Placing a Value on Synergies and Strategic Advantage

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Introduction

Post-acquisition synergies and 'strategic advantage' form an important component of the price paid in many open market transactions. However, following a transaction, many purchasers have found that the anticipated benefits were not realized to the extent anticipated, and that in retrospect the purchaser had overpaid to acquire the target company. These findings, combined with the current level of economic uncertainty, have left many purchasers unsure how to 'price' post-acquisition synergies and strategic advantage for the purpose of open market transactions.

From a notional market valuation standpoint, new financial accounting standards have recently been introduced both in the U.S. and Canada dealing with goodwill impairment testing. These standards require the periodic determination of the 'fair value' of an entity's 'reporting units'. However, the new accounting standards are not clear on the extent to which synergies and other strategic advantages should be considered when measuring 'fair value' for the purpose of goodwill impairment testing.

This paper begins with a discussion of the components of value and price, including how synergies typically have been regarded in the context of notional market valuations. Following this is a discussion of synergies in the context of open market transactions, including the identification of 'special purchasers', the various forms of synergies that frequently are anticipated, and the related costs that may be incurred to realize those synergies. Synergies are categorized as either tangible operating synergies, intangible operating synergies or financial synergies, and theoretical approaches to the quantification of each category of synergies is addressed, including alternatives for considering the risk of synergy realization. Empirical evidence is presented from studies on the types synergies that purchasers anticipate, the degree to which those synergies have been realized, and how purchasers value synergies when pricing an acquisition target. The paper concludes by examining the issue of whether synergies should be included in the quantification of 'fair value' pursuant to the new accounting standards on goodwill impairment testing.

Components of Value and Price

When dealing with 100% of the outstanding shares or net assets of, or a control shareholding in, a business that is valued on the assumption that it will continue to operate as a going concern, and post-acquisition synergies are expected, the two possible components that comprise any given open market price are:

- that reflective of the value of all of the outstanding shares, or net operating assets of the business viewed on a stand-alone basis. That is, the value of the business interest assuming the business will

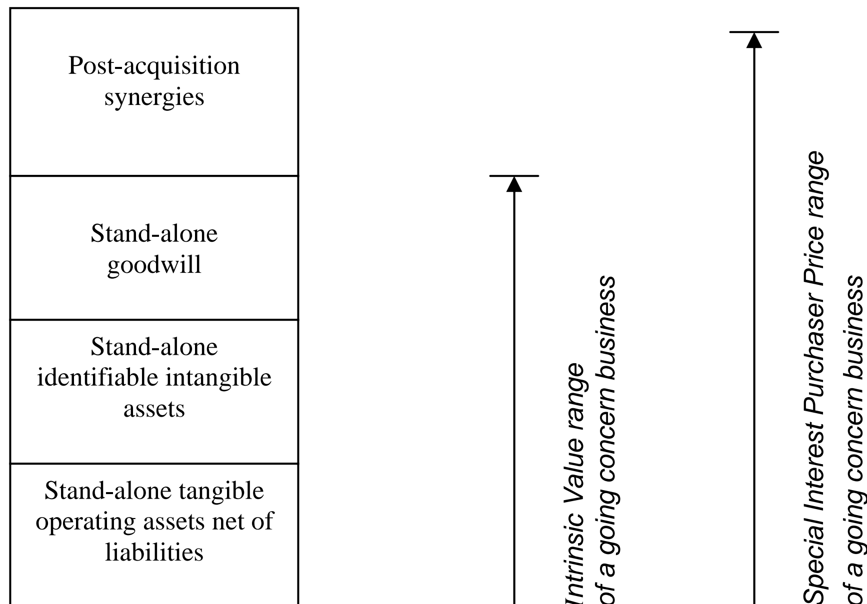
continue to operate 'as is', absent a divestiture of all or part of it. This value component often is referred to as *intrinsic value*. Intrinsic value is comprised of three distinct components where the business is viewed on a stand-alone basis. These are:

- ✓ tangible operating assets, net of liabilities, required to carry on the business,
- ✓ identifiable intangible assets (if any), which may include brand names, patents, copyrights, franchise agreements, trademarks, and so on, and
- ✓ where applicable, goodwill, being the aggregation of non-identifiable (or 'non-specific') intangible assets, and identifiable intangible assets not otherwise accounted for; and

- an incremental value over intrinsic value perceived by a purchaser at the time of acquisition comprised of post-acquisition synergies and/or strategic advantages (collectively referred to hereafter simply as 'synergies'). The quantification of this incremental value is unique to each potential purchaser. Examples include incremental revenue opportunities, cost savings and overall risk reduction that the purchaser expects will result from combining the acquired business with its existing operations. Purchasers who anticipate synergies often are referred to as 'special interest purchasers'. The combination of intrinsic value and post-acquisition synergies sometimes is referred to as 'Special Interest Purchaser Price' or 'Investment Value'.

The components of 'intrinsic value' and 'Special Interest Purchaser Price' are summarized in Chart 1.

Chart 1
The Components of Value and Price



Although the tangible assets of a business often can be valued separately, it is considerably more difficult to assess the value of a particular intangible operating asset. Further, the value of goodwill can rarely be quantified in isolation. Traditionally, when reference was made to the specific amount of goodwill inherent in a business, that amount normally was derived by deducting the estimated 'value in use' of the net tangible assets from overall 'going concern value'. Stated differently, in practice values for intangibles and goodwill seldom were segregated, but rather were aggregated and together referred to as 'goodwill' or generic 'intangible value'. This practice may change pursuant to newly introduced accounting standards in the U.S. and Canada regarding 'Goodwill and other Intangible Assets' which require certain intangible assets be separately quantified for accounting purposes[1]. Finally, to the extent that synergies are 'paid for', in most cases that component of price subsequently is accounted for as goodwill (or in some cases as part of identifiable intangible assets).

Notional Market Valuations

In the United States, fair market value in a notional market context typically is determined on an intrinsic basis, as contrast with investment value, which may incorporate post-acquisition synergies. Accordingly, where a discounted cash flow methodology or capitalization of discretionary cash flow methodology is adopted for the purpose of determining fair market value, the prospective cash flows are based on the subject company's earnings abilities as a stand-alone entity. However, where a 'comparable company transactions' methodology is adopted as a basis for estimating fair market value, the calculated price multiples of those 'comparable company transactions' may incorporate post-acquisition synergies. Absent one's active involvement in a particular transaction, it generally is not possible to readily identify and segregate the synergy component of the price paid in an open market transaction. Hence, where 'comparable company transactions' are relied upon, it may cause the determination of fair market value to gravitate toward investment value.

In Canada, while fair market value in a notional market context usually is developed on an intrinsic basis, this is not always the case. Unless qualified to the contrary, fair market value by its definition in Canada incorporates the possibility of special interest purchasers as part of the 'highest price available' component. Court cases in Canada dealing with the issue of special interest purchasers in a notional market context generally have concluded that where such purchasers can be readily identified and the quantum of synergies can meaningfully be determined, synergies should be considered in the determination of fair market value.

Open market negotiations current to the date at which a notional valuation is required typically have not taken place. As a result it often is difficult to identify possible purchasers who might be interested in acquiring a particular business at a given point in time. Further, where such possible purchasers are identified, it is difficult to determine which of them should be considered to be 'qualified' purchasers who have the financial capability to effect a purchase. Moreover, if and when 'qualified purchasers' can be identified it often is very difficult, if not impossible, to identify and meaningfully quantify post-acquisition value-added benefits each might enjoy. The purchaser typically is in a better position to identify and

[1] A discussion of the new accounting standards as they relate to intangible assets apart from goodwill is beyond the scope of this paper.

quantify what it perceives to be post-acquisition synergies. Importantly, the quantum of such benefits can vary significantly from one purchaser to the next. Finally, even if post-acquisition synergies can be identified and meaningfully quantified, it generally is difficult to ascertain the degree to which purchasers will negotiate to pay for some or all of those post-acquisition benefits.

It follows that in Canada, in a notional market context there are four distinct scenarios, being where one or more potential open market purchasers who might enjoy post-acquisition synergies can:

- not be specifically identified, and it is believed that no such purchasers exist;
- not be specifically identified, but it is believed one or more such purchasers may exist;
- be identified, but their value to each prospective purchaser cannot be meaningfully quantified; and
- be identified, and the value of these things to each prospective purchaser can be meaningfully quantified.

In the first three instances, it is usual to state the parameters of the analysis that has been completed and the conclusions reached. In the third instance, it is usual to summarize those potential purchasers that have been identified, and to state that the value of post-acquisition synergies cannot be meaningfully quantified and the reasons this is so. In each of the first three instances, notional market value determinations typically are based on intrinsic value, and are qualified to reflect the fact that an open market price might be different (and presumably higher) than the value determination made. In these circumstances, reports expressing notional 'opinions' of fair market value often are qualified in respect of the inability to reasonably quantify post-acquisition synergies, if they exist at all.

In the fourth instance, it is usual to attempt to quantify fair market value inclusive of the post-acquisition synergies that have been identified. In such cases, total 'value' sometimes is segregated between the value component reflective of intrinsic value, and the value component reflective of estimated post-acquisition synergies, with the latter usually being somewhat qualified.

Open Market Transactions

In virtually all open market transactions involving the purchase of a business of a reasonable size, some level of post-acquisition synergies are perceived to exist by one or more potential purchasers. However, the extent to which said benefits are 'paid for' varies significantly. Ultimately, the amount paid for a particular business, including its estimated intrinsic value component and post-acquisition synergies component is a function of the negotiating position and abilities of the purchaser and vendor, and the terms on which the transaction takes place. Where not paid for, post-acquisition synergies act as a buffer against unexpected costs incurred as part of the acquisition.

Purchasers typically assess an acquisition candidate in light of the candidate's own operations on a stand-alone basis, combined with its perception of post-acquisition synergies that might be available as

a result of a business combination. Each potential purchaser brings unique opportunities to a combination of its own business and the one offered for sale. Accordingly, each such purchaser will perceive different opportunities, and hence will presume itself capable of generating different degrees of post-acquisition net economic advantage from the same acquisition opportunity. It follows that each purchaser can afford to, and likely will, pay a different price than every other purchaser for a particular pool of assets. Assuming disciplined purchasers, this price will be their so-called ‘walk away’ price. It defines the upper end of each purchaser’s price range.

In theory, the purchaser who expects to realize the greatest level of post-acquisition synergies will pay the highest price for a particular business. However, in any given circumstance it may not be possible for a vendor to negotiate a potential purchaser into paying more (or significantly more) than intrinsic value for at least the following reasons:

- a specific purchaser may not be able to realize significant post-acquisition synergies, net of associated costs;
- some post-acquisition synergies cannot be readily identified or quantified. For example, entry into a new market may be highly valued by a prospective purchaser not presently in that market, but this may be unknown or not quantifiable from the vendor’s perspective. Inevitably, the vendor and purchaser will differ in their respective perceptions of the post-acquisition benefits to be realized in any given transaction;
- the vendor may not have the negotiating strength necessary to extract a price reflecting some or all of the purchaser’s perceived post-acquisition synergy expectations;
- all prospective purchasers may not have been solicited, or may not be able or interested in making an acquisition at anything other than a ‘bargain price’. For example, the target business may be outside a prospective purchaser’s size requirements, management may prefer to go the route of internal growth, or the prospective purchaser may not have the financial resources to fully pay for synergies; and
- the business may not want to pay fully for prospective synergies based on its historic and projected ability to actually realize anticipated benefits. Some companies may be willing to pay close to 100% for synergies whereas others may be willing to pay for little or none. The amount that a purchaser is willing to pay for post-acquisition synergies is dependent on the purchaser’s perception of the importance of those benefits, the risks of achieving same, and the purchaser’s perception of the level of competition for the business being sold.

In general, the likelihood and quantum of post-acquisition synergies being ‘paid for’ increases when:

- there are a greater number of prospective purchasers involved. This increases the likelihood of one or more purchasers having the ability to realize considerable synergies and typically improves the negotiating position of the vendor. Conversely, by limiting market exposure and dealing only with one or a few purchasers, a vendor’s ability to maximize price through the negotiation process generally is negatively affected, often materially so. Theoretically, in both an open market transaction and notional

market context and absent 'middle market' speculator considerations, where only one potential purchaser with a special interest in acquiring exists, that purchaser may pay only a nominal amount more than other purchasers. However, as a practical matter a single special interest purchaser's desire to complete a particular transaction combined with the purchaser's likely incomplete knowledge as to the existence of other possible purchasers may result in such a purchaser being willing to pay a much higher price than others would pay;

- the target business has a unique competitive advantage that is attractive to, and can be readily transferred to, a purchaser. This could include circumstances where the target business is of strategic importance due to brand name recognition, market coverage, technology, customer contracts, and so on;

- economies of scale are evident in the industry (for example, the elimination of 'back-office' operations in industries with a comparatively high administrative component);

- the industry is going through a consolidation phase. This normally increases the number of active purchasers. Corporate acquirers may be actively competing for acquisition candidates; and

- the relative and absolute size of the business in relation to its competitors. A larger business generally is more likely to realize a premium for strategic benefits than a smaller business due to its likely better competitive position, market clout, and general level of purchaser interest.

Even where a vendor has specific information with respect to the post-acquisition synergies perceived by one or more potential purchasers, it is only through the active marketing of a business and negotiations with specific purchasers that a vendor can do other than speculate as to the value to such purchasers of likely post-acquisition synergies. Only when these things have been identified and quantified in economic terms by the vendor does the vendor have any opportunity to reflect them in a sale price. The purchaser has greater knowledge of its own business and the way it plans to integrate the acquisition than does the vendor. Hence the potential purchaser generally is in a far better position to quantify the value to it of the post-acquisition synergies it perceives than is the vendor. Notwithstanding, the most meaningful open market pricing exercise from a prospective vendor's point of view must involve the most accurate possible assessment of purchaser-perceived post-acquisition net economic benefits that are expected to flow from the acquisition.

The more that is known by the purchaser and the vendor about the various elements that comprise purchaser-perceived post-acquisition synergies, the better each will be able to quantify them. In turn, because each of the components of perceived post-acquisition synergies has yet to be proven at the date of transaction closing, the greater the value attributed to such things in relation to the aggregate purchase price the greater is the acquisition risk. As a result, the greater the purchaser's ability to analyze and quantify these things, typically the less risk-adverse the purchaser will be with respect to them.

Generally, it is only through well researched, well executed, wide market exposure that a determination can be made as to whether there are in fact potential purchasers who:

- perceive potential post-acquisition synergies;

- can identify and reasonably quantify the potential post-acquisition synergies that relate to those perceptions;
- are understood by the vendor to perceive such post-acquisition synergies to the degree they can be meaningfully quantified; and
- importantly, can be negotiated into a position of paying for some or all of that value-added component.

In an open market context, a primary vendor objective usually is maximization of selling price and hence after tax proceeds of sale. Accordingly, one would expect the vendor to attempt to identify those purchasers with the greatest apparent potential economic benefit from the acquisition, and the best possible 'fits' of his or her business with the businesses of those potential buyers. The more purchasers that believe they are not alone in being able to achieve post-acquisition synergies, the greater the likelihood that one or more of them will be prepared to pay for the post-acquisition value-added component. Thus market liquidity, dictated by the number of potential purchasers in the market at any given time, usually plays a significant role in determining the price that a vendor can expect to receive.

Identifying Post-acquisition Synergies

Post-acquisition synergies include all those things that increase the value of the combined business beyond the sum of its components resulting from:

- increases in the quantum of the aggregate prospective discretionary cash flows (sometimes referred to as 'free cash flow') of the purchaser and the vendor from what they otherwise would be. Discretionary cash flow normally is defined as cash flow from operations, less income taxes, capital expenditures (net of the related income tax shield), and incremental working capital requirements[2];
- reducing the risk of either the purchaser or the vendor or both achieving prospective discretionary cash flows; and
- creating growth opportunities and strategic advantage not otherwise available to either the purchaser or the vendor.

These benefits may accrue to the purchaser (including its existing affiliates and subsidiaries), the acquired business or a combination of the two.

Some post-acquisition synergies are more readily quantifiable than are others. Nonetheless, a critical step from the perspective of a buyer or seller in an open market transaction is the identification of likely

[2] Discretionary cash flow normally is determined before consideration of debt servicing costs, and hence 'financial risk' is incorporated in the required rate of return applied to those discretionary cash flows, which rate of return normally is expressed as a weighted average cost of capital.

post-acquisition benefits. From the vendor's perspective, this will assist in ascertaining which potential purchasers to canvass and the estimated price that each might pay. From the purchaser's standpoint, the identification of post-acquisition synergies is important from the perspective of determining all potential value components of the acquisition candidate, and in estimating the price others might pay.

Examples of post-acquisition benefits commonly anticipated are listed below. Although these benefits have been categorized as marketing, operating, financial and strategic, it is important to recognize that these classifications often overlap.

Marketing

- benefits associated with increased market share. Increased market share often lends itself to efficiencies in terms of general marketing expenses (advertising and promotion), administration and various other fixed costs. In addition, increased market share can help a purchaser in terms of the credibility associated with greater market presence and corporate awareness;

- the elimination of a competitor, thereby reducing price competition and the threat of new products being introduced by that competitor. From an economic standpoint, the primary determinant of price elasticity of demand is the availability of substitute products;

- improved market coverage resulting from the integration of product lines. This benefit most commonly occurs where complimentary products are acquired;

- gaining new customers to whom other products and services in the purchaser's portfolio can be sold, thereby generating incremental revenue. Incremental revenue opportunities may also arise for other reasons, such as cross-selling to existing customers or offering a more competitive basket of products or services by combining those of the acquired business and the acquirer; and

- improved distribution of products resulting from better utilization of the marketing organization and distribution channels of the combined entities, and more efficient marketing and sales cost per unit sold. This may include an overall reduction in the number of sales staff or distribution facilities.

Operating

- the ability to immediately transfer technology from the purchaser's business to the vendor's business and vice versa, thereby increasing profitability and eliminating the time that the vendor would otherwise require to develop the same capabilities internally;

- the ability to offset the seasonal/cyclical nature of the purchaser's existing market. This might lead to operating efficiencies where facilities have been underutilized for part of the year or industry cycle. Counter-cyclical products may also lead to a reduction in the risk related to the volatility of prospective discretionary cash flows;

- the benefits of improved capacity utilization. Where excess capacity exists, there may be an opportunity for incremental throughput, utilization of engineering and design services, and overall operating efficiencies;

- increased purchasing power. Where the acquirer significantly increases its size as a result of an acquisition, it often can realize post-acquisition purchasing efficiencies;

- access to employees with valuable technical skills and knowledge. This benefit is particularly important where such employees are in short supply or where the training period for new employees is lengthy; and

- headcount reductions. Reducing the total number of personnel is among the most common benefits anticipated following an acquisition, particularly where the purchaser is a competitor. Headcount reductions often include managerial and administrative functions, although reductions in sales and operations employees often also are expected.

Financial

- accelerated growth potential for the vendor's business through access to lower cost financing or greater and more varied financial resources;

- more efficient capital structure. This may include the ability to utilize greater amounts of low-cost debt financing, or enhanced financing capabilities for the purchaser by virtue of the demonstrated profitability and cash flow generation capability of the acquisition candidate; and

- for public company purchasers, greater coverage by stock market analysts due to the size of the combined business following an acquisition. Greater analyst coverage may lead to greater exposure of the purchaser to public market investors, thereby increasing the liquidity of its publicly traded shares, and reducing its cost of equity financing.

Strategic

- acquisition of additional capacity and existing know-how and market presence on a 'buy' rather than 'build' basis;

- potential risk reduction resulting from upstream and downstream integration opportunities;

- entry into a new strategically important market, from either a product or geographic standpoint; and

- a reduction in risk through greater diversification of products, markets, and so on.

All of the foregoing may affect price to the extent that the purchaser believes that the potential benefits are realizable and is prepared pay for some or all of them. The benefits may be in the form of increased revenues, reduced costs, and a reduction of the risk from that which otherwise would exist. For example,

the elimination of competition through acquisition may result in monetary benefits such as increased plant utilization, staff integration, and better market penetration. It may also reduce price competition. To the extent that such benefits are realized the cash flow volatility of the purchaser, and hence the risk associated with the acquisition, may be reduced. The valuation of post-acquisition synergies requires a careful examination of all such factors and a reasoned assessment of their likely realization and timing.

An analysis of open market transactions involving similar companies may provide some assistance in identifying possible purchaser-perceived post acquisition synergies and the quantification of same. From a vendor's perspective, an analysis of recent transactions may assist in the identification of special interest purchasers and ultimately in negotiating a sale price. From a prospective purchaser's standpoint, the analysis of transactions can be helpful in assessing the likely level of interest in a particular acquisition opportunity, and in estimating what might be competitive bids for the target company. Notwithstanding, it is important to recognize that even where information is available that enables some quantification of synergies paid for, there is no assurance that all synergies were paid for or paid for fully.

Information regarding 'comparable company transactions' typically is more readily available where the purchaser or the target company or both are publicly held companies. Financial details generally are unavailable for most transactions that involve only privately-held companies. Furthermore, information regarding comparable company transactions tends to be more extensive and more readily available in the U.S. than in Canada.

In most cases, given the limitations on the availability of financial data and the lack of direct involvement in a particular acquisition, it generally is possible only to speculate as to how much of the price paid in any acquisition related to purchaser perceived post-acquisition synergies. Nonetheless, a review of industry transactions may provide both the prospective vendor and purchaser with information that assists each of them in open market pricing analysis and the ensuing negotiations.

Transaction Costs

The quantification of potential benefits expected to accrue from an acquisition frequently is emphasized. Often adequate consideration is not given to the costs of integration, the capital expenditures required to meet post-acquisition growth expectations, the timing of the anticipated proceeds, and the probability factors related to the actual realization of the perceived benefits. In fact, post-acquisition costs often exceed purchaser expectations, thus reducing the synergies from what had been anticipated. If transaction benefits concurrently have been overstated, the resultant cash flow shortfall from projections made by the purchaser when assessing price could be significant.

The purchaser incurs costs prior to, during and after the consummation of a transaction. Costs incurred up to and including the acquisition date often include legal and advisory fees, management time, incidental costs such as travel and accommodation, and so on. These costs normally are incurred as part of the acquisition process, including preparation of the letter of intent, due diligence investigation, and finalization of the purchase and sale documentation. As a result, most of these expenses are incurred regardless of whether a transaction closes. In most open market transactions, such 'sunk costs' generally are not factored into the price paid.

After transaction closing, the purchaser will incur additional costs (either directly or through the acquired business) that should be considered and quantified when pricing the acquisition. These costs generally are associated with the post-acquisition integration of the target business. The necessary expenses to realize post-acquisition synergies commonly include:

- severance costs associated with headcount reductions;
- system integration costs;
- employee training costs;
- lease termination payments and facilities disposition costs, where redundant facilities exist;
- general integration and monitoring costs of the acquired company;
- quality standards implementation costs;
- costs associated with the replacement of key personnel who depart the acquired organization shortly after the transaction;
- incremental costs incurred due to expenditures that had been deferred by the vendor prior to sale in order to improve its most recent financial results (e.g. equipment maintenance);
- penalties for breaching minimum purchase or other commitments, or the incremental costs incurred to honour those commitments; and
- costs associated with contingent liabilities that were not adequately reflected in the vendor's financial statements.

Quantifying Post-acquisition Synergies

The quantification of post-acquisition synergies generally should be a separate and distinct component of any business valuation or pricing exercise. Accordingly, the intrinsic value of the business should be estimated as the 'base value' and the value of synergies should be added to that base where applicable. This segregation not only assists in evaluating the reasonableness of the components, but in an open market transaction enables the purchaser separately to consider the portion of the anticipated synergies it wants to 'pay for' in its pricing strategy. Where a purchaser does not pay for expected synergies, these serve to compensate for unanticipated shortfalls from expected post-acquisition discretionary cash flows. No acquisition review can be so complete as to eliminate all post-acquisition surprises. In many instances, a lower level of post-acquisition benefits and a higher level of costs materialize following acquisition than were anticipated during negotiations. Consequently, if the value-added component is

fully paid for, the purchaser has eliminated all downside protection and the likelihood of acquisition success is reduced.

As a test of reasonableness of synergy quantification, it generally is beneficial to calculate the estimated price of a business (comprised of its intrinsic value component and synergy value component) as a multiple of pre-acquisition and prospective post-acquisition earnings and cash flow measures (such as EBIT-DA, discretionary cash flows, and so on), both inclusive and exclusive of synergies, and to assess those multiples in light of the risks and opportunities of the business.

A proper quantification of post-acquisition synergies requires a balanced, realistic perspective of the potential benefits to be derived from the acquisition, as well as an assessment of the likely incremental costs to be incurred in their realization. In summary, the quantification of possible post-acquisition synergies in a given transaction generally requires at least the following:

- from the point of view of the vendor:
  - ✓ identification of the most logical purchaser(s) for the business,
  - ✓ an understanding of the motivations of each potential purchaser of the business,
  - ✓ a review of public information with respect to potential purchasers (financial statements, U.S. Security and Exchange Commission 8-K and 10-K reports, industry analysis, articles, and so on),
  - ✓ a determination of whether the acquisition falls within each potential purchaser's corporate strategy and whether each recently has been an active or interested acquirer; and
- from the point of view of the purchaser:
  - ✓ the estimated incremental discretionary cash flows the purchaser expects to realize beyond those expected to be generated by the vendor on a stand-alone basis,
  - ✓ the risks the purchaser perceives related to achieving said estimated incremental discretionary cash flows,
  - ✓ the expected timing of receipt of the perceived post-acquisition incremental discretionary cash flows,
  - ✓ the estimated costs associated with achieving the perceived post-acquisition incremental discretionary cash flows,
  - ✓ the purchaser's perception relative to competition for the acquisition, combined with the vendor's complacency or anxiety with respect to the transaction and the purchaser's level of interest with respect to completing the acquisition, and
  - ✓ the negotiating skills of the purchaser, vendor, and their respective advisors.

In most open market transactions involving medium and large sized businesses, one or more purchasers perceive the ability to realize post-acquisition synergies. It is unusual for a vendor to be paid fully for all purchaser-perceived post-acquisition net economic benefits. However, pricing a business for open market purposes should always incorporate an effort to quantify the value-added potentially created by a transaction. Uncertainty as to the amount and likely realization of the value-added component should not prevent this.

For the purpose of quantification, in theory, the various sources of post-acquisition synergies generally can be segregated into three categories as follows:

- tangible operating synergies, being those that relate to the operating activities of the business (as contrasted with the financial structure of the business), that can be readily isolated and quantified in terms of incremental prospective discretionary cash flows. These synergies typically relate to specific incremental revenue opportunities and cost reductions. Examples of tangible operating synergies include reduced marketing costs, headcount reductions, and the ability of the purchaser to cross-sell its products with those of the target company, where that opportunity can reasonably be quantified;

- intangible operating synergies, being those that relate to the operating activities of the business, but cannot be readily segregated and analyzed on an individual basis. These synergies typically relate to incremental growth opportunities or a reduction in business risk that has not been quantified as part of prospective discretionary cash flows. Examples of intangible operating synergies include benefits associated with product diversification and the acquisition of leading-edge technology, as well as general 'strategic advantages' the purchaser perceives that it will realize following the acquisition; and

- financial synergies, being those that relate to the financial structure of a business (as opposed to its operating activities), that result in a lower cost of capital following the acquisition. These synergies relate to the cost of debt and equity financing, and the debt capacity of the business. Examples of financial synergies include the ability to utilize a more efficient capital structure than the target company could obtain on its own, and reduced borrowing costs for the combined business following the acquisition due to a greater consolidated tangible asset base.

Tangible operating synergies, intangible operating synergies, and financial synergies, may accrue to the target company, the purchaser's existing business (including its existing affiliates), or a combination of the two, following an acquisition. Approaches to the quantification of each of these types of synergies are discussed below.

Quantifying Tangible Operating Synergies

Both in theory and in practice, the quantification of tangible operating synergies involves estimating the incremental discretionary cash flows expected to arise from synergy realization by:

- where applicable, determining the increase in prospective cash flows from incremental revenue opportunities, net of associated costs;

- determining the expected incremental cash flows from cost savings;

- determining the costs of implementing and realizing the expected synergies. This should include both initial and ongoing costs, and may include operating expenses, capital expenditures and increased working capital requirements; and

- income tax effecting the expected net synergies.

The net incremental discretionary cash flows should be discounted (or capitalized) to determine their present value. The discounted cash flow methodology generally is the preferred approach to determining the value of tangible operating synergies. The discounted cash flow methodology explicitly considers all costs of realizing the expected net synergies, including the impact on working capital, capital additions (where applicable) and the timing of income tax loss utilization. Importantly, the discounted cash flow methodology normally should be used where significant up front costs are anticipated or where post-acquisition synergies are expected to emerge over time. This may be the case where:

- initial costs such as severance, lease termination, systems integration, and so on, are required in order to obtain cost reductions;

- incremental spending is required for new equipment, working capital, start-up costs and other expenses in order to generate incremental revenue opportunities; and

- the benefits are expected to phase in over time. This is particularly the case where the post-acquisition synergies relate to incremental revenue opportunities.

Where a discounted cash flow methodology is not adopted for the purpose of quantifying tangible operating synergies (although in most cases it should be), a capitalization of discretionary cash flow methodology generally is used.

The quantification of tangible operating synergies generally should consider that the risk in their realization often is greater than the risk attaching to the intrinsic prospective discretionary cash flows of the target company. There are several ways of dealing with this incremental risk, including:

- adopting a discount rate in the discounted cash flow methodology (or capitalization rate in the capitalization of discretionary cash flow methodology) that appropriately reflects the risk of achieving the expected net synergies. This should be a higher discount rate (or capitalization rate) than is adopted when estimating the intrinsic value of the business. In addition, there may be circumstances where it is appropriate to apply a different discount rate (or capitalization rate) to different sources of synergies (e.g. cost reductions, incremental revenues, and so on) to properly reflect the different levels of risk of achieving each;

- reducing (or applying a ‘probability factor’ to) the incremental discretionary cash flows anticipated from tangible operating synergies, pursuant to:

- ✓ reducing the cash inflows anticipated from incremental revenues, cost savings, and so on, or
- ✓ increasing the estimated costs of synergy realization, or
- ✓ a combination of the two.

The quantum of reduction (in relative terms) should be a reflection of the degree of uncertainty attaching to synergies anticipated from various sources (e.g.; cost savings, incremental revenues, and so on). The 'adjusted' discretionary cash flow from synergies would then be discounted (or capitalized) at moderate 'market-driven' rates of return, commonly the discount rate (or capitalization rate) adopted to estimate the value of the target company on intrinsic basis; and

- applying a 'probability factor' (or 'contingency factor') to the present value of the tangible operating synergies. Where this is done, the expected net synergies typically would be discounted (capitalized) at moderate 'market driven' rates of return, commonly the discount rate (capitalization rate) used in estimating the intrinsic value of the target business. It may be appropriate to apply a different probability factor to different types of synergies (e.g.; cost savings, incremental revenue, and so on) in order to reflect the risk in their realization.

The 'probability factor' (or 'contingency factor') approach is the most commonly used in practice. This is because it generally is a more simplified approach, and allows purchasers to more readily 'fine tune' their estimates of synergy value to reflect both the risk of realization, and that portion of synergies they believe they must 'pay for' in order to consummate a transaction.

As an example of the quantification of tangible operating synergies, assume that Goodsnack Inc. ('Goodsnack') is a large manufacturer and distributor of a variety of snack foods. Goodsnack is interested in purchasing Tasty Treat Ltd. ('Tasty Treat'), a regional manufacturer of baked desserts whose products enjoy strong brand name recognition in their market area. Tasty Treat's financial performance has been relatively stable over the past few years, with annual discretionary cash flows of approximately $4 million on annual revenues of $60 million. Management of Goodsnack believes that following the acquisition of Tasty Treat, it could realize the following synergies:

- headcount reductions amounting to $500,000 per year. Average severance costs are estimated to be equal to six months wages;
- facilities cost savings amounting to $100,000 per annum. The cost of terminating leases and relocating from existing facilities is estimated at $75,000; and
- through its established national distribution system, Goodsnack expects to increase Tasty Treat's sales by 10% over current levels (in excess of inflation). These incremental revenues would be realized over a three year period. Incremental operating costs, including manufacturing and selling, are estimated at 70% of sales. Initial capital expenditures of $1 million would be required in order to generate the incremental revenues. The present value of the related income tax shield on these

capital expenditures is estimated at $200,000. Incremental working capital requirements are estimated at 10% of incremental revenues.

Assume that Tasty Treat's effective income tax rate is 35%. Further assume that Goodsnack believes the appropriate real (net of inflation) weighted average cost of capital discount rate and capitalization rate to apply when valuing Tasty Treat is 11%. Finally, assume that Goodsnack prices its acquisition targets based on a 50% probability of achieving anticipated post-acquisition synergies.

As illustrated in Exhibit 1, Goodsnack would value the tangible operating synergies anticipated through the acquisition of Tasty Treat pursuant to a discounted cash flow methodology since the benefits are expected be realized in over time. For the purposes of this calculation, both the incremental discretionary cash flows and the discount rate are expressed in real terms (i.e. net of inflation)[3]. The net benefits are tax-effected at a rate of 35%. A probability factor of 50% is applied to the net incremental discretionary cash flows. Implementation costs including severance costs, lease cancellation payments, and initial capital expenditures are deducted (net of tax) to determine the net value of tangible operating synergies of approximately $5.7 million.

Rather than applying a probability factor, the real incremental discretionary cash flows could have been discounted at a real weighted average cost of capital of approximately 21% (with a capitalization rate of 21%) to reflect the risk in achieving same. However, the 'probability factor' approach tends to be more commonly employed by corporate purchasers.

[3] Alternatively, the calculation could be done in nominal terms, so long as inflation assumptions were consistent between the incremental discretionary cash flows and the rates of return applied thereto.

Schedule 1
Estimated Value of Tangible Operating Synergies ($000)

	Year 1	Year 2	Year 3	Thereafter
Revenues				
Incremental revenues	2,000	4,000	6,000	6,000
Incremental operating costs (70%)	(1,400)	(2,800)	(4,200)	(4,200)
Contribution	600	1,200	1,800	1,800
Cost savings				
Headcount reductions	500	500	500	500
Facilities cost savings	100	100	100	100
Total savings	600	600	600	600
Incremental gross cash flow	1,200	1,800	2,400	2,400
Income taxes at 35%	(420)	(630)	(840)	(840)
Incremental working capital	(200)	(200)	(200)	0
Net incremental cash flow (real dollars)	580	970	1,360	1,560
Terminal value capitalized @ 11%				14,182
Present value at 11% real rate (mid-year)	551	829	1,048	10,925
Present value - incremental cash flows	13,353			
Probabilized at 50%	6,676			
Deduct: net incremental costs				
Severance	(250)			
Facilities closure	(75)			
Tax savings on above	114			
Net incremental expenses	(211)			
Capital expenditures	(1,000)			
Present value of tax shield on capex	200			
Net incremental capital expenditures	(800)			
Total incremental costs	(1,011)			
Net value of tangible operating synergies	5,665			

Quantifying Intangible Operating Synergies

Intangible operating synergies normally relate to one or more of:

- a reduced level of risk in achieving the prospective operating results. For example, a reduction in the risk of a critical manufacturing input through the acquisition of a supplier;
- enhanced long term growth prospects or strategic advantages that have not been separately quantified. For example, anticipated revenue growth over the long term by acquiring a business that facilitates entry into foreign markets; and
- general 'strategic advantage' anticipated from an acquisition. For example, the anticipated benefits related to the acquisition of new leading-edge technology.

Although the value of these post-acquisition synergies often is difficult to isolate, in theory their quantification can be achieved through the application of a lower discount rate (or capitalization rate) to the intrinsic prospective discretionary cash flows of the target business than would otherwise be applied.

From a theoretical perspective, the quantification of intangible operating synergies involves comparing the enterprise value (or 'firm value')[4] of the target business based on discounting (capitalizing) the prospective discretionary cash flows at a discount rate (capitalization rate) that reflects:

- the risks and opportunities of the business absent the post-acquisition intangible operating synergies (i.e. on an intrinsic basis); and
- adjustments to the risks and opportunities of the business given the expected post-acquisition intangible operating synergies.

The difference between the two resulting value determinations represents the value of intangible operating synergies. As with tangible operating synergies, it may be appropriate to apply a probability factor to the incremental value of intangible operating synergies in recognition of the additional risks in their realization, and/or as part of the purchaser's pricing and negotiating strategy.

In most cases, the enterprise value of a business (calculated on an intrinsic basis) is developed pursuant to a discounted cash flow valuation methodology (or capitalization of discretionary cash flow methodology) where the discount rate (capitalization rate) represents a weighted average cost of capital. In theory, where a downward adjustment is made to the discount rate (or capitalization rate) to reflect anticipated intangible operating synergies, that adjustment should be made by reducing the unlevered return on equity component of the weighted average cost of capital otherwise applied in valuing the business enterprise. An adjusted weighted average cost of capital would be calculated based on the reduced unlevered return on equity, without regard to changes in the financing costs or financial leverage capabilities of the target company.

[4] The same results would be obtained by comparing equity value, however additional calculations would be required.

This approach is consistent with business valuation theory, which suggests that operating risk and financial risk are distinct elements, and should be separately addressed. In theory, intangible operating synergies relate to the operating risks of a business, and they should not have a direct impact on capital structure or financing decisions (although, as a practical matter, in some cases they may).

That said, given the mathematical workings of financial leverage, a relatively minor reduction in the discount rate or capitalization rate itself (which usually is expressed as a weighted average cost of capital, and which therefore incorporates both the elements of operating risk and financial risk) normally would not yield a materially different result than a relatively minor reduction to the unlevered return on equity component of the discount rate, with a subsequent adjustment for financial leverage.

Returning to the previous example, assume that Goodsnack views the acquisition of Tasty Treat as strategically important because it would enable Goodsnack to expand into the dessert food category, which is outside Goodsnack's traditional snack food business, and which in turn could provide Goodsnack with a platform for greater expansion into the dessert category.

Further assume that Goodsnack estimated the enterprise value of Tasty Treat on an intrinsic basis at approximately $36.4 million, pursuant to a capitalization of discretionary cash flow valuation methodology whereby Tasty Treat's estimated stand-alone discretionary cash flows of $4 million were capitalized at a real weighted average cost of capital capitalization rate of 11%. Assume that the capitalization rate of 11% was derived by Goodsnack as a nominal weighted average cost of capital of 13% less 2% inflation, and that the discount rate of 13% was derived based on a nominal unlevered return on equity of 15%, a debt to total capital ratio of 40%, and an income tax rate of 35%, which Goodsnack considered appropriate for the purpose of this acquisition[5].

The incremental cash flows relating to 'strategic importance' cannot be readily isolated. For purposes of this example, it is assumed that Goodsnack estimates the value of strategic importance by reducing the rate of return applied to Tasty Treat's intrinsic discretionary cash flows. In this case, a 2% reduction in the nominal unlevered rate of return on equity is assumed (based on Goodsnack's subjective analysis), which reduces the nominal weighted average cost of capital to 11%, and capitalization rate to 9%[6]. Applying the reduced capitalization rate to the intrinsic discretionary cash flows of Tasty Treat of $4 million per annum generates an enterprise value of approximately $44.4 million, an increase of $8 million over the previous enterprise value estimate. Applying a 50% probability factor to the $8 million results in the probabilized amount of intangible operating synergies of approximately $4 million (or one times Tasty Treat's annual intrinsic discretionary cash flow). This analysis is summarized in Schedule 2.

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[5] The nominal weighted average cost of capital is derived using the simplified formula of:
[unlevered cost of equity] x [1 – (tax rate x debt to total capital ratio)] = 15% x [1 – (35% x 40%)] = 13% (rounded).
[6] Using the simplified formula, the adjusted nominal weighted average cost of capital is calculated as:
[15% - 2% reduction] x [1 – (35% x 40%)] = 11% (rounded). Deducting 2% inflation from this amount results in a capitalization rate of 9%. As can be seen in this example, due to rounding, the same results would have been achieved had the discount rate and capitalization rate been adjusted directly.

Schedule 2
Estimated Value of Intangible Operating Synergies ($000)

	Intrinsic Value		Strategic Value
Annual discretionary cash flows	4,000		4,000
Capitalization rate (real WACC)	11%		9%
Enterprise value	36,364		44,444
Gross value of intangible operating synergies		8,081	
Probabilized at 50%		4,040	

In practice, purchasers often adjust their price upward in recognition of strategic importance and other intangible operating synergies that they believe will arise following a transaction. However, in many cases the quantification of such benefits is more influenced by a purchaser's qualitative assessment of the level of importance of a target business than it is by a mathematical exercise. In addition, purchasers sometimes make subjective price adjustments to reflect a bid price they perceive is necessary to consummate a transaction, in light of what the purchaser believes to be the level of competition for the acquisition target and the likely prices that other interested parties might be willing to pay.

Where a subjective price adjustment is made, either to reflect the perceived value of intangible operating synergies or perceived competition for an acquisition target, it normally is a useful exercise for the purchaser to determine the rate of return implied by the ratio of prospective discretionary cash flow to price (enterprise value), and to assess whether the reduced rate of return is justified based on the intangible benefits anticipated to arise from the acquisition and their associated costs in light of the risks involved.

Quantifying Financial Synergies

Financial synergies are those related to the ability of the purchaser to obtain lower cost financing following a transaction, or to employ a more efficient capital structure than the acquired business could on its own. Financial synergies may arise due to:

- benefits related to the larger size of the combined entity, where the increased asset base provides greater security to debt and equity holders. Larger organizations typically are able to attract a greater number of interested lenders and prospective investors, which can also lead to reduced financing costs;

- existing relationships which the purchaser enjoys that can be extended to the target business resulting in a more efficient capital structure or lower cost financing than might otherwise be available to it;

- where both the vendor and the purchaser are privately held companies prior to a transaction and neither is of sufficient size in isolation to economically justify an initial public offering, but where the combined entity could offer its shares to the public resulting in a reduction in their respective costs of capital;

- for public company purchasers, improved coverage by public equity market analysts due to the increased size of the combined entity following the acquisition, which may improve the liquidity of the purchaser's shares and hence reduce its cost of equity; and

- the ability to employ greater financial leverage in the capital structure of the combined entity due to improved stability of prospective discretionary cash flows or enhanced degree of lender interest.

When determining the enterprise value (and equity value) of a business pursuant to the discounted cash flow methodology (or capitalization of discretionary cash flow methodology), the discount rate (or capitalization rate) adopted normally should first be derived as an unlevered return on equity. That is, the required rate of return on equity given the operating risks of the business (such as revenue generation, cost control, industry competition, and so on), without having regard to the ability to utilize debt in the business' capital structure. Subsequently, the impact of financial leverage should be considered to express the discount rate or capitalization rate as a weighted average cost of capital[7].

In theory the value of financial synergies can be quantified by comparing the enterprise value (or equity value) of the target business calculated pursuant to an 'appropriate' capital structure and rates of return that incorporate financial synergies, to the enterprise value (or equity value) of the business absent the benefits associated with those financial synergies. Once again, it may be appropriate to apply a probability factor to the value of financial synergies to reflect the risk in their ultimate realization, or as part of the purchaser's pricing and negotiation strategy.

Continuing with the previous example, assume that Goodsnack believed that, because of its borrowing capabilities and financial strength, it could increase Tasty Treat's debt to total capital ratio from 40% (assumed to be the appropriate debt to total capital ratio for Tasty Treat on a stand-alone basis) to 50%, without incurring higher debt servicing costs. Assuming no change to the nominal unlevered return on equity (15%) and the income tax rate (35%), the nominal weighted average cost of capital would be reduced from 13% to 12%, and the capitalization rate from 11% to 10%[8].

As before, assuming that Goodsnack adopted a capitalization of discretionary cash flow methodology, it would have estimated the intrinsic value of Tasty Treat at approximately $36.4 million (being $4 million / 11%). Incorporating the anticipated financial synergies increases the value of Tasty Treat to $40 million (being $40 million / 10%). The difference of approximately $3.6 million represents the value of financial synergies. Again it is assumed that Goodsnack applies a 50% probability factor to the gross amount of

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[7] Alternatively, the discount rate (or capitalization rate) can be expressed as a levered return on equity where debt servicing costs have been deducted in the determination of prospective discretionary cash flows. This is a less common approach in practice, but theoretically acceptable.
[8] Calculated as 15% x [1 – (35% x 50%)] = 12% nominal discount rate (rounded). Deducting 2% for inflation results in a capitalization rate of 10%.

financial synergies to reflect the risk of their realization, and for purposes of its negotiating and pricing strategy. Accordingly, Goodsnack would value the financial synergies anticipated from the acquisition of Tasty Treat at approximately $1.8 million (see Schedule 3).

Schedule 3
Estimated Value of Financial Synergies ($000)

	Intrinsic Value		Financial Synergies
Annual discretionary cash flows	4,000		4,000
Capitalization rate (real WACC)	11%		10%
Enterprise value	36,364		40,000
Gross value of financial synergies		3,636	
Probabilized at 50%		1,818	

In practice, when determining the value of an acquisition target, purchasers normally adopt 'hurdle' rates of return that are established at the board of directors or senior management level. Such hurdle rates normally incorporate certain assumptions (either implicitly or explicitly) regarding a purchaser's 'appropriate capital structure' and its cost of capital. Where the 'appropriate capital structure' and cost of capital embedded in the hurdle rate reflects the financial position and financial capabilities of the purchaser, and is more efficient than that of the target company on a stand-alone basis, financial synergies may be fully incorporated in the 'intrinsic' value calculated for the target company. While there may be an opportunity in some cases for a purchaser to retain a portion of the financial synergy premium embedded in that 'intrinsic' value determination, such an opportunity is diminished where there are other parties interested in the acquisition target who enjoy efficiencies in their respective capital structures similar to those of the purchaser.

The practical difficulty in quantifying financial synergies as they relate to a more efficient capital structure is that 'appropriate capital structure' assessments are subjective. Corporate capital structures vary considerably, even among companies within the same industry. Therefore, it may be difficult to assess the degree to which a purchaser can confer a more efficient capital structure onto the target company. That said, the quantification of financial synergies as described herein may bring a greater level of discipline to what is otherwise a highly subjective assessment by many corporate purchasers, and help to reinforce the distinction and relationships between operating risk and financial risk.

Cumulative Synergies

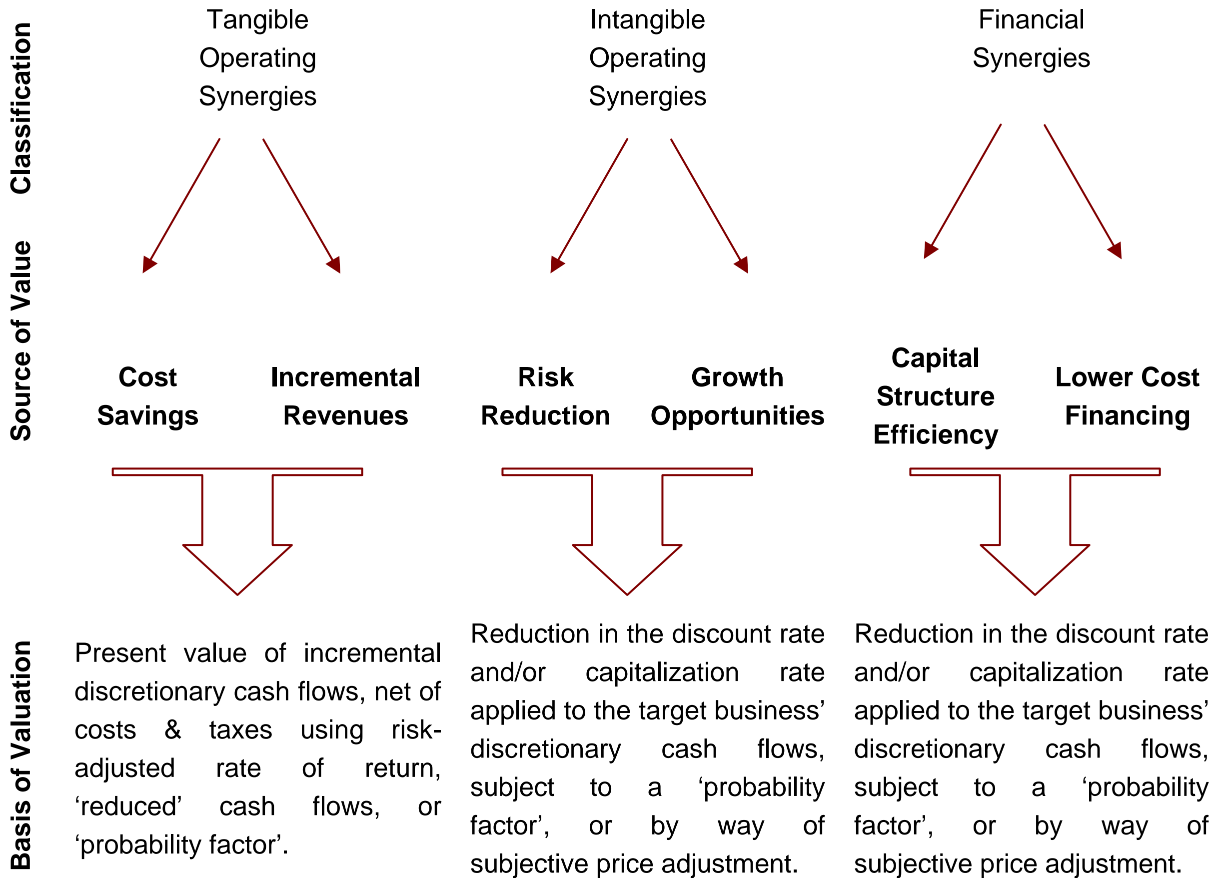
In the above examples involving Goodsnack and Tasty Treat, tangible operating synergies, intangible operating synergies, and financial synergies each were quantified in isolation. However, where synergies are available from more than one category, in theory, their impact is cumulative. For example, the tangible operating synergies anticipated by Goodsnack form a part of the prospective discretionary cash flows of Tasty Treat that enhances their value, as well as the estimated value of the anticipated intangible operating synergies and financial synergies. However, the risk in realizing the 'cumulative synergies' also is greater, and the 'probability factor' on the 'cumulative synergies' component would have to reflect the risk of simultaneously achieving synergies from multiple categories. While in theory it may be appropriate in some cases to attempt to quantify the value of cumulative synergies, as a practical matter, the risk-adjusted result normally would not have a significant impact on the overall determined price, and it may be prudent for a purchaser to disregard the impact of cumulative synergies in its pricing strategy.

Finally, in some cases, synergies might not only accrue in the acquired entity, but in the purchaser's existing operations as well. Where these represent tangible operating synergies, they can be quantified as previously illustrated. However, in some cases the benefits to the purchaser may be in the form of intangible operating synergies (e.g. improved growth opportunities for the purchaser's existing business) and / or financial synergies (e.g. lower financing costs for the combined entity due to the size of its consolidated asset base following the acquisition). In theory, the value of intangible operating synergies and financial synergies accruing to the purchaser's existing operations can be quantified by comparing the enterprise value (or equity value) of the purchaser's existing operations based on rates of return that reflect the anticipated intangible operating synergies and financial synergies, with the enterprise value (or equity value) of the purchaser's existing operations calculated based on rates of return that exclude consideration of those benefits. The net result of the synergies should be probabilized or discounted, as appropriate to reflect the risk of synergy realization and as part of the purchaser's pricing and negotiating strategy. When quantifying synergies in this manner, purchasers should be cautioned not to 'double-count' the value of intangible operating synergies and financial synergies pursuant to their assessment of the incremental value ascribed to the target company through a reduction in the discount rate (or capitalization rate) adopted for the purpose of its valuation (or by way of a subjective price adjustment).

Synergy Quantification Summary

The quantification of the different types of post-acquisition synergies as discussed herein can be summarized as follows:

Chart 2
Quantifying Post Acquisition Synergies

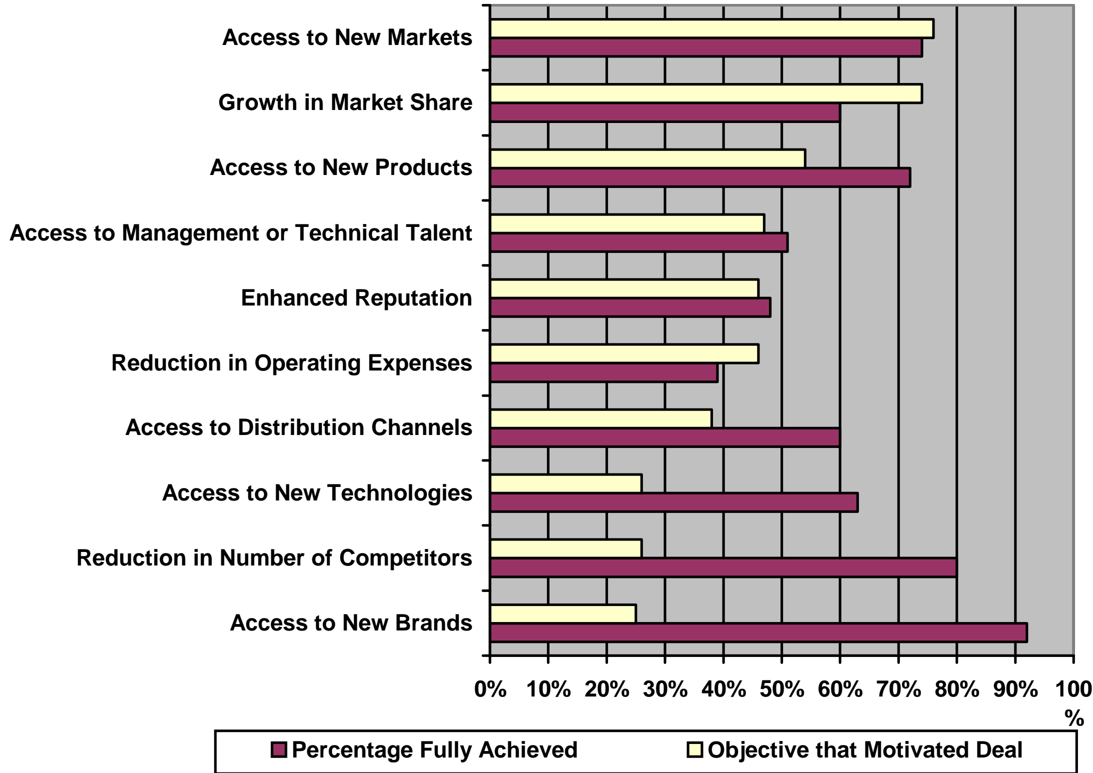


Empirical Evidence

A study by Pricewaterhousecoopers[9] ('PWC') examined the reasons why purchasers consummated transactions ('objectives that motivated deal'), and the extent to which those purchasers believed that their stated objectives were fully realized ('percentage fully achieved'). The results are summarized in Chart 3.

[9] Speed Makes a Difference: A Survey of Mergers and Acquisitions, 2000

Chart 3
Objectives Motivating Deals and Achievement of those Objectives



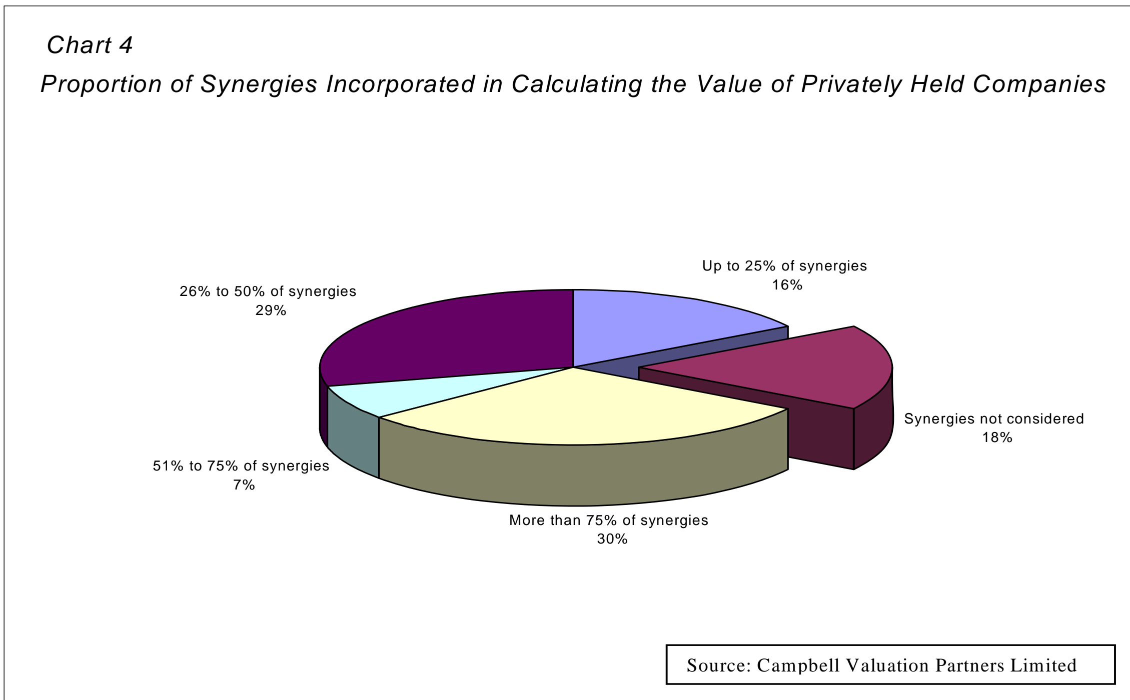
Source: PWC

The PWC study indicates that 'market-driven' objectives (such as access to new markets, growth in market share, and access to new products) are the most common reasons why purchasers pursue acquisition opportunities. However, even these objectives are not always fully achieved. It is interesting to note that an objective such as 'reduction in operating expenses', which would be categorized as 'tangible operating synergies' were fully achieved less than 40% of the time. Further, an objective such as 'enhanced reputation', which likely would be categorized as an 'intangible operating synergy' was fully realized less than 50% of the time. Therefore, the PWC study suggests that when pricing an acquisition target, purchasers would be prudent not to pay for the full value of anticipated post-acquisition synergies.

A study undertaken by Campbell Valuation Partners Limited[10] examined whether purchasers consider post-acquisition synergies in the acquisition of privately held companies and, if so, to what extent. As illustrated in Chart 4, over 80% of respondents indicated that they do consider post-acquisition synergies in their calculations. Approximately 90% of those respondents who do factor synergies into their value calculations indicated that the target rate of return applied to synergies is the same as that applied to the cash flows of the target company on an intrinsic basis. However, approximately 55% of purchasers who do account for synergies stated that they incorporate one half or less of the expected synergies in

[10] A Survey of Corporate Acquirers, April 1999.

calculating the value of the target company. This analysis reveals that purchasers generally consider post-acquisition synergies as part of their business pricing strategies, but that they normally ‘probabilize’ or otherwise reduce the value of those synergies to reflect the risk in their ultimate realization.



Synergies and Goodwill Impairment Testing

The recent introduction of new accounting standards in both the U.S. and Canada require that companies reporting goodwill on their financial statements periodically (normally annually) test whether or not that goodwill has been impaired and should be written down. The new standards in the U.S. (FAS 142) and Canada (CICA Handbook Section 3062) are substantially similar. Both require a two-stage process consisting of:

- first, comparing the ‘fair value’ (as defined in the new standards) of each ‘reporting unit’ with its carrying amount, including goodwill; and

- if the carrying amount of a reporting unit exceeds its ‘fair value’, to measure the amount of goodwill impairment pursuant to calculating the implied ‘fair value’ of goodwill in the same manner as the amount of goodwill recognized in a business combination is determined.

The new accounting standards define ‘fair value’ as “*the amount at which an asset (or liability) could be bought or sold (or settled) in a current transaction between willing parties, that is, other than in a forced or*

liquidation sale."[11] This definition does not specifically address whether synergies should be included or excluded in the determination of 'fair value'.

From a conceptual standpoint, for the purpose of determining 'fair value' in the context of goodwill impairment testing, synergies can be categorized as those where the consolidated entity:

- is realizing or expects to realize synergies through the integration of the acquired 'reporting unit' with its other operations. These are referred to in this paper as 'internal synergies'; and

- cannot itself realize synergies (or could realize only limited synergies) of a reporting unit, but it is believed that synergies (or greater synergies) could be realized by a third party purchaser who acquired the reporting unit, and that said purchaser likely could be negotiated into a position of paying for some or all of those synergies. These are referred to in this paper as 'external synergies'.

Internal Synergies

Specific synergies that are realized or reasonably anticipated following an acquisition normally are reflected in the prospective discretionary cash flows of the reporting unit. Where these synergies are specifically quantifiable, they would be classified as 'tangible operating synergies'. Accordingly, where the 'fair value' of a reporting unit is determined pursuant to a discounted cash flow methodology, anticipated tangible operating synergies form part of that value calculation. The new accounting standards acknowledge that these types of synergies do exist, and suggest that they form a part of 'fair value' as evidenced by statements such as: "*There are several reasons why an enterprise might expect to realize or pay cash flows that differ from those expected by others in the marketplace. Those include… (d) the entity might hold information, trade secrets, or processes that allow it to realize (or avoid paying) cash flows that differ from others expectations. (e) The entity might be able to realize or pay amounts through use of internal resources…*"[12]. Therefore, 'fair value' as adopted in the new accounting standards is more akin to 'investment value' than it is to intrinsic 'fair market value'.

It follows that purchased synergies should be reflected in goodwill. However, where synergies that were 'paid for' are not realized to the extent anticipated, goodwill likely is impaired. As a test of whether anticipated synergies are being realized, where the necessary information exists, it normally would be helpful to review the purchaser's working papers that were prepared at the time the transaction was consummated, and that document the source and quantum synergies expected to be realized following the acquisition, the basis upon which the target company was valued (e.g. discount rates, probability factors applied to synergies, and so on), and the justification for the price that ultimately was paid. An assessment can then be made as to whether, and to what extent, the anticipated post-acquisition discretionary cash flows (including synergies) have been realized.

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[11] The definition above is taken from FAS 142. The Canadian definition, pursuant to Section CICA Handbook Section 3062 is "the amount of the consideration that would be agreed upon in an arm's length transaction between knowledgeable, willing parties who are under no compulsion to act". The two definitions essentially are the same.
[12] Source: FAS 142.E3.32; CICA Handbook Section 1581 A11.

An issue may arise where a purchaser pays a premium over the intrinsic value of a business entity in respect of tangible operating synergies that are anticipated to be realized in one or more of its other existing reporting units following the acquisition. On a stand-alone basis, the prospective discretionary cash flows of the acquired entity would not reflect those synergies. The new accounting standards require goodwill impairment testing on a 'reporting unit' basis, and 'excess' goodwill of one reporting unit cannot serve to compensate for deficient goodwill of another reporting unit. However, the new accounting standards allow acquired goodwill to be assigned among reporting units that have not been assigned any of the assets acquired or liabilities assumed in that acquisition by applying a "with and without" computation, so long as such an allocation is performed in a reasonable, supportable and consistent manner. Therefore, the goodwill to be assigned to a reporting unit is calculated as the difference between its 'fair value' before the acquisition and its 'fair value' after the acquisition.[13]

By way of example, assume that a purchaser operated a single reporting unit business ('Division A') and purchased another business that was accounted for as a separate reporting unit ('Division B'). Further assume that the intrinsic value of Division B was $10 million, but that the purchaser paid $12 million on the basis of post-acquisition cost savings that were anticipated to be shared equally between Division A and Division B. In this case, management should assign one half of the goodwill ($1 million) to Division A. Failure to do so may result in a write-down of goodwill if the post-acquisition discretionary cash flow of Division B is insufficient to justify the entire $2 million of goodwill. Accordingly, in any prospective acquisition where goodwill is realized for accounting purposes, to avoid a subsequent 'erroneous' write-down of goodwill, it is important that management carefully consider the synergies to be realized in each of its reporting units following an acquisition, and document the reasons for its view.

'Intangible operating synergies' and 'financial synergies' are a different matter. Recall that, in theory, intangible operating synergies and financial synergies can be quantified by reducing the discount rate (or capitalization rate) otherwise applied to the prospective discretionary cash flows of the reporting unit, or by way of subjective price adjustment.

The new accounting standards recognize that "*substantial value may arise from the ability to take advantage of synergies and other benefits that flow from control over another entity*"[14]. This statement does not indicate that synergies must specifically be quantified as part of the prospective discretionary cash flows of a reporting unit. However, the new standards do indicate that the "interest rate" (discount rate or capitalization rate) appropriately selected to determine the 'fair value' of a reporting unit should be based on "*a proper search for the "rate commensurate with the risk" [that] requires analysis of at least two items – one asset or liability that exists in the marketplace and has an observed interest rate and the asset or liability being measured. The appropriate rate of interest for the cash flows being measured must be inferred from the observable rate of interest in some other asset or liability and, to draw that inference, the characteristics of the cash flows must be similar to those of the asset being measured*."[15]

This statement suggests that the new accounting standards encourage a 'market comparable' approach be adopted when determining discount rates and capitalization rates for the purpose of calculating 'fair

[13] Source: FAS 142.35; CICA Handbook Section 3062.37
[14] Source: FAS 142.23; CICA Handbook Section 1581 A4.
[15] Source: FAS 142.E2.44. The Canadian standards are silent on this point, but mirror the U.S. standards in other respects on the subject of 'interest rate' determination.

value'. Accordingly, where a company anticipates synergies from an acquisition that are unique to it (and therefore would not be reflected in 'market comparable' rates of return) and such synergies cannot be separately quantified (i.e. intangible operating synergies), on the surface, it would appear that the new accounting standards suggest the value of those synergies would not form part of 'fair value'. The same is true in respect of financial synergies that are not reflected in 'market-based' rates of return.

That said, the new accounting standards do take note of the shortcomings of the 'market comparable' approach, and suggest that "interest rate" adjustments are permissible where such adjustments can be justified[16]. Further, the new accounting standards state that "*fair value at the date of acquisition is the fair value to the acquirer, recognizing all factors that may be relevant to that acquirer*"[17]. This suggests that the discount rate (capitalization rate) should be adjusted to incorporate intangible operating synergies and financial synergies, where their inclusion can be justified. For example, two reporting units may be counter-cyclical, and while each may have a relatively high level of risk attaching to its intrinsic discretionary cash flows on a stand-alone basis, that risk may be reduced on a consolidated basis. Risk reduction generally is classified as an intangible operating synergy.

Therefore, in order to include intangible operating synergies and financial synergies in the 'fair value' of a reporting unit, it is important that the reason(s) for the differences between the discount rate (capitalization rate) of the reporting unit and 'market comparables' be fully documented. As is the case with tangible operating synergies, intangible operating synergies and financial synergies resulting from an acquisition may arise in various reporting units. Therefore, the allocation of goodwill among reporting units arising from such synergies must be carefully considered and documented.

External Synergies

Another contentious issue in the determination of 'fair value' of a reporting unit is the inclusion of synergies that might be perceived by third party purchasers, where such synergies would not otherwise form part of the 'fair value' of a reporting entity. On the surface, the new accounting standards suggest that 'external synergies' should be considered in the determination of 'fair value' where they can reasonably be quantified. This view is based on specific statements in the new accounting standards such as: "*If quoted market prices are not available [or are not representative of fair value], the estimate of fair value shall be based on the best information available,* ***including prices for similar assets and liabilities*** (emphasis added) *and the results of other valuation techniques*".[18] Price multiples derived pursuant to an analysis of so-called 'comparable company transactions' in many cases reflect an element of purchaser-perceived post-acquisition synergies.

In spite of the foregoing, the inclusion of 'external synergies' in 'fair value' may not be appropriate. The spirit of the new accounting standards is to determine whether goodwill has been impaired from the standpoint of the purchaser, not a hypothetical third party (even if specifically identifiable). Furthermore, even if a strict reading of the new standards does provide some justification for the inclusion of 'external synergies' when quantifying 'fair value' for the purpose of goodwill impairment testing, actually doing so

[16] See FAS 142.E2.44.
[17] CICA Handbook Section 1581.42.

may be problematic. It usually is difficult, and often impossible, to extract sufficient meaningful information from 'comparable company transactions' that can be directly applied to the valuation of another entity. Further, even if 'external synergies' can be reasonably quantified, in the absence of open market negotiations or a bone fide third party purchase offer, it is uncertain whether a third party purchaser would be willing to pay for some or all of those benefits. Accordingly, in most cases, it is likely that 'external synergies' will not form part of 'fair value' given that their quantification usually will be too subjective.

Conclusions

Purchaser-perceived post-acquisition synergies often forms a significant component of acquisition price and, in some cases, is incorporated as part of notional fair market value. The new goodwill accounting standards in the U.S. and Canada suggests that calculation of 'fair value' for the purpose of goodwill impairment testing should incorporate 'internal synergies' where they can be reasonably quantified. While there may be some support for the inclusion of 'external synergies', their inclusion may be contrary to the intent of the new standards, and in any event, normally too subjective to justify.

Post-acquisition synergies might be anticipated to accrue in many areas of a business following acquisition, including cost savings, incremental revenue opportunities, strategic advantage, and lower cost financing opportunities. For the purpose of quantification, synergies can be categorized as tangible operating synergies, intangible operating synergies, and financial synergies. Tangible operating synergies normally are quantified by determining the present value of the net incremental discretionary cash flow arising from those synergies pursuant to a discounted cash flow methodology (or capitalization of discretionary cash flow methodology). Intangible operating synergies and financial synergies can be quantified, in theory, by applying a lower discount rate (capitalization rate) to the intrinsic discretionary cash flows of the target company than would otherwise be adopted.

When quantifying synergies, consideration should be afforded to the risk inherent in their realization, and the value ascribed to the anticipated synergies should be adjusted accordingly. Empirical evidence shows that anticipated synergies often are not fully achieved, and that purchasers do reflect this risk in their pricing strategy. In the end, the amount 'paid' for synergies ultimately is dependent upon the negotiating position and negotiating capabilities of the purchaser and vendor, and the terms on which the transaction takes place.

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[18] Source: FAS 142.24; CICA Handbook Section 1581 A3.