	<p style="text-align: center;"><b>Marek Panfil, Chapter 7</b></p> <p style="text-align: center;"><b>(without part 5) in:</b></p> <p style="text-align: center;"><b><i>Znaczenie wyceny własności intelektualnej. Proving the worth. Putting a value on intellectual property</i></b></p> <p>Co-editors: Marlena Jankowska Mirosław Pawełczyk Sławomir Augustyn Marek Panfil</p> <p>ISBN: 978-83-955355-1-2</p> <p>Difin, Warsaw, 2019</p>
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## **7. Business Combination (IFRS 3) – recognition and valuation of intangible assets**

*Marek Panfil*

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## 1. Introduction - internationalization of accounting standards

The traditional model of financial reporting was not able to provide relevant information about the company's intangible assets, in the past two decades there have been numerous efforts to overcome its limitations. The accounting profession has witnessed a shift to global or international accounting standards presenting challenges for the recognition and measurement of intangibles, including intellectual property. Therefore, more than 29,000 of the approximately 49,000 domestic listed companies on the 93 major securities exchanges in the world use IFRS (International Financial Reporting Standards) as of September 2018<sup>1</sup>. Moreover, 144 (87%) of 166 profiled jurisdictions required the use of IFRS Standards for all or most domestic publicly listed companies and financial institutions in their capital markets.<sup>2</sup> All but one of those have already begun using IFRS Standards. Bhutan will begin using IFRS Standards in 2021. Some comments on the remaining 22 jurisdictions that have not adopted:

- 12 jurisdictions permit, rather than require, IFRS Standards: Bermuda, Cayman Islands, Guatemala, Honduras, Japan, Madagascar, Nicaragua, Panama, Paraguay, Suriname, Switzerland, Timor-Leste;
- One jurisdiction requires IFRS Standards for financial institutions but not listed companies: Uzbekistan;
- One jurisdiction is in process of adopting IFRS Standards in full: Thailand;
- One jurisdiction is in process of converging its national standards substantially (but not entirely) with IFRS Standards: Indonesia; and
- Seven jurisdictions use national or regional standards: Bolivia, China, Egypt, India, Macao SAR, United States, Vietnam.<sup>3</sup>

The main objective of the IFRS is to develop **a common international approach to accounting standard** setting with a view **to improve the principles supporting the preparation of financial statements and global harmonisation of accounting standards**. In 2001, a revised committee, the International Accounting Standards Board (IASB), with a new

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<sup>1</sup> *Use of IFRS Standards around the world 2018*, IFRS Foundation, September 2018; <https://www.ifrs.org/use-around-the-world/use-of-ifrs-standards-by-jurisdiction/#analysis> (data from Dec 17<sup>th</sup>, 2018)

<sup>2</sup> China's national standards are substantially converged with IFRS Standards, and China has committed to adopt IFRS Standards for reporting by at least some domestic companies although there is no timetable for completion of the process. Chinese companies representing more than 30 per cent of the total market capitalisation of the domestic market produce IFRS-compliant financial statements as a result of their dual listings in Hong Kong and other international markets. Source: <https://www.ifrs.org/use-around-the-world/use-of-ifrs-standards-by-jurisdiction/china/> In the US domestic public companies must use US GAAP. However, currently (Dec 2018), more than 500 foreign SEC registrants, with a worldwide market capitalisation of US\$7 trillion, use IFRS Standards in their US filings. Source: <https://www.ifrs.org/use-around-the-world/use-of-ifrs-standards-by-jurisdiction/united-states/>

<sup>3</sup> <https://www.ifrs.org/use-around-the-world/use-of-ifrs-standards-by-jurisdiction/#analysis>

constitution and structure, emerged as a more powerful force and effectively revitalised the effort for global harmonisation. By 2005, a suite of international standards were ready for adoption in national contexts. First adoptees included the European Union (including Poland), Australia and New Zealand. Whilst each country may choose not to endorse all standards, or indeed any standard in its entirety, in substance local standards are virtually word-for-word International Financial Reporting Standards. IFRS Standards, including 17 issued IFRS standards and 28 IAS standards (International Accounting Standards)<sup>4</sup>:

<p><b>bring transparency</b> by enhancing the international comparability and quality of financial information, enabling investors and other market participants to make informed economic decisions.</p>	<p><b>strengthen accountability</b> by reducing the information gap between the providers of capital and the people to whom they have entrusted their money. IFRS Standards provide information needed to hold management to account. As a source of globally comparable information, IFRS standards are also of vital importance to regulators around the world.</p>	<p><b>contribute to economic efficiency</b> by helping investors to identify opportunities and risks across the world, thus improving capital allocation. For businesses, the use of a single, trusted accounting language lowers the cost of capital and reduces international reporting costs.</p>
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Three standards are key to be considered as far as intangible assets financial reporting is concerned, i.e., IFRS 3, IAS 36, and IAS 38 (see Figure 1). For the purpose of reporting the following processes or assets the relevant standards should be considered:

Process / asset	Key standards
Acquisition	IFRS 3
Goodwill / indefinite intangible assets	IAS 36 / IAS 38
Long-lived intangible assets	IAS 38

**Fig. 1 Key requirements for the purpose of intangible assets reporting**

IFRS 3 Business Combinations	IAS 36 Impairment of Assets	IAS 38 Intangible Assets
<ul style="list-style-type: none"> <li>• Requires the purchase method to be applied, pooling of interest no longer allowed.</li> <li>• Provides clearer guidelines for identification and valuation of intangible assets.</li> <li>• Requires recognition of contingent liabilities and liabilities for activities to be discontinued.</li> <li>• Prohibits amortisation of goodwill.</li> <li>• Negative goodwill is recognised as profit.</li> <li>• Post-acquisition restructuring reserves are not allowed.</li> </ul>	<ul style="list-style-type: none"> <li>• Requires annual impairment tests to be performed on               <ul style="list-style-type: none"> <li>- Intangible assets with indefinite life,</li> <li>- Goodwill,</li> <li>- Intangible assets not yet available for use.</li> </ul> </li> <li>• Provides clarifications on how to calculate value-in-use (VIU)<sup>5</sup>.</li> <li>• Allows goodwill to be allocated to groups of cash generating units (CGU) based on management approach</li> <li>• Reversal of impairment is not allowed.</li> </ul>	<ul style="list-style-type: none"> <li>• Provides clarifications on the definition on intangible asset, including identification criteria:               <ul style="list-style-type: none"> <li>- Contractual-legal,</li> <li>- Separable.</li> </ul> </li> <li>• Removal of rebuttable presumption that the useful life of an intangible asset can't exceed 20 years</li> <li>• Control criteria revised, useful life can include renewal period(s) if there is evidence to support renewal.</li> <li>• No amortisation of intangible assets with indefinite life</li> </ul>

Source: IFRS 3, IAS 36, IAS 38

<sup>4</sup> Op.cit., p.7

<sup>5</sup> The present value of the future cash flow expected to be derived from an assets or cash generating unit (CGU)

## 2. Business Combination - IFRS 3

IFRS 3 *Business Combinations* (ASC 805 according to US GAAP) requires an extensive analysis to be performed in order to accurately find out, recognise and measure at fair value<sup>6</sup> the tangible and **intangible assets (including intellectual properties)** and liabilities acquired in a business combination. This process is also known as a **purchase price allocation (PPA)** whereby one company (the acquirer), when purchasing a second company (the target), allocates the purchase price into various assets and liabilities from the transactions.

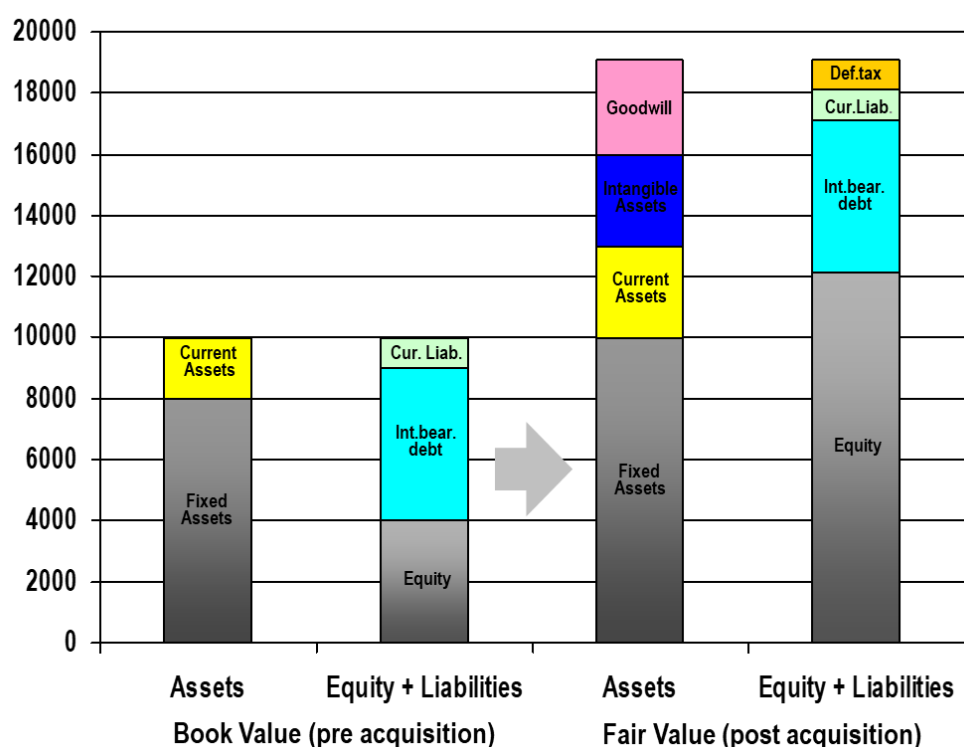
The accounting for **intangible assets** acquired in a business combination is particularly challenging. They are by nature less noticeable than tangible ones. Many intangible assets are not recognised in the acquiree's pre-PPA financial statements. Estimating their fair value usually involves valuation techniques as quoted prices are rarely available.

Where an 'intangible resource' (see 3.1 *Intangible resources*) is not recognised as an intangible asset, it is **included in 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 studied by investors, analysts and regulators. Accounting for intangible assets in PPA is therefore an important area of financial reporting. Acquired assets and liabilities are valued as at **the date of acquisition**, which is considered to be the date at which **effective control of the target is obtained**. An acquiring company must disclose not only assets already recognised on the target's balance sheet, but also previously unrecognised intangible assets acquired as part of the transaction, such as company and product brands, patents, technologies or research and development projects, which have to be fair valued for the first time (see Fig. 2 as an example).

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<sup>6</sup> Definition of fair value (IFRS 13): *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.*

**Fig.2. Allocation of purchase price on intangible assets and goodwill**



Notes: Cur. liab. – current liabilities, Def. tax – deferred tax, Int. bear. debt – Interest bearable debt  
Source: own

Once a business combination (under IFRS 3) is applied, an entity should use the acquisition method, which requires the following steps (Fig. 3):

**Fig.3 Steps of acquisition method**

<p><b>Identifying the acquirer (IFRS 3.6)</b></p>	<ul style="list-style-type: none"> <li>• The acquirer is the combining entity that obtains control of the other combining entities or businesses.</li> <li>• Usually it is the entity that becomes the parent of the other combining party or parties (but not always).</li> </ul>
<p><b>Determining the acquisition date (IFRS 3.8)</b></p>	<ul style="list-style-type: none"> <li>• The acquirer shall identify the acquisition date, which is the date on which it obtains control of the acquiree (the closing date).</li> <li>• However, if control of the acquiree transfers to the acquirer through a written agreement, the acquisition date can be before or after the closing date.</li> </ul>
<p><b>Recognizing and measuring the identifiable assets acquired, the liabilities assumed, and any noncontrolling interest in the acquire (IFRS 3.10)</b></p>	<ul style="list-style-type: none"> <li>• The acquirer shall recognize, separately from goodwill, the identifiable assets acquired, the liabilities assumed, and any noncontrolling interest in the acquiree.</li> <li>• An acquirer may also recognise assets and liabilities that are not recognised by the acquiree in its financial statements prior to the acquisition date, due to differences between the recognition principles in a business combination and IFRS.</li> <li>• This can result in the recognition of intangible assets in a business combination, such as a brand name or customer relationship, which the acquiree would not recognise in its financial statements because these <b>intangible assets were internally generated</b>.</li> <li>• Certain assets acquired and liabilities assumed in connection with a business combination may not be considered part of the assets and</li> </ul>

	liabilities exchanged in the business combination and will be recognised as separate transactions in accordance with IFRS.
<b>Recognizing and measuring goodwill or a gain from a bargain purchase</b>	<ul style="list-style-type: none"> <li>• Goodwill is an asset representing the future economic benefits arising from other assets acquired in a business combination that are not individually identified and separately recognised.</li> <li>• The amount of goodwill recognised is also impacted by measurement differences resulting from certain assets and liabilities not being recorded at fair value (e.g., income taxes, employee benefits).</li> <li>• Goodwill acquired in a business combination is recognized as an asset and is not amortised.</li> <li>• Instead, goodwill is subject to annual impairment tests, or more frequently, if there is an indication of impairment, based on IAS 36, <i>Impairment of Assets</i>. If the amount calculated under this approach is negative, a bargain purchase may have occurred.</li> </ul>

Source: IFRS 3

Purchase price acquisitions are required by IFRS for all acquisitions. PPA:

- requires international companies to report the fair value of assets and liabilities acquired in their financial statements;
- allocates the cost of an acquired entity to the fair value of assets acquired and liabilities assumed and it establishes useful lives for identified assets.

In addition, the rules accompanying PPAs require companies to assess the fair value of recorded goodwill and identifiable intangible assets on at least an annual basis and sometimes more often.

The purposes of the PPA requirements are for greater transparency to investors. But the rules also allow greater subjectivity in the allocation of assets as amortisable or non-amortisable and greater accountability for the acquirer. Subjectivity is involved in PPA with estimating the future value potential of brands, technology, customer relationships, goodwill, and how the acquirer recognises and measures its acquired intangible assets will impact its future earnings. Intangible assets' amortised charges will impact the acquirer's future earnings by reducing the book value of acquired intangible assets on the balance sheet, thereby reducing the risk of future impairments. Value allocated to goodwill (or longer-lived intangible assets) may not reduce book value but can have an increased risk of future impairment. These factors must be considered in creating valuation models for the acquired assets in the PPA.

### **3. Recognition of intangible assets under IFRS 3**

#### **3.1. Intangible resources**

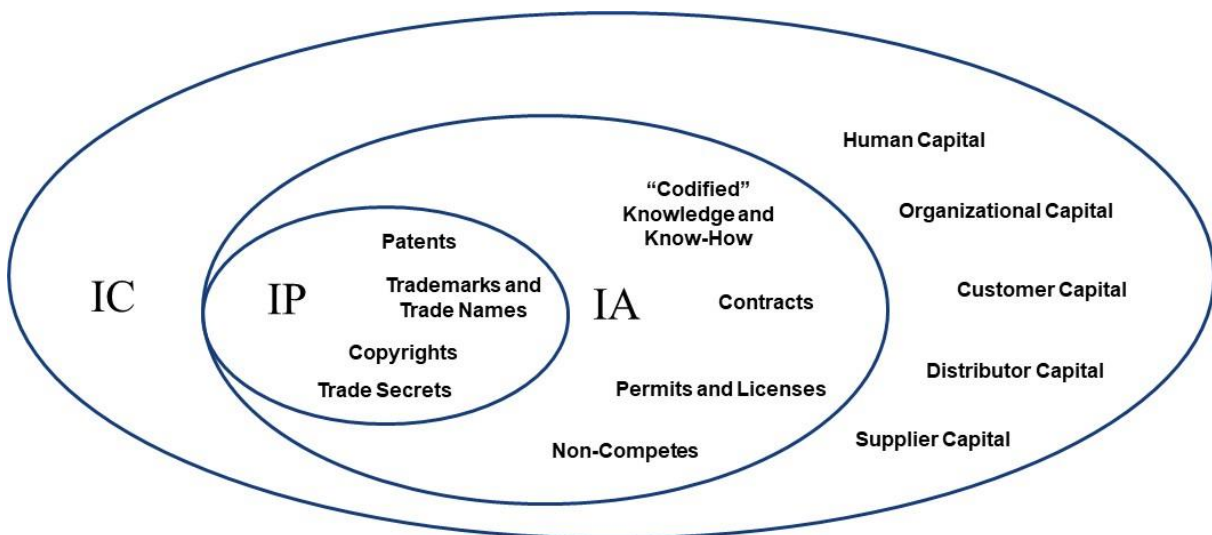
Intangible resources (IR), including intangible assets (IA), intellectual properties (IP), and intellectual capital (IC), are essential parts of a business (Fig. 4 and Fig.5).

**Fig.4 Description of intangible resources**

Intellectual properties:	Intangible assets:	Intellectual capital:
<ul style="list-style-type: none"> <li>• Include, but are not limited to, patents, trademarks and trade names, copyrights and trade secrets.</li> <li>• Encompass a wide range of creations – mechanical inventions, processes, machines, product names, chemical formulas, software, designs, fiction, poetry, songs, artwork, and advertisement.</li> <li>• Are a special classification of intangible assets and are unique because the owner of IP is protected by law from unauthorised exploitation of it by others.</li> <li>• Generate additional value from the ability of its owner to exercise exclusive rights of ownership (i.e., use, sell,etc.).</li> </ul>	<ul style="list-style-type: none"> <li>• Include, but are not limited to, know-how, contracts, permits and licenses, and non-competes.</li> <li>• Not all IA are protected by law.</li> <li>• Include, but are not limited to, know-hows, contracts, permits and licenses, and non-competes.</li> </ul>	<ul style="list-style-type: none"> <li>• Represents the cumulative knowledge of a business which allows for knowledge transfer and leverage.</li> <li>• Creates competitive advantage and allows you to avoid repeating old mistakes.</li> <li>• Represents a combination of human capital, IP and IA.</li> <li>• Creates new opportunities to legally preclude others from competing (i.e., new, enhanced, and expanded protections).</li> </ul>
<p style="text-align: center;">Common attributes:</p> <ul style="list-style-type: none"> <li>• No physical substance.</li> <li>• Dependent on excess earnings.</li> <li>• Last to appear, first to disappear.</li> </ul>		

Source: Source: Smith Gordon V., Parr Russell L. (2000), Valuation of Intellectual Property and Intangible Assets

**Fig. 5 Intangible resources**



Source: Smith Gordon V., Parr Russell L. (2000), Valuation of Intellectual Property and Intangible Assets

Although business literature offers a variety of definitions for “intangible resource” and other associated terms (such as intellectual / knowledgeable asset, intellectual property and

intellectual capital), the international accounting standards provide a specific definition, which is set out in IFRS 3, in conjunction with IAS 38. Intangible assets are defined as all the elements of a business enterprise that exist in addition to monetary and tangible assets<sup>7</sup>. IAS 38 defines an intangible asset as an **identifiable non-monetary asset without physical substance**.<sup>8</sup>

In accordance with IAS 38, an asset meets the identifiability criterion in the definition of an intangible assets only if it:

- is **separable**, i.e., capable of being separated or divided from the entity and sold, transferred, licensed, rented or exchanged, either individually or together with a related contracts, asset or liability; or
- **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.

### 3.3. Selection of identifiable intangible assets

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.

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 other tangible or intangible assets. 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).

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<sup>7</sup> Smith Gordon V., Parr Russell L. (2000), Valuation of Intellectual Property and Intangible Assets, Third Edition, p.15.

<sup>8</sup> IVS 210 *Intangible Assets (2016): an intangible asset is a non-monetary asset that manifests itself by its economic properties. It does not have physical substance but grants rights and economic benefits to its owner.*



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 measureable 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).

### ***Common identifiable intangible assets***

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. The illustrative examples accompanying IFRS 3 are summarized below (Fig.6):

**Fig. 6 Examples of identifiable assets acquired in a business combination**

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

Source: IFRS 3.IE16-44, IVS 210

### 3.4. Other intangible assets not recognised as identifiable

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 (Fig.7).

**Fig. 7. Other intangible assets not recognised as identifiable**

<b>Previously recognised goodwill</b>	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.
<b>Assembled workforce</b>	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). Hence, fair value of the assembled workforce is commonly estimated in business combinations to establish a ‘contributory asset charge’.
<b>Synergies</b>	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.
<b>Market share, market potential, monopoly situations or similar ‘strategic values’</b>	A robust position in the market may enhance the actual value of identifiable marketing-related or technology-driven intangible assets. However, the acquiree’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.
<b>High credit or going concern</b>	Value is sometimes attributed to a high credit rating or other indicators of the sustained ability of the acquiree 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.

Source: *Intangible assets in a business combination. Identifying and valuing intangibles under IFRS 3*, Grant Thornton, 2013, p.10

While these items are usually not recognised separately from goodwill under IFRS, **they may still be important or even essential to the acquired business**. Some of these items (the assembled workforce for example) may need to be valued in order to determine the values of other assets that do need to be recognised.

Intangible assets may also be generated internally. In order to determine whether or not an internally generated asset has to be recognised, IAS 38 requires an entity to divide the generation process of an asset into a research phase and a development phase. Accordingly, the standard refers to research as the “*original and planned investigation undertaken with the prospect of gaining new scientific or technical knowledge and understanding.*” In contrast, development is defined as “*the application of research findings or other knowledge to a plan or design for the production of new or substantially improved materials, devices, products,*

*processes, systems or services before the start of commercial production or use.*” If it is not possible for an entity to distinguish between the two phases, the entity has to expense the associated expenditure.

#### 4. Valuation of intangible assets under IFRS

Intangible assets that have been purchased as part of a business combination need to be recognised at their current fair value, with the fair value being defined as the amount at which knowledgeable, independent and willing parties would buy and sell the asset in an arm’s length transaction. The determination of fair value is based on the principle of individual value, and when valuing an intangible asset the following methodologies are applied, in descending order of preference: **market approach, income approach or cost approach**. Within the three main approaches, several specific techniques can be applied depending on the nature of the asset being valued. The chosen methodology has to be used for all similar assets (please also refer to the Fig. 8).

**Fig. 8. Three valuation approaches to intangible assets**

Market	Income	Cost
<ul style="list-style-type: none"> <li>• Market multiples method</li> <li>• Sales transaction comparison method</li> </ul>	<ul style="list-style-type: none"> <li>• Excess earnings method</li> <li>• Relief-from-royalty method</li> <li>• Premium profit method or with-and-without method</li> </ul>	<ul style="list-style-type: none"> <li>• Reproduction cost method</li> <li>• Replacement cost method</li> </ul>
Based on comparable asset transaction multiples.	Based on the present value of future cash flows.	Based on the hypothetical cost to replace/replicate or develop.

Source: Own, based on IVS 105 *Valuation Approaches and Methods*, IVS 210 *Intangible Assets*

Note: the IVS 201 includes other income methods such as the greenfield method and the distributor method.

##### 4.1. Market approach

The market approach is the process by which a market value estimate is derived by analysing similar intangible assets that have recently been sold or licensed, and then comparing these transactions to the subject intangible asset. The market approach is based upon the related economic principles of competition and equilibrium. However, the 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 (e.g., some emissions trading certificates). In practice, although it is the preferred approach, it is often not possible to use the market approach as there is no observable active market on which the intangible asset trades. Further, due to the unique features exhibited by an asset, it is often not possible to determine its market value by observing the price at which similar assets have traded in the

market place and making adjustments for the asset being valued. The market approach is therefore not commonly applied.

## **4.2. 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. 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. This method is usually used for: disputes - costs avoided by infringer to develop IP or software or workforce valuation.

The most commonly used cost approach methods are the **reproduction cost method** and the **replacement cost method**.

### **4.2.1. 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.

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), it is an important input in measuring other intangible assets under the income approach. 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 figure 18 in the OLC case study gives a basic idea of how to apply the reproduction cost method to an assembled workforce.

#### **4.2. 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.

### 4.3. Income approach

The income approach is based upon the economic principle of future benefits. In this approach, the value of the subject intangible asset is the present value of the expected economic income to be earned from the ownership of a particular intangible asset. The income approach is the most common method applied to the valuation of intangible assets and is frequently used to value intangible assets including the following: technology, customer-related intangibles (e.g. backlog, contracts, relationships), tradenames/trademarks/brands, operating licenses (e.g. franchise agreements, gaming licenses, broadcast spectrum), non-competition agreements.<sup>9</sup>

#### 4.3.1. Excess earnings method<sup>10</sup>

The excess earnings method determines the value of an intangible asset as the present value of the cash flows attributable to the subject intangible asset after excluding the proportion of the cash flows that are attributable to other assets. It is often used for valuations where there is a requirement for the acquirer to allocate the overall price paid for a business between tangible assets, identifiable intangible assets and goodwill.

The excess earnings method can be applied using:

- several periods of forecasted cash flows (“**multi-period excess earnings method**” or “MPEEM / MEEM”),
  - As most intangible assets have economic lives exceeding one period, frequently follow non-linear growth and may require different levels of contributory assets over time, the MPEEM is the most commonly used excess earnings method as it offers the most flexibility and allows valuers to explicitly forecast changes in such inputs.
- a single period of forecasted cash flows (“**single-period excess earnings method**”),
  - The single-period excess earnings method is only appropriate for intangibles that will be used/consumed in a single period.
- or by **capitalising a single period of forecasted cash flows** (“capitalised excess earnings method” or the “formula method”)
  - The capitalised excess earnings method or formula method is generally only appropriate if the intangible asset is operating in a steady state with stable

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<sup>9</sup> IVS 210 *Intangible Assets*, p.8

<sup>10</sup> Op.cit

growth/decay rates, constant profit margins and consistent contributory asset levels/charges.

The key steps in an excess earnings method are following:

- forecast the amount and timing of future revenues driven by the subject intangible asset and other supporting (i.e., contributory assets).
- forecast the amount and timing of expenses that are required to generate the revenue from the subject intangible asset and related contributory asset.
- adjust the expenses to exclude those related to creation of new intangible assets. Profit margins in the excess earnings method may be higher than profit margins for the overall business because the excess earnings method excludes investment in new intangible assets.
- identify the contributory assets that are needed to achieve the forecast revenue and expenses. Contributory assets often include working capital, fixed assets, assembled workforce and identified intangible assets other than the subject intangible asset
  - Contributory asset charges (CACs) should be made for all the current and future tangible, intangible and financial assets that contribute to the generation of the cash flow, and if an asset for which a CAC is required is involved in more than one line of business, its CAC should be allocated to the different lines of business involved. While a CAC may be taken for an identifiable component of goodwill such as assembled workforce, it is not appropriate to take a CAC on goodwill as a whole or going-concern value.
  - CACs are generally computed on an after-tax basis as a fair return on and of the value of the contributory asset. The appropriate return on a contributory asset is the investment return a typical market participant would require on the asset. The return of a contributory asset is a recovery of the initial investment in the asset. Although rare, CACs may be computed on a pre-tax basis. However, if done correctly, there should be no difference in value regardless of whether CACs are computed on a pre-tax or after-tax basis.
  - If the contributory asset is not wasting in nature, like working capital, only a fair return on the asset is required.
  - For contributory intangible assets that were valued under a relief-from-royalty method, the CAC should be equal to the royalty (generally adjusted to an after-tax royalty rate).

- determine the appropriate rate of return on each contributory asset based on an assessment of the risk associated with that asset. For example, low-risk assets like working capital will typically have a low required return. Contributory intangible assets and highly specialised machinery and equipment often require high rates of return,
- in each forecast period, deduct the required returns on contributory assets from the forecast profit to arrive at the excess earnings attributable to only the subject intangible asset,

determine the appropriate rate of return for the subject intangible asset and present value or capitalise the excess earnings. Income models examine a discount rate from either a weighted average cost of capital (WACC), a weighted average return on assets (WARA), or an internal rate of return (IRR) to the investor, and

- if appropriate for the purpose of the valuation, calculate and add the tax amortisation benefit (TAB) for the subject intangible asset.

**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.**

#### **4.3.2. Relief-from-royalty approach**

This is used to value asset types for which there is an active market in which the asset is licenced for use by its owner to an unrelated party. The value of the asset reflects the savings realised by owning the asset and not having to pay the owner to use it. Typical assets valued under this approach include brand names and proprietary technologies used in a company’s manufacturing process. The premise associated with this valuation technique is that if the assets were licenced to an unrelated party, the unrelated party would pay a percentage of revenue for their use. The brand owner is, however, spared this cost. This cost saving, or relief from royalty, represents the value of the brand. When valuing an asset such as a brand, under this technique, it is often the case that royalty rates for similar brand types are observed, however they may differ in terms of the specific market or sector, expected growth rates and margins. In this instance, the observed royalty rate needs to be adjusted by an appropriate amount to reflect the differences in the characteristics of the subject asset and the comparable assets identified. To



determine the fair value of an intangible asset using an income-oriented approach, the choice of method and the formulation of appropriate valuation assumptions are of crucial importance.

The key steps to a relief-from-royalty method are<sup>11</sup>:

- develop projections associated with the intangible asset being valued for the life of the subject intangible asset. The most common metric projected is revenue, as most royalties are paid as a percentage of revenue.
- develop a royalty rate for the subject intangible asset. Two methods can be used to derive a hypothetical royalty rate. The first is based on market royalty rates for comparable or similar transactions. A prerequisite for this method is the existence of comparable intangible assets that are licensed at arm's length on a regular basis. The second method is based on a split of profits that would hypothetically be paid in an arm's length transaction by a willing licensee to a willing licensor for the rights to use the subject intangible asset,
- apply the selected royalty rate to the projections to calculate the royalty payments avoided by owning the intangible asset,
- estimate any additional expenses for which a licensee of the subject asset would be responsible. This can include upfront payments required by some licensors. Some licensing arrangements may require licensees to pay for certain expenses associated with the licensed property, however, frequently there are no additional expenses falling under this category, as often a licensee's sole responsibility is payment of the royalty and most or all expenses associated with the intangible asset are paid by the licensor,
- add the avoided additional expenses to the avoided royalty payments to calculate the total costs associated with licensing the subject intangible asset. This is the total amount avoided through ownership of the intangible asset,
- if the hypothetical costs and royalty payments would be tax deductible, apply the appropriate tax rate to determine the after-tax savings associated with ownership of the intangible asset,
- determine the appropriate rate of return for the subject intangible asset and present value or capitalise the savings associated with ownership of the intangible asset, and
- if appropriate for the purpose of the valuation, calculate and add the TAB for the subject intangible asset.

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<sup>11</sup> IVS 210, *Intangible Assets*

### **4.3.3. Premium Profit Method or With-and-Without Method<sup>12</sup>**

The premium profit method, sometimes referred to as the with-and-without method, indicates the value of an intangible asset by comparing two scenarios: one in which the business uses the subject intangible asset and one in which the business does not use the subject intangible asset (but all other factors are kept constant). The relief-from royalty method is sometimes viewed as a subset of the premium profit method, as the royalty payments represent the payments that would have to be made by a business that did not own the subject intangible asset.

The comparison of the two scenarios can be done in two ways:

- calculating the value of the business under each scenario with the difference in the business values being the value of the subject intangible asset, and
- calculating for each future period the difference between the profits in the two scenarios. The present value of those amounts is then used to reach the value of the subject intangible asset.

The premium profit method is frequently used in the valuation of non-competition agreements but may be appropriate in the valuation of other intangible assets in certain circumstances.

The key steps to the premium profit method are:

- prepare projections of revenue, expenses, capital expenditures and working capital needs for the business assuming the use of all of the assets of the business including the subject intangible asset. These are the cash flows in the “with” scenario and will typically be the same projections used in the internal rate of return (IRR) calculation if the analysis is being performed as part of a business combination,
- if comparing the value of the business with and without the asset rather than directly comparing profit, use an appropriate discount rate for the business to present value the future cash flows to determine the value of the subject business with all assets in place. This is the value of the business in the “with” scenario,
- prepare projections of revenue, expenses, capital expenditures and working capital needs for the business assuming the use of all of the assets of the business except the subject intangible asset. These are the cash flows in the “without” scenario,
- if comparing the value of the business with and without the asset rather than directly comparing profit, use an appropriate discount rate for the business to present value the

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<sup>12</sup> IVS 210, *Intangible Assets*

future cash flows to determine the value of the subject business with all assets in place except the subject intangible. This is the value of the business in the “without” scenario,

- deduct the cash flows or value of the business in the “without” scenario from the cash flows or value of the business in the “with” scenario, and
- if appropriate for the purpose of the valuation, calculate and add the TAB for the subject intangible asset.

The differences in value between the two scenarios should be reflected solely in the cash flow projections rather than by using different discount rates in the two scenarios.

Figure 9 presents a selected intangible assets linked to valuation approaches.

**Fig. 9 Intangible Valuation Approach Summary**

<b>Asset</b>	<b>Primary</b>	<b>Secondary</b>	<b>Tertiary</b>
<b>Patents</b>	Income	Market	Cost
<b>Technology</b>	Income	Market	Cost
<b>Copyrights</b>	Income	Market	Cost
<b>Assembled Workforce</b>	Cost (Replacement)	Income	Market
<b>Internally developed software</b>	Cost	Market	Income
<b>Brand names</b>	Income (RfR)	Market	Cost
<b>Customer relations</b>	Income (MEEM)	Cost	Market
<b>IPRD</b>	Income (MEEM)	Cost	Market
<b>NCA</b>	Income (With and Without)	Market	Cost

Source: *Intangible assets in a business combination. Identifying and valuing intangibles under IFRS 3*, Grant Thornton, 2013

Notes: IPRD – In Process Research and Development, MEEM - Multi-period Excess Earnings Method. NCA - Non-Compete Agreements, RfR - Relief from Royalty Method

## **5. Deleted – you may find it in the book**

## **6. Typical intangible assets found in major industries and some of their typical life characteristics**

Figure 21 highlights typical intangible assets found in major industries and their typical life characteristics.

**Fig. 21 Typical intangible assets recognised in a business combination (PPA)**

Industry	Typical significant intangible assets	Typical life characteristics
<b>Retail &amp; consumer products</b>	<ul style="list-style-type: none"> <li>• Trade and brand names</li> <li>• Franchise rights</li> <li>• Customer and supplier contracts</li> <li>• Favorable/unfavorable contract or lease terms</li> <li>• Process technology and know-how</li> <li>• Liquor licenses</li> <li>• Customer relationships (e.g., pharmacy script files)</li> <li>• Customer lists</li> <li>• Internet domain names</li> </ul>	<ul style="list-style-type: none"> <li>• Trade, brand names, and franchise rights are likely to be long or possibly indefinite-lived if sustainable; otherwise, are short to moderate.</li> <li>• Supplier arrangements are based on contractual terms, assuming renewals when appropriate (excluding a reacquired right).</li> <li>• Contractual relationships are driven by contractual life or longer for low-cost renewals.</li> <li>• Technology and know-how range from short- to long-term.</li> </ul>
<b>Industrial products</b>	<ul style="list-style-type: none"> <li>• Trade names</li> <li>• Customer and supplier contracts</li> <li>• Favorable/unfavorable contract or lease terms</li> <li>• Process technology and know-how</li> <li>• Customer relationships</li> </ul>	<ul style="list-style-type: none"> <li>• Trade names are likely to be long or possibly indefinite-lived if sustainable; otherwise, are short to moderate.</li> <li>• Contractual relationships are driven by contractual life or longer for low-cost renewals.</li> <li>• Technology and know-how range from short- to long-term.</li> <li>• Customer relationships are often short to moderate but may be longer depending on rate of customer churn.</li> </ul>
<b>Real Estate</b>	<ul style="list-style-type: none"> <li>• Tenant relationships</li> <li>• Favorable/unfavorable lease terms</li> <li>• “In-place” leases</li> </ul>	<ul style="list-style-type: none"> <li>• Determined by lease life and expectation of tenant renewals.</li> </ul>
<b>Banking</b>	<ul style="list-style-type: none"> <li>• Core deposit intangibles (CDI)</li> <li>• Distribution channels (e.g., agents)</li> <li>• Brands and trade names</li> <li>• Customer relationships (including purchased credit card relationships)</li> <li>• Customer lists</li> </ul>	<ul style="list-style-type: none"> <li>• CDI is short to moderate, based on customer churn, although may be longer for companies based outside the United States.</li> <li>• Brands and trade names are long and possibly indefinite-lived if sustainable.</li> <li>• Others are typically short to moderate.</li> <li>• Contractual relationships are driven by contractual life.</li> </ul>
<b>Insurance</b>	<ul style="list-style-type: none"> <li>• Customer relationships, such as renewal rights on short duration insurance contracts, cross-selling opportunities, and customer/member lists</li> <li>• Distribution channels (including the distributor’s ability to generate new business from new customers)</li> <li>• Insurance licenses</li> <li>• Service contracts and provider contracts (particularly relevant for health insurers)</li> <li>• Brands and trade names</li> <li>• Process technology and know-how</li> </ul>	<ul style="list-style-type: none"> <li>• Customer relationships and distribution channels are moderate.</li> <li>• Trade names are long and possibly indefinite-lived if sustainable; otherwise, are short to moderate.</li> <li>• Certain insurance licenses can be maintained indefinitely without substantial cost.</li> </ul>
<b>Investment management</b>	<ul style="list-style-type: none"> <li>• Trade names</li> <li>• Customer relationships</li> <li>• Fund manager contracts</li> </ul>	<ul style="list-style-type: none"> <li>• Trade names are long and possibly indefinite-lived if sustainable; otherwise, are short to moderate.</li> <li>• Customer relationships are moderate, but may be longer where focus is on institutional clients rather than retail.</li> <li>• Fund manager contracts and the customer relationships of the funds are interdependent and require special analysis.</li> <li>• The lives of fund manager contracts are driven by the expectation of renewal</li> </ul>

		with the funds and are likely to be moderate- to long-term, or possibly indefinite-lived.
<b>Technology</b>	<ul style="list-style-type: none"> <li>• Trade names</li> <li>• Customer and supplier contracts</li> <li>• Favorable/unfavorable contract terms</li> <li>• Process technology and know-how</li> <li>• Customer relationships</li> <li>• Computer software and mask works</li> <li>• Internet domain names</li> <li>• Databases</li> <li>• IPR&amp;D</li> </ul>	<ul style="list-style-type: none"> <li>• Trade names are likely to be long or possibly indefinite-lived if sustainable; otherwise, are short to moderate.</li> <li>• Contractual relationships are driven by contractual life or longer for low-cost renewals.</li> <li>• Technology and know-how range from short- to long-term.</li> <li>• Customer relationships are often short to moderate but may be longer depending on rate of customer churn. IPR&amp;D would be an indefinite-lived</li> <li>• [not available for use] intangible asset until the asset is abandoned or put to use or in operation as a product, at which time the life may be short to moderate, depending on the product.</li> </ul>
<b>Life sciences and pharmaceuticals</b>	<ul style="list-style-type: none"> <li>• Brands and trade names</li> <li>• Patents, product rights, and know-how</li> <li>• Partnering and alliance arrangements</li> <li>• IPR&amp;D</li> <li>• Customer relationships and customer base</li> <li>• Supplier contracts</li> </ul>	<ul style="list-style-type: none"> <li>• Brands and trade names are likely short to moderate, depending on product portfolio (i.e., remaining legal life of identifiable intangible assets).</li> <li>• The exception is where brands and trade names have value and are sustainable, which could be long and possibly indefinite-lived.</li> <li>• IPR&amp;D would be an indefinite-lived [not available for use] intangible asset until the asset is abandoned or put to use or in operation as a product, at which time the life may be short to moderate, depending on the product.</li> </ul>
<b>Energy &amp; resources (including oil &amp; gas)</b>	<ul style="list-style-type: none"> <li>• Trade and brand names where downstream operations are present (e.g., retail front)</li> <li>• Contractual relationships</li> <li>• Favorable/unfavorable contract terms (e.g., drilling contract)</li> <li>• Agreements (franchise service, interconnection, operations and maintenance, railroad crossing)</li> <li>• Contracts (purchased power, fuel, and other supply contracts)</li> <li>• Easements, rights of way, and rights of use</li> <li>• Siting, environmental, and other licenses</li> <li>• Customer relationships</li> </ul>	<ul style="list-style-type: none"> <li>• Trade names/trademarks and certain licenses and artistic properties likely to be longer term or possibly indefinite-lived if sustainable.</li> </ul>

Source: *Business Combinations and Non-Controlling Interests*, PwC, December 2017, p. 4-30

Fig. 22 presents the results of the report published by European Securities and Markets Authority in 2014. The report evaluates the consistency of application of key requirements of IFRS 3 - *Business Combinations* and how compliant and entity-specific IFRS 3 disclosures are in the 2012 annual IFRS financial statements of a sample of 56 issuers in the European Union.

**Fig.22 Purchase Price Allocation in European Business Combinations**

<p><b>Sample size</b></p>	<ul style="list-style-type: none"> <li>• 56 European listed entities from 11 jurisdictions, covering 66 businesses combinations reported in their 2012 annual IFRS financial statements: 45 European issuers that had the most significant business combinations in that period plus 11 smaller issuers' financial statements with material business combinations to the review</li> <li>• The total market capitalisation of the selected issuers was € 1055 billion as of the end of 2012, while the consideration paid for the business combinations included in the sample totalled € 76 billion. The amount of goodwill recognised in the financial statements was € 41 billion and the amount of separate intangible assets was € 36 billion.</li> </ul>
<p><b>Industry breakdown</b></p>	<p>Industrial: 27%, Energy: 15%, Financial: 12%, Consumer, non-cyclical: 12%, Communications: 11%, Basic Materials: 11%, Consumer, cyclical: 8%, Technology: 4%</p>
<p><b>Recognition and measurement of goodwill and bargain purchase gains</b></p>	<ul style="list-style-type: none"> <li>• goodwill was recognised in 86% of the business combinations, referring only to the possible realisation of synergies without providing details about how those synergies are expected to be achieved, while some issuers stated that goodwill related to deferred tax liabilities or intangibles that did not fulfil all the conditions to be separately recognised, such as the assembled workforce.</li> <li>• 24% of the business combinations analysed did not recognise any intangibles separately from goodwill.</li> <li>• A bargain purchase gain was reported in 11% of the business combinations reviewed but one third of these issuers did not disclose an explanation of why the transaction resulted in a gain.</li> </ul>
<p><b>Recognised intangible assets and contingent liabilities</b></p>	<ul style="list-style-type: none"> <li>• 77% of the issuers included in the sample recognised intangible assets other than goodwill as part of the business combination. 54% of the total amount of intangibles (including goodwill) related to separable intangible assets. Issuers recognised different types of intangibles depending on their industries.</li> <li>• Recognised intangible assets in the business combinations reviewed: <ul style="list-style-type: none"> <li><b>Customer-related</b> (customer relationships, customer lists, customer contracts and order backlogs): 58%</li> <li><b>Marketing-related</b> (brand names, internet domains): 54%</li> <li><b>Technology-based</b> (software): 40%</li> <li><b>Contract-based</b> (licences, patents mineral exploration rights, publishing rights, non-competition rights and concession rights): 35%</li> <li><b>Other types</b> (artistic-related intangibles, participation/management fees rights or carbon licence allowances): 23%</li> </ul> </li> </ul>
<p><b>Disclosure of fair value valuation techniques</b></p>	<ul style="list-style-type: none"> <li>• Some issuers referred to external valuations of intangible assets without providing details of the techniques</li> <li>• Only 35% of the issuers reviewed disclosed information, where applicable, on how fair values were determined</li> <li>• For example, DCF method was applied to the customer-related assets valuation, a 'relief from royalty' method was used for the brands valuation</li> </ul>

Source: *Review on the application of accounting requirements for business combinations in IFRS financial statements*, European Securities and Markets Authority (ESMA), 2014, Paris

Fig. 23 presents the PPA study including 563 transactions of US-based targets completed in 2015.

**Fig. 23 Purchase Price Allocations in US Business Combinations under ASC805 (US GAAP)**

<b>Sample size</b>	<ul style="list-style-type: none"> <li>• 563 deals closed in 2015; acquirer was a U.S. publicly traded company;</li> <li>• Ownership percentage sought by acquirer was 50% or greater</li> <li>• Approximately 65% of the transactions had purchase price below US\$250 million</li> <li>• The average transaction size was US\$1,269 million in 2015, and the median transaction size was US\$83 million.</li> </ul>
<b>Industry breakdown</b>	Aerospace, Defense & Government (3%); Consumer, Food & Retail (14%); Energy (3%); Financial Institutions (15%); Healthcare (20%); Industrials (12%); Infrastructure Services & Materials (5%); Technology (26%); Telecom (2%)
<b>Recognition and measurement of goodwill and bargain purchase gains</b>	<ul style="list-style-type: none"> <li>• 537 transactions (95%) allocated purchase price to goodwill, 26 transactions recorded no purchase price to goodwill.</li> <li>• There were five bargain purchases (with negative goodwill)</li> </ul>
<b>Recognised intangible assets and contingent liabilities</b>	<ul style="list-style-type: none"> <li>• For transactions with purchase price below \$250 million, intangible assets and goodwill averaged 34% and 37% of purchase price,</li> <li>• For transactions with purchase above \$250 million, intangible assets and goodwill averaged 29% and 32% of purchase price, respectively</li> <li>• Developed technology, IPR&amp;D, customer-related assets, as well as trademarks and trade names were the most commonly identified intangible assets.</li> <li>• Other intangible assets typically included, among others, non-compete agreements, licenses, permits, and other contracts or agreements.</li> </ul>
<b>Disclosure of fair value valuation techniques</b>	n/a

Source: 2015 Purchase Price Allocation Study, Houlihan Lokey, 2016

## 7. Conclusions

- Companies making acquisitions must comply with the fair value accounting rules of IFRS 3 (ASC 805) *Business Combinations*, and should consider an independent valuation of the acquired assets and liabilities.
- Purchase price acquisitions are required by IFRS for all acquisitions. PPA:
  - requires international companies to report the fair value of assets and liabilities acquired in their financial statements;
  - allocates the cost of an acquired entity to the fair value of assets acquired and liabilities assumed and it establishes useful lives for identified assets.
- Purchase price allocations provide greater transparency for investors and allow for a more detailed view of the components of a company's value. However, it represents a significant challenge for a company's financial organization.
- Only selected intangible assets can be identifiable according to IAS 38. They are grouped in five segments: marketing-related, customer-related, artistic-related, contract-based, technology-based. For example, previously recognised goodwill,

assembled workforce, synergies, market share, market potential, monopoly situations, high credit, going concern, etc. can not be identifiable under IFRS.

- Where an ‘intangible resource’ is not recognised as an intangible asset, it is **included in 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**. The percentage allocation of purchase price to goodwill is industry-specific, even analysts and investors use it as a key figure. For the valuation of intangible assets knowledge about the competition structure, principles and value drivers as well as industry specific knowledge is vital.
- However, we can find some inconsistencies in the accounting treatment of internally generated intangibles. While internally generated intangibles may also be recognized, IFRSs have rather restrictive guidelines and only allow their capitalization if certain criteria are satisfied. Moreover, IFRSs only require limited disclosures in the accompanying notes that mostly relate to additional details about the intangible assets that are already recognized on the balance sheet. Yet, information on unrecognized intangible assets or on other intangible values that do not meet the asset requirements is not further reported.
- Main challenges with regard to the valuation of intangible assets refer to:
  - Appropriate identification phase within the PPA process requires profound industry knowledge
  - Understanding of the commercial relevance
  - Selection of adequate valuation methods
  - Determination of appropriate valuation parameters.



## List of abbreviations:

ASC - FASB Accounting Standards Codification in the US  
BEV – Business enterprise value  
CACs - Contributory asset charges  
CGU – Cash generating unit  
DCF – Discounted cash flow  
EBIT – Earnings before interest, taxes  
EBITDA - Earnings before interest, taxes, depreciation & amortization  
IA – intangible assets  
IAS – International Accounting Standards  
IASB - International Accounting Standards Board  
IC – intellectual capital  
IP – intellectual properties  
IR – intangible resources  
IFRS – International Financial Reporting Standards  
IPR&D – In-process research and development  
IRR – Internal rate of return  
IVS – International Valuation Standards  
MEEM / MPEEM – Multi-period excess earnings method  
NPV – Net present value  
PPA – Purchase price allocation  
PPE - Property, Plant & Equipment  
RFR – Relief-from-royalty method of valuation  
TAB – Tax amortization benefit  
VIU – Value-in-use  
WACC – Weighted average cost of capital  
WARA – weighted average returns analysis

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