

more shares are offered to investors, perhaps through a previously disclosed upside option, to satisfy pent-up demand. Such a decision should, however, be carefully assessed before it is made by the lead banks. Also included as a case study in Appendix 1, the IPO of Shanda Games on NASDAQ in 2009 is an example of a deal that was increased in size at an early stage in the marketing process.

One thing is certain, irrespective of the outcome of an IPO, how much a company is worth is ultimately always determined by market forces—and no one else.

2.11. Valuation

Valuation is clearly an important consideration for all issuers since this is what will, ultimately, drive most of the demand and the offer price paid by investors. There are many ways to value a business. Valuation will depend on the industry sector in which the company operates, the size of the IPO—generally a fairly simple methodology will be used for smaller transactions—and market practice prevailing at the time of the offering.

Sometimes, several valuation methodologies are used, either because the issuer is involved in distinct businesses to which separate valuation techniques need to be applied. Or just one primary methodology may be used, and then cross-checked against other valuation techniques to refine an initial range or to confirm assumptions that may have been made.

For example, MTR Corporation, which operates Hong Kong's mass transit railway system, was generally valued at the time of its US\$1.4 billion privatization IPO in 2000 by research analysts through a sum-of-the-parts valuation, using a variety of methodologies. A discounted cash-flow analysis was used to assess the value of its railway operations. A price-to-net-asset-value valuation was then separately used for its real estate business, which largely consists of office, commercial and residential property assets located above urban railway stations, based on the open-market valuation report published by the property valuers in the offering circular. In addition, a variety of other techniques were used to value peripheral assets—for example, the company's majority ownership of a business operating smart cards widely used by residents of Hong Kong to travel on trains and buses, as well as revenue derived from sharing arrangements with operators for mobile telecommunications made in the metro system.

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Valuation can be made on a stand-alone basis, or involve a comparative analysis, effectively benchmarking the business against companies that are already listed, for which there are obviously already prices ascribed by the market. When multiples of comparable companies are used, these are most of the time compiled on a prospective basis—that is, only multiples using forecasts of sales, cash flow, earnings or dividends are used, rather than historic (or “trailing”) multiples. The market always looks forward.

2.11.1. Earnings multiples

The most commonly used valuation technique is the simple price-to-earnings (P/E or PER) multiple, defined as the price per share divided by earnings per share (EPS) or, alternatively, as the expected market capitalization divided by forecast earnings. It is simple to compute, does not necessitate in-depth analysis, and is widely understood by the financial community. Generally, one would consider the P/E for the following financial year (rather than the trailing P/E which uses earnings for the last 12 months), or perhaps a blend of the P/Es for the next two financial years, assuming forecasts by either the company, or more often research analysts, are available. The higher the P/E, the higher the value of a company. There are, however, clear limitations to the use of P/E multiples. For example, when one is comparing P/Es of various companies listed across several jurisdictions, this does not account for differences in taxation, which can be significant. It may also be the case that the companies being compared have widely different accounting policies or different asset or capital structure profiles, hence differences in net interest, depreciation and amortization (including amortization of goodwill), which may also distort P/E comparisons.

2.11.2. Sales and cash-flow multiples

Depending on the nature of the business, other multiples can be used, such as price-to-cash-flow; EV/sales, which gives investors an idea of how much it costs to buy a company's sales; EV/EBITDA, which is used especially to value cash-based businesses; or, more rarely, EV/EBIT, to (arguably) compare companies on a more level footing.

A price-to-cash-flow multiple is defined as the price per share divided by cash-flow per share. EV stands for enterprise value, and includes both the equity value of the company and its net debt. Where net cash would be

present on the balance sheet instead, this would be deducted from the equity value. It is then divided by either the turnover of the business or by earnings before net interest, tax, depreciation and amortization (effectively cash-flow) or by earnings before interest and tax, as appropriate. For example, companies in particularly cyclical industries—a producer of commodities, for example—can be valued on an EV/sales basis, which ignores periods when profitability may be most affected. Mobile telecommunication companies are often valued on an EV/EBITDA basis, to assess their cash earnings generation, ignoring what can be widely differing capital investments and a lack of net profitability in the early stages of the business. As for the P/E, the higher the ratio, the higher the valuation of the company.

2.11.3. Growth multiples

Among other multiples that are frequently used is the price-to-growth (PEG) multiple, which is calculated as PER/increase in EPS, and is useful also for looking at the growth in earnings rather than simply at the earnings themselves.

2.11.4. Normalized multiples

When an investment bank is carrying out a theoretical valuation at an early stage in an IPO (or for an IPO pitch), or when the market is particularly depressed but expected to improve soon, “normalized” multiples, using average multiples over a longer period of time, can be used to provide a more relevant indicator for the valuation that might be achieved by the company in a more stable market environment.

2.11.5. Price-to-book or price-to-net-asset-value (NAV) ratios

The price-to-book ratio, defined as the share price divided by the equity of the company, or total assets excluding intangible assets and liabilities, is also a basic ratio commonly used to value many companies. It is generally used to value issuers in the financial sector, especially banks. This ratio is also commonly used for property assets or the valuation of properties in the real estate sector. In this sector, the independent valuation provided by the property valuers in the offering circular generally provides a good indication of the net asset value of the property assets, and the ratio of price-to-book value or price-to-net-asset-value (NAV) enables useful comparisons across listed comparable companies of the same asset class.

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In times of particularly volatile markets—for example, following the recent credit crunch—when it becomes more difficult to value companies on the basis of their earnings, investors tend to focus more on price-to-book ratios, even for industrial companies or businesses not in the financial or property sector.

Again, as with most financial ratios, the higher the price-to-book, the higher the valuation.

2.11.6. Per pop valuations

For companies in specific industry sectors, unique valuation methodologies are sometimes devised. For example, a “per pop” valuation, i.e. putting a price on each individual customer or user for the market under license, is often used to value internet or mobile telecommunication companies. This valuation methodology acts as a proxy for a discounted cash-flow valuation of the business upon reaching maturity. It takes into account market penetration, the revenue per subscriber, the profit margin of the business, a cash-flow multiple and a discount rate.

2.11.7. Dividend and distribution yields

For real estate investment trusts (REITs) or companies in the real estate or property and infrastructure sectors, the dividend or distribution yield, defined as the dividend per share or per unit, divided by the price per share or per unit, and expressed as a percentage, is also a popular valuation technique. The distribution yield spread over a risk free rate, generally the yield on a benchmark government bond, is commonly used too.

2.11.8. Discounted cash-flow valuations and embedded value

For companies that offer good long-term visibility with predictable cash-flows, a discounted cash-flow (DCF) valuation may be used; examples include companies in the mining, transport or infrastructure sectors, most of which would also generally benefit from the inclusion of a report by a specialist consultant in the offering circular.

The value of a company calculated using a DCF varies greatly depending on the assumptions that have been used, so it is also important to have reliable financial forecasts for the business. This method determines the value of the business using future expected cash-flows, discounted at a rate

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that reflects the riskiness of the cash-flows. It involves discounting the cash-flows at a weighted average cost of capital (or WACC), taking into account the company's capital structure, i.e. the proportion between debt and equity capital, where such equity and debt are currently priced, how much of the company's debt is currently outstanding, as well as the company's tax rate.

A somewhat related methodology is used to value life insurance companies. In such cases, an "embedded value" for the business will be calculated as the sum of the company's NAV (using current market prices for investments made) and of the present value of future cash-flows derived from life insurance policies currently in force (that is, only insurance policies already sold and written by the company). A life insurer will generally be worth a multiple of its embedded value since this methodology does not take into account additional policies to be sold in coming years.

2.11.9. Share price and number of shares

Once the approximate valuation of a business has been determined, it is important to decide on the total number of shares in the company by effecting stock splits or reverse stock splits, if required, so that one can arrive at a share price that is consistent with those of companies already listed on the same stock exchange. For example, companies listed on the same stock exchange might generally have their share prices within a range of, say, US\$10 to US\$20 equivalent on that particular market. Institutional investors are not particularly concerned with the absolute denomination at which the share price might be set but such a consideration can be important when a retail offering is included in the offer structure, so that the general public's perceptions of the "value" of the company are in line with those for other local stocks that they already trade, and with which they are familiar. A related consideration is to also avoid the share price (and initially the price range) being set at too low a level, so that the stock is not perceived as a "penny share", i.e. a stock with little value and prospects, given its low denomination.

To summarize, a variety of techniques may be used to value businesses. Research analysts often churn out new methodologies, each claiming to be fairer or more accurate than the rest. In theory, none is necessarily better than the others, and the right methodology at any given time for a given business is really the one most widely accepted, and used, by market participants. It is also essential to bear in mind that, irrespective of the methodology used,

ultimately, investors will pay no more than what they believe a business to be worth.

2.12. Institutional investors

Institutional investors come in multiple guises and many investor types are targeted in an IPO. They can be generalists or have a dedicated regional, country, industry sector, company type (such as small- or mid-cap) or theme focus. They can manage sovereign money, insurance companies' assets, funds owned by other institutions, pension money, charity donations, high net-worth individuals' investments or, indeed, their own proprietary portfolios. They can be subject to strict procedures and criteria for their investment decisions, or pretty much have almost complete freedom to invest and react to market developments, as is the case for many hedge funds. Some can invest across the whole spectrum of financial assets and products, while others are more particularly dedicated to shares or cash equities. Some are "long only" funds, while others adopt "long/short" strategies. They can manage total return funds, whose objectives are to maximize "alpha" (a component of the capital asset pricing model (CAPM) and a risk-adjusted measure—through skill—of the active return on an investment), or they can be benchmarked to particular indices, the performance of which they try to replicate. Some like growth while others prefer yield; some like to participate in IPOs, or can commit to pre-IPO investments, even accepting lock-ups to achieve sizeable allocations, whereas others have a bias towards investments made in the secondary market; some have smaller portfolios with large positions, while others prefer to widely diversify their holdings.

Every IPO book of demand is different, and it is the role of ECM teams to help the issuer navigate the maze of investor types, and to identify those regions and those investors most likely to participate in the offering.

In established markets, such as the US, the UK and Australia, many pension or superannuation funds are tasked with the financing of pension plan benefits. Although they often have a fixed-income bias, they are generally also a significant source of demand for equity offerings.

Mutual funds or collective investment schemes, as well as close-ended investment trusts, are also a major source of institutional investor money. Hedge funds are a more recent phenomenon, having appeared in the last

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