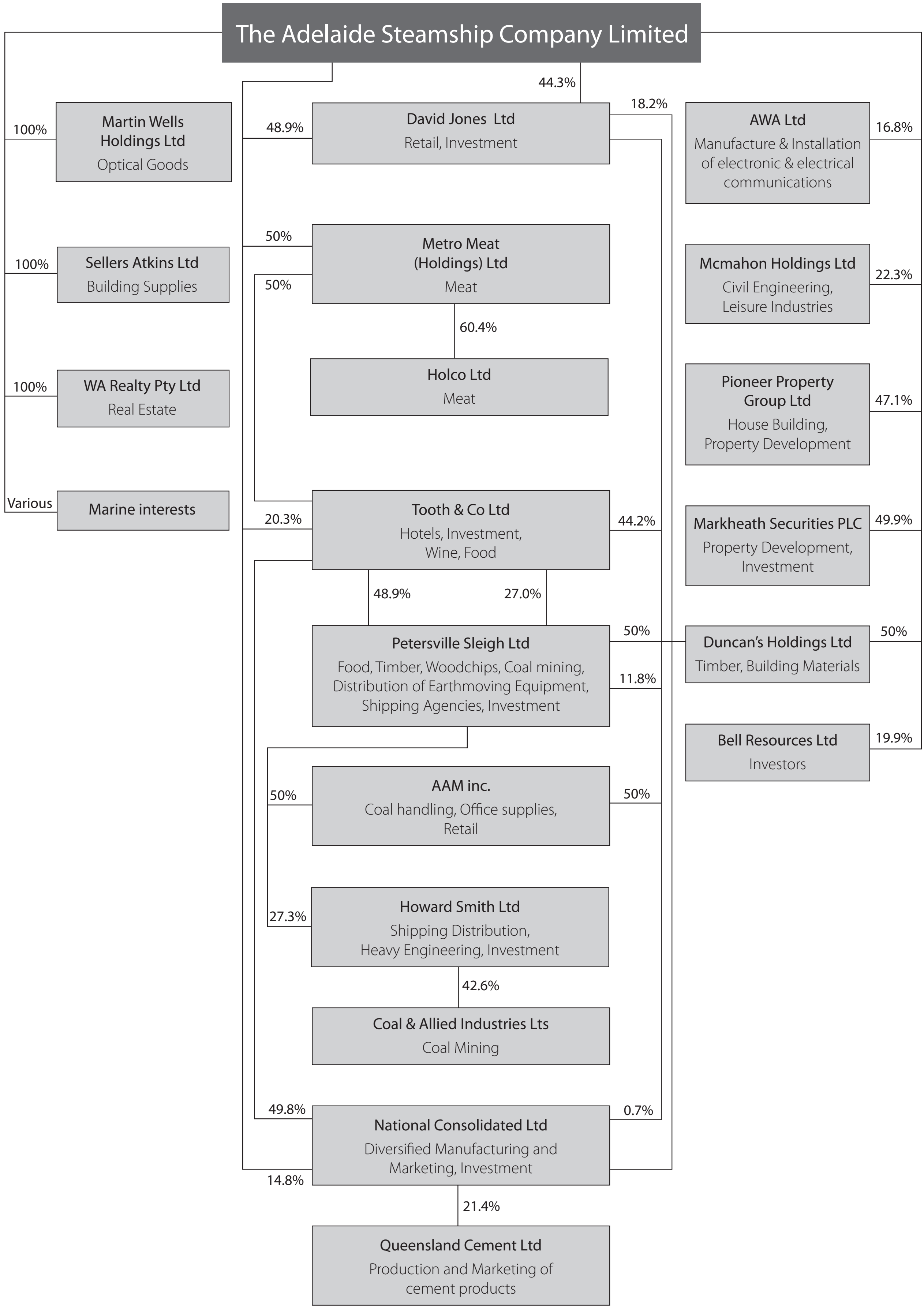
Appendix 1

The Adelaide Steamship Company Limited
– Corporate structure as at December 1989 (Sourced from *Australian Ratings*, January 1990)



Appendix 2

Debt service capacity of selected public companies

	City Pacific		Allco Finance Group		Babcock & Brown Ltd		Macquarie Group	
	30/06/08 ($000)	30/06/07 ($000)	30/06/08 ($m)	30/06/07 ($m)	30/06/07 ($m)	30/06/06 ($m)	31/03/09 ($m)	31/03/08 ($m)
Income								
Interest	24,151	23,780	452	326	223	101	6,420	6,698
Interest-SPEs	61,846	121,491						
Funds management	38,234	18,192	74	63	792	541		
Property development	50	120,129						
Investment & trading		28,115						
Origination fees			41	62				
Fee income					925	764		
Rental & charter			360	542				
Equity accounted earnings			-139	55			74	156
Share of profit/(loss) of associates	-31,682	2,271	267	294	252	140	1,517	1,950
Revaluation		10,494	36	46	272	68		
Other	30,412	47,012	89	-86	927	539	2,997	5,325
Total income	123,011	371,484	1,180	1,302	3,391	2,153	11,008	14,129
Impairments	-161,469	0	1,626	26				
All operating expenses	249,260	221,161	809	551	1,941	1,313	4,537	6,043
EBIT	-126,249	150,323	-1,255	725	1,450	840	6,471	8,086
Interest expense	20,555	13,605	511	418	662	362	5,482	5,881
Profit/(loss) before tax	-146,804	136,718	-1,766	307	788	478	989	2,205
EBIT/interest	-6.1	11.0	-2.5	1.7	2.2	2.3	1.2	1.4
EBIT/interest excl. associates' contributions to profit	-7.6	2.0	-3.0	1.0	1.8	1.9	0.9	1.0

Notes

1 Adrian Blundell-Wignall 2009, 'The financial crisis and the reform requirements', *InFinance*, August, p. 7.
2 Katja Buhrer 2009, 'Banks offer to lock in loans – at a price', *Australian Financial Review*, 20 May.
3 The following note appeared in the 1989 News Corporation annual report under New business start up and termination costs: 'Costs incurred in the development of major new activities are capitalised until the operations are commenced on a commercial basis. Thereafter, these costs are amortised over the period that the benefits are expected to be received'. It is understood that News Corporation applied the same policy when it acquired Sky Italia in the mid-1990s.
4 *Adelaide Steam: the definitive analysis*, self-published by Sir Ron Brierley, September 1990.
5 Andrew McRobert 2009, 'ABC Learning Centres – did the annual reports give enough warning?', JASSA, issue 1.
6 i.e. (1362+399.9)/(239.9+399.9) = 2.76 times.
7 Stephen Long 2007, 'Macquarie Bank model cannot last: Chanos', on ABC's PM program – Wednesday, 30 May, available at www.abc.net.au/pm/content/2007/s1938221.htm. See also, Stuart Washington 2007, 'Winning formula – aggression and persistence', *Sydney Morning Herald*, 19 May. And, in its annual report released on 31 March 2007, Macquarie Bank Limited referred to its funds as follows: 'Specialist funds: Activity in our specialist funds remained strong, with the assets in both listed and unlisted funds performing well. Assets under management in specialist funds increased 50 per cent from $A87.6 billion to $A131.3 billion'.
8 SPE: Special Purpose Entity, a description used in the City Pacific Limited Annual Report, and applied here as a generic description of income from associated non-consolidated entities.