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Intangible assets in a business combination

Identifying and valuing intangibles under IFRS 3

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Introduction

The last several years have seen an increased focus by companies on mergers and acquisitions as a means of stabilising their operations and increasing stakeholder value by achieving strategic expansion and cost reduction through business combinations.

Although such transactions can have significant benefits for an acquiring company, the related accounting is complex. IFRS 3 'Business Combinations' (IFRS 3) requires an extensive analysis to be performed in order to accurately detect, recognise and measure at fair value the tangible and intangible assets and liabilities acquired in a business combination. Furthermore, the interaction of IFRS 3 with IFRS 10 'Consolidated Financial Statements' (issued May 2011) and IFRS 13 'Fair Value Measurement' (issued May 2011) means that this continues to be both a complex and a developing area of financial reporting.

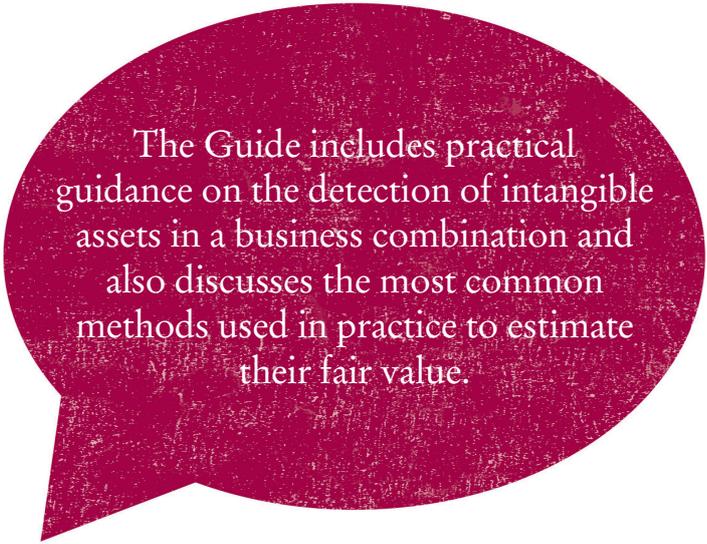
The accounting for intangible assets acquired in a business combination is particularly challenging for a number of reasons. Intangible assets are by nature less detectable than tangible ones. Many are not recognised in the acquiree's pre-combination financial statements. Determining their fair value usually involves estimation techniques as quoted prices are rarely available.

Where an 'intangible resource' is not recognised as an intangible asset, it is subsumed into goodwill. Some acquirers might be motivated to report fewer intangibles, and higher goodwill, because most intangible assets must be amortised whereas goodwill is measured under an impairment only approach. However, a high goodwill figure can create the impression that the acquirer overpaid for the acquired business. It also raises questions as to whether IFRS 3 has been applied correctly. Acquirers can expect reported amounts of intangible assets and goodwill to be closely scrutinised by investors, analysts and regulators.

Accounting for intangible assets in a business combination is therefore a sensitive area of financial reporting. Fortunately, Grant Thornton – one of the world's leading organisations of independent assurance, tax and advisory firms with more than 35,000 Grant Thornton people across over 100 countries – has extensive experience with business combinations and the related accounting requirements. Grant Thornton International Ltd (GTIL), through its IFRS team, develops general guidance that supports the Grant Thornton member firms' (member firms) commitment to high quality, consistent application of IFRS. We are pleased to share these insights by publishing 'Intangible Assets in a Business Combination' (the Guide). The Guide reflects the collective efforts of GTIL's IFRS team and the member firms' IFRS experts and valuation specialists.

The Guide includes practical guidance on the detection of intangible assets in a business combination and also discusses the most common methods used in practice to estimate their fair value. It provides examples of intangible assets commonly found in business combinations and explains how they might be valued.

An overview of IFRS 3 summarising the main aspects of accounting for business combinations as a whole that draws out a number of practical points to consider may also be found in GTIL's guide: 'Navigating the accounting for business combinations: applying IFRS 3 in practice' (December 2011).



This Guide is organised as follows:

- **Section A** explains the general procedures necessary to detect intangible assets in a business combination. It outlines some of the strategies that are commonly used to detect acquired technologies, trademarks, and other resources that may meet the definition of identifiable intangible assets in a business combination
- **Section B** explains fundamentals of fair value measurement as well as common methods to estimate the fair value of intangible assets. Key inputs for each method are identified and various examples further illustrate the issue
- **Section C** explains the characteristics of intangible assets that are frequently found in practice and common methods used to estimate their fair value. Factors that will usually impact their fair value measurement are also discussed.
- **Case Study.**

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A. Detecting intangible assets

Recognition and fair value measurement of all of the acquiree's identifiable assets and liabilities at the acquisition date are amongst the key elements of the acquisition method required by IFRS 3. The method implies that all assets and liabilities are known to the acquirer. In practice however, detecting or 'finding' identifiable intangible assets in particular may be a complex matter which requires intensive research into the acquired business.

How does the acquirer determine which intangible assets need to be recognised separately from goodwill? This Section provides insights into how to go about doing this. The general requirements for identifiability and the definition of an intangible asset are explained. The Section also discusses how identifiable intangible assets are detected in practice, complemented by a list of intangible assets that should be considered in business combinations.

1. General requirements

Economically, many intangible 'resources', 'value drivers' or 'advantages' are essential parts of a business. However, in accounting for business combinations these have to be analysed from two different perspectives in order to determine what should be recognised separately from goodwill: the resource must meet the definition of an intangible asset and it must be 'identifiable' as part of what is exchanged in the business combination (rather than in a separate transaction or arrangement).

1.1 Definition of an intangible asset

The acquirer must first assess which resources meet the definition of an asset in accordance with 'The Conceptual Framework for Financial Reporting' (the Conceptual Framework) at the acquisition date. The Conceptual Framework defines an asset as follows:

Definition of an asset (Conceptual Framework paragraph 4.4(a))

An asset is a resource controlled by the entity as a result of past events and from which future economic benefits are expected to flow to the entity.

In addition, an intangible asset other than goodwill is defined as "an identifiable non-monetary asset without physical substance" (IFRS 3.Appendix A). The first step to detect intangible assets in a business combination is to find future economic benefits that are controlled by the entity at the date of acquisition as a result of the business combination. Potential intangible assets could take the form of additional income (or cost savings) and should therefore be capable of directly or indirectly increasing future cash flows.

Detecting the relevant identifiable assets is not affected by specific exemptions in IFRS 3 or other standards. For example, it does not matter whether or not an intangible asset was recognised in the acquiree's financial statements prior to the combination (IFRS 3.13). In fact, the acquired entity may have been subject to specific restrictions in International Accounting Standard 38 'Intangible Assets' (IAS 38) that prohibit the recognition of many internally generated intangible assets (IAS 38.51-53). These restrictions do not apply to business combination accounting – in effect, all resources of the acquired business are regarded as externally purchased.

To recognise an internally generated or separately purchased intangible asset, the potential future economic benefits expected from its use have to be ‘probable’ (IAS 38.21(a)). However, if an intangible asset is acquired in a business combination the probability recognition criterion in IAS 38.21(a) is always considered to be satisfied as uncertainties regarding future economic benefits are reflected in the asset’s fair value (IAS 38.33).

Finding future economic benefits that may meet the definition of an asset is not impacted by the buyer’s intentions concerning the future use (or non-use) of an asset. In estimating the fair value of an asset, the acquirer needs to assume the perspective of a typical market participant. Consideration of the buyer’s intention or acquirer-specific conditions do not therefore affect the existence or detection of an identifiable intangible asset (this also applies to its measurement, see Section B.1.2 for further discussion).

1.2 Identifiability

The acquirer must also assess whether the intangible asset in question is ‘identifiable’. Only identifiable assets are recognised and accounted for independently from goodwill. Identifiability might seem to be self-evident: an acquirer would not reach this stage in the assessment without first having identified something to assess. However, ‘identifiable’ has a specific meaning in this context as follows:

Determining when an asset is identifiable (IAS 38.12)

An asset is identifiable if it either:

- (a) is separable, ie is capable of being separated or divided from the entity and sold, transferred, licensed, rented, or exchanged, either individually or together with a related contract, identifiable asset or liability, regardless of whether the entity intends to do so; or
- (b) arises from contractual or other legal rights, regardless of whether those rights are transferable or separable from the entity or from other rights and obligations.

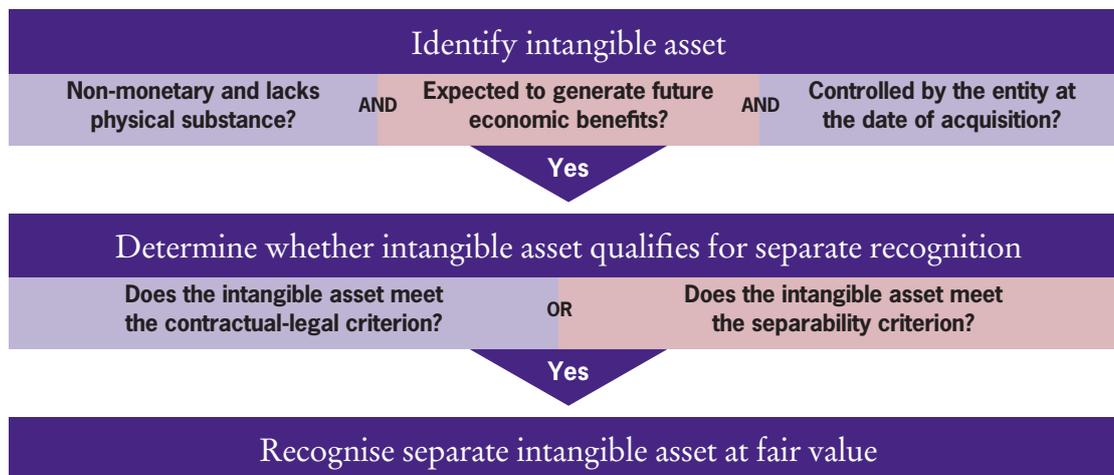
Intangible assets that arise from contractual or other legal rights are relatively straightforward to detect. As there is third party-originated evidence of their existence (the contract or the legal right), they meet the contractual-legal criterion for identifiability. The contractual-legal criterion does not however apply to contracts or legal rights that are pending or otherwise contingent at the date of acquisition.

If the contractual-legal criterion is not met, the intangible asset must be separable in order to be identifiable. Broadly, an asset is considered separable if it is capable of being sold or otherwise transferred without selling the entity in its entirety. Where separation is possible only as part of a larger transaction, judgment is required to determine whether the items under review constitute the acquired business itself or a part of it. For example, the content of a database used by a provider of business intelligence may not be separable from the business itself – there would be no business remaining if the database content was sold to a third party. By contrast, where the content database is a by-product of the business activity and may be licensed out to a third party on non-exclusive terms, then this may indicate its separability.

This is a hypothetical assessment. It is not affected by whether the acquirer actually intends to transfer the intangible asset in question (although such an intention would of course demonstrate separability). Evidence of exchange transactions for the type of asset under review or a similar type may be used to exemplify the separability of the asset, “even if those transactions are infrequent and regardless of whether the acquirer is involved in them” (IFRS 3.B33). A full analysis of the intangible asset and its commercial environment is therefore necessary to determine whether separation from the acquired business is feasible without underlying contractual or legal rights.

The following table summarises the determination process of whether an asset meets the specific criteria for recognition as an intangible asset apart from goodwill:

Figure A.1 – Process for determining if an intangible asset meets the criteria to be separately identified



Example A.1 – Customer relationship (Contractual-legal criterion)

Company H acquires Company I, a supplier of small auto parts. Company I has an agreement in place to supply its product to Customer A for an established amount of time. Both Companies H and I believe that Customer A will renew the product supply agreement at the end of the current contract term. The supply agreement cannot be sold or transferred separately from Company I.

Analysis:

The supply agreement (whether cancellable or not) meets the contractual-legal criterion for identification as a separate intangible asset. Additionally, because Company I establishes its relationship with Customer A through a contract, the customer relationship also meets the contractual-legal criterion for identification as an intangible asset. Therefore the customer relationship intangible asset is also recognised separately apart from goodwill provided its fair value can be measured reliability.

Example A.2 – Database used in a supporting activity (Separability criterion)

Company Q acquired Company R, a retailer. Company R owns a database, used in managing its loyalty scheme, which captures information on customer demographics, preferences, relationship history and past buying patterns. The database can either be sold or licensed. However, Company R has no intentions to do so because it will negatively impact its operations.

Analysis:

In this situation, the database does not arise from a contractual or legal right. Thus, an assessment of its separability is required. The database and content were generated from one of Company R's supporting activities (ie management of the loyalty scheme) and could be transferred independently of the rest of the business. The actual intention not to transfer the database does not affect the assessment. The separability criterion is met and the database is recognised as an intangible asset in the business combination.

Example A.3 – Licensed use of patent (Contractual-legal criterion)

Company D owns a technology patent. It has licensed that patent to others for their exclusive use outside the domestic market, receiving a specified percentage of future foreign revenue in exchange.

Analysis:

The acquirer of Company D would recognise an intangible asset for both the technology patent and the related license agreement. The technology patent is protected legally and therefore meets the contractual-legal criterion. Additionally, the license agreement would meet the contractual-right criterion for recognition separately from goodwill even if selling or exchanging the two intangible assets separately from one another would not be practical.

2. Strategies to detect identifiable intangible assets

Detecting intangible assets can be a complex and challenging matter. Strategies to detect identifiable intangible assets vary depending on the facts and circumstances of the business combination and usually require a full review of the transaction. It is important to understand the business of the acquiree, what intangible resources it depends on and how these may translate into identifiable intangible assets. It should be possible to explain the acquired business in terms of the resources it uses to generate profits and how these are reflected in the acquiree's assets and liabilities. In other words ask the question: what has been paid for?

Practical insight – linking identified intangibles to the business and transaction

- does the purchase price allocation take into account all relevant data (examples include the purchase agreement, due diligence reports and current information, both public and internal)?
- has the business model been reviewed?
- has the purchase agreement been reviewed for intangible assets that are specifically mentioned, such as non-compete agreements or other intangible resources that are of importance?
- were the acquired entity's official documents and contractual arrangements reviewed for patents, trademarks and similar rights of use, access or protection that may represent economic resources?
- is it possible to explain the business model of the acquiree in terms of the detected assets?

2.1 Business model review

A thorough review of the acquiree's business is the most important step in detecting intangible assets in a business combination. Understanding the business rationale for the combination, the acquiree's business resources and how the acquired business generates revenues provides the most useful insights into its intangible assets.

Review of financial information

A review of historical and prospective financial information is often a good starting point to understand the relative importance of non-current tangible assets as well as working capital (ie cash and cash equivalents, inventories and work in progress, trade receivables and payables). These assets are usually readily observable as they are included on the acquiree's balance sheet.

Intangible assets are often not included either in internal financial information used in the acquired business or in its published financial statements (if any). However, financial information is likely to provide important indirect indicators. For example, high marketing-related expenditure may be an indicator of the relative importance of trademarks and similar marketing-related intangible assets. If the entity incurs significant expenditure on research and development, it is likely to generate technology-based intangible assets. The relative significance of expenses that are related to customer care may point to the significant customer relationship intangible assets.

Characteristics of the acquired business

The review of financial information should be accompanied by a full commercial analysis of the acquired business:

- the product portfolio may provide further useful insights into the existence and characteristics of technology-based intangible assets. If current or new products are based on what is sometimes referred to as ‘core technology’ or a common ‘product platform’, then further analysis should assess the role of the underlying technology
- the relative importance of branding or other marketing strategies needs to be assessed to determine the existence of marketing-related intangible assets such as trademarks, brands, logos or similar assets
- an analysis of the customer base is usually carried out to determine whether identifiable customer relationship intangible assets exist. Whether the customers are known to the business, their behaviour and loyalty may all be considered in detecting a related intangible asset
- where a business depends on specific rights of use, such as access to license agreements or rare supplies of raw material, then this may indicate supplier-related contractual intangible assets. Examples are long-term energy or metal supply agreements. Permits to operate or service-specific assets such as a hydroelectric power plant, a TV station or simply a property under a lease contract are also examples of specific rights of use (amongst many other examples)
- if business locations are crucial, for example if the acquired business is a retailer, then this may also indicate value. However, in cases other than operating lease contracts, this is generally not an identifiable intangible asset, but a measurement element of the underlying property
- the acquiree’s workforce is also often considered a key asset of the business under review. The existence of a well-trained and organised team saves the acquirer from having to hire and train the people necessary to run the business and thus represents future economic benefits. Nevertheless, recognition of the assembled workforce is specifically prohibited under IFRS 3.B37 and IAS 38.15. The workforce may however affect the fair value measurement of other intangible assets (see Section B.4.4)
- industry-specific intangible assets may be identified by assessing the relevance of assets typically found in a specific economic environment. For example, customer ‘core deposits’ may be a typical example for an intangible asset commonly found in financial institutions. Other industries may rely on copyrighted material, such as pictures or photographs or similar ‘artistic intangibles’.

Management’s judgment

The business model review should be complemented by management’s judgment. The acquirer’s management usually has post-combination objectives and may already have identified the acquiree’s resources – both tangible and intangible – in developing its post-combination strategy. This may not directly ‘translate’ into the general requirements for identifiable intangible assets under IFRS 3, but nevertheless draws out key elements of the acquired business that represent value for the acquirer. It may also be helpful to take into account the judgment of the acquiree’s management team as it has experience with the business model and existing key inputs that may be ‘translatable’ into identifiable intangible assets.

2.2 Other important sources

The purchase agreement that affects the business combination is usually a very important source in finding potential identifiable intangible assets. The agreement and its accompanying annexes and disclosure documents will usually refer to specific trademarks, patents and other intangible assets that are established by contractual or other legal rights. Legal, accounting and commercial due diligence reports (if available) are also likely to contain important references. For example, often times there are information memorandums prepared on the target business. Additionally, any Board approval documents may be useful as reference materials.

The detection of identifiable intangible assets depends on the context of the acquisition. Useful sources to detect identifiable intangible assets in the context of a business combination are for example:

Source of information	Possible indicators
Acquiree's financial statements and other internal reports	<ul style="list-style-type: none"> some intangible assets will have been recognised in the acquiree's financial statements. Other financial statement information may also provide indirect indicators, for example: <ul style="list-style-type: none"> significant marketing costs may be an indicator of the relative importance of brands, trademarks and related intangible assets significant expenditures on research and development may indicate the existence of technology-based intangible assets significant expenditures related to customer care may point to customer relationship intangible assets
Purchase agreement and accompanying documents	<ul style="list-style-type: none"> may include references to certain trademarks, patents or other intangible assets that are established by contract or legal rights may include non-compete provisions that sometimes give rise to a potential intangible asset
Due diligence reports	<ul style="list-style-type: none"> may include information that assists in understanding the acquired business, resources and how revenues are generated
Website materials, press releases and investor relation communications	<ul style="list-style-type: none"> the website may contain discussions of the unique characteristics of the business which may translate into a potential intangible asset press releases and investor relation communications of both the acquiree and the acquirer may include discussions of potential intangible assets
Industry practice	<ul style="list-style-type: none"> results of similar business combinations may provide indicators of the types of intangible assets that are typically recognised in such situations

Both parties to a business combination may have also expressed their views on potential intangible assets in external documents that relate to the combination. It may therefore also be necessary to review website material and press releases of both the acquirer and the acquiree. These tend to point out unique characteristics of the business under review, which in turn may translate into identifiable intangible assets. Where records are not readily available from the acquired business, it may also be helpful to contact the relevant authorities to ensure the completeness of potential intangible assets that are legally protected through a registration (such as trademarks or patents).

The acquiree may have reported various intangible assets in its pre-combination financial statements. This is clearly a useful indicator of identifiable intangible assets but further analysis will be required. Typically, intangible assets recorded by the acquiree will be purchased assets that meet the contractual-legal criterion. However, some items recorded by the acquiree may not qualify for recognition in accordance with IFRS. Some GAAPs require or allow, for example, the recognition of start-up costs – these do not meet the definition of an asset under IFRS. Goodwill previously recognised by the acquiree should also not be taken into consideration. Conversely, some assets that have been fully depreciated or amortised by the acquiree may still be in use and meet the definition of identifiable intangible assets.

2.3 Determining which identifiable intangible assets require measurement

A complete review of the acquired business's intangible assets is necessary to enable proper implementation of IFRS 3. However, not every identifiable intangible asset needs to be measured and recognised individually:

- some assets are grouped with other assets on the basis of the specific requirements in IFRS 3 and IAS 38
- similar identifiable assets may also be combined for practical reasons or to avoid double-counting
- some identifiable intangible assets may be considered immaterial.

Comparing international rules – proposed amendments to US GAAP

At the time of publication of this Guide, the U.S. Financial Accounting Standards Board (FASB) has issued a proposed Accounting Standards Update (ASU) reflecting alternative accounting guidance proposed by the Private Company Counsel (PCC). The proposed ASU, 'Accounting for Identifiable Intangible Assets in a Business Combination', offers private companies that report under U.S. GAAP an alternative in recognising, measuring and disclosing certain identifiable intangible assets that are acquired in business combinations.

The proposal in its current form would allow private companies an alternative election to recognise certain acquired intangible assets together with goodwill, unless the identifiable intangible asset arises from a non-cancellable contract or other legal rights, whether or not those intangible assets are transferable or separable. Those assets arising from non-cancellable contracts would be measured at fair value in accordance with FASB Accounting Standards Codification® (ASC) 820, 'Fair Value Measurement', except that the measurement would consider only market participant assumptions about the remaining non-cancellable term (and therefore would exclude potential renewals or cancellations that otherwise would be considered in the measurement). The measurement of an identifiable intangible asset arising from other legal rights but that are not contractual in nature would continue to be measured at fair value under ASC 820; however, unlike the contractual rights, all market participant expectations would continue to be considered. An entity would be required to disclose qualitatively the nature of identifiable intangible assets acquired but not recognised separately from goodwill.

The proposed amendment is meant to address concerns about the cost and complexity of estimating the fair value of certain identifiable intangible assets and would be less subjective than the existing U.S. GAAP requirements because it would reduce the number of required assumptions being made by the acquiring entity.

Impact:

If the proposed amendments are adopted, many private companies reporting under U.S. GAAP would recognise fewer intangible assets in a business combination than what is required under IFRS 3 and as currently required under U.S. GAAP (ASC 805).

Groups of intangible assets

Generally, all identifiable intangible assets that are acquired in a business combination are measured independently. Nevertheless, intangible assets that do not meet the contractual-legal criterion for identifiability but are otherwise separable from the acquired entity may sometimes only be separable as a group with (an)other tangible or intangible asset(s). This situation may cause problems in measuring the individual fair value of the intangible asset reliably. In these circumstances, the group of assets may be treated as a single asset for accounting purposes, including fair value measurement (IAS 38.36).

Example A.4 – Interdependencies of core technology and customer relationship assets

In a business combination, both a customer relationship intangible asset and core technology are detected as identifiable intangible assets. The core technology is used to generate income from ongoing customer relationships. The customer relationships, on the other hand, cannot be used to generate any income that does not relate to the core technology.

Analysis:

In this scenario a detailed assessment is required to determine whether these resources need to be combined for accounting (and measurement) purposes or whether they are two separable assets.

A similar principle applies to certain groups of complementary assets that comprise a brand. In accordance with IAS 38.37 the acquirer combines a trademark or a service mark and other related intangible assets into a single identifiable intangible asset if the individual fair values of the complementary assets are not measurable reliably on an individual basis. IFRS also permits a combined approach for groups of complementary intangible assets comprising a brand even if fair values of individual intangible assets in the group of complementary assets are reliably measurable provided the useful lives are similar (IAS 38.37).

Example A.5 – Complementary assets comprising a brand

The cutting edge 'XY' core technology is considered an identifiable intangible asset in a business combination. All of the acquiree's products are based on 'XY' and the technology is also advertised to customers under the 'XY' brand using a website that is accessible under www.xy.com. The 'XY' brand is protected against third-party use by a registered trademark and no other technology can be reasonably marketed using this trademark. The www.xy.com domain name is also registered. It is expected that when XY technology is withdrawn from the market, then the trademark and the domain name will both be of little or no value. The remaining useful life of the three different intangible assets is expected to be similar.

Analysis:

Given the fact pattern, the acquirer concludes that neither the trademark nor the domain name would be reliably measurable without taking into account the core technology they relate to. The core technology, the trademark and the domain name are therefore considered a single identifiable intangible asset.

Other combinations of assets with similar economic characteristics

Although IFRS refers to combining intangible assets only in limited circumstances (as described above), judgment is required in practice to determine the appropriate level of aggregation. This is sometimes referred to as the 'unit of account' issue. In the absence of specific guidance on unit of account issues, it may be appropriate to extend the approach set out for brands to groups of similar assets in general.

Materiality considerations will often justify treating large groups of similar assets (eg customer relationship assets) on a portfolio basis. However, in determining whether separate identifiable intangible assets may be similar enough to be measured on a combined basis consideration should be given to:

- general characteristics of the intangible assets under review
- related services and products
- functionality and/or design and other shared features of the intangible assets
- similar legal or regulatory conditions that affect the intangible assets
- geographical regions or markets
- the economic lives of the assets.

Depending on the facts and circumstances, it may be preferable to combine similar assets for measurement purposes and subsequent accounting.

These factors may result in reporting different intangible assets on a combined basis (or even combinations of intangible and tangible assets). Material, identifiable intangible assets should not however be combined with goodwill. If similar intangible assets are combined for measurement purposes they should in our view also be accounted for subsequently on the same combined basis.

The acquirer entity should not measure the intangible assets on a combined basis and then disaggregate them for subsequent amortisation purposes.

Example A.6 – Different patents relating to same technology

A number of different patents which all relate to the same technology are identified in a business combination. It is concluded that the patents contribute to the same income stream. The patents also have similar remaining useful lives and are therefore considered as a portfolio. As a result, the entity then measures, recognises and subsequently accounts for the underlying core technology rather than a number of different intangible assets.

Example A.7 – Customer bases in separate markets

SalesCorp is active in the North American market as well as in the European market. SalesCorp's customers in North America are independent from its customers in Europe. SalesCorp also provides different products to its different groups of customers. Given these circumstances, and providing that the asset definition and the identifiability criteria are met, it is decided that SalesCorp has two customer bases that should be accounted for as separate identifiable intangible assets.

Materiality considerations

It is not necessary to measure the fair value of specific intangible assets if they are demonstrably immaterial. Both qualitative and quantitative factors should be considered in evaluating materiality. Indicators of materiality (or immateriality) might include:

- the function of the identifiable intangible asset in the business model – can the business model be explained without the intangible asset?
- will the acquired entity ‘maintain’ the subject asset – ie will it incur significant expenditure necessary to protect its value, and will it monitor relevant rights?
- the remaining useful life of the intangible asset. Extended remaining useful lives may result in future economic benefits that are not available in the short term and which are therefore not immediately perceptible. Future economic benefits of the intangible asset under review may nevertheless be material.

Example A.8 – Consideration of materiality

An entity acquires a patent in a business combination. The patent meets the definition of an asset and also the contractual legal-criterion for identifiability. However, the patent protects outdated technology that is almost irrelevant for products and services in the relevant markets at the date of acquisition. Furthermore, the patent protection will expire in less than two years from the date of acquisition. It is therefore concluded that the patent’s fair value is immaterial.

3. Common identifiable intangible assets

These steps describe general approaches for detecting identifiable intangible assets in a business combination. Practitioners also often ask for a ‘checklist’ of the intangible asset types most commonly identified in business combinations. Any such checklist should be treated with a degree of caution. Best practice is to maintain a wide focus in the detection phase so that relevant identifiable intangible assets are not overlooked. The intangibles to be identified vary in each case and depend greatly on the industry of the acquired business and the circumstances of the business combination.

Despite the limitations of any checklist, a list of common examples can help to focus the analysis and provide an indication of possible end results. Accordingly, Section C of this Guide discusses a number of intangible asset types that are commonly detected in business combinations, including customer relationships, trademarks or non-compete agreements (and common measurement methods used to estimate their fair values).

Illustrative examples within IFRS 3

The illustrative examples accompanying IFRS 3 also provide a number of potential identifiable intangible assets that commonly meet the definition of intangible assets in business combinations, along with some further explanations. These examples are summarised below:

Figure A.2 – Examples of identifiable assets acquired in a business combination
(Extract from IFRS 3.IE16-44)

Marketing related	<ul style="list-style-type: none"> • Trademarks, trade names, service marks, collective marks and certification marks • Trade dress (unique colour, shape or package design) • Newspaper mastheads • Internet domain names • Non-competition agreements
Customer related	<ul style="list-style-type: none"> • Customer lists* • Order or production backlog • Customer contracts and the related customer relationships • Non-contractual customer relationships*
Artistic related	<ul style="list-style-type: none"> • Plays, operas and ballets • Books, magazines, newspapers and other literary works • Musical works such as compositions, song lyrics and advertising jingles • Pictures and photographs • Video and audiovisual material, including motion pictures or films, music videos and television programmes
Contract based	<ul style="list-style-type: none"> • Licensing, royalty and standstill agreements • Advertising, construction, management, service or supply contracts • License agreements • Construction permits • Franchise agreements • Operating and broadcasting rights • Servicing contracts such as mortgage servicing contracts • Below-market employment contracts that are beneficial from the employer's perspective • Use rights such as drilling, water, air, mineral, timber-cutting and route authorities
Technology based	<ul style="list-style-type: none"> • Patented technology • Computer software and mask works • Unpatented technology* • Databases, including title plants* • Trade secrets such as secret formulas, processes or recipes

*Item is usually identifiable by satisfying the separability criterion

Economic benefits that usually do not constitute identifiable intangible assets

Other resources are commonly found in business combinations but do not meet the definition of an identifiable intangible asset. As such, they may affect the value of other assets, liabilities and contingent liabilities or they are simply included in goodwill. Normally, they would however not be recognised as identifiable intangible assets:

Previously recognised goodwill	Previously recognised goodwill does not arise from contractual or other legal rights. It is also not capable of otherwise being separated or divided from the entity in a hypothetical transaction.
Assembled workforce	The assembled workforce is not considered identifiable (IFRS 3.B37). IAS 38 also points out that there is usually insufficient control over the economic benefits that may result from the assembled workforce (IAS 38.15).
Synergies	Synergies are usually not identifiable as they do not depend on contractual or other legal rights and they are usually not capable of being separated from the acquired entity.
Market share, market potential, monopoly situations or similar 'strategic values'	A robust position in the market may enhance the actual value of identifiable marketing-related or technology-driven intangible assets. However, the acquirer's market share or market condition is itself not an identifiable intangible asset as this economic condition does not describe a controllable potential future economic benefit.
High credit or going concern	Value is sometimes attributed to a high credit rating or other indicators of the sustained ability of the acquirer to operate as a going concern and these factors may affect the cost of the combination. However, these values do not normally meet the criteria for identifiability and are not controllable future economic benefits.

While these items are usually not recognised separately from goodwill under IFRS, they may still be important or even essential to the acquired business. As discussed in Section B, some of these items (the assembled workforce for example – Section B.3.2 and B.4.4) may need to be valued in order to determine the values of other assets that do need to be recognised.

B. Measuring intangible assets

IFRS 3 requires that most identifiable assets and liabilities acquired in a business combination are recorded by the acquirer at fair value. However, IFRS 3 (and other Standards) provides only limited guidance on how fair value should be determined. Different estimation techniques have therefore emerged in practice. Their underlying concepts, the actual methodologies and the key inputs required to apply them are discussed in the following Section.

1. General approaches to fair value

With the release of IFRS 13 in May 2011, the definition of fair value was clarified as:

Definition of fair value (IFRS 13 Appendix A)

The price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

The fair value concept is therefore based on what is sometimes described as a hypothetical ‘exit’ transaction – the exchange or settlement of the asset or liability in question at a specified date. Fair value is the amount that would be paid or received in this hypothetical transaction. It also follows that fair value is an estimate – not an absolute or definitive amount.

Specific valuation models and techniques have emerged for estimating fair values, or for providing inputs into such estimates. These models and techniques can be grouped into three broad approaches. The selection of the appropriate approach, technique or combination of techniques depends both on the nature of the asset in question and the availability and reliability of the information available to apply the technique. The three broad approaches are summarised below:

Figure B.1 – Three broad approaches for estimating fair values

Market approach	Income approach	Cost approach
Sales Transactions Comparison Method	Relief-from-Royalty Method	Reproduction Cost Method
Market Multiples Method	Comparative Income Differential Method (CIDM)	Replacement Cost Method
	Multi-Period Excess Earnings Method (MEEM)	
	Direct Cash Flow Method	
Frequency of use		
Limited	Extensively	Rarely

Market approach

The market approach provides an indication of the fair value by comparing the asset under review to similar assets that were bought and sold in recent market transactions. A fair value estimate is generally derived from the transaction price for an asset or a number of similar assets for which observable market data is available.

Intangible assets are typically transferred only as part of selling a business or in a licensing agreement. Observable market data is therefore often limited. The information that is available may relate to similar (but different) assets and therefore require complex modifications to reflect the characteristics of the subject asset. Even if a quoted price is available, it is not always the most appropriate measure of fair value – the quoted price could be affected by a lack of liquidity in the market or other distortional factors and therefore not be representative of the price at which a typical market participant would actually transact. The market approach is therefore less frequently used in practice to estimate the fair value of an intangible asset in a business combination.

Income approach

Valuation methods following the income approach estimate the price an asset could be sold for in an arm's length transaction on the basis of the asset's expected future income stream. This involves estimating the present value of future economic benefits attributable to the owner of an asset and incorporating as much observable market data into the valuation as possible. All methods that follow this approach therefore rely heavily on projected financial information (PFI) and use discount rates.

In practice, income approach-based methods are the most commonly applied for the fair value measurement of intangible assets acquired in a business combination. These methods may appear hypothetical in that they aim to reconstruct the measurement process a typical market participant would implement. The key advantage of the income approach; however, is that it involves fair value measurement by direct reference to the asset's expected future economic benefits.

Cost approach

The cost approach seeks to estimate fair value by quantifying the amount of money that would be required to repurchase or reproduce the asset under review. The cost approach also takes into account physical deterioration (usually not a factor with intangible assets) and use as well as technological and economic obsolescence if relevant.

Conceptually, cost-based approaches are a less robust basis for a fair value estimate than a market or income approach (see below). Moreover, the cost of replacing or reproducing an intangible asset may be particularly difficult to measure if the asset is unique. Cost-based measures may also ignore future economic benefits of owning the asset that would influence the price that a willing buyer would pay. For all these reasons the cost approach is less widely accepted than market and income approaches.

1.1 Which approach to use?

There is no 'right' or universally accepted approach to determine the fair value of intangible assets. Fair value measurement always requires professional judgment to develop assumptions and estimates and depends on the actual facts and circumstances of the transaction. Different estimates of fair value may be both justifiable and reasonable. Consequently, two different parties valuing the same intangible asset are not likely to arrive at the same result. As much as fair value measurement should anticipate the value a third party would attribute to the subject asset, there is always a 'grey area' of uncertainty (or, put another way, a range of prices at which hypothetical market transactions might take place). Nevertheless, there are certain minimum conceptual characteristics every fair value estimate should reflect. These are discussed in the following paragraphs.

1.2 'Cornerstones' of fair value measurement in business combinations

A few conceptual qualities of fair value hold true for every measurement of intangible assets in a business combination. In addition, IFRS 3 sets out a few special requirements for special intangible assets acquired in a business combination. All of these aspects have to be taken into account when estimating the fair value of intangible assets in business combinations.

Considering some of the conceptual characteristics of fair value and specific requirements of IFRS 3:

- are all assets, liabilities and contingent liabilities measured consistently as at the date of acquisition?
- does the measurement of fair value utilise as much observable market data as possible?
- does the valuation assume the position of a typical market participant and omit synergies and intentions that are specific to the actual acquirer?
- does the valuation avoid 'blends' between different approaches to fair value?
- does acquisition date fair value measurement incorporate all specific measurement requirements of IFRS 3?

Date of valuation

A fair value measure is an attempt to estimate the price market participants would pay on a specific date. In a business combination this is the acquisition date (IFRS 3.18). The acquisition date is the date on which the acquirer obtains control over the acquiree (IFRS 3 Appendix A).

Concept of control: new definition (IFRS 10.6)

With the release of IFRS 10 in May 2011, the IASB redefined 'control' and established extensive guidance on applying the new definition. Under the new definition, an investor has control over an investee when it "is exposed, or has rights, to variable returns from its involvement with the investee and has the ability to affect those returns through its power over the investee" (IFRS 10.6). While the changes in the definition will have little or no practical effect on determination of control in most simple situations involving control through ownership of a majority of the voting power in an investee, situations that are more complex may require additional assessment and could affect the scope of consolidation. For a more in-depth discussion of the application of the control concept under IFRS 10, please refer to the separate GTIL publication 'Under Control? A Practical Guide to Applying IFRS 10 Consolidated Financial Statements' (August 2012). The updated definition under IFRS 10 contains different concepts of control than under U.S. GAAP and certain other reporting frameworks, which may lead to instances where control is established under one framework's definition but not under another.

In practice, the fair value estimates are of course made some time after the acquisition date. However, the estimate should take account only of information that existed at the date of acquisition. In this sense, the use of hindsight is not permissible – market participants are able to price an asset only on the basis of information that exists at the time they set the price.

The requirement to use acquisition date fair values should be distinguished from the measurement period that is permitted under IFRS 3.45 (up to one year from acquisition date) to finalise the accounting procedures. The period allows the acquirer to collect information about conditions at the acquisition date and also to complete the valuation process making use of that information.

Example B.1 – Finalisation of fair value during measurement period

An entity detects intangible assets A and B in a business combination that relate to important new product development projects of the acquiree. The business combination was effected shortly before year end and due to the limited time available to finalise the fair value measurement of the intangible assets, provisional amounts are reported in the consolidated financial statements. Provisional fair values of CU1,000 for both assets were estimated based on various assumptions about the readiness of the new product designs. In particular it was assumed that product testing was completed before the acquisition date and that both products would be ready to market within 12 months.

After the financial statements have been authorised and published, the entity continues to investigate the status of the two product developments at the acquisition date in order to finalise the business combination accounting within the 12-month window permitted by IFRS 3.

Intangible asset A

On further investigation, it is found that the product testing for product A was not complete at the date of acquisition. Hence, time to market would have been more reasonably estimated at 24 months as at the date of acquisition. This would have resulted in an acquisition date fair value of CU750. As this information relates to conditions at the date of acquisition and was obtainable at that date, the acquisition date fair values are adjusted to incorporate the revised fair value estimate of CU750.

Intangible asset B

With product B, the acquirer's investigations confirm that product testing had been completed at the acquisition date, with positive results. However, after the date of acquisition new technical problems emerge with the commercial production of product B. This delays the expected time to market by a further 12 months. In this case, the new information obtained relates to events occurring after the date of acquisition and did not exist at that date. All else being equal, the initial fair value estimate for product B is not changed in accounting for the business combination (although it may be necessary to record an impairment loss in the post-combination financial statements).

Valuation from the perspective of the typical market participant (ignoring buyer's intention)

Fair value should be determined from the perspective of a hypothetical buyer who is referred to as 'the typical market participant'. Assuming the perspective of the typical market participant requires a stand-alone, independent valuation of each intangible asset (or appropriately grouped combination of assets when the previously-discussed criteria for grouping are met: see Section A.2.3).

The market participant assumed in fair value measurement should:

- be a third party that is independent of the combined business – for example a competitor in the same industry or sometimes even a financial investor
- have reasonable understanding about the subject asset, based on all available information that is readily available or available through due diligence efforts that are usual and customary
- be able and willing to transact for the subject asset without being compelled to do so.

The focus on market participants in general also means that specific intentions of the acquirer (sometimes referred to as 'buyer's intention') do not affect fair value measurement (IFRS 3.B43). The intention to stop using an asset does not mean that the fair value of this asset is insignificant – other willing buyers may be prepared to pay for the asset in question.

Example B.2 – Buyer's intention not to be reflected in fair value

A frequent scenario occurs in connection with trademarks or similar marketing-related intangible assets. These are sometimes discontinued as a result of the post-acquisition strategy of the combined entities. The acquirer must value these from the third-party perspective of a typical market participant, and therefore should not take into account the anticipated discontinuation of the subject asset – other willing buyers may want access to the asset under review and may stand ready to purchase it. When the asset is then phased out in the aftermath of the combination, impairment testing in accordance with IAS 36 'Impairment of Assets' will result in an impairment loss that is sometimes recognised almost immediately after the recognition of the intangible asset.

For similar reasons, synergies or other benefits that are available only to the specific acquirer should also be excluded from fair value measurement. Depending on the actual circumstances it may often be concluded that anticipated synergies may also be realised by another typical market participant. Typical examples include cost savings from an expanded customer base or similar economies of scale. However, a careful analysis of the underlying assumptions is necessary to ensure that buyer-specific intentions or synergies are excluded from the fair value measurements of identifiable intangible assets. These buyer-specific benefits are generally an element of goodwill.

Highest and best use

When measuring fair value, the acquirer must take into account the asset's highest and best use from the perspective of the typical market participant. This entails considering the participant's physical, legal and financial abilities to use the asset in order to maximise the economic benefit generated (IFRS 13.28). Although the buyer's intention may be to discontinue use of the asset or to use it in a specified manner other than what would generate the most economic benefit, these factors should not be considered in the determination. Accordingly, an asset's highest and best use may require that it be valued on a stand-alone basis or in combination with other assets and liabilities that would be available to a participant (IFRS 13.31). In many cases however, "...an entity's current use of a non-financial asset is presumed to be its highest and best use unless market or other factors suggest that a different use by market participants would maximise the value of the asset" (IFRS 13.29).

Maximum use of observable market inputs

As noted above (and also as acknowledged in IAS 38), active market quotes are rarely available for intangible assets. However, valuation techniques used to measure fair value should maximise the use of relevant observable inputs and should minimise the use of unobservable inputs (IFRS 13.67) in order to achieve the most reliable estimate of fair value. In the case of unobservable inputs, an entity should use the best information available (IFRS 13.89), which may include the entity's own data, recent market transactions and practices in the industry of the acquired entity.

Income taxes (including tax amortisation benefits or TABs)

Typical market participants are usually subject to income taxation. Accordingly, economic benefits generated by the utilisation of the asset in question are normally taxable and related expenditures are normally tax deductible. The tax consequences of acquiring an asset will of course affect the amount a typical market participant would pay for that asset. Some valuation methods directly incorporate the impact of tax on fair value, while others may provide a pre-tax value or reflect a buyer-specific tax position. Whether special attention is required to ensure inclusion of tax effects in the fair value estimate therefore depends on the data on which the estimate is based:

- in a market approach the underlying data is usually considered to reflect income tax effects and additional adjustments are not usually necessary to incorporate tax effects into the estimate
- income approach estimates are developed by considering the income stream generated by the intangible asset under review, reduced by any related expenses. Therefore, an entity needs to consider both the cost and benefits (if any) if the asset was recognised for tax purposes
- fair value estimates using the cost approach may or may not require specific consideration of income taxes. This mainly depends on whether the underlying data already reflects the effects of income taxation. If a cost approach-based estimate is derived from cost data observable in the market place, then it may be appropriate to conclude that all relevant tax effects are already reflected in the estimate. However, special consideration may be necessary in other circumstances.

The impact on fair value of TABs requires specific attention. Intangible assets that are acquired in a separate purchase are usually recognised in the purchaser's tax balance sheet and/or tax return. Accordingly, they are tax amortisable. The tax amortisation reduces the income taxes payable as a result of obtaining and using the asset. Fair value estimates should reflect the tax benefits a typical market participant would be able to obtain due to tax amortisation if the asset were purchased separately, even if it is actually acquired in the context of a business combination. A TAB should therefore be added if typical market participants would obtain tax amortisation, if this affects the amount they would be willing to pay and if the valuation technique applied does not already take this into account.

Different methods to calculate TABs have been developed in practice and there is no universal consensus on exactly how they should be estimated in the context of fair value measurement. Each method generally calculates and discounts the hypothetical income tax savings that would arise as a result of tax amortisation of the subject asset.

Example B.3 – Calculation of TABs

On 1 January 2013, Entity A measures the fair value of an intangible asset using an income capitalisation method. The present value of future cash flows attributable to the asset, which have already been reduced by an income tax charge, have been determined at CU5,500. This estimate reflects an average income tax rate of 30% and an asset-specific discount factor of 12%. The asset's economic life is 3 years. In accordance with the applicable tax laws for typical market participants, the intangible asset would be amortised for income tax purposes over a period of 5 years. A very straightforward way to measure TABs on the basis of these assumptions is illustrated as follows:

Present value of future net cash flows less income taxes: CU 5,500

Amortisation	2013	2014	2015	2016	2017	Total
(1) Hypothetical tax amortisation expense	1,100	1,100	1,100	1,100	1,100	5,500
(2) Assumed tax benefit at 30% tax rate [(1) x 30%]	330	330	330	330	330	
(3) Discount factor at 12%	0.893	0.797	0.712	0.636	0.567	
(4) Annual amortisation benefit [(2) x (3)]	295	263	235	210	187	1,190
Indicative fair value including TABs						6,690

Without further refinement, the TAB element of the estimate would be determined at CU1,190 and on the basis of the post-tax discounted cash flow measure of the intangible asset, fair value would equal CU5,500 + CU1,190 = CU6,690. This approach, however, would not take into account the circularities of the TABs on the tax amortisation amount itself – CU6,690 would not result in a hypothetical tax amortisation expense of CU1,100 per year as the calculation above suggests. Further iterations are therefore often used to refine the calculation of the TAB. In a second iteration, the 'indicative fair value' of CU6,690 would be used to re-calculate the TAB, followed by further repetitions until the total tax amortisation expense equals post-tax net present value of the intangible asset plus its TAB. In this example the TAB's equilibrium is found after the 7th iteration at CU1,519. Fair value is therefore determined at CU7,019 = CU5,500 + CU1,519.

Iteration	Post-tax discounted cash flows	Indicative fair value (including TABS)	Hypothetical tax amortisation expense/year	TAB
1	5,500	5,500	1,100	1,190
2	5,500	6,690	1,138	1,446
3	5,500	6,946	1,289	1,503
4	5,500	7,003	1,401	1,514
5	5,500	7,014	1,403	1,518
6	5,500	7,018	1,404	1,519
7	5,500	7,019	1,404	1,519

In practice, these iterations may be processed more efficiently with an electronic spreadsheet. Alternatively, an annuity formula will produce similar results:

TABs =

Post-tax discounted cash flows * (amortisation period / (amortisation period – annuity factor * tax rate) - 1)

Typically, the annuity factor would assume an ordinary annuity.

Regardless of the measurement method used, the TAB element of the fair value estimate should reflect the following characteristics that would be reasonable to expect for a typical market participant:

- whether the particular asset is tax deductible or not
- the period over which the subject asset may be amortised
- the mode of amortisation for the asset (eg straight-line or other)
- the average income tax rate.

Amortisation periods

When calculating the TABs, the tax amortisation period is typically assumed to equal the useful economic life unless the applicable jurisdiction's tax law specifies otherwise. Section 197 of the US Internal Revenue Code, for example, mandates a 15-year straight-line amortisation period for any intangible asset, regardless of whether it will actually be used over a shorter or longer period of time. In practice, a 15-year amortisation period is therefore often assumed in the United States when a typical market participant's expectation of the TABs is estimated, even when its economic life is considered to be indefinite. Other approaches, however, are acceptable to the extent that they are consistent with the overall characteristics of the business combination and the related market.

To ensure consistency, the tax rate used to calculate the TABs is often equal to the assumed income tax rate used for other valuation procedures within the same purchase price allocation. The asset's economic life may also be different from its tax amortisation period as established by law.

Multiple approaches to fair value measurement

The fair value of an intangible asset can many times be estimated using more than one of the approaches explained above. It is sometimes preferable to use multiple techniques in order to narrow down the range of fair values and to serve as a sense check. For example, a cost-based estimate of a readily replaceable intangible asset may provide an upper limit for fair value, as a market participant will not pay more than cost to replace or reproduce the asset. However, IFRS 13 emphasises the selection of the valuation technique should “maximise the use of relevant observable inputs and minimise the use of unobservable inputs” (IFRS 13.67). Therefore, the acquirer should not ‘blend’ the results of different measures, but should rather select the valuation approach that is based on the most observable inputs within the fair value hierarchy.

Example B.4 – Multiple approaches to fair value measurement

Background:

The acquirer in a business combination determines the fair value of an intangible asset using two approaches:

Income approach	CU 1,000,000
Cost approach	CU 1,200,000
Mean average of the two approaches	CU 1,100,000

At which amount should the acquirer record the intangible asset?

Analysis

The acquirer should not record the mean average or a similar blend. The acquirer should rather determine the measure that takes into account as much observable market data as possible. This will often be the value arrived at under an income approach, but sometimes a cost approach may also be justifiable.

Specific IFRS 3 requirements

IFRS 3 sets out specific measurement requirements that deviate from normal for a few types of assets and liabilities. These expectations include specific requirements on reacquired rights and acquired assets that are immediately classified as held for sale.

2. Market approach methods

Market approach methods have limited practical application in estimating fair values of intangible assets. Intangible assets tend not to be homogeneous and are traded on active markets only rarely (eg some emissions trading certificates). Market approach methods are nonetheless discussed briefly below, mainly for the sake of completeness.

2.1 Key inputs

Key inputs into market approach methods are very fact specific. Market data (quoted market prices and observed transaction prices) used in fair value measurement should however always be assessed from two perspectives. Firstly, prices are more relevant and persuasive if observed on a liquid and transparent market. Data derived from a market that does not exhibit these qualities may not reflect assumptions that willing and knowledgeable parties would consider in an arm's length transaction. Secondly, to be useful the price should relate to assets that are either identical to the asset in question, or sufficiently similar to enable a meaningful comparison to be made. The effect on fair value of differences between the items traded in the reference market and the intangible asset in question may be very significant and should be capable of reasonable estimation.

Exceptions to the rule: where market data may be available

Active markets for intangible assets are very uncommon, although this may happen. For example, in some jurisdictions, an active market may exist for freely transferable:

- taxi licenses
- fishing licenses
- production quotas (IAS 38.78).

Liquid and transparent markets

Market data is most persuasive when derived from a market with a reasonable level of liquidity and transparency. Liquidity exists where markets are regularly accessed and used by a wide range of willing buyers and sellers to transact items that are similar to the intangible asset under review. In less liquid markets, the observed transaction prices might be less representative of the price a typical market participant would be willing to pay. Transparency is required to assure that market prices are observable by other market participants.

Compatibility of market data

The validity of the market approach depends upon the availability of sufficiently comparable transactions. Market data may be compatible with the intangible asset where the asset is very similar in nature and is used in a similar way. Factors to consider include whether it has the same functionalities and is used in a similar region or market. Where market data is available for similar (but not identical) assets, an assessment of its suitability as a basis for estimated fair value is required. The key question is whether the available data provides the best available evidence (or inputs) as to the price typical market participants would pay for the asset in question.

2.2 Sales transactions comparison method

Fair value measurement under the sales transactions comparison method requires information on sales transactions for similar assets. Differences between the asset under review and assets for which transaction price data is available need to be quantified and incorporated into the fair value estimate.

The fair value of the asset in question is assessed in a benchmarking-type exercise by estimating its fair value relative to observed transaction prices of similar intangible assets. The sales transactions comparison method may therefore require similar procedures to the ones described under the replacement cost method (see Section B.3.3) or the relief-from-royalty method (see Section B.4.2). Adjustments for income taxes are usually not necessary as the transaction prices should reflect all the factors that are taken into account by market participants in setting those prices.

2.3 Methods using market multiples

Methods using market multiples may sometimes be more appropriate than the sales comparison method, especially where market prices can be demonstrated to correlate closely to financial metrics relating to the asset. Examples of such correlations might include:

- price to cash flow
- price to earnings
- price to revenue.

In some cases market prices might correlate with non-financial metrics as well or instead. A non-financial metric is often industry-specific and should normally be used only if widely applied in pricing assets in that industry. Judgment is necessary to assess the extent to which a typical market participant would take the non-financial or financial metric into consideration in making a pricing decision.

3. Cost approach methods

The most commonly used cost approach methods are the reproduction cost method and the replacement cost method. In practice, methods that are based on the cost approach are less frequently accepted than income approach methods because cost measures are considered less representative of future economic benefits (and hence fair value) than anticipated income streams.

Nevertheless, some assets are commonly measured at cost to replace or reproduce, especially where these can be duplicated (at least in theory) by a typical market participant. Cost approach methods are also sometimes considered in addition to fair value measurement under the income or the market approach as a means of validating the other estimate – historical or current cost to replace or reproduce is often seen as an upper limit for fair value, as no prudent market participant would pay more than it would cost to create a comparable asset.

3.1 Key inputs

Cost approach methods try to approximate acquisition date fair value by determining current cost.

Factors commonly considered in applying the cost approach

- prices payable for known comparable or alternative assets with similar characteristics and functionalities that may be available for purchasing and their cost (especially under the replacement cost method)
- historical cost to generate or acquire the asset and price indices for the relevant industry of the intangible asset in question
- functional deterioration
- economic obsolescence
- opportunity costs (eg representing the 'time out of the market' if the acquirer were to reproduce or replace the asset under review)
- effects from income taxation (including TABs) where these are not already reflected in the cost data used for the fair value estimate.

In many cases, an external estimate of the current cost to replace or reproduce an intangible asset will not be readily available. Fair value estimates using cost approach methods therefore often rely on past costs incurred by the acquiree. This raises an important question: are costs incurred by the acquiree in developing the asset consistent with what a typical market participant would pay for the asset? In practice, this may require professional judgment in areas such as:

- early state development costs – would market participants consider incurring the same early state development costs given the conditions at the date of acquisition?
- overhead costs – would another party incur the same cost and thus reflect that in its estimate of fair value?
- sunk costs and ineffective expenditures – would the typical market participant incorporate the risk of unnecessary expenditures in an objective assessment of fair value assuming a reproduction of the asset?

The state of obsolescence or impairment of the asset subject to development is another input used in the cost approach. Often an asset may be operationally functional but has lost value due to new products or services that are more efficient or operationally superior. The software industry, for example, has many examples of product obsolescence and impairment – for example, historical cost incurred to develop tailor-made software may have been higher due to specific original features in the software that are no longer required at the acquisition date. Physical deterioration however is usually not taken into account when estimating the fair value of intangible assets.

3.2 Reproduction cost method

This method requires an estimate of the cost incurred to reproduce the intangible asset in its acquisition date condition. It can be useful as an estimate of fair value for an intangible asset that has been purposely developed by the acquired entity itself (for example in-house developed software).

The reproduction cost method estimates all the costs a typical market participant would incur to generate an exact replica of the intangible asset in the specific context of the acquired business. This would typically include directly attributable cost (wages, cost of material and so on) as well as the ‘cost of being out of the market’ – representing the additional cost incurred or income lost during the time until the asset under review is ready for its intended use. Depending on the significance of the time it would take to reproduce, it may be appropriate to discount these additional elements of cost.

Reproduction cost does not take into account actual market demand for the asset. Hence, the reproduction cost estimate does not take into consideration whether a third party would actually want the exact replica of the asset, but only whether different characteristics are still required as at the date of acquisition.

Reproduction cost is of course itself an estimate. For practical purposes, the actual cost incurred by the acquiree is likely to be the best starting point for making this estimate. However, some intangible assets are created by the actions of the acquiree over time but not as part of a discrete development project. Customer relationships are for example created and enhanced continually through ongoing interactions with customers. The costs incurred in developing such assets are usually not monitored separately. In the absence of information on actual costs incurred and any other reliable basis to estimate reproduction cost, alternative fair value estimation methods should be given priority.

Example B.5 – Internally generated software (part i)

Internally generated software has been detected in the course of a business combination at the candy manufacturing business ‘TARGET’. The software, which was tailor-made for TARGET a few years prior to the combination, supports TARGET’s quality control in its gummy bear factory. The software monitors the weight and size of the gummy bears as well as whether they are blue, yellow or red.

No comparable software solution has been identified on the market and the reproduction cost method has been determined as the most appropriate way to establish its fair value. An analysis of the original development plan shows the hours actually spent when the software was developed a few years ago.

Module	Description	Hours	Cost of module (CUs)
A Platform	Serves as a basis for all other modules	250	25,000
B Measurement module	Monitors weight and size of output and determines waste of production	180	18,000
C Blue-detection	Detects blue gummy bears	50	5,000
D Yellow-detection	Detects yellow gummy bears	40	4,000
E Red-detection	Detects red gummy bears	40	4,000
Historical cost of software			56,000

Except for the ‘blue-detection’ module, an analysis of the acquired business shows that the software would continue to be needed in its current form to further support quality controls of TARGET. The acquiree, however, ceased to make blue gummy bears a few years ago in reaction to slow sales. As at the acquisition date, the candy industry is virtually dominated by yellow or red gummy bears.

Example B.6 – Internally generated software (part ii)

A further analysis shows that current programming costs have increased to 150 CU/hour (original hourly cost was CU100) and due to new debugging tools available, the platform would probably take only 220 hours to reconstruct. Further obsolescence or technical depreciation was not identified. However, it is estimated that the time required to reproduce the software would cause a quality loss that would create waste in excess of current levels amounting to CU8,000. Based on these considerations at the acquisition date, cost of reproduction is estimated as follows:

Module	Description	Hours	Cost of module (CUs)
A Platform	Serves as a basis for all other modules	220	33,000
B Measurement module	Monitors weight and size of output and determines waste of production	180	27,000
D Yellow-detection	Detects yellow gummy bears	40	6,000
E Red-detection	Detects red gummy bears	40	6,000
	Excess waste until quality control software is available	–	8,000
Historical cost of software			80,000

TABs are not specifically considered in this example. All cost-based inputs into the estimation are considered to reflect all income tax effects a typical market participant would take into consideration in estimating the reproduction cost of the software.

The reproduction cost method is also widely used to measure the acquiree's assembled workforce. While the workforce may not be recognised as an intangible asset in principle (IAS 38.15, see also Section A.3), it is an important input in measuring other intangible assets under the income approach. Hence, fair value of the assembled workforce is commonly estimated in business combinations to establish a 'contributory asset charge', a concept that is discussed more fully in the context of income approach methods in Section B.4.4. Some of the aspects to take into account in determining the cost to (theoretically) duplicate the current workforce are:

- recruiting cost (cost of hiring, relocation, etc)
- training cost
- time to achieve full productivity or the degree of lost productivity.

The fair value of an assembled workforce is usually determined by reference to specific groups of employees that are for example distinguished on the basis of their skills, level of management and geographic location. The following example gives a basic idea of how to apply the reproduction cost method to an assembled workforce.

Example B.7 – Assembled workforce (part i)

TARGET's customer relationship intangible asset is measured using an income approach. One of the key inputs is the cost otherwise incurred by a typical market participant in the absence of TARGET's assembled workforce. To determine the acquisition date fair value of the assembled workforce, the workforce is analysed as follows:

Group	Number of employees	Average annual compensation (CU/person)	Average recruiting cost (CU/person)	Training cost (CU/person)	Time to full productivity (months)
Senior management	5	200,000	100% of annual salary	20,000	6
Product developers	10	130,000	50,000 'flat fee'	5,000	10
Marketing personnel	25	100,000	None	5,000	3
Administration	15	70,000	None	5,000	1
Other support staff	5	50,000	None	4,000	–

TARGET assumes that 50% of productivity is lost during the initial period of employment. Based on these assumptions, the cost of the assembled senior management could be estimated at CU1,350,000 – cost to train (20,000), cost to recruit (200,000) and assumed lost productivity of 50% during the initial 6 month period, which equates to cost of 25% of the average annual compensation ($6/12 \times 50\% \times 200,000$), calculated for the 5 employees.

In other words, reproduction cost for TARGET's assembled workforce would take into account the cost to recruit and train as well as lost productivity during the initial phase of employment. The cost to reproduce TARGET's assembled workforce as a whole, based on these assumptions and this basic measurement method is estimated as follows:

Group	Average recruiting cost (CU/person)	Training cost (CU/person)	Lost productivity (CU/person)	Average annual compensation (CU/person)	Number of employees	Cost to reproduce (CU total/group)
Senior management	200,000	20,000	25%	200,000	5	1,350,000
Product developers	50,000	5,000	42%	130,000	10	1,096,000
Marketing personnel	–	5,000	13%	100,000	25	450,000
Administration	–	5,000	4%	70,000	15	117,000
Other support staff	–	4,000	0%	50,000	5	20,000
Total cost to reproduce assembled workforce						3,033,000

Part ii of the example illustrates how TABs would usually be incorporated into a cost approach-based estimate of an assembled workforce's fair value, when this is considered necessary.

Example B.8 – Assembled workforce (part ii – tax effects)

The data used to estimate the total cost to reproduce the assembled workforce is not considered to reflect income tax considerations that a typical market participant would take into account. The initial cost measure is therefore reduced by average income taxes of 30% and TABs are added.

To establish TABs, it is assumed that in a separate acquisition, the intangible asset would usually be amortised for tax purposes over a 15 year period. It is also expected that the income tax rate remains steady and the appropriate discount rate is determined at 17.0% (see Section B.4.1 for a discussion of asset-specific discount rates).

	CUs
Total cost to reproduce assembled workforce before taxes	3,033,000
Income tax (30%)	(909,900)
Tax amortisation benefit	226,076
Indicative value of workforce	2,349,176

The calculation of TABs in this example may be illustrated as follows:

Amortisation Period (years)	1	2	3		14	15
Amortisation per year	141.54	141.54	141.54		141.54	141.54
Tax rate	30%	30%	30%		30%	30%
Tax Benefit per year	42	42	42	=> year	42	42
Discount rate	17%	17%	17%	4- 13	17%	17%
Discount factor	0.855	0.731	0.624		0.111	0.095
Present value of TABs per year	36.3	31.0	26.5		4.7	4.0
PV Sum (pre-tax)	226.1					
TAB Value (post-tax)	253.0					

3.3 Replacement cost method

Replacement cost represents what it would cost today to acquire a substitute asset of comparable utility. The replacement cost method is especially useful for purchased intangibles such as off-the-shelf software and similar licenses. In such cases, an observable market price is available for a substitute asset even if that price does not meet the conditions to be considered a quoted price in an active market. The method is similar to the sales comparison method discussed above in that it is based on actual transaction prices for sufficiently similar assets. If a replacement cost is obtained for a comparable but not identical asset, adjustments may be required for factors such as differences in technology, capability, functionality and age.

Example B.9 – Business software

A business software application is identified in the course of a business combination. The software, version 4.0 was acquired by the target business 3 years prior to the combination and is used widely for managerial accounting and financial reporting of the business. It has been updated regularly.

The software manufacturer has ceased to sell version 4.0 but currently offers version 5.5, which incorporates all updates of previous software versions. An analysis of the two different versions shows that the new version is mainly faster and more user friendly, but otherwise has the same features and functionality. A cost analysis compares version 4.0 to a replacement with version 5.5 as follows:

Cost element	Version 4.0 (CU)	Version 5.5 (CU)
Cost to acquire the license	90,000	105,000
Installation	7,000	10,000
Update A	3,000	–
Update B	5,000	–
Total	105,000	115,000

In this scenario, cost to replace version 4.0 would range somewhere between CU105,000 and CU115,000. Professional judgment is required to determine to what extent version 4.0 is less valuable than version 5.5, given its reduced speed and user friendliness. On the other hand, the historical cost of CU105,000 would need to be assessed for any changes due to inflation, etc. to estimate the acquisition date fair value of this intangible software asset. Income tax affects are considered to be appropriately reflected in the valuation since the cost approach estimate is broadly based on market observations.

4. Income approach methods

Fair value estimates using the income approach provide a value based on the cash flows an individual intangible asset is expected to generate. These income streams are discounted and also usually adjusted for the effects of taxation. The key inputs used in these methods are described in the next sub-section. Subsequent sub-sections will explain the income approach methods most commonly used in practice:

- the relief-from-royalty method (Section B.4.2)
- the comparative income differential method (Section B.4.3)
- the multi-period earnings excess method (Section B.4.4).

4.1 Key inputs

Income approach methods estimate the fair value of an intangible asset by reference to the capitalised value of income, cash flows or cost savings that could hypothetically be earned, achieved or otherwise obtained by typical market participants. These methods therefore depend on prospective financial information (PFI) that represents the benefits expected from a specific asset. Estimating the appropriate discount rate and income taxes also require special consideration.

Assessing key inputs of income approach methods

- is the PFI underlying the valuation unbiased and consistent with the assumptions that market participants would make?
- do the PFI income streams incorporate expected income tax payments?
- does the resulting fair value estimate appropriately reflect the economic life of the intangible asset?
- if a weighted average cost of capital (WACC) is used to discount the cash flows, does it reflect a capital structure and required return on equity that is usual for the industry rather than parameters that are specific to the acquired business?
- do asset-specific discount rates reasonably reflect the risk profile of the intangible asset?
- does the asset's fair value reflect tax amortisation benefits that would be available to market participants?

Prospective financial information (PFI)

The financial estimates on which income approach methods are based are referred to hereafter as PFI. Preparing and reviewing suitable PFI is a complex matter and depends on the facts and circumstances of the intangible asset in question as well as the business and the industry it belongs to. In theory, the PFI used in the measurement process should be based on the expectations of the market participants, which implies the need to make assumptions about other participants' assumptions. In practice, however, the budget and forecasts of the acquiree at the acquisition date are likely to be the best source (or starting point) for the exercise, unless they are demonstrably out of line with estimates that market participants would use to price the asset. The same principle applies to PFI that the acquirer may have applied in the course of the due diligence process. Other characteristics to look out for are:

- the PFI should normally represent an unbiased estimate for future development at the date of acquisition, based on the best information available at the date of acquisition and consistent with recent experience. The estimate should take reasonable consideration of industry-specific outlooks as well as information relating specifically to the intangible asset
- the data underlying the valuation should generally set out detailed expectations for a specific budget forecast period, commonly known as the discrete projection period, as well as reasonable assumptions for financial developments which are anticipated beyond the planning horizon

Complex mathematical valuation methods, such as real option pricing models and Monte Carlo simulations are not covered in this Guide. The methods discussed in this Guide represent some of the valuation methods commonly used in practice. Other and especially more mathematically advanced and complex methods may also be appropriate for estimating an intangible asset's fair value.

- the PFI should include detailed projections of key figures of operating performance (for example projections of sales as well as gross, operating and net results after tax) and post-tax cash flow projections of the acquired entity that exclude financing costs. Estimates about the level of working capital, capital employed and capital expenditure are also necessary. More details may be needed due to the actual characteristics of the particular intangible asset.

Fair value is determined from the perspective of a typical market participant. Enhancements of the business that are generally available to market participants may therefore be reflected in the PFI. Effects of specific post-combination strategies of the acquirer that a typical market participant would not take into consideration should however be eliminated from the PFI.

Examples of specific benefits or expenditures are:

- cost savings due to synergies that would not be available to another market participant
- unusually high overhead costs that are specific to the combined group
- income tax considerations that create either a benefit or a disadvantage for the combined group and that are specific to the buyer's circumstances – these effects would instead usually be reflected in accounting for deferred taxes.

PFI will usually be provided by management for a period of at least three to five years, followed by projections for subsequent periods. The growth rate used in the projections is often steady or declining and does not exceed the usual growth rate for the products, industries, countries or markets relevant to the business under review. Exceptional growth rates may nevertheless be appropriate if the acquired business is for example active in high growth sectors (sometimes for example found in high tech industries).

Economic life

The valuation should not assume income for a period longer than the asset's economic life (the period over which it will generate income). The fair value of an asset measured under the income approach increases with its economic life, making this an important input.

Mismatch of economic life assumed for fair value estimates and amortisation rules of IAS 38

Intangible assets that are based on legal or contractual rights usually have a limited life, which may or may not be extended. A typical market participant would take into account the likelihood of any potential extensions in determining acquisition date fair value of the asset.

This may create a mismatch with the useful life that is used to subsequently amortise that intangible asset. To determine the amortisation period of an intangible asset, IAS 38 requires an estimate of its useful life. The standard however also mandates that the "useful life that arises from contractual or other legal rights shall not exceed the period of the contractual or other legal rights" (IAS 38.94). The possibility of a renewal of the right may only be reflected in the asset's useful life if the renewal is possible without significant cost. If the renewal is contingent upon the consent of a third party, evidence that the third party will give its consent is required to support an amortisation period that exceeds the asset's legal life (IAS 38.96).

This mismatch will not arise with a reacquired right recognised as an intangible asset in a business combination. The useful life of such an asset is limited to the remaining contractual period excluding potential renewal periods (IAS 38.94). Similarly, the value of the reacquired right is measured on the basis of the remaining contractual term excluding potential renewal periods (IFRS 3.29). This is an exception to the normal fair value measurement requirements for assets acquired in a business combination under IFRS 3 (see Section C.4.1).

The economic life of most intangible assets is finite and is normally reasonably estimable. In some circumstances, however, a limit to the period over which the asset is expected to generate economic benefits for the entity may not be foreseeable. The intangible asset is then considered to have an 'indefinite' useful life.

In practice, indefinite useful lives are not the norm. A full assessment of the economic characteristics of the intangible asset is generally required to demonstrate the limits of an asset's economic life (or the lack thereof). Indicators of the upper limit of an asset's economic life will sometimes result from legal constraints. Patents, for example, usually provide exclusive use of a technology for a limited period (in many countries 20 years from patent registration), after which patent protection is lost and income streams may erode rapidly. On the other hand, legal protection for intangible assets such as trademarks may often be extended without significant legal or economic constraints. A typical market participant would therefore factor in the possibility of extending the legal life for further periods when pricing the intangible asset, so that its economic life may be substantially longer than its 'current legal life'. This may specifically apply to trademarks that represent a company brand – economically, these intangible assets often exist for as long as the underlying business.

Some of the aspects to take into account when estimating the economic life of an intangible asset can be summarised as follows:

- legal, regulatory and contractual provisions that may limit the life or enable renewal and extension
- life cycles of related products or marketing strategies
- expected use and typical patterns of depreciation in the value of similar assets
- expected technical, commercial or other types of obsolescence
- expected actions by competitors or potential competitors
- economic life of other assets used in conjunction with the intangible asset to generate income.

Again, the perspective of the typical market participant should be assumed when assessing an intangible asset's economic life. Characteristics that are specific to the actual buyer – such as the intention to discontinue the asset under review – are therefore disregarded in this assessment.

Weighted Average Cost of Capital (WACC)

Income approach methods generally require discount rates to estimate fair value. As a starting point for estimating asset-specific discount rates (which are discussed further below), the industry average Weighted Average Cost of Capital (WACC) is usually used in practice. The basic concept of the WACC is that a business will finance its assets with a combination of debt and equity and that a required minimum return can be established for each source of capital. The average of these considerations would typically be the rate of return a typical market participant would expect on an investment in the industry. The actual calculation of the WACC may be illustrated as follows:

- the **weight factors** (debt (**D**) and equity (**E**)) as a fraction of the overall funding of the business (**D+E**) usually reflect financing structures that are typical for the industry of the business under review. The entity's actual or anticipated financing structure may give an indication for this input, but does not necessarily prescribe the weight factors
- the **income tax rate** (**T_c**) used in the WACC should reflect the income tax rate that is applicable to interest payments on debt by a hypothetical entity that is active in the same industry as the subject business. This rate normally corresponds to the income tax rates used in the PFI
- the **return required for debt** (**r_{debt}**) should reflect the interest rates typically available to similar businesses as the one under review. This input factor usually can be determined on the basis of readily observable market data by reference to returns required for debt issued by business with similar credit risk profiles
- the **return required by a typical market participant** (**r_{equity}**) is usually determined on the basis of the Capital Asset Pricing Model (CAPM). The CAPM takes into account two factors: the return on an investment that is virtually risk-free (such as certain government bonds) and the market risk premium that would be required by an investor in the acquired business
- **additional risk premiums** (or **ARP**), to the extent not captured within **r_{equity}**, are sometimes added to reflect risk that is typical for businesses similar to the one under review. Examples are mark-ups for fairly young companies, very competitive industries and dynamic markets to reflect the risk that they are more likely to become financially distressed
- another possible modification is a **small business premium** (**SP**). The small business premium takes into account the tendency for smaller businesses to typically be subject to higher capital costs than medium-sized and large businesses.

Small business premiums – variances in use

Globally, there is diversity in practice for whether the use of small business premiums is appropriate. While valuation industry standards of some countries, such as in the US, would support the use of SP's (and would expect one to be reflected when applicable), industry standards in other countries, such as Germany, would not find their use to be appropriate. Therefore, although the reporting framework (eg IFRS) could be the same in two geographic locations, the local valuation practices that are applied in the fair value measurement could result in different models and values being reached, where market participants take account of different factors according to the geographic region in which they are based. Thus, local valuation industry practices should be assessed to ensure the results are appropriate for the specific circumstances.

All of the WACC's underlying assumptions should be reasonable and supported by market data as far as possible. Some elements of the WACC are therefore based on the results of detailed market research. Other elements, such as business premiums and additional risk premiums generally rely more on professional judgment (which, in turn, is sometimes backed by research).

Depending on the complexity of the acquired business, it may be necessary to determine individual WACC figures for distinct parts of the entity – referred to as 'business units', 'divisions' or (in IFRS terms) 'operating segments' or 'cash generating units'. This is commonly seen in practice where the acquired business is active in different geographic areas or in industries with different exposures to risk. In such a scenario, the starting point for determining the specific discount rate to be used in measuring intangible assets under the income capitalisation approach should of course be the WACC of the distinct part of the acquired entity that the individual asset belongs to.

Example B.10 – Determining whether multiple WACC's are necessary

An entity acquires a business that is organised into two strong segments: logistic services (segment A) and freight services (segment B). Since segment A focuses exclusively on organising the transport of goods whereas segment B provides freight services, it is determined that the two segments have different risk characteristics. As a result, fair value estimates in segment A are based on a different WACC than estimates for assets used by segment B.

Asset-specific discount rates

The discount rate used to value an individual asset should reflect the return that market participants would demand for bearing the risks inherent in the asset. Accordingly, the use of a 'flat' discount rate for every asset valued under the income approach is usually not appropriate. Different assets generally exhibit different risk profiles and discount rates therefore need to be adjusted to reflect the risks specific to a particular asset.

The WACC provides a point of reference in estimating asset-specific discount rates. An assessment of the economic risk profile of each asset provides an indication of whether it is riskier or less risky than the business as a whole and in comparison to other assets.

Some intangible assets are often considered riskier than the business as a whole. As a consequence, discount factors used to estimate their fair values tend to be higher than the WACC. An in-process research and development (IPR&D) intangible asset may for example be regarded as riskier than a well-established trademark intangible asset. The IPR&D intangible asset should therefore be measured using a higher asset-specific discount rate than the trademark. The risk profile of the trademark may in turn be similar to the risk profile of the entity it belongs to. It may therefore be appropriate to choose an asset-specific discount rate of the trademark that is close to the WACC.

The certainty with which an asset's associated cash flows can be tangibly identified and are realisable often has an inverse relationship with its risk profile, as illustrated in the table above. The relationship of the economic risk between assets and the business as a whole significantly depends on the industry and specific circumstances.

Different discount rates are required for intangible assets with different risk characteristics.

Risk profile of intangible assets



There are no set rules as to how exactly asset-specific discount rates are determined, but two different schools of thought can be observed in practice to determine the additional/reduced risk of the intangible asset:

1. as a risk premium to the WACC, that can be positive (riskier than the business) or negative (less risky than the business). The percentage to be added or subtracted from the WACC should appear reasonable and logical.
2. adjust the debt/equity ratio in the WACC to reflect whether the intangible asset would usually be more likely to be funded with equity (riskier) or debt (less risky). The adjustment of the weight factors in the WACC formula may be supported to a certain extent by market observations.

Example B.11 – Adjustment of the debt/equity ratio to determine asset-specific discount rates

In a business combination, the WACC for TARGET has been determined at 9.9% using the following assumptions:

$$D/D+E = 60\% \quad r_{\text{debt}} = 6\% \quad T_c = 30\%$$

$$E/D+E = 40\% \quad r_{\text{equity}} = 18.5\%$$

$$\text{WACC} = 60\% \times (1-30\%) \times 6\% + 40\% \times 18.5\% = 9.9\%$$

The entity has identified an IPR&D project that is expected to require about 2 years to complete before any revenue can be expected from resulting products. Market research shows that similar projects are more likely to be financed with equity, and a debt/equity ratio of 5% debt to 95% equity would be expected if a typical market participant focused its activities just on this project. Based on this information, the discount rate specific for the IPR&D project, or $\text{WACC}_{\text{IPR\&D}}$ is estimated at 17.9%:

$$\text{WACC}_{\text{IPR\&D}} = 5\% \times (1-30\%) \times 6\% + 95\% \times 18.5\% = 17.8\%$$

Alternatively, the entity could have added a risk premium to the WACC that is estimated to be appropriate based on the economic characteristics of the intangible asset.

Despite the ‘grey area’ in estimating asset-specific discount rates, the overall process should generally appear reasonable in the context of the return required for the different groups of assets acquired in the business combination. As the acquired assets as a whole are required to earn on average a rate of return that is equal to the WACC, the weighted average of the returns implied or used for the valuation of the individual assets should roughly equal the WACC. In practice, this procedure is sometimes referred to as the ‘return test’, which is illustrated in the next example.

Example B.12 – Return test

The fair value of TARGET's assets have been tentatively determined. For example, the specific discount rate for TARGET's IPR&D project has been estimated at 17.9% (see previous example). To assess whether the asset-specific discount rates may be considered reasonable, a required rate of return has been estimated for all of TARGET's assets. The tentative fair values and their specific rates of return are illustrated as follows:

Asset class	Fair value (CU)	Value in % of total assets	Implied required return/discount rate	Weighted average
Working capital	9,500	15.0%	4.5%	0.7%
Fixed assets	17,500	27.6%	6.3%	1.7%
Trademark "TARGET"	17,500	27.6%	10.0%	2.8%
IPR&D project	6,000	9.4%	17.9%	1.7%
Assembled workforce (part of goodwill)	7,000	11.0%	17.0%	1.9%
Goodwill (exclusive of assembled workforce)	6,000	9.4%	18.5%	1.7%
Total	63,500	100%	Implied WACC	10.5%

The implied WACC of 10.5% seems reasonable when compared to TARGET's WACC of 9.9% (see previous example). The analysis, however, might require a further review. It may for example be necessary to further analyse whether a rate of return of 10% is reasonable for the TARGET trademark or whether it is plausible that the implied required rate of return for the assembled workforce is lower than the one assumed for goodwill. This will of course depend on the actual facts and circumstances of the transaction.

The previous examples illustrate the extent of judgment involved in estimating the WACC of the business as a whole as well as discount rates specific to individual intangible assets. Assessing whether these key assumptions have been estimated appropriately will therefore also require judgment and will not be precise by any means. While it is generally desirable to implement market observations into these considerations as much as possible, a few aspects of the 'return test' should be kept in mind:

- the return test requires a tentative measure of fair value for all assets of the acquired business. In other words, the discount rates need to be estimated and an indicative or tentative fair value measurement is required before each discount rate can be assessed in context
- further iterations to estimate reasonable discount rates may therefore be necessary. Due to many interdependencies in measuring fair value, eg when using the multi-period earnings excess method (see Section B.4.4), a change in discount rates for a particular asset may trigger further adjustments in the relative fair value of other assets
- the return test allows only a relative assessment of individual discount rates. It will put into context the individual asset's rate of return relative to other assets of the acquired business. The rate of return on goodwill is sometimes misused in practice to make the implied WACC appear reasonable. Very high or low discount rates attributed to goodwill should therefore always be reflected against discount rates attributed to other assets to assess their reasonableness.

Tax amortisation benefits (TABs)

Fair value measurement under the income approach is usually based on PFI that reflects cash outflows net of income taxes. The PFI used often does not reflect the hypothetical benefit from amortising the intangible asset for tax purposes (because the actual acquirer may not obtain any such benefit).

TABs are therefore usually specifically incorporated into fair value measurements that are based on income capitalisation. It is common practice to calculate the present value of the TABs using the discount rate specific to the underlying asset, ie the intangible asset in question. However, depending on the risk characteristics of the amortisation benefit, a higher or lower discount rate may be more appropriate to estimate the fair value of the TAB.

4.2 Relief-from-royalty method

The relief-from-royalty method (sometimes referred to as the ‘royalty savings method’) is frequently used for intangible assets that are legally protected and which could (in theory at least) be licensed to or from a third party. Patents and trademarks are examples of intangible assets that are commonly valued under the relief-from-royalty method.

The relief-from-royalty method values the intangible asset by reference to the amount of royalty the acquirer would have had to pay in an arm’s length licensing arrangement to secure access to the same rights. The key input into this method is the ‘royalty rate’, which is then applied to the ‘royalty base’ to estimate the amount of theoretical royalty payments. This royalty stream, which the owner does not have to pay since the intangible asset is already owned, is discounted.

Estimating the royalty rate

Actual licensing agreements for the same or similar assets generally provide the best basis for determining an appropriate royalty rate. Arm’s length licensing agreements between the acquirer and a third party regarding identical or similar intangible assets should therefore be considered.

Royalty rates are usually estimated on the basis of information available for recent market transactions. In the absence of an actual licensing agreement for the subject asset, samples of ‘benchmark royalty rates’ for similar intangible assets or comparable licensing arrangements may be found in royalty databases available on the internet, valuation periodicals or similar sources. Such publicly available data may provide further insights into how a typical market participant would estimate royalties for the intangible asset.

Unfortunately fully compatible royalty rates are hard to find in practice. In selecting benchmark royalty rates, some of the following characteristics of the intangible asset under review and the market transactions it is compared against should be considered:

- where and how the asset is expected to generate future economic benefits, for example in the form of additional income or reduced costs including the life cycle of the intangible asset under review compared to intangible assets for which sample royalty rates are available
- the industry in which the asset is used and whether specific industry conditions may provide insights into whether royalties in a given segment, asset class or area of technology are usually relatively high or low in comparison to the industry average return on investment. Industry conditions may also take the form of ‘rules of thumb’ that are for instance used for profit sharing agreements
- the value of a hypothetical license is likely to increase with the level of exclusivity of the underlying intangible asset. A license may for example be granted exclusively for a geographic area or industry
- it is also necessary to analyse ‘technical differences’ between royalty rates that are observable in the market place. Some royalty rates may reflect underlying cost sharing agreements such as for related research and development, legal protection, advertising or other marketing expenditures – whether or not a licensee has to participate in marketing campaigns and hence incur additional expenditures may substantially affect the license fee that is observable in the market place. Differences in payment schemes, such as upfront, lump-sum or continuous royalties from the licensee or a combination thereof are also frequently observed and should be taken account of. The royalty base may also differ – marketing-related intangible assets such as trademarks are often based on the sales volume while other royalty rates may apply to measures of gross margins.

Royalty rates used to determine fair value need to reflect an appropriate estimate which is based on the best information available on acquisition date.

Example B.13 – Estimation of a royalty rate based on observable market data

Extract from a hypothetical valuation report:

'We looked to the marketplace to find license agreements on similar trademarks and trade names to help determine an appropriate royalty rate. We obtained our guideline transactions from the PerfectRoyalties database¹. Our search of PerfectRoyalties resulted in 15 license transactions for trademarks within the microelectronic component sector, 4 of which we determined were most comparable to the subject trademark. These transactions may be summarised as follows:

Trademark	Market position	Geographic coverage	Multiple implicit in transaction (% of revenue)	Subject brand multiple higher or lower than comparable
Subject	Medium	Europe	N/A	N/A
A	Strong	Europe	1.4	Higher
B	Strong	Russia	1.1	Similar
C	Weak	Japan, Taiwan	0.4	Significantly lower
D	Medium	Americas, Europe	1.2	Similar

Based upon this data and other empirical evidence, it is our opinion that the appropriate royalty rate associated with the license of this trademark is 1.0 percent of revenue. This royalty reflects the level of recognition relative to the trademarks in the transactions, and the recognition of the acquired business versus its competitors, based on trademark recognition in the marketplace.'

Calculation methodology

The actual calculations in a relief-from-royalty estimate are fact specific. However, once the appropriate royalty rate has been estimated, the process of estimating fair value using the relief-from-royalty method is broadly as follows:

1. the estimated income stream or 'royalty base' that is attributable to the intangible asset is identified and usually derived from the prospective financial information (PFI) of the acquired entity. The estimated income stream is represented by a projection of net sales over the economic life of the intangible asset less appropriate expenses. Income tax cash flows usually reduce the income stream, but further expenditures may also have to be incorporated into the PFI where these are implicit in the royalty rate estimate (eg marketing or R&D expenditures, sometimes also legal expenses). Care must be taken in order to exclude buyer-specific synergies from the PFI
2. the future royalty payments the acquirer hypothetically saves due to ownership of the asset are calculated for each year of the intangible asset's economic life and then discounted to acquisition date present values using an asset-specific discount rate
3. a TAB element is added to the post-tax present value of the royalty savings, if appropriate.

¹ This is not a real-life example of a royalty database. Note this assumption is used for simplicity but is not very likely to occur in practice.

Example B.14 – Valuation for a trademark

Royalty rate:	1.0%	Royalty base:	Entity revenues			
Discount rate:	10.5%	Economic life:	5 years			
Income tax rate:	30%	Tax amortisation period:	15 years			
		Date of valuation	1 January 2013			
NB: Rounding applies						
Period		2013	2014	2015	2016	2017
All values are CU millions						
Royalty base: Revenues		500.0	550.0	600.0	624.0	675.0
Pre-tax royalty income	1.0%	5.0	5.5	6.0	6.2	6.8
Income taxes	30.0%	(1.5)	(1.7)	(1.8)	(1.9)	(2.0)
Post-tax royalty income		3.5	3.9	4.2	4.4	4.7
Discount factor	10.5%	0.905	0.819	0.741	0.671	0.607
Present values		3.17	3.15	3.11	2.93	2.87
Total present values		15.23				
TABs (5 iterations)		2.64				
Trademark fair value		17.87				
The residual value is calculated by using the final forecast-year net after-tax royalty cash flows and capitalised using an asset-specific discount factor. The sum of the discounted royalty cash flows over the projection period yields a value for the intangible asset before tax amortisation benefits.						
The TAB element reflects the tax benefit that an asset acquirer would hypothetically generate from amortising the purchase price of the asset over 15 years. Five iterations have been implemented in the calculation to match amortisation expenditure with total fair value inclusive of tax amortisation benefits.						

4.3 Comparative income differential method (CIDM)

The comparative income differential model (CIDM) is commonly used where the relative income stream of the intangible asset can be estimated. This method generally estimates the income differential an asset will generate relative to its absence. In other words, the difference between the value of the business with and without the intangible asset is used to estimate its acquisition date fair value. Non-compete agreements and other marketing-related assets are common examples of intangible assets that are valued with the CIDM.

Estimating the income differential

The CIDM generally requires a thorough analysis of the way in which the asset is expected to generate future economic benefits, and the conditions necessary for this. The income differential generated (or protected) by the asset may represent:

- additional sources or higher volumes of income
- cost savings, eg as a result of lower expenditures for marketing, human resources or similar functions of the entity
- a combination of both.

The process and level of detail required to estimate the income differential depends on the nature of the intangible asset and the ways in which it contributes to the business. For less complex intangible assets, it may be easy to identify a discrete stream of the differential income over the economic life of the asset. For example, where the intangible asset generates cost savings, and these cost savings can be estimated with reasonable reliability, the CIDM would focus on identifying and measuring the value of the cost savings.

Other intangible assets may generate economic benefits through a variety of different additional sources of income and cost savings. A non-compete agreement with a former key employee of the acquired business may for example protect the combined entity from losing sales with existing customers and allow lower marketing expenditures otherwise necessary to maintain the entity's existing customer base. To estimate the differential income generated by more complex intangible assets, PFI may be required for the business as a whole with and without the economic benefits of the intangible asset.

The CIDM is also sometimes referred to as the incremental income method; premium profit method; or 'with and without' method.

Calculation methodology

The actual calculation methodology varies depending on the circumstances in each case. Further important refinements may require for instance a probability weighting of different future outcomes in the PFI or tracking the interdependencies of individual intangible assets. Common steps may be summarised as follows:

1. the income stream attributable to the intangible asset is estimated. A common approach is to estimate net income for the business as a whole with and without the intangible asset, which gives an estimate of the income differential attributable to the asset. In less complex situations, it may also be appropriate to estimate a discrete stream of income that the asset will generate during its economic life.
2. the present value of future differential income is determined. Asset-specific discount rates should generally be used. Where the CIDM compares the value of the business as a whole with and without the intangible asset, an entity-WACC is usually considered appropriate to discount income streams by the entity as a whole.
3. TABs are added to the post-tax present value of the income differential expected to be generated by the intangible asset, if appropriate.

Example B.15 – CIDM for a non-compete agreement

A non-compete agreement has been acquired in a business acquisition. The non-compete agreement is considered to be a contractual identifiable intangible asset.

Under the terms of the contract, the head of sales of the acquired business is prohibited from taking up a similar position at a competitor for a time period of 10 years. It is estimated that in the absence of the non-compete agreement, the former employee would find a similar position and pose a threat to the acquired business without any time lag and with full instant effect². This would result in an erosion of sales with existing customers as well as additional marketing costs to maintain the current customer base. However, as the former employee is 60 years of age, it is also estimated that the non-compete agreement has economic substance only for the next 3-5 years. It is also estimated that the potential 'threat' to sales of the acquired business will rapidly diminish after three years. The income differential expected for the next 3-5 years is estimated as follows:

Year	1	2	3	4	5
Effect of competition on gross margin	-20%	-23%	-25%	-10%	-5%
Additional marketing expenditures	+10%	+18%	+10%	+5%	–

The 'Effect of competition on gross margin' reflects the theoretical erosion in the level of sales with existing customers in the absence of the non-compete agreement. It is expected that competitive action of the former employee would have an immediate impact on the level of sales. The impact is expected to increase until year 3 and decline thereafter as the employee is expected to slowly withdraw from active business.

'Additional marketing expenditures' reflect the additional cost expected to protect the remaining customer base from competitive action of the former employee.

² Note this assumption is used for simplicity but is not very likely to occur in practice.

Example B.16 – CIDM for a non-compete agreement (continued)

The CIDM is chosen as the appropriate method to measure the fair value of the non-compete agreement. The entity WACC has been estimated at 9.9%, which reflects an average income tax rate of 30%. The enterprise value of the income generated in the business under review for the next five years was determined at CU56,639. A valuation of the entity without the non-compete agreement is determined at CU39,819:

Year	1	2	3	4	5
Gross Margin	30,000	31,500	33,075	34,729	36,465
– Effect of competition on gross margin	(6,000)	(7,245)	(8,269)	(3,473)	(1,823)
Gross margin without non-compete agreement	24,000	24,255	24,806	31,256	34,642
Marketing cost	(7,600)	(7,980)	(8,379)	(8,798)	(9,238)
– additional marketing expenditures	(760)	(1,436)	(838)	(440)	–
Marketing cost without non-compete agreement	(8,360)	(9,416)	(9,217)	(9,238)	(9,238)
Other cost	(3,100)	(3,178)	(3,257)	(3,338)	(3,422)
Pre-tax income	12,540	11,661	12,332	18,680	21,982
Income taxes	(3,762)	(3,498)	(3,700)	(5,604)	(6,595)
Net income without non-compete agreement	8,778	8,163	8,632	13,076	15,387
Discount rate	0.910	0.828	0.753	0.686	0.624
Present value of net income	7,988	6,759	6,500	8,970	9,602
Total present value without non-compete agreement	39,819				

The indicative post-tax discounted income differential attributable to the non-compete agreement may be estimated at CU56,639 – CU39,819 = CU16,820. TABs assuming a straight-line tax deduction over 15 years imposed on this value after six iterations may be valued at CU3,038, thus resulting in an estimate of fair value for the non-compete agreement of CU16,820 + CU3,038 = CU19,858.

4.4 Multi-period earnings excess method (MEEM)

The MEEM is commonly used when a reliable direct measurement of future economic benefits generated by an intangible asset is not possible. The method takes a ‘residual approach’ to estimating the income that an intangible is expected to generate. It generally starts with the total expected income streams for a business or group of assets as a whole and deducts charges for all the other assets used to generate income with the intangible asset under review during its economic life. Residual income streams are then discounted using asset-specific rates. The need for a TAB must also be considered.

The MEEM is applied to a wide variety of intangible assets, especially those that are close to the ‘core’ of the business model (sometimes referred to as ‘primary’ or ‘leading’ assets). In practice, customer relationship assets, technology, and IPR&D are among the intangible assets frequently valued using the MEEM.

Contributory asset charges (CACs)

The main feature of the MEEM is the specific consideration it gives to contributory asset charges (CACs) in identifying the residual income stream that the intangible asset is expected to generate. The fundamental premise of the MEEM is that the value of an intangible asset is equal to the present value of the net income that is attributable to it. The income streams attributable to the intangible asset are those in excess of the fair returns on all assets that contribute to the income generating process (‘contributory assets’).

CACs generally reflect an estimate of the amount a typical market participant would have to pay to use these contributory assets to generate income with the intangible asset. CACs comprise two elements

- the return **of** investment
- the return **on** investment.

The return **of** investment reflects the economic depreciation of the contributory asset that a third party would expect as reimbursement to recover its initial investment in the asset. The return **on** the investment is the charge a third party would expect as a profit in addition to the return of investment. If an entity for example leases a car, the related arm's length lease payment usually reflects the depreciation of the car (ie the return **of** investment) as well as a profit margin (ie the return **on** investment).

In practice, the PFI used for fair value estimation may not include all the costs a typical market participant would incur to use the various assets that are required to generate the income. Judgment is therefore required to complement the PFI with CACs. This requires the identification of the relevant contributory assets and an assessment of whether the return of and on investments in all contributory assets is appropriately reflected in the PFI.

CAC are also sometimes referred to as capital charges or economic rents. They generally reflect an estimate of the amount a third party would charge for the use of a contributory asset, ie an asset that is necessary to generate income with the intangible asset.

Identification of contributory assets

A full review of the business model is required to identify all assets that contribute to the income generation process of the intangible asset under review. Contributory assets generally consist of some of the following elements³:

Type	Examples	Explanation
Capital investments	<ul style="list-style-type: none"> land, plants and other buildings machinery and tools IT Infrastructure technology-related, marketing-related and other intangible assets (including intangible assets not (yet) recognised in the balance sheet) natural resources 	Capital investments are necessary for the actual production process of the intangible asset. Property, plant and equipment assets are for example necessary for physical production to take place. Intangible assets may eg provide know-how for production or enhance marketing of the output.
Assembled workforce	<ul style="list-style-type: none"> manufacturing and production staff management sales personnel, research and development staff administrative staff 	Businesses generally require a workforce to generate income from any asset.
Working capital	<ul style="list-style-type: none"> inventories financing functionality, ie trade receivables and payables, cash and cash equivalents other current assets 	Working capital facilitates the income generation process. Without the relevant current assets, income generation would not be possible.

The assembled workforce is technically not an identifiable intangible asset and is therefore subsumed into goodwill (see Section A.3). Nevertheless, for the purpose of acquisition date fair value measurement it is seen as a resource because a typical market participant typically needs a workforce to generate income with the intangible asset under review. In practice, CACs for the assembled workforce are therefore commonly taken into account under the MEEM. The assembled workforce is often the only element of goodwill that is especially considered as a contributory asset.

Some contributory assets such as property, plant and equipment and working capital are readily identifiable and have been recognised in the acquiree's pre-combination financial statements. However, some contributory assets may not have been recognised as an asset by the acquiree or by the combined entity and further analysis is therefore necessary. This applies particularly to intangible assets other than the intangible asset in question. If the acquired business relies on third-party assets (such as in leasing or outsourcing arrangements), these assets might also need to be taken into account.

Contributory assets comprise all resources required in the income generation process of the intangible asset, regardless of whether these resources are considered identifiable assets of the acquired business.

³ This list is not meant to be exhaustive. Identification of the contributory assets actually required for a specific income generation process will depend on the facts and circumstances of the relevant intangible asset.

Example B.17 – Identification of contributory assets

A tile manufacturer business is acquired in a business combination. The acquired business is widely known for the high-quality, weather-proof tiles it produces in its own manufacturing facilities. It has been selling its output to contractual customers for a number of years. The acquiree also sells other manufacturers' tiles to its customers on a commission basis.

The acquirer applies the principles of IFRS 3 and identifies the following assets and their fair values:

	Fair value (CU)	Customer relationship contributory asset
Identifiable asset		
Tile manufacturing plant	12,000	Yes
Land (held for investment purposes)	7,500	No
Warehouse	2,500	Yes
Financial investments	5,000	No
Weather-proofing technology	10,000	Yes
Tile customer relationship asset	Yet to determine	–
Inventories and other working capital	6,000	Yes
Non-identifiable asset		
Assembled workforce (element of goodwill)	12,000	Yes

The column on the right reflects the result of a further assessment into whether each of the assets contributes to the income generation process from existing customers from its tile manufacturing business. In a business model review, it is determined that the land and the financial investments are not used in the production process and are therefore not necessary to utilise the relationship with customers in the manufacturing business. The weather-proofing technology is however considered to be a crucial factor in continuing to do business with these customers. It is therefore considered a contributory asset, despite the fact that it was not recognised as an intangible asset in the financial statements of the acquiree prior to the combination.

In addition, it is concluded that the skills of the assembled workforce are important in terms of continuing to do business with the customer. Despite failing the definition of an identifiable intangible asset, it is still considered a contributory asset of the customer relationship asset.

The actual usage of contributory assets also needs to be analysed. Some contributory assets will contribute to the income generation of more than one intangible asset. For these shared contributory assets, any related CAC needs to be allocated amongst relevant intangible assets by reference to the actual level of usage of the contributory asset.

Example B.18 – Shared contributory assets

As indicated in the previous example, the acquired tile manufacturing business also provides other manufacturers' tiles to its customers on a commission basis. The customer relationship asset, however, is limited to customers to which the entity sells its own tiles. Against this background, a further review of the business model reveals that roughly half of the inventories and other working capital are used in the commission business. It is also estimated that 40% of the warehouse capacity and 25% of the employees are necessary to provide third-party tiles to customers.

Taking into account the assessment from the first part of this example, contributory assets may be summarised as follows:

Contributory assets	Estimated usage	Relative fair value of contributory asset (CU)
Tile manufacturing plant	100%	12,000
Warehouse	60%	1,500
Weather-proofing technology	100%	10,000
Inventories and other working capital	50%	3,000
Non-identifiable asset		
Assembled workforce (element of goodwill)	75%	9,000

Return of contributory assets

A careful analysis of the available PFI is necessary to determine whether the return of contributory assets needs to be specifically imputed into the MEEM. PFI often readily reflects the return of all assets in operating costs. For example, the acquiree's available budgets and projections may reflect returns of assets as follows:

- the return of investments in property, plant and equipment may be represented in forecast depreciation expenses
- marketing budgets may include the cost of maintaining the existing brand or customer base
- forecasted expenditures of the human resource department may represent the cost of maintaining the assembled workforce
- R&D expenditure may already represent the return of investments in technology-related intangible assets (regardless of whether these were recognised in the acquiree's balance sheet prior to the combination).

Adjustments are necessary to the extent that the return of any of the contributory assets is not appropriately reflected in forecast financial information. This is often the case where the forecasts omit costs to maintain or replace contributory assets or do not appropriately reflect their 'usage' by the relevant intangible asset, as previously discussed. Marketing budgets may for example also reflect the cost to acquire new customers. A modification of the PFI may therefore be necessary to exclude customer acquisition cost when an intangible asset is measured that represents the existing customer base.

Return on contributory assets

PFI typically omits a fair return on contributory assets. While investments in new assets and resources (ie the return of contributory assets) are often considered in preparing the PFI (see above), the opportunity cost of using the acquired entity's own contributory assets is usually not reflected in the PFI. In other words, the 'profit' a third-party supplier would theoretically charge is usually not forecasted when the entity owns a contributory asset. CAC used to identify residual income for the intangible asset under the MEEM will typically therefore specifically address the fair return on contributory assets that are actually owned by the acquired entity.

There are no set rules as to how the fair return on a contributory asset should be determined. As best practices are still emerging, different methods may be acceptable. Any rate of return on an investment would however typically reflect the risk characteristics of the specific asset as well as the overall context of the industry it is used in. In practice, the rate chosen is therefore often consistent with the asset-specific discount rate of the contributory asset which is derived from the industry-specific WACC (see Section B.4.1). This rate is then multiplied by the fair value of the contributory asset to work out the actual return a third party would require as a return on a specific investment in the contributory asset. For a brand/trademark intangible asset, the contributory asset would be calculated at the royalty rate that is used in the valuation of that asset.

Example B.19 – Return on contributory assets

Continuing the previous example, asset-specific discount rates have been determined for each contributory asset. CAC that reflect the return on contributory assets at the date of acquisition may be calculated as follows:

Contributory assets	Pre-tax partial fair value (CU)	Asset-specific discount rate	Pre-tax return on contributory asset (CU)
Tile manufacturing plant	12,000	5.00%	600
Warehouse	1,500	5.00%	75
Weather-proofing technology	10,000	18.00%	1,800
Inventories and other working capital	3,000	5.00%	150
Non-identifiable asset			
Assembled workforce (element of goodwill)	9,000	16.67%	1,500

The approach illustrated in the previous example allows an estimate of CAC that is appropriate at the acquisition date. It benefits from the common practice of checking the asset-specific discount rate for plausibility in a 'return test' (see Section B.4.1). The level of usage of contributory assets may however be subject to change during the economic life of the intangible asset. Hence, different levels of CAC will apply to different forecasted periods and a further analysis may be necessary to estimate whether the CAC may react to for example sales, technical or general economic developments or other conditions. One method used in practice estimates CACs as a percentage of expected sales volume.

Contributory assets not owned by the entity

Under the MEEM, CAC are usually estimated for contributory assets owned by the entity. Where the entity does not own the contributory asset, the return of and on the asset is usually reflected in forecasted lease payments or similar expenditures expected by the entity for the use of a third-party resource.

Calculation methodology

The calculation methodology used in practice will generally depend on the available data and the economic characteristics of the intangible asset. Application of the MEEM should also reflect the conceptual characteristics of fair value (see Section B.1.5) as well as the key inputs to income approach methods (see Section B.4.1). In summary however, the MEEM requires the following steps in arriving at a fair value-estimate for the intangible asset:

1. the PFI attributable to the intangible asset and the related contributory assets is obtained. The estimates should incorporate all factors that a typical market participant would take into account in pricing the asset. Buyer-specific synergies are excluded from the PFI
2. contributory assets are identified. If CACs are estimated on the basis of their fair values, then these have to be determined first
3. CAC adjustments are incorporated into the estimates to the extent that these are not already included. The income stream is usually reduced by income taxes that are expected to be paid as a result of the income generation process
4. the residual income calculated for each year of the intangible asset's economic life is discounted to its acquisition date present value. Asset-specific discount rates are usually used in calculating these present values (see Section B.4.1)
5. a TAB element is added where appropriate (see Section B.4.1).

Application of the MEEM in the context of other income approach methods

Generally, if intangible assets are valued using the MEEM, the fair value of all contributory assets have to be estimated first. Application of the MEEM may involve further iterations due to interdependencies between the different income approach methods:

- asset-specific discount rates are typically estimated in the context of all assets of the acquired business, eg in a 'return test' (see Section B.4.1). If one fair value is changed, a re-consideration of other discount rates may be necessary. Changes in discount rates in turn may change fair values of other identifiable assets
- if CAC are estimated on the fair value and asset-specific discount rates for the relevant contributory assets and their fair value or discount rates are changed, then this will affect CAC used in the MEEM. This may represent mathematical difficulties if the fair value of more than one intangible asset is estimated on the basis of the MEEM.

Example B.20 – MEEM for a customer relationship intangible asset

Financial forecasts have been reviewed in order to identify the appropriate PFI to estimate the fair value of the customer relationship intangible asset in the tile manufacturing business. Expected revenues from existing customers are expected to erode within 6 years and a customer attribution rate has been estimated. All relevant expenditures are expected to correlate 100% with the development in revenues. An analysis of the PFI also shows that the return of all contributory assets are already included in the projected cost of sales and other expenses.

From the perspective of a typical market participant, an income tax rate of 30% is estimated as appropriate. It is also assumed that customer relationship intangible assets are typically tax amortisable over a period of 15 years. The asset-specific discount rate is estimated at 15%.

PFI	2007	2008	2009	2010	2011	2012
Revenue	40,000	36,000	25,920	11,197	2,902	376
Customer attrition	100%	90%	72%	43%	26%	13%
Cost of sales	(26,800)	(24,120)	(17,366)	(7,501)	(1,945)	(252)
Other expenses	(6,000)	(5,400)	(3,888)	(1,680)	(435)	(56)
Income before CAC	7,200	6,480	4,666	2,016	522	68
CAC						
– for tile manufacturing plant	(600)	(510)	(389)	(168)	(44)	(6)
– for warehouse	(75)	(67)	(49)	(21)	(4)	(1)
– for weather-proofing technology	(1,800)	(1,620)	(1,167)	(504)	(131)	(17)
– for inventories and other working capital	(150)	(135)	(97)	(42)	(11)	(1)
– for assembled workforce	(1,500)	(1,350)	(972)	(418)	(109)	(14)
Income before taxes	3,075	2,798	1,992	863	223	29
Income taxes	(923)	(839)	(598)	(259)	(67)	(9)
Net income attributable to tile customer relationships	2,152	1,959	1,394	604	156	20
Present value factor	0.870	0.756	0.657	0.572	0.497	0.432
Present values	1,872	1,481	916	345	78	9
Total present values	4,701					
TABs (5 iterations)	623					
Fair value	5,324					

C. Common intangible assets in business combinations

The main considerations in accounting for intangible assets in business combinations are:

- which identifiable intangible assets have been acquired?
- what characteristics affect their fair value and how should they be measured?

These questions generally need to be answered on the basis of the facts and circumstances of the transaction and the intangible asset's unique characteristics. This Section considers some of the most common types of intangible assets acquired and recognised in practice, and the techniques used to value them.

1. Marketing-related intangible assets

The most common types of marketing-related intangible asset include trademarks, service marks and related items, internet domain names and websites as well as non-compete agreements.

1.1 Trademarks, service marks and related items

Many businesses own one or more registered trademarks or service marks (referred to as 'trademarks' for simplicity). These trademarks identify the source of a product or service and help differentiate that product or service from competing offerings. The legal protection of a registered trademark or service mark extends to related wording, the (trade) name, a symbol (such as a logo), even a device or a combination of these means of identification.

A trademark generates future economic benefits for its owner in two ways: it may increase sales volumes and it may enable its owner to charge premium prices in comparison to similar unbranded products and services.

Control over these potential future benefits is customarily achieved by legal registration of the trademark. The registration also satisfies the contractual-legal criterion required to identify an intangible asset separately from goodwill.

The relief-from-royalty method is often used to estimate the fair value of a trademark. The royalty base of a trademark is typically the projected volume of sales attributed to it. Royalty rates can be estimated on the basis of information gathered from royalty databases and by reference to recent transactions of the acquiree or the acquirer. Section B.4.2 provides further guidance on estimating royalty rates.

Trademarks that represent a 'brand' are sometimes measured in conjunction with complementary assets, such as a trade name, logo, formula or technology (see Section A.2.3).

Characteristics that affect the fair value of a trademark

- how long the trademark has been actively used in marketing
- type of market (eg consumer markets, B2B, etc)
- how widely the acquired entity uses the trademark (specific service lines, all products and services or in specific geographical areas)
- whether the entity uses a number of interchangeable trademarks to market similar products to different customers
- legislation covered by similar trademarks and the related names, symbols etc
- whether the trademark is also used to represent the acquired entity as a whole
- the extent that the entity's marketing is dependent on the use of trademarks or if other factors, such as core technology, are advertised to customers and make the trademark less relevant.

The MEEM and CIDM are also used. Use of these methods should be considered especially when trademarks and related marketing intangible assets are very significant for the acquired business. The CIDM and MEEM both involve a more detailed examination of the asset in question and might therefore provide a more reliable estimate of fair value.

1.2 Internet domain names and websites

An internet domain name represents the numeric IP address through which an entity's website is accessed on the internet. The significance of a website does of course vary extensively from one business to another: for some businesses the internet is an important source of revenue; for others the website is primarily one of a range of media used to communicate basic information about the business such as locations, goods or services and contact information. In either case, the internet domain name and the appropriate website may represent potential future economic benefits as a result of additional income streams and increased business.

Control over the domain name is usually obtained by registration, which restricts third-party use. Domain names therefore normally meet the contractual-legal criterion for identifiability. The website is normally copyrighted and its operation may also be dependent on third-party software (see below). In practice, the value a typical market participant would ascribe to a domain name will vary with its use (and potential use). If the entity's website is a significant point of sales the domain name is more likely to be significant. The name associated with a website used only to provide product information and contact details is less likely to be of significant value. Some domain names also have value as a result of the appeal of the name itself (eg www.books.com). In many cases, the economic benefits of a domain name may then also be appropriately reflected in another marketing-related intangible asset, such as a 'brand' or trademark (see above).

The choice of valuation methodology will generally depend on the significance of the domain name for the business and the revenue generated. An income approach method such as the relief-from-royalty method should be considered, as domain names are frequently the subject of licensing arrangements. The CIDM or MEEM may be preferable if the business relies heavily on the internet to generate revenue. If however a similar internet presence with a comparable impact on the business model is easily reproduced, a cost approach such as the reproduction cost method may also be acceptable.

1.3 Non-compete agreements

Non-compete agreements are frequently entered into in the course of a business combination. These agreements offer a degree of protection to the new owner of a business from competition by the vendor, the vendor's owners and its key personnel. If the vendor is an incorporated entity, a non-compete agreement may also extend to the vendor entity as a whole.

Non-compete agreements may reduce the risk of the acquired business losing customers to the vendor. They might also prevent the vendor from seeking to recruit key employees of the acquired business, thereby reducing future recruitment and training costs and improving the retention of know-how within the business. Non-compete agreements may therefore represent future economic benefits in the form of higher sales and lower costs. Control over the future economic benefits is created by the non-compete agreement itself (which meets the contractual-legal criterion for identifiability).

Non-compete agreements

Non-compete agreements may sometimes be legally enforceable but of little economic substance – the counterparty may for example be restricted from competing by other means (eg copyrights or otherwise protected technology) or the agreement may affect only specific industries or geographic locations that are insignificant for the acquired business.

A non-compete agreement may also be of little substance when the counterparty actually remains with the combined entity and is well compensated or when the counterparty is close to his or her retirement age. In both cases, the economic impact of the otherwise possible competition may be limited.

Non-compete agreements are commonly valued using the CIDM to take account of the incremental income they generate or protect (see Section B.4.3). Cost measures, on the other hand, are often not available in practice as non-compete agreements are frequently part of the purchase agreement that effected the business combination.

The value of a non-compete agreement is dependent on the likely impact of competition that would be faced in the absence of the agreement. Some of the factors that should be considered in estimating the fair value of the agreement include:

- the period of the non-compete agreement
- its enforceability
- areas where business might be lost or additional costs would be incurred in the absence of the non-compete agreement
- the likelihood of counterparty competition, especially where the acquired business depends on otherwise legally protected technology
- characteristics of the counterparty that affect the economic substance of the agreement. This may include the importance of the individual for the acquired business prior to the combination, his/her age as well as the actual economic and physical capability of the individual to compete. The capability to compete with the acquired business should also be considered if the counterparty is an incorporated business.

Some business sale and purchase agreements specify how much of the total compensation relates to the non-compete agreement. These specified amounts are not necessarily indicative of the fair value of an agreement: the allocation of the total consideration might be influenced by several other factors such as tax planning issues.

2. Customer-related intangible assets

The three customer-related identifiable intangible assets that are most commonly found in a business combination are customer lists (or similar databases), open orders and production backlogs (sometimes referred to as customer contracts) and customer relationships.

Which asset do customer related benefits belong to?

In estimating fair values of customer-related intangible assets, special consideration should be given to the question of which future economic benefits are actually represented by each of the intangible assets under review. The value of one customer-related intangible asset may sometimes be reflected in another one – for example, fair value measurement of current customer contracts and their possible renewals may sometimes incorporate the fair value of the underlying customer relationship. In other cases where customer relationships by themselves do not meet the definition of identifiable intangible assets, the related value components may also be reflected in a marketing-related intangible asset. A careful analysis is therefore essential to avoid double counting the same economic benefits.

2.1 Customer lists or similar databases

Customer lists or similar databases contain intelligence about current and sometimes potential customers of the acquired business. Examples vary from simple address books with the relevant contact information to very sophisticated databases that capture information on customer demographics, preferences, relationship history and past buying patterns (for example). Customer loyalty schemes are often designed to facilitate capture of this type of information and therefore indicate the existence of a related customer list or database.

Information about customers is generally useful in improving the effectiveness of sales and marketing efforts. Other economic benefits may result from rental or sale of the list or database. Control is usually obtained by internal controls over access to and use of the list or database. The value of a database is not necessarily reduced or negated simply because the acquirer already has access to comparable information – as always, the perspective of a typical market participant is assumed.

The identifiability of this customer-related intangible asset usually depends on whether it would be possible (practically and economically) to separate the customer list or database from the acquired business without disposing of the entire business. For example, if the intangible asset could be transferred to a third party in a licensing or sales agreement, this would indicate that it is separable. Barriers to separation of a customer list and related information (and hence identifiability) should however be considered. Such barriers might for example result from binding confidentiality agreements or laws that restrict the ability to transfer to a third party.

The replacement cost or reproduction cost method is often used to estimate the fair value of customer lists and similar databases, especially if a duplicate is easily obtainable. Customer lists may for example be available for purchase, in which case a fair value estimate could be based on current replacement cost. In other circumstances, it may be possible to compile a customer list or similar database internally. An estimate of the cost to reproduce would typically reflect some of the following conditions:

- level of detail and accuracy
- estimated time to reproduce and cost of employment if the intangible asset was reproduced
- related overhead costs, eg relating to management, quality assurance, IT support
- external expenditure, eg involvement of external market research services.

An income approach method may be more appropriate to estimating fair values of customer list or similar databases that are not easily reproduced or replaced. In fact, if the customer list or similar database represents a key advantage of the acquired business due to its unique characteristics, then an income approach method such as the MEEM usually takes better account of the expected economic benefits. A fair value estimate would consider components of value that are similar in nature to customer relationship assets, as discussed further below.

2.2 Customer contracts: open orders and production backlogs

Customer contracts may represent fairly certain future economic benefits as they usually identify the counterparty, the products and services to be supplied and the expected revenue. The entity can therefore estimate the future profit it will earn on fulfilling the contracts, open orders and production backlog in the post-acquisition period.

Control over the customer contract intangible asset usually resides in the contract itself. An open contract also satisfies the contractual-legal criterion for identifiability (even if the contract under review is cancellable). In our view, contracts that are pending but not yet effective at the acquisition date, do not normally qualify to be recognised as identifiable assets.

Customer contracts are commonly valued using income approach methods. Depending on whether the customer contracts are considered in connection with the underlying customer relationship or individually, both the CIDM and the MEEM may provide a reliable fair value estimate:

- when customer contracts are valued individually, the CIDM allows an estimate of the additional income the contracts under review will generate. A fair value estimate would take into account additional revenues and related costs to complete the contract, together with the lower marketing costs. This scenario would then be compared to PFI prepared under the alternative scenario that open contracts, orders and production backlog did not exist at the acquisition date
- where it is reasonable to expect contract renewals that share the same risk characteristics as the underlying customer relationships, then it may be more appropriate to combine both types of customer-related intangible assets. The MEEM is commonly used to address the broader issue of customer contracts and the related customer relationship. However, substantial contracts or order backlogs are often treated as separate intangible assets in practice, as their economic characteristics are often different from the related relationship with the customer. Expected cash flows from open orders are of course less 'risky' than cash flows from potential future orders that may result from customer relationships.

The following aspects affect the economic substance of customer contracts and should be reflected in their fair value measurement:

- average profit margin under consideration of all inputs required in the income generation process
- economic life, usually represented by the remaining duration of the contract
- the possibility of a renewal, extension or amendment of the contract or its cancellation.

2.3 Customer relationships

It is important to distinguish the value attributed to current order or production backlogs from a customer relationship. A customer relationship often represents future economic benefits in the form of future business with a customer beyond the amount secured by any current contractual arrangements. The economic substance of a customer relationship also differs from that of a customer list or similar database. The latter derive value from intelligence about current and potential customers (see above) and therefore may enhance the benefits that the entity can obtain from an existing relationship with a customer.

Do customer relationships meet the definition of an asset?

The question often arises as to whether customer relationships meet the criteria to be recognised as an asset. Outside of a business combination, IAS 38.16 suggests that the entity usually has insufficient control over the future economic benefits for these relationships to meet the definition of an intangible asset. The implementation guidance to IFRS 3, on the other hand, takes the view that a customer relationship asset exists if the entity has information about the customer and regular contact, and the customer is able to contact the entity. These relationships are recognised as assets if the entity establishes contracts with its customers or if they are separable. Although IFRS 3 does not directly address the control issue, its requirements are specific – the discussion in IAS 38 cannot therefore be used to avoid separate recognition of customer relationship assets that meet the conditions of IFRS 3. Current developments in the world of IFRS show that regulators and other interested parties in practice interpret customer relationships as assets if they are identifiable.

IFRS 3 explains that “...if an entity establishes relationships with its customers through contracts, those customer relationships arise from contractual rights...” (IFRS 3.IE26). The contract satisfies the contractual-legal criterion, and the customer relationship intangible asset is therefore considered identifiable. This requirement in the original version of IFRS 3 led to diversity in practice, in part due to differing views as to what is meant by a customer contract. The 2008 version of IFRS 3 clarifies this – customer relationships exist if the entity has information about and regular contact with the customer and the customer has the ability to make direct contact with the entity (IFRS 3.IE28). By contrast, anonymous sales transactions (for example a retailer’s sales to walk-in cash customers) do not create a contractual customer relationship asset for the purposes of IFRS 3 even if the sales transaction establishes a contract in legal terms.

In practice, contractual customer relationship assets are very common. This is because most businesses establish relationships with customers through contracts. For this purpose, contracts might include specific purchase orders as well as longer term supply arrangements. Further, IFRS 3 does not require the customer contract to be current or active at the date of acquisition. If a past customer contract is likely to result in future business beyond current or recent contractual arrangements, then this may indicate a valuable contractual customer relationship asset (see IFRS 3.IE26-30).

IFRS 3 also indicates the possibility of customer relationships that are non-contractual (IFRS 3.IE31). These may for example arise if the entity does not enter into contracts with its customers or does business via sales or service representatives (which in turn maintain the customer relationship). Alternatively, the customer relationship may not be considered contractual in the terms of the standards, eg when the entity does not know the identity of the individual customer or is not regularly in contact with the customer (IFRS 3.IE28).

In these circumstances, the intangible asset is only considered identifiable if exchange transactions for the same or a similar asset demonstrate that it could be separated either individually or in combination with another asset outside a business combination (IFRS 3.IE31 or IAS 38.16). As this may prove difficult to demonstrate, non-contractual customer relationship assets may be recognised less frequently in practice. Future economic benefits from non-contractual customer relationships are therefore often effectively reflected in a trademark or other marketing-related identifiable asset or simply subsumed in goodwill.

Combinations of customer relationship intangible assets with customer databases or customer contracts

In practice, customer contracts (open orders and production backlog) and the related customer relationship asset are often combined with other assets due to their economic similarities (see also Section A.2.3). Especially where long-term contracts are in place that are frequently renewed without substantial further efforts by the entity, both types of intangible assets share the same economic characteristics and the value provided by the likelihood of contact renewals may be readily reflected in the customer contract intangible asset (or vice versa). On the other hand, if continued marketing and related expenditures are necessary to retain existing customer relationships and competition is more likely to affect the customer base, then a separate treatment of the two types of customer-related intangible assets may be more appropriate.

Customer lists and similar databases are also commonly combined in practice with the related customer relationship asset. If continued business with the customer depends on detailed knowledge about customers' behaviour, then the customer relationship intangible asset may be readily reflected in the fair value measurement of the database asset (or vice versa). However, if the customer list is easy to reproduce, but substantial marketing efforts are necessary to win a new customer, then this may indicate that the two types of assets should be treated separately.

The economic substance of an identifiable customer relationship asset is assessed from the assumed perspective of a typical market participant. Accordingly, the fair value of a customer relationship is not usually affected by whether the specific acquirer has a pre-combination relationship with the same customers.

Customer loyalty

The economic life of customer relationship assets are usually determined by estimating the future loyalty of customers. Some aspects to take into consideration include:

- the 'age' of the customer relationship and past sales volume
- the context of past business, eg record of continued business or whether the entity is considered a 'preferred supplier'
- whether customer relationships are supported by customer contracts
- the impact of competition on customer loyalty
- whether the customer relationship is focused on specific products or services or if additional business is possible with existing customers (see also IFRS 3.IE30 (b))
- importance of existing and future technology.

The MEEM is often the method of choice to estimate the fair value of customer relationship intangible assets. In using the MEEM, a common application question concerns the appropriate level of aggregation or disaggregation of the customer base. In other words, should the entire customer base be assessed as a whole or is it more reasonable to focus on individual customers or smaller groups of customers. For example, where the five most important customers account for a substantial part of the entity's revenue, then it may be appropriate to determine fair value for the 'top 5 customer relationships' separately from other customer groups. Further segmentation of the customer base may focus on the different products and services provided to customers, the geographic location of the customers or other sales volume.

The assessment of the customer base should also include the likelihood of whether products and services may be provided that are different from the ones provided to the customer in the past. A typical market participant would probably allocate value to possible additional business with existing customers. This should be reflected in the PFI used in the MEEM.

Historical data is often used to estimate future 'attrition', 'shrinkage' or 'churn' rates, which represent the probability that the customer relationship will eventually be discontinued. These rates affect the intangible asset's economic life and how PFI needs to be modified in the MEEM (see Section B.4.4 for a basic illustration). Typically, to estimate the fair value of existing customer relationships, the PFI also needs to be modified to eliminate any marketing costs that are associated with winning new customers.

3. Technology-related intangible assets

Technology-related intangible assets are very fact specific. The assets to be identified and the choice of measurement method depend extensively on the transaction and the industry of the acquired business. Computer chip manufacturers are for example likely to be reliant on patents and high-technology production processes. An internet retailer might rely on its website and self-developed software solutions.

Technology-related intangible assets do not have to be particularly ‘cutting edge’ to be of significant value. A milk processing operation will for example rely on well-established dairy processing technologies and similar know-how. The technology may nevertheless meet the definition of an identifiable intangible asset and represent a significant resource from the typical market participant’s perspective.

3.1 Third-party software licenses

Virtually all businesses run third-party software (eg operating systems, office and business software). Some of the underlying licenses might be recognised in the financial statements of the acquiree (making them easier to detect). Control over third-party software is usually maintained through licenses, which also satisfy the contractual-legal criterion of identifiability. The main source of future economic benefits presented by third-party software licenses is cost savings as the acquirer would have to purchase new licenses or develop its own software solution.

The following factors may affect the economic substance of third-party software licenses and should be taken into consideration when estimating their fair values:

- the nature, original cost and age of the software license
- whether and to what extent the software is still used by the acquired entity at the date of acquisition
- the number of users permitted under the license(s)
- the duration of the license and other terms, including whether the software license may be sold to another party.

Third party software is often measured by references to its replacement cost. Aspects to take into account include the current costs to obtain and install a new software license with similar functionalities. Differences in functionalities which have been implemented in newer versions of the software should also be considered – outdated third-party software is likely to be valued at a discount compared to a new product with similar characteristics. A basic illustration of this approach can be found in Section B.3.3.

3.2 Technology (other than third-party software)

Technology may provide very significant and sometimes unique advantages to a business. Technology-based intangible assets may include both developed technology as well as technologies under development (ie in-process research and development (IPR&D)). It also comprises technology protected by patents as well as legally unprotected technology. Examples to look out for include:

- computer software (other than third-party software, see above), eg for internal use or for licensing
- production processes
- formulae
- recipes
- databases other than customer lists (see above) (eg a laboratory notebook).

Future economic benefits of technologies may be cost savings or additional income streams. Some technologies are legally protected for a stated period of time due to legislation such as copyright laws or a patent registration. Control and identifiability is then achieved through legal rights.

The fair value of a technology intangible asset may reflect some or all of the following aspects:

- which current and future goods or services depend on the developed technology either directly or indirectly
- how the technology enables cost savings or additional income streams compared to a situation without the technology
- whether the technology is fully developed or whether it is an in-process research and development project (IPR&D)
- for IPR&D, the stage of progress and the potential risk involved in completing the project together with past experience regarding the successful completion of similar IPR&D
- whether the technology can be considered core technology or whether it is specific to a limited number of goods or services
- how the entity restricts third-party use of the technology (eg by patent applications or copyrights)
- how long the entity will benefit from the technology.

By contrast, some technologies are kept secret because legal protection is not possible or registration exposes the technology to outside parties. It may be more difficult in these circumstances to determine control and identifiability. Control over the technology may however be demonstrated if appropriate measures are in place to ensure confidentiality. The intangible asset may in any case be identifiable as a result of being separable from the acquired business.

Fair value measurement for entity-specific technology is very fact specific and usually depends on the relative importance of the technology for the income generation process of the acquired entity. The reproduction cost method for example may be appropriate to approximate the fair value of internally developed software and similar technologies that do not directly contribute to the income generating process of the acquired entity. Examples include business software solutions that are used in bookkeeping or warehouse management and also IPR&D technology in its very early stages.

Income approach methods are usually more appropriate for estimating the fair values of more advanced or fully developed technologies, especially where these contribute directly to the current or future income generation process:

- where the technology could be licensed to a third party, a relief-from-royalty method should be considered. This method is commonly used for patents, copyrighted technology or software that is licensed to third parties provided that appropriate royalty rates can be estimated reliably
- when the technology provides its owner with distinguishable relative advantages such as additional income streams or cost savings, then it may be appropriate for the CIDM to estimate acquisition date fair value. The CIDM should for example be considered to estimate fair values of internal production processes or databases that allow cost savings
- the MEEM is also commonly used to estimate the fair value of technology-related intangible assets, especially where these are very significant to the acquired business. It may for example be appropriate for the MEEM to value patents, IPR&D as well as web-based businesses' website and related software that were developed internally by the acquiree.

In estimating the fair value of technology, IPR&D should always be measured separately from developed technology. Measurement of IPR&D intangible assets generally requires additional inputs to reflect the risk involved with their completion. In addition, specific accounting rules apply for subsequent expenditure on an acquired in-process research and development project (IAS 38.42).

4. Other contract-related intangible assets

A number of other contract-based intangible assets may be detected in a business combination. Reacquired rights and operating lease contracts are specifically addressed by IFRS 3. Supplier agreements or licensing arrangements and other rights of use may also represent a material component of the value of the acquired business.

It is the nature of contract-based intangible assets that they are generally straightforward to detect. They are identifiable as they meet the contractual-legal criterion (by definition) and the underlying contract also allows control over the future economic benefit created by the asset.

4.1 Reacquired rights

Reacquired non-monetary rights are by definition identifiable intangible assets (see IFRS 3.29 and B35-36) and require separate measurement and recognition. Examples include:

- software licenses (where the software was developed by the acquirer)
- franchise agreements (where the acquirer is the franchisor)
- patent licenses (where the acquirer is the patent-owner).

Reacquired rights are one example of the few asset-types for which IFRS 3 departs from its normal fair value measurement requirements. In summary, IFRS 3 specifies that measurement of a reacquired right is limited to the remaining term of the underlying contract. In other words, the valuation does not take into account the likelihood or possibility of renewal of the contract, even if a typical market participant would attribute value to potential renewals (IFRS 3.29).

Except for this restriction, fair value measurement of reacquired rights generally assumes the perspective of the typical market participant – despite the fact that both parties to the related contract are combined within one economic entity as a result of the business combination. Future economic benefit may then be estimated as the amount of net income a typical market participant would be able to generate as an outside party to the contract. Except for the ‘time limit’ to the current contractual terms, the choice of measurement method will follow the same considerations that apply to the underlying intangible asset. For example, if the reacquired right is a license over a trademark, the right would be measured in a way similar to the value of the underlying trademark.

4.2 Operating lease contracts; licensing arrangements; other user rights, including supplier agreements

Operating lease contracts in which the acquiree is the lessee sometimes give rise to identifiable intangible assets (IFRS 3.B28-30). They may provide future economic benefits from two different perspectives:

- lease contracts may be considered favorable in comparison to current market terms. This situation occurs for example when long-term contracts are not automatically adjusted to reflect (say) changes in a consumer or industry price index. If the terms of an operating lease contract are favourable, an intangible asset reflects these future economic benefits; if unfavourable, a related liability should be considered (IFRS 3.B29)
- an operating lease contract may encompass future economic benefits even if the terms of the contract are in line with current market conditions (sometimes referred to as being ‘at-the-money’ or ‘on-market’). An on-market lease might have value by virtue of avoiding the time and cost associated with locating and negotiating an alternative right of use. This may be the case where the acquired business holds a large number of leases that a typical market participant may find time-consuming to reproduce. Alternatively, an identifiable intangible asset associated with an operating lease contract may also reflect the leased asset’s limited availability. IFRS 3.B30 for example explains that “...a lease of gates at an airport or of retail space in a prime shopping area may provide entry into a market...” and therefore may have value for a typical market participant.

These same considerations generally apply to the fair value of licensing arrangements, other use rights and supply contracts. Each of these may be crucial for the acquiree’s business model and represent future economic benefits. For example, specific supply contracts may provide particular future economic benefits if the goods or services supplied under the contract are scarce or exclusive. The entity may also benefit from the condition that a supply contract is not continuously adjusted to reflect market developments.

Generally, a CIDM may be an appropriate way to reflect differences between the terms of the contractual arrangement under review and current market conditions. A MEEM may be more appropriate where the use right under review is a very important feature of the business model. The valuation should also reflect the cost to re-establish the contract under review. A replacement cost measure may be appropriate to reflect the ‘readiness’ of the contracts. This may be of value to a typical market participant, especially where the underlying asset is difficult to obtain.

Lessor operating lease contracts are not separately considered as an identifiable intangible asset in a business combination. Operating lease contracts in which the acquiree is the lessor do not give rise to an intangible asset or a liability. Instead, the terms of the lease are reflected in the acquisition date-fair-value of the leased asset (IFRS 3.B42).

The following factors may help to define and assess the economic benefits embodied in use rights and should be reflected in the fair value estimate of the contract-based intangible asset under review:

- the subject matter of the contract and how it is related to the business model of the entity
- the nature and amount of consideration the counterparty is entitled to and whether the contractual payments are periodically adjusted to market conditions
- time remaining until the next adjustment (if any) and the remaining contractual term of the contractual arrangement
- the scarcity or exclusivity of the contract's underlying resource
- costs incurred to establish the contract under review
- current market terms and conditions for similar contracts.

5. Assembled workforce

The replacement cost method is commonly used to estimate the fair value of the assembled workforce. This involves constructing a hypothetical scenario in which the acquirer reassembles the acquiree's workforce from a zero base. The two main components of this measure are therefore recruitment and training costs:

- **recruitment costs:** costs that are incurred to obtain a new employee may include advertising and similar recruitment-related expenditure. Recruitment agency fees should be considered if an entity would usually use an employment agency to hire new employees. This fee is typically based on the employee's starting salary. Additional recruitment costs include selection costs which are incurred to interview respective candidates and, if applicable, moving and miscellaneous other expenses
- **training costs:** training costs are incurred to train employees and bring them to the level of performance normally expected from an individual in a given position. One element of training costs reflects the amount of time inefficiently used by a new employee and his supervisors or colleagues as a result of training during the new employee's first few months on the job. The salary of the new employee and individuals involved is usually used to arrive at a cost estimate, for example by multiplying relevant salaries with the average degree of inefficiency that is caused by training sessions. Another element relates to direct training costs that may for example result from using external training providers or other external resources that are necessary to train the individual (computer software, books, etc).

Fair value of assembled workforce often necessary to apply the MEEM

Despite not being recognisable as a separate intangible asset, a valuation of the assembled workforce is commonly required when the MEEM is applied to estimate fair value for another intangible asset. Fair value measurement of the workforce is often used to estimate contributory asset charges (see also Section B.4.4).

The valuation is usually carried out separately for different groups within the assembled workforce. These groups are usually determined either by reference to the function of the employees (ie R&D, assembly, administration etc), by reference to the level of employee within an organisation (ie senior management, middle and lower management, assembly, support staff etc) or by a mixture of both. It is generally expected that the replacement cost of the assembled workforce will increase with the degree of specialisation and salary levels. See also Section B.3.2 for an example.

Client name:
SERVCORP (Company)

Sector:
Professional services

Acquired:
As part of a business combination under IFRS 3 by PARENTCO on 30 September 2012

Service Provider

Background

SERVCORP (Company) is a regional provider of professional services. They were acquired as part of a business combination under IFRS 3 by PARENTCO on 30 September 2012. The following intangible assets were identified as of the date of the combination:

- trade name
- service provider number
- customer relationships
- non-compete agreements.

1. Trade name

SERVCORP operates in the Southwest region of the United States and has been a leading provider in its service market since it was founded in the 1970's. The Company's trade name and logo are therefore well-established and recognised within their industry. The trade name is registered; therefore, it meets the contractual-legal criterion for identifiability. It was determined the proper method for measurement of the trade name was through the relief-from-royalty method.

Key inputs

After a review of recent similar business combination transactions in the market place, management determined that an appropriate royalty rate if the trade name were to be licensed to others would be 4%. From the perspective of a typical market participant, an income tax rate of 30% is estimated as appropriate. Lastly, the asset-specific discount rate is estimated at 18%.

Measurement

The table on the following page illustrates the fair value measurement of the trade name.

Valuation of trade name: relief-from royalty method

	3 months ended		Projected years ending 31 December					Terminal Year
	31 Dec 12	2013	2014	2015	2016	2017		
Projected revenues	5,809,000	25,446,000	29,334,000	33,529,000	37,769,000	41,138,000	43,606,280	
Pretax relief-from-royalty rate	4.0%	232,360	1,017,840	1,173,360	1,341,160	1,510,760	1,645,520	
Less: income tax liability	30.0%	69,708	305,352	352,008	402,348	453,228	493,656	
After tax relief from royalty		162,652	712,488	821,352	938,812	1,057,532	1,151,864	
							1,220,976	
							Discount rate	
							18.0%	
							Less: long-term growth	
							3.0%	
							Capitalisation rate	
							15.0%	
							Estimated Terminal value of royalty relief	
							8,139,839	
Present value factor	0.980	0.883	0.749	0.634	0.538	0.456	0.456	
Present value relief-from-royalty	159,321	629,312	614,803	595,529	568,507	524,761	3,708,312	
Total present value	3,092,234							
Present value of residual	3,708,312							
Total value	6,800,546							
Tax amortisation benefit (TAB)	844,812							
Fair value of tradename (rounded) 7,650,000								

2. Service provider number

The industry in which SERVCORP operates is regulated by a governmental agency, which limits the number of service providers that may operate in the geographic region. Therefore, a provider number must be obtained in order to provide services. In order to apply for a provider number, an entity must first establish a book of business during a trial period, which is estimated as six months. The costs of providing services during the trial period in order to establish a book of business are considered by management to represent the primary costs of obtaining the provider number. Once a provider number has been obtained for a region; however, it may be transferred or sold separately from the business; it therefore meets the separability criterion for identification as an intangible asset. Due to the time and cost associated with establishing the business base and applying for a provider number, it is common for market participants who wish to enter the industry to purchase a provider number as a stand-alone asset. It was determined that the proper method for measurement of the trade name was through the reproduction cost method.

Key inputs

Management of SERVCORP estimates the direct and indirect costs of providing services during the six-month trial period to approximate CU1,800,000. From the perspective of a typical market participant, an income tax rate of 30% is estimated as appropriate. Lastly, the asset-specific discount rate is estimated at 16%.

Measurement

The table below illustrates the fair value measurement of the service provider number.

Valuation of service provider number – reproduction cost method (in CUs)

Estimated pre-tax cost to replace		1,800,000
Less: taxes	30%	540,000
Estimated after-tax cost to replace		1,260,000
Tax amortisation benefit (TAB)		171,981
Estimated fair value of service provider number (rounded)		1,430,000

3. Customer relationships

The services that SERVCORP provides to its customers are long-term in nature; however, they do not frequently enter into contract agreements. The Company's customer service department however is responsible for building and maintaining the relationship with the customer contacts and must be in weekly communication with them in order to coordinate delivery of the services and maintaining customer satisfaction. Though non-contractual in nature, the customer relationships are considered to be separately identifiable. The multi-period excess earnings method (MEEM) is considered as the most appropriate method of measuring the fair value of the customer relationships.

Key inputs

In order to determine the appropriate cash flows attributable to the existing customer relationships a number of adjustments have to be made to the Company's overall projected revenues:

1. removal of revenues not attributable to customer relationships: although SERVCORP primarily provides services to customers on a recurring, long-term basis, they do occasionally receive requests for non-recurring services. In addition, some revenue is derived from other sources (eg internet or walk-ins) outside of the customer service department
2. removal of revenues attributable to new customer relationships: the Company's PFI includes projected revenues that are expected to be derived from customers that are added in a future period. Since these relationships do not exist as of the date of the business combination, they must be removed from the calculation.

In addition to the above adjustments, the customer relationships calculation must be adjusted to take into account contributory asset charges, which include but are not limited to certain of the other intangible assets. Royalties of 4% of revenues assumed to be paid for use of the trade name (see above) must also first be deducted. Other CAC's include:

- net working capital
- fixed assets
- service provider number (see Section 2 of this Case Study)
- non-compete agreements (see Section 4 of this Case Study)
- assembled workforce (see below).

The asset-specific discount rate for the customer relationship intangible asset is 17.5%.

Contributory asset – assembled workforce

In order to derive the contributory asset charge for the related assembled workforce, the below calculation is performed to determine the expected value of the intangible asset:

Group	Average recruiting (CU/person)	Training cost (CU/person)	Lost productivity (CU/person)	Average annual compensation (CU/person)	Number of employees	Cost to reproduce (CU total/group)
Senior management	125,000	20,000	20%	125,000	1	170,000
Customer service personnel	–	5,000	15%	100,000	8	160,000
Administration	–	5,000	5%	70,000	6	51,000
Other support staff	–	3,500	0%	50,000	5	17,500
Total cost to reproduce assembled workforce						398,500
Income tax (30%)						(119,550)
Tax amortisation benefit (TAB)						35,537
Indicative value of workforce						314,487

Measurement

The table on the following page illustrates the fair value measurement of the customer relationships.

Valuation of customer relationships: multi-period excess earnings method (MEEM)

		3 months	Projected years ending 31 December			
		ended				
		31 Dec 12	2013	2014	2015	2016
Projected revenues		5,809,000	25,446,000	29,334,000	33,529,000	37,769,000
Revenues not attributable to customer relationships		871,350	5,089,200	5,866,800	6,705,800	7,553,800
Revenues attributable to customer relationships		4,937,650	20,356,800	23,467,200	26,823,200	30,215,200
Revenues attributable to new customer relationships		–	1,663,200	3,651,984	6,017,223	8,368,924
Revenues attributable to existing relationships		4,937,650	18,693,600	19,815,216	20,805,977	21,846,276
Beginning relationships		100.0%	100.0%	92.3%	84.6%	76.9%
Existing relationship retention curve	7.7%	0.0%	7.7%	7.7%	7.7%	7.7%
Ending relationships		100.0%	92.3%	84.6%	76.9%	69.2%
Average remaining relationships		100.0%	96.2%	88.5%	80.8%	73.1%
Estimated revenues from existing relationships		4,937,650	17,974,615	17,528,845	16,804,828	15,964,586
Charge for trade name royalty rate	4.0%	197,506	718,985	701,154	672,193	638,583
Revenues after royalties		4,740,144	17,255,631	16,827,691	16,132,634	15,326,003
Operating expenses		3,704,840	13,480,962	13,146,634	12,603,621	11,973,440
Earnings before interest, taxes, depreciation and amortisation		1,035,304	3,774,669	3,681,057	3,529,014	3,352,563
Provision for taxes	30.0%	310,591	1,132,401	1,104,317	1,058,704	1,005,769
Invested capital net income		724,713	2,642,268	2,576,740	2,470,310	2,346,794
Contributory asset charges						
Net working capital	0.53%	(26,170)	(95,265)	(92,903)	(89,066)	(84,612)
Fixed assets	0.07%	(3,456)	(12,582)	(12,270)	(11,763)	(11,175)
Service provider number	0.66%	(32,588)	(118,632)	(115,690)	(110,912)	(105,366)
Non-compete agreements	0.35%	(17,282)	(62,911)	(61,351)	(58,817)	(55,876)
Assembled workforce	0.15%	(7,406)	(26,962)	(26,293)	(25,207)	(23,947)
Total contributory asset charges		(86,903)	(316,353)	(308,508)	(295,765)	(280,977)
Earnings attributable to customer relationships		637,810	2,325,915	2,268,233	2,174,545	2,065,817
Present value factor	17.5%	0.923	0.886	0.754	0.642	0.546
Present value of customer relationship earnings		588,400	2,060,941	1,710,493	1,395,610	1,128,366
Total present value of future cash flows		10,227,225				
Tax amortisation benefit (TAB)		1,302,905				
Fair value of customer relationships (rounded)		11,530,000				

Projected years ending 31 December

2017	2018	2019	2020	2021	2022	2023	2024	2025
41,138,000	43,606,280	45,786,594	47,618,058	49,046,599	50,517,997	52,033,537	53,594,544	55,202,380
8,227,600	8,721,256	9,157,319	9,523,612	9,809,320	10,103,599	10,406,707	10,718,909	11,040,476
32,910,400	34,885,024	36,629,275	38,094,446	39,237,279	40,414,398	41,626,830	42,875,635	44,161,904
9,971,811	11,028,891	11,818,897	12,291,653	12,531,388	12,773,801	13,018,812	13,266,336	13,516,280
22,938,589	23,856,133	24,810,378	25,802,793	26,705,891	27,640,597	28,608,018	29,609,299	30,645,624
69.2%	61.5%	53.8%	46.2%	38.5%	30.8%	23.1%	15.4%	7.7%
7.7%	7.7%	7.7%	7.7%	7.7%	7.7%	7.7%	7.7%	7.7%
61.5%	53.8%	46.2%	38.5%	30.8%	23.1%	15.4%	7.7%	0.0%
65.4%	57.7%	50.0%	42.3%	34.6%	26.9%	19.2%	11.5%	3.8%
14,998,308	13,763,154	12,405,189	10,916,566	9,244,347	7,441,699	5,501,542	3,416,458	1,178,678
599,932	550,526	496,208	436,663	369,774	297,668	220,062	136,658	47,147
14,398,376	13,212,628	11,908,981	10,479,904	8,874,573	7,144,031	5,281,480	3,279,799	1,131,531
11,248,731	10,322,365	9,303,892	8,187,425	6,933,260	5,581,274	4,126,156	2,562,343	884,008
3,149,645	2,890,262	2,605,090	2,292,479	1,941,313	1,562,757	1,155,324	717,456	247,522
944,893	867,079	781,527	687,744	582,394	468,827	346,597	215,237	74,257
2,204,751	2,023,184	1,823,563	1,604,735	1,358,919	1,093,930	808,727	502,219	173,266
(79,491)	(72,945)	(65,748)	(57,858)	(48,995)	(39,441)	(29,158)	(18,107)	(6,247)
(10,499)	(9,634)	(8,684)	(7,642)	(6,471)	(5,209)	(3,851)	(2,392)	(825)
(98,989)	(90,837)	(81,874)	(72,049)	(61,013)	(49,115)	(36,310)	(22,549)	(7,779)
-	-	-	-	-	-	-	-	-
(22,497)	(20,645)	(18,608)	(16,375)	(13,867)	(11,163)	(8,252)	(5,125)	(1,768)
(211,476)	(194,060)	(174,913)	(153,924)	(130,345)	(104,928)	(77,572)	(48,172)	(16,619)
1,993,275	1,829,123	1,648,650	1,450,812	1,228,574	989,002	731,155	454,047	156,646
0.465	0.396	0.337	0.287	0.244	0.208	0.177	0.150	0.128
926,590	723,644	555,102	415,736	299,619	205,271	129,152	68,258	20,042

4. Non-compete agreements

In conjunction with the acquisition agreement, certain members of SERVCORP's management team were required to enter covenants not to compete in the event that they leave the combined entity. The non-compete agreements are deemed to be identifiable for measurement given their nature as a contractual-legal agreement.

Key inputs

In order to recognise the probability of competition as well as the effect of beginning competition in different years, the expert assessed four possible scenarios, based on discussion with management of SERVCORP and PARENTCO, and weighted the resulting value estimate based on the probability of occurrence. Each scenario reflects the amount of sales that could be captured depending on whether the covered employee is competing and when he/she decided to compete. The scenarios are summarised as follows:

1. the first scenario assumes no competition and is the base calculation for the model
2. the second scenario assumes that competition begins as soon as possible and is able to capture a small amount of sales in the first year. SERVCORP would be expected to gradually regain business in the years beyond as the Company begins to combat the new competition. The value of this scenario is the present value of the cash flows in Scenario 1 less the present value of the cash flows from Scenario 2. This scenario is perceived by management to be the most likely if the covered persons chose to compete
3. the third scenario assumes that competition begins in year two after the valuation date. The competition is assumed to have the same impact as in Scenario 2; however, the effect is delayed. Consistent with Scenario 2, SERVCORP would be expected to be able to combat the new competition beyond year two. The value of this scenario is the present value of the cash flows in Scenario 1 less the present value of the cash flows from Scenario 3
4. the fourth scenario assumes that competition begins in year three after the valuation date. The effect on SERVCORP's sales is similar but delayed. The value of this scenario is the present value of the cash flows in Scenario 1 less the present value of the cash flows from Scenario 4.

The asset-specific discount rate for the non-compete agreements is assumed to be 18.5%. From the perspective of a typical market participant, an income tax rate of 30% is estimated as appropriate.

Measurement

The table on the following page illustrates the fair value measurement of the non-compete agreements.

Valuation of non-compete agreements – comparative income differential method (CIDM)

With NCA – Base case (Scenario 1)

	3 months ended					
	31 Dec 12	Year 1	Year 2	Year 3	Year 4	Year 5
Negative impact of competition	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Revenues	5,809,000	25,446,000	29,334,000	33,529,000	37,769,000	41,138,000
Less: impact of competition	–	–	–	–	–	–
Adjusted revenue	5,809,000	25,446,000	29,334,000	33,529,000	37,769,000	41,138,000
x Operating margin	25.0%	16.4%	17.3%	18.2%	20.5%	22.1%
Operating income	1,452,250	4,173,144	5,074,782	6,102,278	7,742,645	9,091,498
Income taxes @ 30.0%	435,675	1,251,943	1,522,435	1,830,683	2,322,794	2,727,449
Net income	1,016,575	2,921,201	3,552,347	4,271,595	5,419,852	6,364,049
+ Depreciation	181,659	729,778	738,528	747,278	756,028	756,635
- Capital expenditure	(176,000)	(700,000)	(700,000)	(700,000)	(700,000)	(700,000)
+/- Change in working capital	(75,000)	(383,261)	(388,800)	(419,500)	(424,000)	(336,900)
Net cash flow	947,234	2,567,717	3,202,075	3,899,372	5,051,879	6,083,784
Present value factor 18.5%	0.979	0.880	0.743	0.627	0.529	0.466
Present value of net cash flow	927,347	2,260,781	2,379,164	2,444,946	2,673,063	2,834,270
Total present value of net cash flow						13,519,570

Without NCA – competition begins in Yr 1 (Scenario 2)

	3 months ended					
	31 Dec 12	Year 1	Year 2	Year 3	Year 4	Year 5
Negative impact of competition	0.0%	-1.0%	-2.5%	-5.0%	-7.5%	-10.0%
Revenues	5,809,000	25,446,000	29,334,000	33,529,000	37,769,000	41,138,000
Less: impact of competition	–	(254,460)	(733,350)	(1,676,450)	(2,832,675)	(4,113,800)
Adjusted revenue	5,809,000	25,191,540	28,600,650	31,852,550	34,936,325	37,024,200
x Operating margin	25.0%	16.4%	17.3%	18.2%	20.5%	22.1%
Operating income	1,452,250	4,131,413	4,947,912	5,797,164	7,161,947	8,182,348
Income taxes @ 30.0%	435,675	1,239,424	1,484,374	1,739,149	2,148,584	2,454,704
Net income	1,016,575	2,891,989	3,463,539	4,058,015	5,013,363	5,727,644
+ Depreciation	181,659	729,778	738,528	747,278	756,028	756,635
- Capital expenditure	(176,000)	(700,000)	(700,000)	(700,000)	(700,000)	(700,000)
+/- Change in working capital	(75,000)	(383,261)	(388,800)	(419,500)	(424,000)	(336,900)
Net cash flow	947,234	2,538,505	3,113,266	3,685,792	4,645,390	5,447,379
Present value factor 18.5%	0.979	0.880	0.743	0.627	0.529	0.466
Present value of net cash flow	927,347	2,235,061	2,313,178	2,311,029	2,457,980	2,537,786
Total present value of net cash flow						12,782,382

Without NCA – competition begins in Yr 2 (Scenario 3)

	3 months ended					
	31 Dec 12	Year 1	Year 2	Year 3	Year 4	Year 5
Negative impact of competition	0.0%	0.0%	-1.0%	-2.5%	-5.0%	-7.5%
Revenues	5,809,000	25,446,000	29,334,000	33,529,000	37,769,000	41,138,000
Less: impact of competition	–	–	(293,340)	(838,225)	(1,888,450)	(3,085,350)
Adjusted revenue	5,809,000	25,446,000	29,040,660	32,690,775	35,880,550	38,052,650
x Operating margin	25.0%	16.4%	17.3%	18.2%	20.5%	22.1%
Operating income	1,452,250	4,173,144	5,024,034	5,949,721	7,355,513	8,409,636
Income taxes @ 30.0%	435,675	1,251,943	1,507,210	1,784,916	2,206,654	2,522,891
Net income	1,016,575	2,921,201	3,516,824	4,164,805	5,148,859	5,886,745
+ Depreciation	181,659	729,778	738,528	747,278	756,028	756,635
- Capital expenditure	(176,000)	(700,000)	(700,000)	(700,000)	(700,000)	(700,000)
+/- Change in working capital	(75,000)	(383,261)	(388,800)	(419,500)	(424,000)	(336,900)
Net cash flow	947,234	2,567,717	3,166,551	3,792,582	4,780,886	5,606,480
Present value factor 18.5%	0.979	0.880	0.743	0.627	0.529	0.466
Present value of net cash flow	927,347	2,260,781	2,352,770	2,377,987	2,529,674	2,611,907
Total present value of net cash flow						13,060,466

Without NCA – competition begins in Yr 3 (Scenario 4)

	3 months ended					
	31 Dec 12	Year 1	Year 2	Year 3	Year 4	Year 5
Negative impact of competition	0.0%	0.0%	0.0%	-1.0%	-2.5%	-5.0%
Revenues	5,809,000	25,446,000	29,334,000	33,529,000	37,769,000	41,138,000
Less: impact of competition	–	–	–	(335,290)	(944,225)	(2,056,900)
Adjusted revenue	5,809,000	25,446,000	29,334,000	33,193,710	36,824,775	39,081,100
x Operating margin	25.0%	16.4%	17.3%	18.2%	20.5%	22.1%
Operating income	1,452,250	4,173,144	5,074,782	6,041,255	7,549,079	8,636,923
Income taxes @ 30.0%	435,675	1,251,943	1,522,435	1,812,377	2,264,724	2,591,077
Net income	1,016,575	2,921,201	3,552,347	4,228,879	5,284,355	6,045,846
+ Depreciation	181,659	729,778	738,528	747,278	756,028	756,635
- Capital expenditure	(176,000)	(700,000)	(700,000)	(700,000)	(700,000)	(700,000)
+/- Change in working capital	(75,000)	(383,261)	(388,800)	(419,500)	(424,000)	(336,900)
Net cash flow	947,234	2,567,717	3,202,075	3,856,656	4,916,383	5,765,581
Present value factor 18.5%	0.979	0.880	0.743	0.627	0.529	0.466
Present value of net cash flow	927,347	2,260,781	2,379,164	2,418,162	2,601,368	2,686,028
Total present value of net cash flow						13,272,851

Probability Weighted Present Value of Non-Compete Scenarios

Multi-Scenario With-Without Summary	PV Cash Flows		PV of Lost Cash Flow	Probability of Competition	Weighted Value
	WITH Agreement	WITHOUT Agreement			
Scenario 1: No Competition (Base Case)	13,519,570	13,519,570	–	70.0%	–
Scenario 2: Competition Begins in Year 1	13,519,570	12,782,382	737,188	15.0%	110,578
Scenario 3: Competition Begins in Year 2	13,519,570	13,060,466	459,104	10.0%	45,910
Scenario 4: Competition Begins in Year 3	13,519,570	13,272,851	246,719	5.0%	12,336
PV of cash flow protected					168,824
Tax amortisation benefit (TAB)					20,526
Fair value of non-compete agreement					189,350
Number of covered employees					5
Total fair value of non-compete agreements (rounded)					950,000

5. Summary of intangible assets' fair values

The summary of fair values of the identifiable intangible assets under IFRS 3 for the SERVCORP business combination as of 30 September 2012 is as follows:

Identifiable intangible asset	Fair value (CUs)
Trade name	7,650,000
Service provider number	1,430,000
Customer relationships	11,530,000
Non-compete agreements	950,000

The above table is not a comprehensive allocation of the purchase price for SERVCORP due to the tangible assets and liabilities acquired (assumed) and goodwill being out of scope of this Case Study.

Notes



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