

# Intrinsic Value

Oscar Wilde writing in 1892 had Lord Darlington in *Lady Windermere's Fan* say "A cynic is a man who knows the price of everything and the value of nothing". The quotation has entered the vernacular, with professionals from estate agents to economists being substituted for cynics and then castigated for their real or imagined lack of sensitivity to value. So quite unusually for Wilde he may well have understated his case, for whilst value and price are quite different it is not only cynics that confuse them. In general, it seems, there is a better understanding of the concept of price than there is of value. Price (a tangible quantity) is what you pay whilst value (an relative intangible) is supposedly what you get.

To see the basic difference between value and price, consideration need only be given to any commercial transaction. In such a transaction assume there are two participants, one of them selling a product or service and the other buying it at an agreed price. Now for the deal to be consummated with each party satisfied, there must inevitably be a different idea of the value of the product or service between the two participants. The reason is that in an efficient, liquid marketplace a rational and willing buyer of an asset will not pay more than his idea of value for that asset whilst a rational and willing seller will not sell at anything below her idea of value. Thus mathematically,

for the buyer:  $\text{Value} > \text{Price}$

but for the seller:  $\text{Price} > \text{Value}$ .

But if a deal is to be done then price must be the same for both buyer and seller!

The only conclusion then is that for every deal the buyer and the seller must differ in their estimate of value. Unfortunately however for every deal only one of them can be right. Either the seller sells too low or the buyer buys too high. So why do buyers and sellers have to have different ideas of value? The answer lies in both objective and subjective factors. The objective factors are encapsulated in the idea of the Intrinsic Value of an asset, whilst the subjective factors would include each party's (imperfect) information about the asset, market factors and, perhaps in volatile markets, by one or both parties getting carried away by greed or fear.

So Intrinsic Value is normally defined as the value of a marketable asset without regard for the vagaries of market driven supply and demand. It is the value an asset, independent of the price that asset might fetch in a marketplace either today or in the future. It is an attempt to place a value on an asset using purely objective criteria. It is not a new concept either, for already in the eighteenth century Adam Smith was writing about the difference between what he called 'value-in-use' and what we might term intrinsic value and 'value-in-exchange' better known to us today as price.

The reason equity investors might be interested in Intrinsic Value is to attempt to get a rational, objective valuation of a share that will hold good irrespective of stock market movements. This so that investors can obtain an independent comparison of value with the price the market is offering.

The major users of Intrinsic Value are value investors. These are investors who are less likely to be concerned with short term market movements, technical analysis or momentum, but whose expectations might be for a gradual increase in both the return from, and the capital value of, their investments as the years go by. Their investment style might be characterised by such factors as patience, prudence, simplicity and self discipline. They would see a market price deviation from an intrinsic valuation as the major reason to buy or sell a stock - and when discussing stocks they might well tend to use 'value' as a noun whilst only using 'price' as a verb (the value of the stock is £xxx, but it is priced at £yyy). A long term value investor would be convinced that over time the price of any marketable asset will at some stage revert to its Intrinsic Value. The process of reversion might be long, it might also be somewhat erratic - but whatever the asset, at some time revert it must.

In exploring the relationship between the value and the price of equities it is worthwhile to consider that in aggregate real terms and for the whole equity market, growth in stock values (and indeed growth in prices long term) is dependant on growth in enterprise earnings. However growth in real aggregate enterprise earnings can not exceed growth in enterprise revenues except for short periods of time. Again in aggregate real terms over the

whole market and in the long term, growth in enterprise revenues can not exceed the growth of the economy as a whole. Thus to summarise mathematically:

Growth of the economy > Growth of aggregate enterprise revenues  
Growth of aggregate enterprise revenues > Growth of aggregate enterprise earnings  
Growth of aggregate enterprise earnings > Growth of aggregate enterprise value

Thus for every enterprise chairman who proudly announces a forecast of double digit earnings growth into the foreseeable future whilst the growth of GDP is less than 2%, there must be another chairman unfortunate enough to be leading an enterprises that is shrinking at an alarming rate. In his book on Warren Buffett published in 2000, Timothy Wick pointed out that at the growth rates implied by US market prices in 2000 compared to the growth rates forecast for US GDP (3%), the whole of US GDP in 2020 would be represented by just 7 existing enterprises. Either therefore prices reflected vastly too high a growth rate or the risks to these growth rates were not properly priced or less likely the US GDP growth was sorely understated. The inescapable conclusion however was that price was way ahead of value. There are many who think that similar conditions still apply to the US and to a lesser extent to the UK markets for whilst prices have fallen, Intrinsic Values could have fallen far farther.

The calculation of Intrinsic Value is not difficult. All that is needed is a calculator with discounted cash flow capability, for Intrinsic Value is simply the discounted sum of future returns from the asset. For example, take an undated UK government bond. This is as an instrument that will generate a risk free return into the future. Thus to obtain its Intrinsic Value, it is merely necessary to discount the income from the bond by the long term interest rate over a sensible time frame. The only way this calculated Intrinsic Value would alter would be if long term interest rates were to change (due say to changing inflation prospects) or indeed were the investor to change the time scale over which he was discounting. However this calculated value will not be quoted as the price of the bond, as its price will depend on supply of the bond by the government and the demand for it by investors, insurance companies, pension funds etc.

To calculate the Intrinsic Value of an equity a similar methodology is used. Again it is the discounted sum of the income from the equity over a suitable time period. However whilst a bond is an asset with a fixed annual return and in the case of a government bond deemed to be risk free, an equity is an asset with an income stream that is always at risk. Neither the amount nor the timing of the income stream is in any way guaranteed. Thus for sensible value calculations, good estimates of future revenue flows from the equity need to be understood. These revenue flows can be either earnings, cash flows or dividends - but it is worth noting that in the latter case the Intrinsic Value of a non dividend paying equity would be zero.

The discount rate in the case of an equity is usually taken as being the cost of capital of the enterprise (often now quoted in Company Accounts). However as this type of calculation inevitably implies taking a view of returns into an unknown future, a good check is to make a further calculation based on the build up of value over preceding years. This type of valuation is based on economic value added (EVA) and hopefully (and usually) the two values prove to be not a million miles apart. For the basic discounted returns calculation, however, it is the differing ideas of investors to the risk to the returns that cause most trouble in the estimation of Intrinsic Value. Thus if the two market participants mentioned earlier are to complete satisfactory commercial transactions, it is the differing tolerance of each to the risks to future returns and thus the differing value they assign to these risks that allow deals to take place.

So what might cause Intrinsic Value to change? Well obviously not subjective factors such as how the investor feels, his need to deal, his need for cash, his investment time horizon or the intermittent panics of market participants - for whilst these parameters might well change price, they should have no effect on value. However Intrinsic Value can change for reasons involving the enterprise itself or because of external macroeconomic change.

Enterprise specific factors might include changing factual (rather than anecdotal) information about the enterprise, changes in its strategic direction or genuine worries about long term growth (but not necessarily about short term profit warnings or what the latest hot-shot analyst might think). It could well be an investor feels that an enterprise has become substantially riskier and that again will change Intrinsic Value. An enterprise might be tempted to report its earnings in a way that disguises its true financial condition and certainly with an earnings per share measure, the disguises can be many and varied.

Attempts at financial engineering also can affect Intrinsic Value. Enterprise managers sometimes try to boost earnings per share by buying back their own shares (apparently always thinking them cheap) and financing the purchases by debt. An increase in the amount of debt can affect the riskiness of the enterprise and its cost of

capital and thus its Intrinsic Value. Enterprise managers also sometimes suffer from the delusion that they are better able to manage enterprise owners' money than the owners themselves and thus they reinvest earnings rather than pay dividends. In Robert's Schiller's book *Irrational Exuberance* published last year, he shows a chart of the present value of discounted dividends compared to stock prices over the period between 1871 and 2000. Up to around 1990 the chart shows good correlation between the two parameters. Since 1990 however the two lines have diverged and over the last three years that divergence has become massive. A sign perhaps of the difference between value and what the market will pay for it. The only way for the equivalence between the two to be restored would be for value to increase, maybe by increased dividends based on a higher pay out ratio or by dividend growth based on an even faster growth in earnings. It is more likely, however, that equity prices will adjust in the time honoured manner.

Macroeconomic economic factors that might affect Intrinsic Value can include changes in long term interest rates, new factual information, demography changes and risks that are as yet unknown.

Long term interest rates have remained remarkably stable over the last year or so, in spite of the rapid reductions in short term rates, and thus Intrinsic Values have not be much affected. Short term rate changes, by affecting market liquidity, might alter stock prices. However short term interest rate reductions will not have an effect on stock value (but might well, by acting to exacerbate a credit bubble, cause prices to fall back as and when the bubble bursts). New factual information can also change Intrinsic Values in several ways. Increased enterprise risk, higher cost of capital and lower prospective long term earnings are obvious examples.

Changing demography can also play an important part in the calculation of intrinsic value as it can change the risk profiles of enterprises. An ageing more conservative population could, for instance, reduce the risk to prospective increased earnings from pharmaceutical enterprises but increase the risk of an earnings decline in such areas as business class travel, premium rate city hotels, night clubs etc. Similarly demographics play a part in the changes affecting pension funds, for if mature funds will more often in future be investing in corporate debt this might affect the process whereby enterprises buy back their shares - financing the buy back by issuing corporate bonds. The result for holders of these enterprises' equity is, as mentioned before, an increase in risk as the gearing of their enterprise has thereby been increased. A further long term demographic change that might affect the Intrinsic Values of equities is the trend to increasing wealth transfer from shareholders or enterprise owners to the enterprise employees through the expansion of non shareholder-wealth-performance-related schemes as bonuses or some stock option schemes. The effect is to dilute and/or reduce long term individual shareholder funds, and thus to decrease Intrinsic Values.

A further macroeconomic change that might affect Intrinsic Values is extra risk external to an enterprise. Known risks can be measured and account taken of them, however it is the small chance of catastrophic change that will certainly affect Intrinsic Value. In his book *Debt and Delusion* published in 1999 Peter Warburton talks of several such risks, one very perceptively being catastrophic terrorist attack, however others include a bond market collapse in the US, a realignment of the price of debt (both these latter events would force long term interest rates very much higher), a financial collapse in Japan and the possibility of natural disasters.

So in conclusion, for the long term value investor, Intrinsic Value is the major comparator for market price. Intrinsic Values are calculated on the basis of existing and forecast revenue streams, known macroeconomic conditions and understood risks. However it is not unusual for prices to differ substantially from most estimates of Intrinsic Value for long periods. To paraphrase Ben Graham's celebrated metaphor, it is only by comparison with Intrinsic Value that it can be seen whether Mr Market is in a foolish mode and whether there is the opportunity to profit by him.

However there is no investment 'holy grail' and as with any investment parameter, Intrinsic Value is a tool best used in conjunction with other inputs.

So for investors that want to be comfortable with their long term holdings, there is an old but relevant mathematical equivalence:  $\text{Contentment} = \text{reality}/\text{expectations}$ .

As an understanding of Intrinsic Value is the closest an investor will get to the real long term value of his stock, it is therefore a good surrogate for reality. Expectations of a price far in excess of the reality of Intrinsic Value in the long term is thus unlikely to result in happiness. However expectations of a price approximating to Intrinsic Value should give rise to sound sleep, worry free holidays and long term investment success.

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