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**REVISITING THE FAIR VALUE OF PRIVATE EQUITY**

Comments on the Exposure Draft of Proposed Amendments to IFRS 3 *Business Combinations* is published by the International Accounting Standards Board (IASB).

The valuation issue IASB attempts to resolve by using fair value in IFRS3 is recognised and appreciated. However, any accurate reporting rule has to comply with economic theories to be proper. This document explains why fair value concept is not applicable to private equity from an economic point of view. Practicing professionals would not disagree with the hard but true facts presented below. This does not make your job easier. However, with courage to face the truth and insight, which you do not lack, I am confident you can reach a more accurate proposal.

Kind Regards,
Loay Rabieh
Introduction

The fundamental school of valuation believed that all equity should eventually trade at intrinsic value. If market value is higher than intrinsic price, the asset is described as overpriced (i.e. it is too expensive to justify the expected return given its risk characteristic). In an efficient market, investors will soon switch to more attractive opportunities, driving its price down. The opposite will occur to underpriced assets. Hence, one would expect all equity prices to converge to intrinsic value at the end of the day, that is if investors are knowledgeable, rational, and the market is efficient.

This paper closely examines the concept of one value. To do that, it examines a similar accounting concept called 'fair value' to determine the validity of it in the case of private equity.

What is fair value?

Fair value is defined as 'the price at which an asset or liability could be exchanged in a current transaction between knowledgeable, unrelated willing parties' (FASB, 2004; IASB, 2005; IVSC, 2005; AFIC, BVCA and EVCA, 2005).

The concept implies that investors and entrepreneurs should conclude on the same fair value at a given point in time\(^1\), given the above assumptions. To better understand fair value, it is important to learn how it is calculated. IASB (2005: A1-A26)\(^2\) suggest that fair value is best measured using the consideration transferred (i.e. price paid), in absence of evidence to the contrary. In cases where no consideration is transferred, if consideration cannot be measured easily or if there was evidence that transaction is not an exchange of equal values, then fair value should be based on observable prices for a business that is similar to the acquiree’s.

\(^1\) Although the definition does not specify the one value per se, the method of calculation suggested by the standards suggests this. Refer to FASB (2004) and IASB (2005) for details.
\(^2\) This source is not very different from what other sources propose (Barlev and Haddad, 2003).
With unavailability of such information, multiple valuation techniques should be used to determine fair value. Those techniques include the market approach (i.e. the earlier explained relative valuation method) and the income approach (i.e. the earlier explained discounted cash flow and residual income methods) (ibid:70-72).

**Historical development**

This concept was first introduced by accounting standard setters in the 1970s as part of the development of accounting standards (Gray, 2003). It was later adopted by many accounting regulatory bodies, e.g. in the USA (FASB, 2004) and Europe (IASB, 2005) to replace the historical cost convention\(^3\). Standard setters argued that fair value better reflects the underlying economic condition of a firm and is a more relevant form of measurement (Choy, 2005). The acknowledgement became legal (e.g. US laws (Letsoo, 1998), European laws (DTI, 2004b)) and recommended by many valuation standard setters (IVSC, 2005; AFIC, BVCA and EVCA, 2005).

Barlev and Haddad’s (2003) study on the history of fair value links it to value relevance research\(^4\), which proves that fair value better represents a companies’ financial positions than historical value (e.g. Barth et al., 1998; Barth & Clinch, 1998; Higson, 1998; Kallapur & Kwan, 1998; Muller, 1999; Petroni and Wahlen, 1995). However, all earlier mentioned research was done on public companies.

**Benefits of fair value**

As mentioned earlier, the shift from the historical cost convention to fair value provided more relevant information to investors. This information better reflects the share prices (Barth, 2000), this is partly due to a better reflection of economic gains

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\(^3\) Choy (2005) explains that in the 1920s and early 1930s, it was common for companies in the US to revalue assets by writing them up or down to reflect their current value (Fabricant 1938). After the SEC was established in 1934, it informally discouraged this practice by issuing a Letter of Deficiency requesting registrants to provide additional information about asset revaluation. Since such a request often led to costly delays in the registration process, most firms simply reported the assets at historical cost (Walker 1992). By 1940, few firms revalued their assets, but some disclosed the reappraised value of property, plant and equipment in the footnotes (Walker 1992).

\(^4\) Value relevance research assesses the extent to which published accounting figures reflect information used by equity investors (Barlev and Haddad, 2003).
attributed to brand value (Kallapur & Kwan, 1998). It also allowed better assessment of pensions obligations as opposed to book value (Barth, 1991).

Researchers also found a positive effect on management performance when adopting fair value. Barlev and Haddad (2003) claimed that embracing the concept decreased agency problems. Further, Rees and Stott (1998) found that employee stock options provide more incentive in firms who embrace fair value, compared to those that do not, especially in growth oriented firms.

The legal system also benefited from the implementation of fair value. For example, Hanlon and Shevlin (2001) found a considerable reduction in earnings management and corporate tax sheltering when fair value reporting was adopted. The fair value concept also provided legislators with the means to calculate, among other things, the amount of compensation one is entitled to or the share of wealth between heirs or legal partners.

**Fair value revisited**

The concept received very little criticism compared to the applause it gained. Earlier sections show that justification was by inference through value relevance research. This research showed a better relation between equity reported at fair value and market prices. However, it did not explain the economic reason behind such a relation. Further, most of the research was done on public firms and not on privately held ones. This section reviews economic, financial, strategic and entrepreneurial theories in an attempt to examine whether such a relation exists in the case of private equity.

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5 The agency problem is a potential conflict of interest between the principal (owners or creditors) and agent (management) since the latter might not have the former's interest as first priority (Brigham and Houston, 1998). The presumed better reporting under fair value allows the principal more information on the agent's performance and hence reduces the principal-agent conflict (Barlev and Haddad, 2003).

6 For example, see Pennington v Crampton & ORS (2003) case.
From an economic perspective

Most economic schools believe that decision makers base their evaluation of alternatives on the notion of utility – the benefit or satisfaction expected from a choice or course of action (Gwartney et al, 2000). Economists also believe that marginal utility diminishes, which means that the benefit from extra units of an item would be less (Gwartney et al, 2000). Utility is a basic building block for the law of demand which generally shows a negative relation between the price of an item and the quantity demanded (Gwartney et al, 2000).

Another principal is supply law, which generally shows a positive relation between the price of an item and the quantity supplied (since higher price motivates, and makes it feasible, for more quantity to be produced), other matters being constant (Gwartney et al, 2000). Marshal (1890), a classical economist presented the laws of supply and demand in curves, and suggested that price will be determined at the point where the two curves intersect, assuming a free competitive market at equilibrium state.

This equilibrium is not possible without assuming a fully rational agent (the one who pursues the optimum choice). However, this notion ignores the dimensions of the time and cost. It assumes that agents will always be fully informed of all variables affecting the market (including future outcomes), and are able to calculate the consequences of those outcomes instantly and without cost (Magill and Quinze, 1996).

Bounded rationality and transaction cost

Menger (1950) accepted the marginal utility theory as the source of value on an individual level rather than collective basis. He argued that the individual mind is the source of economic value. However, he rejected the notion of a ‘fully rational’ person who is fully informed of all circumstances behind his decisions, because perfect knowledge never exists. This led him to conclude that all economic activity implies
risk and the entrepreneurs’ role was to collect and evaluate information to act on such risk.

The non-existence of absolute rationality has been highlighted by many scholars (e.g. Keynes, 1937; Hayek, 1945). As a consequence, the bounded rationality concept was introduced by Simon (1957). The concept acknowledges that agent’s rationality has limitations relating to their knowledge of the environment, their ability to envision the future and calculate optimal strategies in the presence of complex decision problems.

Magill and Quinzii (1996) explained that there are two types of costs associated with being rational. The first is the ex ante cost (arising before the contract come into effect. This cost includes the time and effort spent in validating given information, assessing future contingencies, searching for alternatives, gathering information, and then writing, negotiating and itemising possibly detailed actions in complex contracts). The second is the ex post costs arising from possible opportunistic behaviour on the part of contracting parties which can involve control, negotiation and litigation costs.

Those transaction and controlling costs are prerequisites for making the rational decision. Further, such costs are positively related to the extent of rationality sought. That is why decision making involves a cost-benefit analysis to ensure that the outcome of increase in rationality overweighs the cost of achieving it.

Such costs differ between investors due to many factors. Assuming they are rationale, they should account for this cost when assessing the value of an investment. In the case of private equity, the difference in such cost for different investors might be substantial (Due to the unavailability of information and regulations to the extent of that in public equity). This will effect the valuation of each investor and make it different from others depending on the factors he/she is facing.

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7 Many leading economists disputed the rationality and ultimate knowledge axioms. For example Hayek (1945) argued that economic rationality is inconsistent due to the convergence of ‘diverse paths of reasoning’ and that full knowledge of relevant circumstances is dispersed between individuals.
Modern economy

Today, economists admit that value is subjective and differs between individuals (Gwartney et al, 2000). Evidence of that is the price discrimination concept\(^8\), which results from different consumers (e.g. private equity investors) having different demand elasticities (Gwartney et al, 2000). Economists also believe that the role of an entrepreneur is in opportunity recognition (Kirzner, 1973) or providing the means of transforming homogeneous inputs into heterogeneous outputs (Barney and Alvarez, 2002).

If we agree with such view, then we implicitly accept that fair value is in the eye of the beholder. Further, if we agree with the notion of individual utility, we should agree that different individuals' or corporations' needs and hence utilities differ, leading to subsequently assigning different values for the traded opportunity. Such differences might be balanced out when investing in stocks traded in large and highly liquid markets with relatively homogeneous contracts, but not in the case of private equity with only some thousands of heterogeneous contracts a year\(^9\).

Market equilibrium

Choy's (2005) research revealed that fair value can infer true value only in case of market equilibrium (when prices are determined by the balance between supply and demand), which is not always the case. Magill and Quinzii (1996) prove that investors not having access to all risky assets (market portfolio) will end up in an incomplete market. They mathematically prove that those investors will end up having different values for the same asset due to not being able to invest in the market portfolio.

A prerequisite for a market to reach equilibrium between supply and demand forces (resulting in one price) is its efficiency where sufficient fully informed buyers and sellers exist and transaction costs are low (Sohl, 2003). Such factors may not exist in

\(^8\) Price discrimination is an economically acknowledged practice whereby the seller charges different consumers different prices for the same product or service (Gwartney et al, 2000).

\(^9\) For example, Venture One (2005) reports that European and U.S. venture backed deals in 2004 were 1,119 and 2,153 respectively.
the case of private equity, especially in the case of entrepreneurial firms with high growth potential, due to unavailability of information and high investment risk. Such characteristics reduce the number of willing investors, leading to an inefficient market (Sohl, 2003).10

So, if the private equity market does not comply with the general demand and supply equilibrium, then what economic rules govern it? Considering there are a large number of sellers (entrepreneurs) offering differentiated products, low barrier for entry and the demand curve is downward-sloping. The market is best described by the price-searcher model (Gwartney et al, 2000).

**Price searcher market**

Bernoulli (1738) proposed that the value of an item should not be determined by the price that has to be paid for it, but by the utility this item has for the owner. In the classical example of water utility, the value of water for a person lost in the desert (D) is much higher than that for someone living in a city (C). Offering the water at city price, C will buy according to average consumption, but D will buy more. However, increasing the price will lead both to decrease their purchase level, and C might even switch to another good to fulfil his utility.

In this model, consumers (investors) have unique preferences and are willing to pay more for the product they like best. However, the model also recognises that, if the requested price is too high, consumers will shift to other opportunities. In summary, sellers (entrepreneurs) in a price searcher market can set the price for the equity, but the market will determine the quantity sold at alternative prices.11

This model contradicts the concept of fair value in two ways: First, the price searcher market accepts that different investors have different preferences and therefore will pay different prices for the same product. Secondly, the price per unit will differ

10 This is one cause of the equity gap according to Brophy (1997).
11 Based on Gwartney et al's (2000) explanation of the price searcher market, after applying it to private equity financing.
depending on the quantity sold (the percentage of equity sold), which contradicts fair value being equal regardless of percentage of sold shares (IASB, 2005).

**From a portfolio management perspective**

The last section considered a special case of inefficient market (the price searcher) as applicable to private equity. In this section the portfolio concept is introduced to complement the conclusions reached in the last section.

**Portfolio risk**

Professional private equity investors maintain investment portfolios as a general rule to reduce their investment uncertainty (Bygrave et al, 1999; Amis and Stevenson, 2001). Those portfolios are likely to be concentrated in a few industries (Bygrave et al, 1999; Damodaran, 2002), where they have expertise and a network that gives them competitive advantage over potential rivals.

According to Markowitz (1952) widely accepted ‘portfolio theory’, the risk and return of assets added to a portfolio should not be regarded separately, but in terms of their effect on the total portfolio\(^{12}\), since not all portfolios have similar characteristics. Adding a new investment will have different effects on different portfolios. Hence, investors should expect different utilities from the same opportunity, a fact in line with the price searcher model explained earlier.

**From a strategic perspective**

The effect of investment on an investor’s portfolio

Another evidence of investors’ different utility basis is the synergy effect, where the value of the portfolio is more than the value of the individual investments it comprises. New opportunities sometimes influence other resources the investor is holding or the environment those resources operate in, hence altering the utility provided. The problem with this effect is that identifying and quantifying it requires strategic acumen and entrepreneurial skills that vary from one individual to another.

\(^{12}\) Markowitz (1959) used covariance to calculate the effect. Covariance is a measure of the degree to which two variables move together relative to their mean values over time.
The vice president of Boston Consulting Group, Sirower (1997), states that 'the easiest way to lose the acquisition game is by failing to define synergy in terms of real, measurable improvements in competitive advantage'.

Bruner (2004) provides a comprehensive list of situations where synergies are possible in cases of merger and acquisition. Such synergies are also applicable, at least in part, when the investor partially controls the opportunity. For presentation here, they are summarised in three groups: income enhancement synergies, financial synergies and option synergies.

Income enhancement synergies are cash flows that accrue from revenue enhancement (e.g. through bundling sales or vertical integration), cost reduction (e.g. sharing the resources of companies for the purpose of reducing cost) or tax reduction synergies (e.g. taking advantage of allowable tax deductions or incentives made possible by adding the investment).

Financial synergies are ones that accrue in the form of increasing portfolio efficiency. One example is by reducing the total assets in owned investments through asset sharing agreements or through barter outsourcing. Properly doing this will lead to increasing investment return on assets – a key ratio that measures resource efficiency.

Real option synergies are ones whose occurrence is contingent to a certain event or decision. An example is when an oil company invests in renewable energy ventures. It has the option to switch sources of energy through further investment, once the market accepts it as a feasible alternative to traditional sources of energy13.

Bruner's (2004) list of synergies, although important, states only positive strategies. However, an additional investment can also enable the investor to activate defensive strategies. To illustrate, an investor might be motivated to invest in an opportunity to prevent competitors from accessing a new technology, or a competitive space. The problem with defensive strategies is the difficulty in measuring their outcome, hence to value them. However, there is no doubt they affect the utility of the investor.

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13 Option synergies represent the possibility of deferred investment
The effects mentioned above can sometimes be of a one-off or short-term nature, rather than strategic. While accepting this fact, Rumelt's (1986) research on the subject reveals that such synergies are highly dependent on strategic relatedness in most cases. Effects should be considered in valuation only if their occurrence is dependent on the investor's investment in the opportunity. Since synergies are dependent on the investor's held portfolio and the strategic vision, the utility would vary between investors and hence, each would value the opportunity differently. Further, the value of the entrepreneur's remaining equity would be affected by the synergies that might accrue, hence, should accept different compensations from investors depending on the added value they offer.

**From an entrepreneurial perspective**

The effect of investors on the opportunity

It is safe to assume that fair value should reflect the present value of future expected economic benefits after adjusting for risk. Such future benefits are a function of the business environment and management strategy. In private equity, investors influence strategy by their possible role on the board, their funding capabilities including access to debt and the technical or market expertise they might offer (especially in cases where the investor is operating in a similar industry). This leads one to conclude that the value of private equity is a function of who the investor is.

Hellmann and Puri's (2000) research provides empirical evidence on how venture capitalists' support (e.g. in locating key personnel) and control (e.g. replacing the founder on non-performance) add value to the venture. On the other hand, Feeney et al (1999) argue that business angels mitigate risk and contribute to value by being actively involved in the firms they invest in, either in person, by assuming a managerial role, or through the proxy of the lead investor in a syndicate (Van Osnabrugge and Robinson, 2000).

14 Based on discussion at the beginning of this Chapter, market value should converge to intrinsic value.
One might argue that such value will not materialise until the transaction takes place, and therefore fair value should change only then. However, since both sides of the transaction will factor such potential in their valuation (should they be aware of it), the value will change depending on who the buyer is.

**The effect of investment percentage and contract terms**

Inderst and Muller (2004) prove mathematically that the value of equity is dependent on the percentage of ownership of the investor and entrepreneur. Their work is based on empirical evidence provided by Kaplan and Stromberg (2002). The results were that equity incentives to venture capitalists increase the likelihood that they provide value-adding support activities. On the other hand, deal terms unfavourable to entrepreneurs would result in a negative incentive to the latter (Bartlett, 2001). Based on that, they believe that there is an optimal ownership point that maximises the incentives for both hence leading to maximising the value of the venture. Therefore, the value of equity is also a function of the percentage of ownership and deal terms.

**Conclusion**

In this paper (Which is an adjusted extract of a masters dissertation) provides sufficient evidence that there is no one value which buyers and sellers should agree on when exchanging an asset or liability if they are knowledgeable, unrelated and willing when considering private equity. This is due to 1. The inapplicability of equilibrium to private equity transactions in most cases. 2. The different utility curves of involved parties. 3. The different ex and anti transaction costs for different parties. and 4. The different ownership percentage and deal terms of the different transactions.

Therefore, when Microsoft bought Hotmail (a losing company at the time) for $400 Million or so due to considerations that we will assume are rationale, it would be erroneous to advocate that Hotmail can be sold to others for the same value at that time for the earlier mentioned reasons, hence, assuming that $400M is its fair value is questionable.
Therefore, and due to the earlier discussion, I believe that the fair value concept has no economic basis in the case of private equity and should be reconsidered as a valuation technique that properly reflect the financial position of assets (investments) held by firms.
References


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PENNINGTON v CRAMPTON & ORS (2003), [2003] EWHC 2691 (Ch)