

Efficient Markets Hypothesis

Although something of a chameleon (Findlay and Williams, 2008), the efficient markets hypothesis (EMH) reduces to a claim that ‘you can’t beat the market’. In its weak form, it holds that past financial data are no guide to the future. In its stronger forms, it maintains that financial asset prices represent ‘fundamental value’, except to the extent that they are deflected by temporary departures from rationality. Despite the various financial crises during the period of financial liberalisation, together with much academic criticism based on empirical evidence as well as the actual practices of professional investors, the hypothesis remains tenacious. This persistence reflects its intimate relationship with the core concept of rational expectations that underpins mainstream macroeconomics and financial economics.

The Post Keynesian perspective is that there is no such thing as fundamental value, except with hindsight. However efficient may be the transmission to investors of all available information about the real economy, the future events which will determine the *ex post* value of long-term assets are inherently unknowable. Expectations about the long-term future are intractably uncertain in the sense which Keynes and Knight distinguished from statistical random variation. This difference in perspective leads to differences in the interpretation of the empirical evidence and in policy recommendations.

The weak form of EMH emerged as a theoretical response to the empirical evidence that stock market prices follow a ‘random walk’ so that they cannot be predicted from patterns in past data, e.g. by charting – it holds that such information is already reflected in the price. Further evidence was sought through ‘event studies’, which analyse the price movement before and after a price-sensitive announcement, such as an unexpected increase or drop in earnings. These studies largely confirm that new information is rapidly incorporated in the price, although they also provide evidence of specific patterns of psychological response which have become the stuff of behavioural finance (see below).

The stronger forms of EMH take this evidence to mean that, outwith periods of collective madness, prices reflect fundamental value, i.e. the present value of the future cash flows on which the security is a claim. In other words, prices reflect rational expectations based ultimately on the general equilibrium parameters of endowment, technology and preferences. Thus prices will display random variation as news comes in of random shocks to the parameters, which are by definition unpredictable. The semi-strong variant of EMH allows that insiders may have advance knowledge of such news and can (illegally) profit thereby.

However this evidence is equally, if not more, consistent with the Post Keynesian view that securities prices are a matter of convention. In the absence of a reliable basis for forming long-term expectations, what matters are the expectations and intentions of other investors (Glickman, 1994). A conventional valuation is the price that balances the bullish and the bearish tendencies in the market (and indeed in the minds of particular investors) and represents the average opinion or conventional wisdom as to the correct price, given the current information (Hayes, 2006; Keynes, 1936, chapters 12 and 13). This price should therefore continue to prevail until there is change in the information – or, of course, in average opinion. The convention typically extends not just to the price itself but to the ‘model’ such as a conventional price/earnings ratio. A change in the news may thus affect the price without a change in convention, and as Keynes points out, ‘we should not conclude that everything

depends on waves of irrational psychology. On the contrary, the state of long-term expectation is often steady' (Keynes, 1936, p. 162). Conventional valuations may normally be fairly robust and bear some steady relationship to the changing information that becomes available, although always open to discontinuous shifts.

In principle, fundamental value can be identified in retrospect by observing the market interest rates and the money yield of an asset over its economic life. However the attempt to estimate that value in advance faces the insuperable obstacle of the irreversible, historical nature of time. As Keynes puts it:

The outstanding fact is the extreme precariousness of the basis of knowledge on which our estimates of prospective yield have to be made. Our knowledge of the factors which will govern the yield of an investment some years hence is usually very slight and often negligible. If we speak frankly, we have to admit that our basis of knowledge for estimating the yield ten years hence of a railway, a copper mine, a textile factory, the goodwill of a patent medicine, an Atlantic liner, a building in the City of London amounts to little and sometimes to nothing; or even five years hence. (Keynes, 1936, p. 149)

The problem is the durable character of physical capital assets: if the expectations upon which an investment was based prove mistaken, it is not possible either to reverse the investment today or to go back in time, adjust the original investment decision, and then check the revised results in the present. It is only in a stationary or steady state (allowing for stochastic risk, an 'ergodic' system) that adjustments made today might (given stable dynamics) be expected to have the same effect in the future as the same adjustments, made in the past, would have had today. So the convergent feedback mechanism necessary for supply and demand to generate a set of long-term equilibrium 'normal' prices, as a fundamental basis for the prospective yield of a capital asset, is absent in a world subject to unforeseeable change.

Perhaps the decisive empirical test which discriminates between the efficient markets and Post Keynesian hypotheses is the variance bounds test (Shiller, 1981). The logic of this test is that if prices are a good *ex ante* estimator of fundamental value, the volatility of prices should not exceed the volatility of *ex post* fundamental value. Using US data for 1871-1980, Shiller found that price volatility was at least five times the volatility in fundamental value, rather than less, as the stronger EMH predicts. Much ink has been spilt in an effort to overturn Shiller's claim, motivated presumably by the correct instinct that investors do not normally behave irrationally. Yet if price volatility reflects variation in conventions as well as in the news about technology, preferences and endowment, Shiller's result is fully to be expected, since conventions may change frequently without a descent into irrationality. Furthermore, equity prices will follow a random walk, if news is random and *a fortiori* if changes in conventions are also random.

Behavioural finance theory offers a critique of the EMH on a different tack from the Post Keynesian position, as well as a positive model of investor psychology that provides an explanation of apparently irrational behaviour. A weakness of behavioural finance is its continued adherence to the concept of *ex ante* fundamental value, if only as a reference point. The implication is that any departure from fundamental value is in some sense irrational, in contrast with the Post Keynesian argument that conventional valuation may be the only rational response to an unknowable future.

The behavioural finance critique of the EMH centres on the limits to arbitrage by the 'smart money' (i.e. investors with rational expectations) in offsetting irrational trading by 'noise traders' (i.e. investors who trade on the basis of 'non-news' or 'pricing

models' with no rational foundation). Risk-averse arbitrageurs will not be able to hold the market to its fundamental value, partly because they are unable to hedge the market as a whole over time; and also because the noise traders may push the market further away from fundamental value before it reverts, while credit costs and limits tend to prevent arbitrageurs from taking longer-term positions. Worse still for the purposes of the EMH, the 'smart money' may egg on, rather than betting against, the 'feedback traders' (i.e. a species of noise trader who buys when prices rise, and sells when they fall), supporting rather than preventing the expansion of a bubble.

The positive contribution of behavioural finance theory lies in providing a basis in investor psychology for the behaviour of noise traders. Drawing upon work in experimental psychology, the observed behaviours of trend-following and of under- and over-reaction to news, can be explained in terms of 'conservatism' and 'representativeness' (Shleifer, 2000, pp. 112–30). Conservatism means that investors are slow to revise their expectations, effectively discounting the relevance of individual news items until they are corroborated. This tendency manifests itself in event studies which show that excess returns are recorded for a considerable period (60 days) after the announcement (under-reaction). Conversely, representativeness means that investors form perceptions of particular shares as 'winners' or 'losers' based on a run of good or bad returns, rather than ascribing the observed sequence to chance, and thus rating the shares higher or lower than the EMH would warrant, manifested in lower or higher future returns (over-reaction). Taken together these two tendencies provide a behavioural foundation for positive feedback, with a run of good returns encouraging bullish expectations, which are then slow to react to disappointment. There may well be scope for research incorporating the insights of behavioural finance into the formation of conventions.

The EMH has provided part of the theoretical foundation for the ideology of financial liberalisation and globalisation. Deregulation of financial markets and the abolition of capital controls are justified ultimately by the idea that competitive financial markets allocate capital efficiently and spread risk. Deeper still, the understanding of probability that underlies the EMH, reducing the uncertain future to calculable risk, encouraged the shift to securitisation and the proliferation of increasingly opaque derivatives that faced their nemesis in 2008.

The Post Keynesian perspective on the financial sector is very different. First, there is recognition of the well-established empirical evidence that the vast majority of physical capital formation or accumulation is financed from the internal cash flow of large corporations supplemented to some extent by bank credit lines. The social purpose of the stock market is not to finance new physical investment but to permit transfers of existing assets, including corporate control. Secondly, there is recognition of a tendency to financial fragility, driven partly by the speculative opportunities provided by the equity market, but also by those of the housing market in certain countries such as the UK and US, and of currency and commodity markets at other times and places. Thirdly, there is full recognition that exchange rates do not reflect fundamentals and furthermore that equilibrium in the balance of payments need not be consistent with full employment.

From this perspective flow detailed policies, which in present circumstances look radical but in certain respects are a reversion to older wisdom. These include high transaction taxes on capital transfers, the reform of corporate governance, alternative financial institutions designed in fact to channel long-term savings into physical

investment, nationalisation or close regulation of institutions offering retail financial products (such as deposits and pensions) that carry an explicit or implicit state guarantee, and a reassertion of the right of states to regulate capital flows and exchange rates together with the need for reform of the international financial institutions.

Post Keynesians would, in the words of Winston Churchill, see finance less proud and industry more content. The comfortable hypothesis that asset prices are, on average, reliable indicators of fundamental value has proved exceedingly dangerous.

References

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