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# A primer on hedge ineffectiveness

Australia and New Zealand Banking Group Limited

# AASB 139- the basic accounting mismatch

An accounting mismatch arises where derivatives are used:

- to hedge financial assets and liabilities that are not accounted for at full fair value, or
- to hedge transactions that will occur in the future

Trading Asset	Trading Liab	Trading Derivative	✓	} The standard predominantly embedded past convention for these situations.
Full FV	Full FV	Full FV		
Bal Sheet Asset	Bal Sheet Liab	No Derivative	✓	
Cost	Cost	N/A		
Bal Sheet Asset	Bal Sheet Liab	Hedging Derivative	✗	} Inherent mismatch in accounting bases. Hedge accounting relief is complex and does not cover all economic hedging activities.
Cost	Cost	Full FV		
Forecast future transactions giving rise to economic risk		Hedging Derivative	✗	
No accounting until future		Full FV		

# Examples of the accounting mismatch

These examples show the accounting mismatch that arises from AASB 139 - prior to the application of hedge accounting.

Example 1: Rec fixed IRS used to hedge fixed rate debt to floating rate.

Example 2: Currency swap used to hedge floating rate GBP debt to floating rate AUD.

Example 3: Pay fixed IRS used to hedge a portfolio of fixed rate loan assets.

Example 4: FX Forward transacted to future foreign currency revenue.

Example 1	Fixed rate debt	Rec Fixed/Pay Flt IRS	
AASB 139 Classification	Financial Liability	Derivative	
Required Measurement	Amortised cost	Full fair value	
P&L	Interest on effective yield basis	Movements in full fair value	X

Example 2	Floating rate GBP debt	Rec Flt GBP/Pay Flt AUD CS	
AASB 139 Classification	Financial Liability	Derivative	
Required Measurement	Amortised Cost	Full fair value	
P&L	Interest on effective yield basis	Movements in full fair value	X

Example 3	Portfolio of fixed rate loan assets	Pay Fixed/Rec Flt IRS	
AASB 139 Classification	Financial Assets	Derivative	
Required Measurement	Amortised cost	Full fair value	
P&L	Interest on effective yield basis	Movements in full fair value	X

Example 4	Future foreign currency revenue	FX Forward contract	
AASB 139 Classification	N/A- will be income in future	Derivative	
Required Measurement	Recognised in future period	Full fair value	
P&L	N/A- will be income in future	Movements in full fair value	X

# P&L timing problems- illustration

**Example 1:** Over 5 year period, this timing mismatch means the P&L recognised for accounting purposes will be significantly different to the underlying economic impact of the hedging derivative.

Receive fixed IRS in example 1 had the economic impact of swapping interest expense to floating rate. The net of the fixed debt payments and derivative settlements is a floating rate of interest.

The benefit of the MTM hedging derivative in a falling rate environment is recognised in advance of the fixed interest expense on the debt causing significant differences in P&L timing. These reverse over the life of the deal:

	Year 1	Year 2	Year 3	Year 4	Year 5	Over Life
Interest on debt	-100	-100	-100	-100	-100	-500
Cash P&L of swap	-10	10	40	40	55	135
Economic impact	-110	-90	-60	-60	-45	-365
FV movement of swap	50	120	60	-140	-90	0
Total IFRS accounting P&L	-60	30	0	-200	-135	-365
Difference (IFRS vs economic)	50	120	60	-140	-90	0

# Hedge accounting solutions

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AASB 139 recognises the adverse impact of this accounting mismatch and offers relief in the form of the hedge accounting provisions. However:

- There are restrictions on what types of instruments and exposures in an accounting hedge. For this reason many hedging derivatives are not designated for accounting purposes.
- Even where hedge accounting is successfully implemented, there is a P&L impact from any ineffectiveness where a hedging relationship is not perfect.

AASB 139 also allows for some financial instruments to be accounted for on a full fair value basis (often referred to as “the fair value option”). This is an alternative to applying hedge accounting. However:

- The use of the fair value option is less effective than hedge accounting at eliminating the accounting mismatch where the fair value of the hedged item includes a credit component that does not exist in the hedging instrument.

# Types of accounting hedges

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There are 3 types of accounting hedges permitted under the standard:

1. **Cash Flow Hedge:** Where a hedging instrument is used to hedge variable exposures into a fixed.
  - Example- floating rate debt converted using an IRS into fixed interest expense. Hedge accounting results in creation of an equity reserve that “shelves” the derivative P&L to be recognised in the correct period over life of trade.
  
2. **Fair Value Hedge:** Where a hedging instrument is used to hedge the exposure to changes in fair value of a hedged item.
  - Example- the fair value of a fixed rate debt liability hedged using a receive fixed IRS. Hedge accounting allows the hedged item to be revalued in the P&L, offsetting the derivative MTM movement over life of trade.
  
3. **Hedge of a Net Investment:** Where a hedging instrument is used to hedge the FX impact of holding a net investment in a foreign operation.
  - Example- An AUD company invests in a USD denominated subsidiary and enters an FX Fwd to hedge the associated foreign currency risk.

# Example- cash flow hedge

	No hedge accounting		Cash flow hedge accounting applied	
<b>Balance Sheet</b>				
<i>Assets</i>				
Cash	DR	10,000	DR	10,000
<i>Liabilities</i>				
Debt liability	CR	-10,000	CR	-10,000
Accrued interest owing	CR	-400	CR	-400
Derivative liability	CR	-800	CR	-800
<b>Net Assets</b>	CR	<b>-1,200</b>	CR	<b>-1,200</b>
<b>Equity</b>				
<i>Current period P&amp;L</i>				
Interest expense on debt	DR	400	DR	400
Full fair value of derivative	DR	800	DR	100
	Loss	<u>1,200</u>	Loss	<u>500</u>
<i>Equity reserves</i>				
Cash Flow hedging reserve	DR	0	DR	700
<b>Total Equity</b>	<b>DR</b>	<b><u>1,200</u></b>	<b>DR</b>	<b><u>1,200</u></b>

Does not change assets and liabilities.

Defers MTM of hedging derivative relating to future period out of P&L and into the cash flow hedging reserve.

The derivative is shown on balance sheet at the full fair value- a loss of \$800.

Cash flow hedge accounting moves the portion of the fair value loss relating to future periods out of P&L and into the cash flow hedging reserve.

P&L reflects the current period P&L of the debt and hedging derivative.

## Example - fair value hedge

	No hedge accounting		Fair Value hedge accounting applied	
<b>Balance Sheet</b>				
<i>Assets</i>				
Cash	DR	10,000	DR	10,000
<i>Liabilities</i>				
Debt liability	CR	-10,000	CR	-9,300
Accrued interest owing	CR	-400	CR	-400
Derivative liability	CR	-800	CR	-800
<b>Net Assets</b>	CR	<b>-1,200</b>	CR	<b>-500</b>
<b>Equity</b>				
<i>Current period P&amp;L</i>				
Interest expense on debt	DR	400	DR	400
Full fair value of derivative	DR	800	DR	800
Revaluation of debt		0	CR	-700
	Loss	<b>1,200</b>	Loss	<b>500</b>
<i>Equity reserves</i>				
Cash Flow hedging reserve	DR	0	DR	0
<b>Total Equity</b>	<b>DR</b>	<b>1,200</b>	<b>DR</b>	<b>500</b>

Debt has been revalued as a result of fair value hedge.

MTM of hedging derivative remains in P&L but is offset by the MTM impact from revaluing the debt.

The hedging instrument is still shown at the full fair value loss of -800.

Fair value hedging revalues the hedged item- in this case fixed rate debt- providing an offset to the derivative MTM in P&L.

The value of the debt liability has moved. No use of the cash flow hedging reserve.



# Example - hedge of net investment

	No hedge accounting		Hedge of a Net investment	
<b>Balance Sheet</b>				
<i>Assets</i>				
Cash	DR	10,800	DR	10,800
<i>Liabilities</i>				
Debt liability	CR	-10,000	CR	-10,000
Accrued interest owing	CR	-400	CR	-400
Derivative liability	CR	-800	CR	-800
<b>Net Assets</b>		<b>-400</b>		<b>-400</b>

## Equity

<i>Current period P&amp;L</i>				
Interest expense on debt	DR	400	DR	400
Full fair value of derivative	DR	800		
	Loss	<b>1,200</b>	Loss	<b>400</b>
<i>Equity reserves</i>				
FCTR from investment	CR	-800	CR	-800
FCTR from hedge	DR		DR	800
<b>Total Equity</b>	<b>DR</b>	<b>400</b>	<b>DR</b>	<b>400</b>

The fair value movement in the derivative is matched to the impact of the hedged underlying in FCTR

In this example there is a Foreign Currency Translation Reserve (FCTR) resulting from the net investment in a foreign operation.

Applying net investment accounting moves the MTM P&L from a hedging derivative out of P&L into the equity reserve.

## Example - hedge ineffectiveness

The preceding examples illustrate perfect hedge accounting. In practice ineffectiveness results from subtle differences between the hedging instrument and the hedged item. Recording ineffectiveness is not the same as failing an effectiveness test.

### Cash flow hedge example

<i>Current period P&amp;L</i>		<b>No ineffectiveness</b>		<b>With ineffectiveness</b>	
Interest expense on debt	DR	400	DR	400	
Full fair value of derivative	DR	100	DR	125	
	Loss	<u>500</u>	Loss	<u>525</u>	
Cash Flow hedging reserve	DR	<u>700</u>	DR	<u>675</u>	

### Fair Value hedge example

<i>Current period P&amp;L</i>		<b>No ineffectiveness</b>		<b>With ineffectiveness</b>	
Interest expense on debt	DR	400	DR	400	
Full fair value of derivative	DR	800	DR	800	
Revaluation of debt		-700	CR	-650	
	Loss	<u>500</u>	Loss	<u>550</u>	

## Example – using fair value through P&L

Using the fair value option can give rise to a MTM P&L impact from credit revaluation that exists in the item that has been hedged but that does not exist in the hedging instrument.

Note that ANZ primarily applies the fair value option to its own issued debt liabilities. This means that where credit spreads widen and the value of our debt decreases the reval impact has a positive impact in P&L.

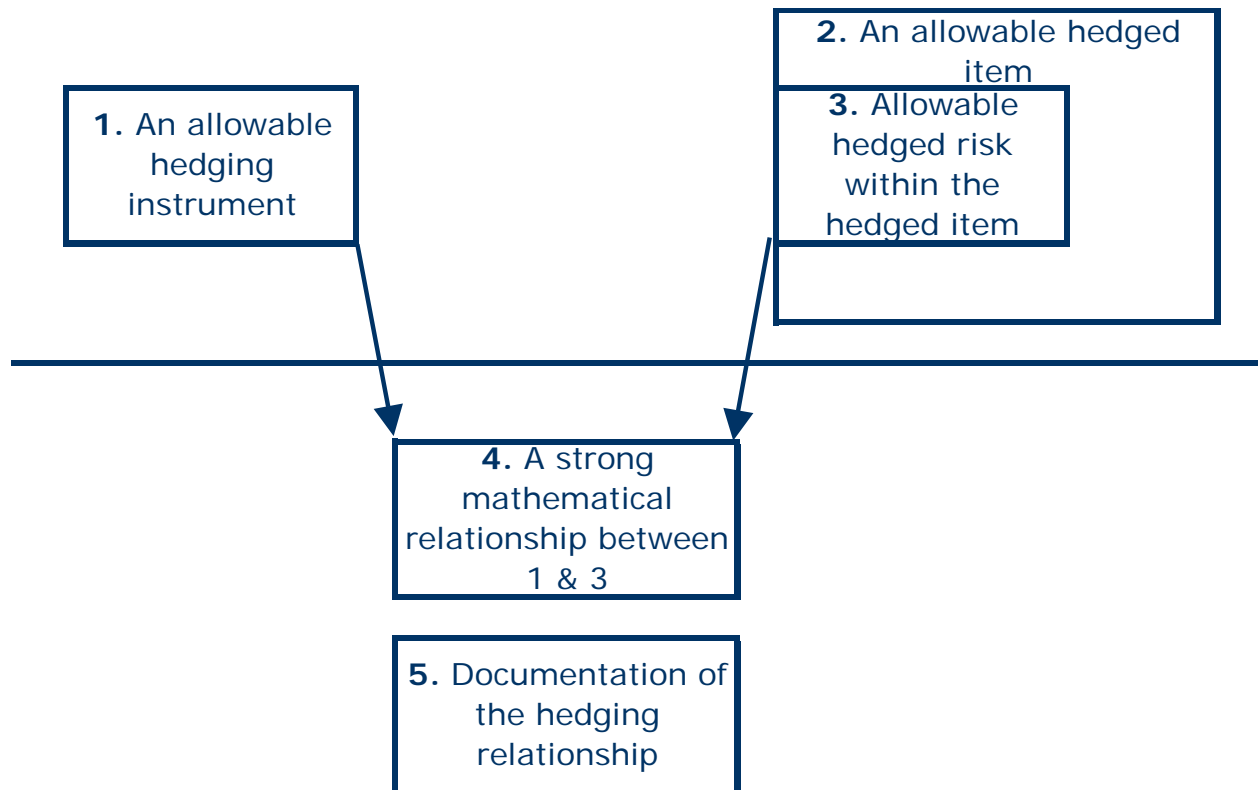
<i>Current period P&amp;L</i>		<b>No ineffectiveness</b>		<b>With credit spread impact</b>	
Interest expense on debt	DR	400	DR	400	
Full fair value of derivative	DR	800	DR	800	
Reval of debt- interest rate		-700	CR	-700	
<b>Reval of debt- credit</b>				<b>-20</b>	
	Loss	<u>500</u>	Loss	<u>480</u>	

# Can hedge accounting be applied?

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To apply hedge accounting the following factors must be satisfied.

The most common reason why hedge accounting is not applied is that certain hedging instruments or hedged items are not allowable in the standard.



# Residual volatility from hedging derivatives

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ANZ applies hedge accounting where possible to the hedging derivatives that are likely to cause a significant accounting mismatch. In some circumstances the fair value option is used where hedge accounting is not applied.

Whilst the use of hedge accounting and the fair value option mitigate a significant portion of the accounting mismatch that arises from ANZ's hedging derivatives, a residual impact remains that is excluded from core earnings. These items are specifically disclosed as:

- Non-compliant hedges - hedging derivatives that have not been designated into accounting hedges.
- NZD revenue hedges - these are a specific type of non-compliant hedge shown separately for transparency and due to potential magnitude. The amount we exclude from 'core' earnings is the Mark to Market of the hedge at balance date, with 'core' earnings still including the 'realised' component of the hedge.
- Volatility arising from the use of the fair value option - where the fair value option is used to mitigate the accounting mismatch and there is an impact of credit spread movements on ANZ's own issued debt recorded at fair value.
- Ineffective portion of effective cash flow and fair value hedges - where hedge accounting is applied yet the accounting mismatch is not completely mitigated.

The profit or loss resulting from the volatility outlined above does not relate to the current accounting period and will reverse over time to be matched with the profit or loss from the hedged item as part of core operating performance.

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