6. Valuation methodology

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A company ultimately is worth what people are willing to pay for it. Valuation is the process of estimating this value. Unlike in mass privatization, where the precise value of assets is not known and is not a crucial factor, in case-by-case privatization value is of fundamental importance to both buyer and seller (in this case, the government).

Buyers that overpay for an asset cannot meet their target rate of return from the acquisition, and share--holder value will decrease. The government, on the other hand, has a fiduciary responsibility to its citizens when it privatizes an asset. It is entrusted to sell privatizable assets at or above their fair market value, and must take every precaution to ensure that this happens. Agreeing to sell state assets below their market value is tantamount to favoring a buyer, and it deprives the state of needed financial resources. While this may sometimes be politically desirable—for example, in the case of employees of privatized companies—transparency is crucial. Thus the size of the discount offered should be determined and publicly disclosed.

Value is in the eyes of the beholder

Value may be a paramount concern, but it is also a relative concept. Valuation is more art than science. Buyers will value a company or set of assets differently, depending on the synergies they perceive between their own company and a potential acquisition. The greater are the synergies, the more they will be willing to pay.

Similarly, depending on the divestiture method selected by the government, the value of privatizable assets may differ significantly For example, all other things being equal, sale proceeds will likely be higher if the government chooses to sell an enterprise by open tender than if it chooses an initial public offering. The political benefits of popular capitalism have financial costs.

Stages

A valuation starts with a financial audit and a method of sale. The audit is important because certain valuation calculations cannot be completed without it. The method of sale determines the weight and level of detail that should be applied to the valuation methods used to estimate the assets' fair market value.

Next is the selection of the financial adviser who will carry out the valuation. The adviser should be selected by competitive tender from among several independent and reputable companies based on their terms of reference for various valuation methods. The financial adviser should be selected before the auditor so that the adviser can help prepare the terms of reference for the audit, which besides a financial review normally includes an operational and legal review.

Once appointed, the financial adviser undertakes due diligence—an exercise that differs from but complements the audit. Due diligence consists of gathering and verifying information about the privatization candidate, its organization, its finances and balance sheet, its national and (if relevant) international standing, and any other information that may be relevant to a valuation, such as a likely change in taxation or regulation. Past financial performance must be explained and projections made under several scenarios in cooperation with

the existing management team. Future investments should be identified and estimated. During this period the financial adviser will also work with the government to explore options for privatization.

At the end of the due diligence process, the financial adviser should be able to submit a first valuation report to the government. After reviewing the report, the government can request further sensitivity analysis. In the end the government—and no one else—is responsible for setting the reserve price of the tender or the fixed price of the public offering. But the government's decision must be based on the objective data provided in the valuation report.

A valuation report is highly confidential. It is prepared for the exclusive use of the seller (or buyer) and under no circumstances should be disclosed to third parties. A leak to buyers could have adverse consequences for the divestiture: insiders would become aware of the most sensitive valuation parameters in the eyes of the seller, and would be able to use such information to lower the sale price.

Methods

All valuation methods estimate market value. Some methods are appropriate if the company is to be divested through an initial public offering; others if control is to be sold to a strategic investor. Whatever the method of sale, no valuation method is infallible. The market value of a company is best estimated by combining, in different proportions, six methods of valuation: the adjusted net assets method, the discounted cash-flow method, the comparable companies method, the comparable transactions method, the book building method, and the replacement value method. Combining these methods allows a range of probable values to be established, a process known as triangulation.

Adjusted net assets method

The adjusted net assets method tries to ascertain an enterprise's fair market value by estimating the market value of its assets (fixed assets and current assets) and then subtracting its balance sheet and off-balance sheet liabilities.

Buyers do not have much faith in this method because it fails to take into account the assets' capacity to generate revenues. It looks at the costs of purchasing them, then applies a depreciation factor to account for their obsolescence. Thus it ignores the fact that the seller may have paid too much for the assets in the first place. Ultimately, however, productive assets must pay for themselves and generate extra earnings; otherwise their purchase does not make economic sense.

Conversely, it is easy to understand why sellers often prefer this valuation method. It gives them a sense of the price at which they should sell the assets in order to "get their money back," after taking into account their use of them. This approach is often the cause of unreconcilable differences between buyers and sellers.

Discounted cash-flow method

The discounted cash-flow method is best suited to a sale to a strategic investor who will gain control of an enterprise's management and cash flows. It consists of estimating the

company's free cash flows over a medium-long-term horizon, taking into account variations in working capital and future capital expenditures. A discount rate is then applied to these anticipated cash flows to calculate their present value. The discount rate reflects the enterprise's weighted average cost of capital and the political risk of the country where its operations are based. Present values are then totaled. A terminal value is sometimes added to this number. Finally, the total funded debt on the enterprise's balance sheet at the time of the transaction is subtracted to arrive at the net present value of the company's equity.

Potential strategic investors tend to prefer the dis-method, counted cash-flow valuation method. They verify these calculations by comparing them with the market values of comparable quoted companies, and with prices paid by other buyers in recent comparable transactions. Their discounted cash-flow valuation is generally a significant component of their offer.

Discounted cash-flow valuations require the construction of a spreadsheet model. These models are most useful when they include variables that can be modified to run sensitivity analysis. Such models can prove especially useful during negotiations. A good model can anticipate arguments or concerns that may be raised by potential buyers and can provide answers about the value of assets if certain conditions attached to the sale are modified-for example, the length of a period of exclusivity or the level of taxation on imported goods.

Investors often have a "hurdle" rate of return on capital to help them decide whether to pursue an investment. The potential acquisition is actively pursued if the anticipated return is above the hurdle rate; otherwise it is discarded. Some investors calculate an internal rate of return to help value a potential acquisition. An enterprise's internal rate of return is the rate at which the sum of its future cash flows and acquisition price equals zero.

Comparable companies and comparable transactions methods

The comparable companies and comparable transactions methods are particularly appropriate when an enterprise is being partly or entirely privatized through a stock exchange. The principle underlying both methods is that companies' market values can be determined by applying a series of empirically derived valuation multiples to their latest (or normalized) financial results. The most commonly used multiples are the multiple of turnover, multiples of operating income (either the multiple of earnings before interest non-payments, tax, depreciation, and amortization or the multiple of earnings before interest payments and tax), and the multiple of net earnings (also known as the price-earnings ratio).

Valuation multiples are calculated by dividing the stock market capitalization of several companies in the same sector, of a similar size, and from various regions by their turnover, operating income, and net earnings multiples. Thus a series of multiples are derived, sorted, and treated mathematically to obtain a range (high, low, and arithmetic mean) that is applied to the financial results of the enterprise being valued. In addition, for capital-intensive industries like cement or oil and gas, operational ratios (such as dollars per ton of capacity or dollars per barrel of reserves in the ground) can be used to approximate market values.

As opposed to the multiples of operating income, which estimate the market value of total assets, the multiple of net earnings estimates the market value of equity. To deduce the market value of equity, the net debt on the enterprise's balance sheet is subtracted from the total assets estimate. The same operations are repeated using recent corporate transactions in the sector involving companies of similar size.

Of course, each company has its own idiosyncrasies, and markets differ from one country to the next. Valuation multiples should not be applied blindly: they often require a great deal of interpretation. But if carried out carefully, the comparable companies and comparable transactions methods provide a useful estimate of an enterprise's market value.

Book building method

The book building method (also known as circling) is used in public offerings and private placements of quoted securities to determine the price they should be offered for at subscription. It differs from the methods described above in that it does not involve calculations based on a set formula. Rather, the calculations take place before the book building operation.

The method involves pricing the shares of a forth-coming issue by constructing a book of orders from institutional investors based on different issue prices. In most cases the book is opened for about two weeks. During this period members of the placement syndicate contact their institutional clients and request non-payments, binding orders of shares that are linked to various offer prices. For example, how many shares would the institutional investor want to buy if they were priced at $18 apiece, and how many if they were $20?

Each member of the placement syndicate constructs an order book; every two days each book is transmitted to the lead manager of the issue, who constructs a consolidated book. By the end of the book building period the trends in the consolidated book resemble figure 5. The issuer is then able to determine the price at which the market will absorb the issue. In figure 5 the issuer will price the issue at between $19.4 and $20.0 per share.

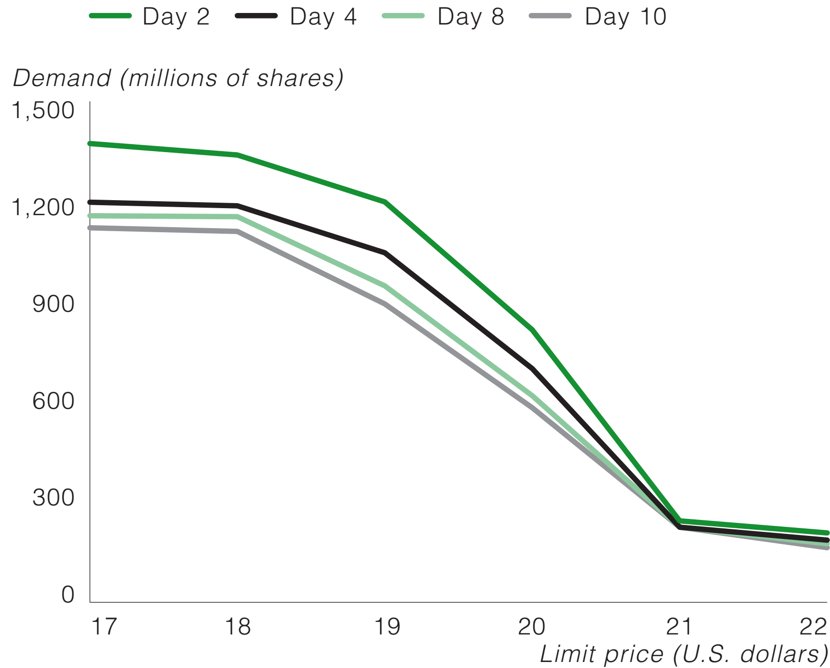
Order books are usually several times oversubscribed because investors typically request more than they want to receive, expecting their orders to be scaled down. It is important, however, that some unsatisfied demand remains in the secondary market to ensure that the share price continues to rise.

Book building operations are generally used to price shares reserved for global offerings to institutional investors. To be effective, this method requires a minimum number of independent institutional investors that are unlikely to collude with one another. In most emerging markets institutional investors are too small to fulfill this condition; thus the book building method cannot be used domestically Domestic issues are, however, sometimes priced relative to their global institutional offering. Governments often choose to price the shares reserved for domestic subscription at a discount to the price paid by international institutional investors.

Replacement value method

The replacement value method estimates how much it would cost to replace a company's assets if they were destroyed by

Figure 5 Book building—demand profile



an act of God. This mainly includes fixed assets (plants, machinery) but also covers startup costs and certain current assets (for example, a vehicle fleet). This valuation method often produces a much higher value than the methods described above. This is because the decision to form an industry may not have been motivated solely by economic considerations, particularly if it was made by government. Social or political considerations may have been equally important. For example, it may be politically desirable to build a medium-size petroleum refinery in a small developing country, but from an economic standpoint it makes more sense to import refined products.

Investors almost never take the replacement value method into account when valuing a company because

it does not measure the expected return from the proposed investment. Thus sellers should not use this method to determine the market value of assets. Still, the replacement value should be calculated and arguments should be prepared to explain why it has been discarded. Otherwise, critics of privatization may use this method to argue that an enterprise is worth far more or that it was sold for a fraction of its worth.