Equalization – The Basics

Equalisation is the method used by funds in order to ensure that every shareholder pays the same percentage of performance\incentive fee no matter when they subscribe to the fund. Equalisation is relevant to all funds in which an incentive fee is paid to an investment manager.

This can be done a number of ways

1. Multi Series accounting – Produces a new NAV for each subscription point.
2. Contingent redemption\Equalisation factor approach – Produces a single NAV per class.
3. Depreciation deposit\Equalisation factor approach- Produces a single NAV per class.

We will look at each of the above methods using worked examples and take them from the basic theory and computations through to booking the entries to Geneva and Avatar.

What happens without equalisation?

First of all, let us take the example of "Admiral Fund Ltd.". The Fund has;

- a single class, Class A,
- Produces monthly NAV's
- Has an incentive fee rate of 20% which is payable quarterly
- The fund has a current High water mark of $100

The NAV's and GAV's for the first 6 months of the year are set out below.

Title	Jan	Feb	Mar*	Apr	May	Jun*
NAV	$100	$105	$116	$100	$128	$136
GAV	$100	$104	$120	$100	$130	$140

***Crystallisation points**

If we then take 3 investors;

Investor A – Purchases 100 shares on Jan 31st

Investor B – Purchases 100 shares on April 30th

Investor C – Purchases 100 shares on May 31st

If we track investor A's shares per month we would get the below table

Investor A		**Shares**	**GAV**	**NAV**	**Value**
Jan	A Buys 100 share at $100 per share.	100	$100	$100	$10,000
Feb		100	$105	$104	$10,400
March	GAV rises to $120	100	$120	$116	$11,600
April		100	$100	$100	$10,000
May		100	$130	$128	$12,800
June		100	$140	$136	$13,600

So at the end of March, when incentive Fees become payable, the GAV per share is now at $120, the HWM is $100 per share , therefore incentive fees payable are (GAV – HWM)*20% = ($120-$100)*20% = $4 per share.

As Investor A held 100 shares, his/her share is $400. This then pushes the HWM up to $120.

At the end of the next crystallisation point (June 30th) the shares have risen to $140 gross value, again the incentive fee is ($140-$120)*20% = $4 and A's portion amounts to $400.

Investor B purchases 100 shares as at 30 April, the GAV per share is $100, costing $10,000. Investor B reaches his/her first crystallisation point at June 30th.

Investor B		**Shares**	**GAV**	**NAV**	**Value**
Jan			$100	$100	
Feb			$105	$104	
March	GAV rises to $120		$120	$116	
April	A Buys 100 share at $100 per share.	100	$100	$100	$10,000
May		100	$130	$128	$12,800
June		100	$140	$136	$13,600

So, as at June 30th, with the above calculated incentive fee per share of ($140-$120)*20% =$4 investors B also owes $400 as at June 30th.

Investor C purchases 100 shares as at 30 April, the GAV per share is $130, costing $13,000. Investor B reaches his/her first crystallisation point at June 30th.

Investor C		**Shares**	**GAV**	**NAV**	**Value**
Jan			$100	$100	
Feb			$105	$104	
March			$120	$116	
April		100	$100	$100	$10,000
May	C Buys 100 share at $100 per share.	100	$130	$128	$12,800
June		100	$140	$136	$13,600

So, the same as above for B, as at June 30th, with the above calculated incentive fee per share of ($140-$120)*20% =$4 investors C also owes $400 as at June 30th.

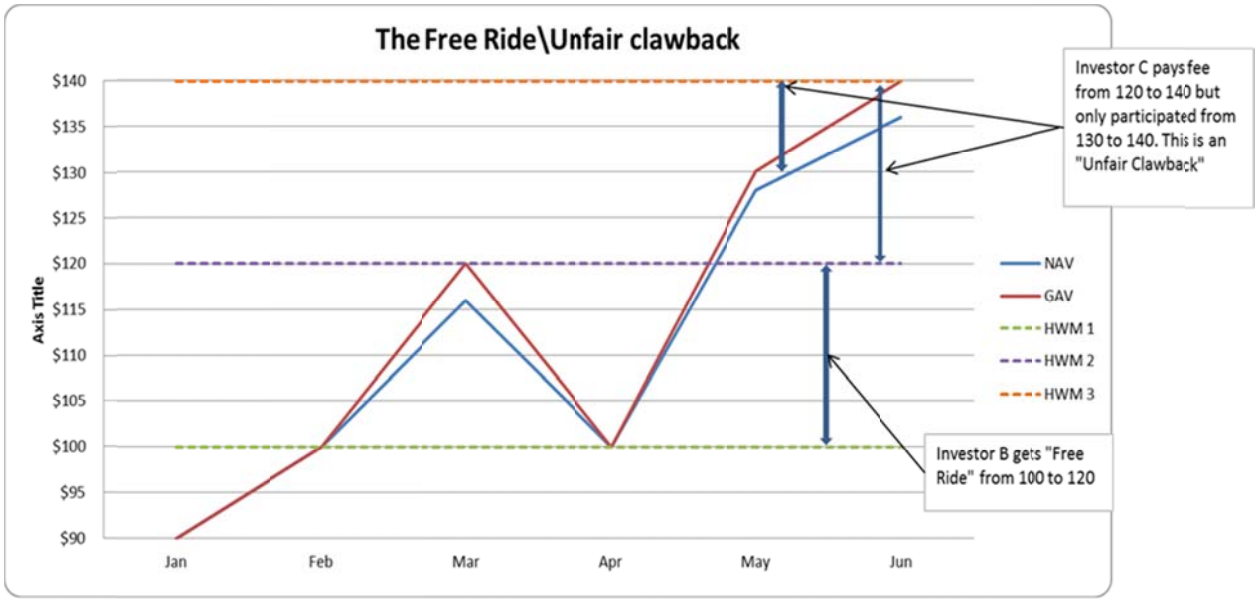
So, if we summarise this performance fee paid over the 6 months we get;

Simple $ per share basis over 6 months				
	A		**B**	**C**
Invested	$10,000		$10,000	$13,000
Gross gain/loss	$4,000		$4,000	$1,000
As a %	40.00%		40.00%	7.69%
Performance fee	$800	(400+400)	$400	$400
Fee as % of gain loss	20%		10%	40%

As is clear from the above, this is not an equitable way to pay incentive fees.

As is seen in the chart below, Investor B has paid incentive fees of only 10%, as he has gained the benefit of the HWM increasing from $100 to $120 without paying any fees; this is known as the “Free Ride”.

Investor C has however paid incentive fees from $120 up to $140 even though they only subscribed at $130 per share, this effect is known as the “Unfair Claw-back”.



The uneven distribution of fees would exist wither the fund was rising or falling, so in order to ensure that the fees are paid evenly we must use one of the above forms of equalisation.

Equalisation in action

While equalisation may seem like an immensely complex subject (which it can develop into if we introduce more variables) if you can gain a good understanding of the below worked examples you should have a good basis for understanding most equalisation related transactions that occur day to day.

As above, we have three ways of dealing with equalisation

1. Multi Series accounting
2. Contingent redemption\Equalisation factor approach
3. Depreciation deposit\Equalisation factor approach
4. Performance fee reserve\Equalisation factor

We will now apply each of these techniques to Admiral Fund to see the effects it has on each shareholder.

Multi Series Accounting

Multi series accounting is considered one of the simplest and transparent forms of equalisations and is prevalent in a US funds . Under this method, instead of having a single class and NAV, each time an investor subscribes to the fund, they are issued with a new series of shares with a $100 GAV (for example). This is then tracked separately to the other series in issue and income/expenses are allocated accordingly. Once the crystallisation point then arrives, the different series can all be converted into the initial series.

If we take our fund from earlier;

Investor A subscribed to Class A as at Jan 1st, using multi series basis, he would have been issued with 100 shares in Class A, Series 01XX (being the month in which the shares are subscribed and XX represent the year) with a series HWM of $100.

Title	Jan	Feb	Mar*	Apr	May	Jun*
NAV	$100	$104	$116	$100	$128	$136
GAV	$100	$105	$120	$100	$130	$140
% Gross inc/dec		5%	14.29%	-16.67%	30.00%	7.69%

As investor A subscribes at the same fund HWM level as series HWM level, the fee to be paid under this method will be the same as before, which we know equals 20% of gains, the real benefit to this method will be seen through Investor B and C.

Investor B buys 100 shares on April 30th; he/she will be issued with 100 shares of Class A, Series 04XX with a purchase price of $100 and series HWM of $100. So once we reach the next crystallisation point, June 30th, our calculation becomes;

(GAV – Series HWM)*20% = ($140-$100)*20% = $8 per share. Therefore, investor B will pay $8 per share, or $800 which is 20% of its gains and losses ($10,000 invested now worth $14,000)

Investor C subscribes on May 31st, when the GAV is $130, however it will issued with 130 shares in Class A, Series 05XX at $100 per share (also having a series HWM of $100). So, when we get to June 30th, using the 8% increase in value, Series 05XX is now worth $108 per share and the incentive fee to be paid is

(GAV – Series HWM)*20% = ($107.69-$100)*20% = $1.53 per share by 130 shares = $200 (slight rounding). This $200 represents a 20% of the increase in value ($13,000 invested now worth $14,000).

What would now happen is,

Investor B's has 100 shares in Series 04XX, valued at (100*$132) = $13,200 these would be converted to shares in the initial series, ($13,200/$136) = 97.06 shares.

Investor C's has 130 shares in Series 04XX valued at (130*106.16) = $13,800 these would be converted to shares in the initial series ($13,800/$136) = 101.47 shares

And all 3 investors would begin at the same point on 1 July having paid 20% of the increase in their investment to the manager.

Contingent redemption\Equalisation Factor approach

If the fund wishes to only maintain one NAV per class another method of equalisation must be adopted. The "contingent redemption"/equalisation factor approach enables the fund to track each investors gain loss and through a series of adjustment, ensure that each investor pays the same performance.

Taking our same examples from above, A has paid fee's in line with the 20%, so we will begin with B.

B subscribes $10,000 on April 30th 2010 when the HWM has risen to $120. When the fund reaches the crystallisation point on June 30th, while B owes his/her $4 per share an adjustment is required to account for his/her "free ride".

A "contingent redemption" is undertaken where the investor pays an additional fee based on the extra personal performance and is calculated as follow;

Purchase date GAV (A)	$ 100
Current fund HWM (B)	$ 120
Personal performance per share C = (A-B)*20%	$ 4
Incentive Fee on 100 shares owned D = C*100 shares	$ 400

Therefore, along with the fund level $400 B owes, he/she also owes $400 personal fee. However, in order to pay this extra amount the fund processes a compulsory redemption of shares with the proceeds to go to the Manager. This is calculated as follows;

Shares owned at June 30th	100
"Contingent redemption value (D above)	$400
NAV per share at June 30th	$136
Shares redeemed ($400 / NAV per share)	2.941176

Therefore, at 1 July 2010 B will be left with 97.06 shares valued at $13,200, the exact same position had multi-series accounting been used.

We can now also look at Investor C. Investor C subscribes $13,000 when the GAV is $130 per share; therefore C is issued with 100 shares. However, as the GAV is currently at a point above the current HWM ($120) we must adjust so that C does not pay for the gains from $120 to $130 that it did not participate in

To do this we give investor C an “Equalisation credit”, this is calculate below;

EQ credit per share = GAV less NAV = ($130-$128)	$2
EQ Credit for C = per share x no of shares.	$200

So C holds 100 shares at a NAV of $128, valued at $12,800 and is also owed a $200 equalisation credit.

This EQ credit is held by the fund until the crystallisation point at which the value is re-assessed.

As at June 30th 2010, we can see that as at the crystallisation point, C owes the $4 per share incentive fee but, in order to balance out C’s actual fee, as the GAV at June 30th is above the subscription NAV of $130 the equalisation credit is returned (we will later see what happens to this credit at valuation dates which are not crystallisation points).

The credit is returned to the shareholders in the form of new shares in the class as calculated below

Shares owned at June 30th	100
EQ Credit to be returned	$200
NAV per share at June 30th	$136
Shares issued (EQ Credit/NAV per share)	1.47

Therefore, C is left with101.47shares in Class A valued at $13,800, again exactly the same position had multi series accounting been used.

Depreciation deposit\Equalisation factor approach

The other method which may be used is the depreciation deposit\equalisation factor approach, for this method the equalisation treatment is exactly the same as above, this differences is the depreciation deposit.

The depreciation deposit is another method to counteract investors getting a free ride. In effect, the investor prepays their share of the incentive fee up front on subscription. For example, if we takes B subscription on 1 April. B wished to subscribe $10,000 for 100 shares in class A. In order to do this B would need to pay an additional depreciation deposit amount calculated as

Purchase date GAV (A)	$ 100
Current fund HWM (B)	$ 120
Personal performance per share C = (A-B)*20%	$ 4
Incentive Fee on 100 shares owned D = C*100 shares	$ 400

While in the contingent redemption this amount is recouped on the crystallisation point here it is paid up front, as this is to be deducted from the cash transferred, a lesser amount is invested in the fund which can lower overall returns. Investor B would apportion $384.62 of its investment to an upfront fee (calculated as 10,000 less GAV\GAV + Fund level fee = 100\104, times investment of $10,000). Therefore $9615.38 is invested in the fund, for which B gets 96.1538 shares.

At June 30th, B's 96.1538 shares are worth $13,076.92. The deposit goes to the IM, which means, on a gross basis B earned $3,846.15 (Gross $40 per share), and paid fees of 384.62 at a fund level ($4 per share) plus its upfront fee of $384.62, which combined is 20% of gross income.

You can see overall returns here are lower (30.76% versus 32% series method), this could only be countered under this method by B investing a further $400 upfront however this is not practical in the industry.

Summary

So in effect all three methods ensure the same things, that all investors pay incentive fees at the same rate. So why then are there three methods to do the same things? Each method has its own advantages and disadvantages when it comes to practice and the introduction of more complicate aspects such as performance hurdles, which are outlined below.

Method	Advantages	Disadvantages
Multi Series	No need to track credits or deficits (simpler)	New series is required at every subscription point and can be confusing to report.
Contingent redemption\Equalisation	Full proceeds are invested Facilitates use of hurdles	Can be difficult for investors to understand compulsory redemptions.
Depreciation deposit\Equalisation	Transparent – fee set aside in advance	Not all subscription is invested, may lower overall returns. Difficult to apply hurdle rates.