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**BUSINESS VALUATION:
A GUIDE FOR SMALL AND
MEDIUM SIZED ENTERPRISES**

**Guide for carrying out
business valuations**

July 2001

5.6. Special matters to be considered in the projection of future business profits of SMEs	18
5.6.1. <i>Restricted sources of information</i>	18
5.6.1.1. <i>Adjustment of past results</i>	18
5.6.1.2. <i>Analysis of earning power</i>	18
6. Capitalisation of future business profits.....	20
6.1. Basic principles.....	20
6.2. Reflection of risk.....	21
6.3. Reduction of discount rate for personal income taxes.....	21
6.4. Reflection of growing business profits	22
6.5. Gross or net present value.....	22
7. Valuation procedures	24
7.1. Use of the capitalised earnings method or DCF method	24
7.2. Determination of business value using the capitalised earnings method.....	24
7.2.1. <i>Procedures to be used</i>	24
7.2.2. <i>Determination of earnings from operating assets</i>	24
7.2.2.1. <i>Adjustment of past performance</i>	24
7.2.2.2. <i>Budgeted expenses and income</i>	25
7.2.2.2.1. <i>Revenues</i>	25
7.2.2.2.2. <i>Expenses</i>	25
7.2.2.3. <i>Cash flow forecasts and interest projections</i>	26
7.2.2.4. <i>Income taxes</i>	27
7.2.3. <i>Determination of earnings from non-operating assets</i>	27
7.2.4. <i>Determination of discount rate</i>	27
7.2.4.1. <i>Discount rate used for subjective valuation</i>	27
7.3. Determination of business value using the DCF method	28
7.3.1. <i>Overview</i>	28
7.3.2. <i>The weighted average cost of capital (WACC) concept</i>	28
7.3.2.1. <i>General procedure</i>	28
7.3.2.2. <i>Determination of future cash flows</i>	28
7.3.2.3. <i>Determination of residual value</i>	29
7.3.2.4. <i>Value of non-operating assets</i>	30
7.3.2.5. <i>Determination of cost of capital</i>	30
7.3.3. <i>The adjusted present value (APV) concept</i>	30
7.3.4. <i>The equity concept</i>	31
7.3.5. <i>Consideration of personal income taxes of the owner</i>	31
7.4. Determination of liquidation value	31

7.5. Matters to be considered in a plausibility evaluation.....	31
7.5.1. <i>Market price</i>	31
7.5.2. <i>Simplified price determinations</i>	32
8. Special matters relating to business valuations.....	34
8.1. Valuation of rapidly -growing businesses	34
8.2. Valuation of businesses with poor earnings	34
8.2.1. <i>Background</i>	34
8.2.2. <i>Not-for-profit organisations</i>	35
8.3. Net asset valuation.....	35
9. Documentation and reporting.....	37
9.1. Working papers.....	37
9.2. Valuation report.....	37
ANNEX 1 - Example of letter of engagement and another practical guidance	38
ANNEX 2 - Examples of DCF method and Capitalisation method	42
ANNEX 3 - Calculation of the Discount Rate (CCEF, France, 2001).....	46
ANNEX 4 - Additional sources provided by FEE Member Bodies.....	47

1. INTRODUCTION

The Fédération des Experts Comptables Européens (FEE) is the representative organisation for the accountancy profession in Europe, currently grouping together the 38 leading institutes in 26 countries, including the 15 Member States, Cyprus, Czech Republic, Hungary, Iceland, Israel, Malta, Monaco, Norway, Romania, Slovenia and Switzerland. Between them these bodies have a combined membership of approximately 400.000 individuals of whom about 45% work in the public practice, providing a wide range of services to clients, whilst the other 55% work in various capacities in industry, commerce, government and education.

The SME Steering Group of the Federation, which champions the role of the accountancy profession in supporting SMEs across Europe, prepared this guide on Business Valuation with the assistance of IDW (Institut der Wirtschaftsprüfer), one of the FEE member bodies. FEE thanks IDW for its special support in the development of the project.

This guide describes the significant overall principles to be applied in the valuation of enterprises, especially in the case of valuing an SME. However, each valuation needs to be addressed individually. To this extent, the principles set out in this guide can only form a framework within which individual solutions must be determined for specific cases.

Valuations carried out in accordance with the terms of contracts or engagements based on principles which are different from those set out in this guide are not affected by this guide. For instance, the valuation engagement can include a requirement to use different valuation methods, the need to consider non-financial objectives, specific matters relating to the projection procedure, or other matters which are different from those set out in this guide.

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2. GENERAL REMARKS

2.1. Reasons for valuation

The reasons for business valuations can be divided into valuations made in accordance with statutory requirements or contractual agreements and valuations carried out for other reasons.

Valuations for contractual reasons occur particularly in the event partners join or leave a partnership, in relation to inheritance disputes and inheritance settlements, as well as for settlements made in accordance with family law.

On the other hand, business valuations are often made based on entrepreneurial initiatives such as the purchase or sale of businesses, mergers, additions to equity or third-party capital, contributions of non-monetary assets (including the transfer of entire net assets of businesses), initial public offerings, management buy-outs or in connection with value-oriented management concepts. Business valuations are also carried out based on commercial and tax law valuation questions.

2.2. The value of a business

The value of a business is based, under the assumption of purely financial objectives, on the present value of net cash flows from the business to the owner (net receipts of the owner of the business). This means that the value of the business is based solely on its ability to earn business profits for the owner.

This value is based on the profits of the business which will be achieved if the business is continued in the future and assuming the disposal of any assets not required for the operations (earnings-based value). Only in the event that the present value of profits which would arise if the entire enterprise were liquidated (liquidation value) exceeds the value of the business as a going concern should the liquidation value to be shown as the business value.

On the other hand, the net asset value is, of itself, of no importance when calculating the value of a business.

The calculation of the business value as capitalized earnings value can be based on capitalized earnings methodology (see section 7.2. below) or discounted cash flow techniques (see section 7.3. below).

As this definition of the value of a business does not depend on the size of the business to be valued the general principles for valuation of SMEs do not differ from those for the valuation of larger enterprises.

Nevertheless, in valuing SMEs specific matters can arise from the fact that they often do not have substantially independent management in addition to the owners, so that the entrepreneurial abilities of the owners are of particular importance.

When calculating a business value of small and medium-size entities, particular attention should be paid to determining precisely what makes up the business being valued, determination of management remuneration as part of valuation of the management factor, and the reliability of sources of information.

Consequently this guide is structured in a way that general principles for valuing a business are lined out and that specific matters arising for SMEs are explicitly referred to in the context of the relevant general principles.

3. DEFINITION OF TERMS

3.1. The professional accountant and his functions in valuing a business

In the FEE paper “Liberalisation of the Accountancy Profession in Europe” (March 1999), the professional accountant is defined as a professional:

Who has completed in a given EU Member State the highest level of training and experience required to work as a professional accountant in that country and, as a minimum, meets the qualification level of the Eighth directive and;

Who once authorised, can carry out without restriction, the statutory audit of all entities which are subject to an audit.

The accountant can perform various functions involving business valuations, as follows:

- Advisor

In his¹ advisory function the accountant determines a *subjective value* which, for example, can indicate to a specific investor the maximum which he should invest in a company, taking into account existing individual opportunities and strategies, (upper price limit), or the amount which a seller must at least demand (lower price limit) without his financial situation deteriorating as a result of the transaction.

- Arbitrator/intermediary

In his function as arbitrator/intermediary in the event of conflict, giving due consideration to the various subjective value ideas of the parties concerned the accountant works to arrive at an *arbitration value*, which he determines as an arbitrator or proposes as an intermediary.

3.2. Net receipts of the owner

The net receipts of the owners of a business, to be discounted in order to calculate the value of the business, result primarily from the rights of the business’s owners to distributions or withdrawals of business profits earned by the entity, less capital contributions to be made by the owners. In addition, other cash flows relating to ownership of the business, such as personal taxes of the owners of the business, are to be considered.

These net receipts can either be calculated on the basis of a statement of cash receipts and expenditures (DCF methods) or on the basis of an income statement (capitalized earnings method).

In both cases the value of the business is determined by discounting the future net receipts to the valuation date by using discount rates.

¹ All references to the male gender include both male and female.

3.3. Discount rates

The business profits from an entity are to be discounted to the valuation date using an appropriate discount rate to make them comparable with alternative investments available to an investor.

A discount rate could, for example, be the specific expected return of the investor for an alternative investment, the interest rate required to repay planned debt or an interest rate which is based on a subjective estimate of its components (base interest rate, risk uplift).

4. GENERAL PRINCIPLES FOR THE VALUATION OF A BUSINESS

4.1. The purpose of the valuation

Depending upon the business value to be determined different assumptions are normally made regarding projections and discounting future profits of the business. Hence, a proper determination of the value of a business requires that the function in which the accountant is to act be set out in the terms of engagement, in order to make the assumptions which are appropriate to the purpose of the valuation.

4.2. Valuation of the business unit

Businesses are specific combinations of tangible and intangible items which, together, are intended to work jointly to produce business profits. The value of a business is thus not determined as the sum of individual items of assets and liabilities, but rather by the combination of all items involved in the business.

When determining the business being valued, all the areas of a business which work together, such as procurement and sales relationships and markets, research and development, organisation, treasury and management are to be combined, as all parts of the business work together to contribute to future business profits (overall valuation). The item being valued must not necessarily be identical to the legal form of an entity, but consists rather of the economic criteria which make up the business being valued (e.g. group, branch, strategic business unit).

The business being valued is made up of the assets required for the operations (see section 4.4. below on the valuation of assets required for the operations) as well as assets not required in the operations, which are to be valued separately (see section 4.5. below on the determination and valuation of assets not required in the operations).

In order to define the business being valued, for private businesses which are dominated by the owners particular care should be paid to the separation of business and private assets and liabilities, income and expenses. Special tax balance sheets could be used for determining the assets used in the business but not included in the balance sheet and corresponding future business profits to be included. Significant elements of the business's non-current assets (in particular patents and real estate) are often included in private assets. As a result, for the purpose of the valuation of a business, care should be taken to ensure that these are either brought into the assets being valued or are reflected in another manner (e.g. through determination of a rental, leasing or royalty payment). In this connection it should also be determined whether all expenses and income are part of the business activities and are completely included in the accounting records.

Often the shareholders' equity of small and medium-size companies required from an operational viewpoint is inadequate. In the event there are low levels of shareholders' equity (excluding consideration of any personal liability of shareholders), consideration should be given to future measures to strengthen the net assets of the business (e.g. retention of profits, capital increases) and their effects on future business profits. The limited financing opportunities due to a lack of excess to capital markets should also be reflected.

If, instead of strengthening the business's net assets through equity-related measures, it is envisaged that collateral should be made available from the owners' private assets, appropriate guarantee commission expenses should be included.

4.3. Valuation date

Business values are determined as at a particular point in time. A valuation date which is contractually agreed or determined by statute clarifies what business profits may no longer be considered because they have already passed to the former owners of the business, and from what point in time business profits which are expected or which have already been achieved are to be attributed to the future owners.

On the other hand, the expectations of the parties interested in the valuation, with respect to future business profits both of the business being valued and of the optimum alternative investment, depend on the amount of information available for the period. Where the date of the valuation and the time at which the valuation is carried out are different, only information should be considered which could have been obtained with due care at the valuation date.

4.4. Valuation of future business profits

4.4.1. Basis for calculating business profits

4.4.1.1. Cash flow orientation

The net receipts of the owners of the business are primarily based on the ability of the business to achieve business profits. A valuation of an entity is thus based on a forecast of distributable future business profits.

The net receipts of the owners of the business can be calculated based on a cash flow statement or income statement at entity level (see Annex 2). However, the additional conditions for distribution in accordance with commercial law and financing the distributions are also to be considered.

The following should be noted when calculating net receipts of the business's owners on the basis of a cash flow statement or income statement at entity level:

- If the valuation is made on the basis of a cash flow statement the additional condition of the business being able to make distributions should be based on a supplementary calculation of commercial profits. Consideration should also be given to the extent to which a distribution of net cash receipts is subject to legal restrictions such as, for example, losses carried forward or a requirement to make transfers to statutory reserves.
- If the valuation is based on an income statement it will be necessary to supplement an analysis of financial requirements (cash flow forecast) which shows the financial consequences of budgeted distributions. The cash flow forecast calculates the cash

balance (cash surplus or deficit) by comparing financial requirements, including capital expenditures, with the sources of finance.

Depending upon the assumptions on which the financing requirements and dividend distribution policies are based, the funds required to be raised by third-party debt, retention of profits or contributions of capital by the owners can be calculated using the cash flow forecast; on the other hand, surplus funds can be used to repay debt or make distributions to the business's owners.

The cash flow forecast thus also serves as a basis for the calculation of interest income or expense based on the balance of liquid funds/debt, which in turn will be included in the income statement.

Whether based on a statement of cash receipts and expenditures or based on an income statement, a proper business valuation requires that forecast balance sheets, statements of income and cash flows be prepared; hence, both alternatives need to have the same financial information.

Furthermore, supplementary calculations may be required in order to determine the basis for income taxes.

Statements of cash receipts and expenditures and income statements lead to the same results if the same financing assumptions are made, leading to identical net cash receipts to the entity's owners.

4.4.1.2. Relationship of assets to earnings

In order to be able to provide the services and output required to meet its objectives a business must have possession of more or less assets, depending on its industry, in order to accomplish those objectives. Hence, the underlying net assets needed to produce the forecast profits should be considered, including assumptions as to useful lives, growth or decline in capital expenditures and financing.

4.4.1.3. Income tax effects

The value of a business is determined by the amount of net cash flows to an investor which is freely available to that investor (see section 4.4.1.1. above). These net cash flows are to be calculated after considering income taxes of the business and income taxes arising to the business's owners as a result of their ownership of the business.

4.4.1.3.1. Income taxes of the business

When calculating business profits income taxes which are charged to the business must first be deducted.

4.4.1.3.2. Income taxes of the owners personal income taxes

Income taxes of the business's owners which are related to the ownership of the business must be reflected in the valuation. Consideration of income taxes of the business's owners can only be omitted in those (exceptional) cases where profits from an alternative investment arising at the same point in time are subject to the same income tax charge as the expected profits from the business.

For tax purposes, sole traders carrying on commercial business and other partners receive income from commercial business, shareholders of a limited liability company receive income from investments (for an investment in a limited liability company as a part of private assets) or commercial income (for an investment in a limited liability company as part of operating assets); normally income from the business is not subject to municipal trade tax on income in the hands of the business's owners,

4.4.2. Detailed premises for subjective valuation

In connection with the determination of subjective valuations the accountant, in his consulting capacity, uses individually-tailored concepts or assumptions related to the specific engagement rather than the standardised assumptions required for establishing the objectively-determined value of a business.

4.4.2.1. Measures planned but not yet undertaken

In determining a subjective valuation for the potential acquirer of a business, the valuation should reflect not only measures not yet introduced but also plans to make structural changes which are not (yet) part of the business's current strategy. For example, these can include expenditures relating to expansion of the business planned by the acquirer, dis-investments, rationalisation of the product range or changes to strategic business segments, whose effects on future business profits can influence the maximum price an acquirer is prepared to pay. The present value of business profits from the optimum use of operations based on probable specific intentions of the acquirer usually determines the subjective value of the business.

From the point of view of a potential seller, the subjective value should reflect perceived and achievable opportunities, even if the measures to take advantage of them have not yet been taken.

4.4.2.2. Real synergy effects

Whether or not the expected synergy effects and related measures needed to implement them have already been introduced is irrelevant for the purposes of determining a subjective value for the potential acquirer. Both non-genuine and genuine synergy effects arising from the

premises upon which the valuation is being carried out are to be included to their full extent when carrying out a subjective valuation for a potential acquirer.

In determining a subjective valuation for the seller or the business's current owners, possible synergy effects are only relevant for determining a minimum price to the extent they can be achieved without selling the business (so-called non-genuine synergy effects) and are no longer of relevance to the seller after the transaction.

4.4.2.3. Financing assumptions

For the owner or potential acquirer of the business a change in the current financing (financing structure) of the business being valued can lead to a change in value of the business.

If, for example, the owners or acquirers can obtain third-party debt at more beneficial rates than current debt, they will repay the existing debt to the extent possible and draw down new debt at lower interest rates, so that the subjective value will be higher than the objectively-determined value, due to lower interest charges. There may be a different approach to risk or another financing structure (debt:equity ratio) may be planned after including the business concerned into a group of companies. In addition to the changes in business profits due to subjective financing assumptions made by the client, the effects on the discount rate of changing financing risk should be considered when arriving at a subjective valuation.

In contrast to the assumption of a distribution of all profits normally used in establishing an objectively-determined business value, consideration should be given to the extent to which the client plans to use internal financing by retaining business profits and to increase equity capital.

4.4.2.4. Specific management factors

From the point of view of an acquirer the sole determinant is what business profits will probably be achieved with the management which the acquirer plans to use. In this connection and to the extent possible, all future financial effects such as those related to the change in management structure are to be reflected.

The minimum price which a potential seller expects to achieve reflects not only the earnings power of the business being valued, but also personal success factors.

As, for small and medium-size entities, the amount of future business profits is substantially dependent on the owner's personal involvement and knowledge, abilities and business contacts, the valuation of the management factor (remuneration of management including all personally-related value factors) is of particular importance.

4.4.2.5. Income taxes of the owners

The actual tax burden of the owner or owners of the business is to be used, applying his specific income status, rather than a standard tax rate. (See Annex 2).

4.5. Specific valuation of non-operating assets

In addition to assets used in the business an entity often also has assets which are not used in the business. Such non-operating assets can be freely disposed of without affecting the normal activities of the business.

When valuing the entire business using an earnings-based method those assets not required in the business, including any related liabilities, are subject to separate valuation based on their optimum disposal. To the extent the break-up value of these assets exceeds the present value of profits which they would be expected to earn if they were to remain in the business, it should not be assumed (as would otherwise be the case) that they will continue in their existing state, but a break-up scenario should be adopted. For the purpose of determining the overall value of the business the break-up value of non-operating assets is to be added to the present value of business profits generated by those assets used in the business.

When valuing non-operating assets at their break-up value the costs of the liquidation are to be deducted as well as any tax effects at entity and shareholder level. To the extent an immediate liquidation cannot be expected a liquidation plan must be drawn up which can be implemented within a reasonable period of time and the liquidation receipts must be discounted to the valuation date.

To the extent there are liabilities directly associated with the non-operating assets the amounts required to repay them must be deducted from net liquidation receipts, together with any expenses relating to their settlement.

If assets which serve as collateral for loans are identified as non-operating assets it should be noted that their disposal could lead to a change in the financing situation of the business.

4.6. Comprehensibility of the valuation assumptions

Valuations of businesses are normally based on many assumptions, which have considerable influence on the valuation itself. In accordance with the principle of clarity of reporting the accountant must state clearly in his valuation report the significant assumptions underlying the value which he determines (see section 9.2. below).

The report must clearly indicate whether the assumptions have been made by the valuer, by management of the business being valued or by third party experts.

5. PROJECTION OF FUTURE BUSINESS PROFITS

The core problem for any valuation of an entity is the projection of business profits arising from the combination of assets used in the business. This requires collection of extensive information and, based on such information, an analysis of the business's past, present and future situation, which needs to be checked for plausibility in order to determine its reasonableness and lack of contradiction.

5.1. Collecting information

The quality of an analysis of a business depends on the quality and extent of the information available.

Information which is specific to the business and its market is needed for the projection of business profits. Information relating to the past and present is only of importance as a basis for estimating future developments or serving as a basis for making plausibility checks.

Internal budget data and resulting budgeted balance sheets, statements of income and cash flow statements are of particular importance as information originating from business itself. Market-based data could include information on industry-specific markets and economic factors.

5.2. Analysis of past performance

The analysis of past performance serves as the basis for projection of future developments and for carrying out a plausibility analysis.

Normally income statements, cash flow statements, balance sheets and internal management accounts are to be used in order to evaluate the development to date of the output and financial performance of the business being valued. In order to determine the real reasons for the past success of the business, these historic financial statements are to be adjusted accordingly.

As the output and financial performance of the business to date result from its activities in specific markets, entity-based information on the earnings power, assets, liabilities and financial position of the business should be analysed taking account of past market-related developments and developments in the business environment (e.g. political, economic social and technological developments, growth of the sector, market growth and the position of the business in its market).

5.3. Forecasts and projections (phase method)

The projection of future business profits should be based on an analysis of past performance. This requires an analysis of the expected performance and financial development of the business giving appropriate consideration to expected developments in its market and business environment.

Future business profits can be evaluated more plausibly and with a greater degree of precision for a certain period of time than for subsequent years. Hence, there will necessarily be a time horizon for reviewing projections into the future, beyond which estimates of business profits can only be supported by general assumptions. In practice it has thus proved useful to forecast and project future business profits using a number of phases. These phases can cover various periods of time, depending on the size, structure and nature of the business being valued.

In most cases only two phases will be of importance. For the more immediate first phase, which often covers a manageable period of time of three to five years, the accountant normally has access to sufficiently detailed forecast data. In this more immediate phase the many factors influencing results are often used individually to project business profits.

The years covered in the subsequent, second phase are normally based on more or less general projections of the detailed forecasts made for the first phase. Consideration should be given as to whether the assets and liabilities, financial and earnings position of the business being valued after the detailed forecast phase remain in a so-called steady state or whether the annual business profits still change, but reflect a constant or constantly-growing amount of business profits.

Due to the strong weighting of business profits in the second phase, it is particularly important that the underlying assumptions be reviewed critically. In particular, the business's strategy should be in line with expected overall economic conditions and changes to its market and segment ratios (such as return on sales) should be analysed and estimated.

The forecast assumptions made in the first phase are to be checked for their relevance as a basis for projecting business profits in the second phase, whereby in particular the following matters should be considered and adjustments made where necessary: reflection of significant changes on the sales and procurement markets, analysis of the business's product and market potential for a reasonable balance over the product life cycle, analysis of the market and competitive position of the products and output in the light of future market opportunities which have not yet been considered, together with inclusion of future marketing cost not yet considered, normalising major cost components such as research and development and pensions, reflection of effective cost reduction and restructuring measures.

Due to the large number of influencing factors it can be advisable to prepare a number of different projections in order to highlight the extent of uncertainties of future business profits and to make an preliminary decision on how to reflect those uncertainties as an element of the value calculation (see section 6.2. below).

5.4. Evaluation of the plausibility of forecasts

Forecast business profits should be evaluated for their plausibility.

The individual components of the forecasts (particularly forecast balance sheets, statements of income and cash flows) must reconcile with each other and be plausible overall. Particularly the individual captions making up the forecast income statement should relate plausibly to one another over the period covered by the forecast. The financing assumptions must be adequately reflected in the cash flow forecast.

5.5. Use of reliable documentation underlying the valuation

The accountant should evaluate the reliability and completeness of the facts underlying the valuation.

As a rule, the (adjusted) past profits should be based on audited financial statements. To the extent the financial statements presented are not audited, the accountant must be satisfied as to the reliability of significant base data and present his findings in this respect in the valuation report (see section 9.2. below).

The accountant should receive a letter of representation from the entity. However, this does not release him from reaching his own conclusions as to the reliability of the forecasts and projections made.

5.6. Special matters to be considered in the projection of future business profits of SMEs

5.6.1. Restricted sources of information

5.6.1.1. Adjustment of past results

When analysing past results it should be noted that the financial statements of small and medium-sized entities are often specifically tax-related. It should also be considered that capital expenditures are often only made at greater intervals of time. It is thus possible that the income statements for recent periods inadequately reflect average results and must be adjusted accordingly.

5.6.1.2. Analysis of earning power

In the event the business does not produce budgets or they are not documented, the accountant should request management to prepare a budget for the following one to five years for the purpose of the business valuation. Such budgets are to be reviewed critically for their reliability.

Often, management of the business will not prepare budgets but merely provide general ideas on the future growth of the business. If they cannot be confirmed by specific underlying facts

the accountant can only prepare a forecast of future earnings based on his analysis of past profits and the resulting trends which he discerns. The profit forecast is then subject to further uncertainties. Uncertainties which are solely caused by poor budgets or a complete lack of budgets may not be reflected for valuation purposes by deductions from the business profits to be capitalised or increases to the discount rate.

6. CAPITALISATION OF FUTURE BUSINESS PROFITS

6.1. Basic principles

The value of the business (earnings-based value) is determined by discounting future business profits to the valuation date. For most valuations it should be assumed that the business being valued will continue as a going concern in the future. However, in certain specific cases it can be more relevant to assume that the business being valued only has a limited useful life.

Where it is assumed that the business being valued has an unlimited life, the value of the business represents the present value of future business profits earned from the combination of assets used in the operations plus the present value of profits from non-operating assets (see section 4.5. above for details on the valuation of assets not used in the operations). (See Annex 2)

The value of a business (VB) can be expressed by the following formula:

$$VB = \sum \frac{BP_t^{op}}{(1+i)^t} + \sum \frac{BP_t^{nop}}{(1+i)^t}$$

BP_t^{op} = Business profit from operations

BP_t^{nop} = Business profits from non-operating assets

i = Discount rate

Where it is assumed that the business being valued has a limited life, the value of the business is the sum of the present values of future business profits from the combination of assets used in the operations (until the entity ceases business), the present value of future business profits from non-operating assets (until the entity ceases business) and the present values of future business profits resulting from the closure of the business (e.g. liquidation).

The value of business (VB) can be expressed by the following formula:

$$VB = \sum \frac{BP_t^{op}}{(1+i)^t} + \sum \frac{BP_t^{nop}}{(1+i)^t} + \sum \frac{BP_t^{clos}}{(1+i)^t}$$

BP_t^{op} = Business profit from operations

BP_t^{nop} = Business profits from non-operating assets

BP_t^{clos} = Business profits from closure of the business

i = Discount rate

6.2. Reflection of risk

Future business profits cannot be forecast with certainty due to the fact that the future is uncertain. A business venture is always associated with risks and opportunities. The acceptance of such entrepreneurial uncertainties (enterprise risk) is recognised by participants in the market by means of risk premiums; theory and practice agree in assuming that potential investors give greater weighting to future risks than to future opportunities (risk aversion).

When considering this approach to risk, the uncertainties relating to future business profits can be reflected in the valuation by two means: as a deduction from the expected amount of business profits (safety equivalent method or profit deduction method) or as an uplift to the discount rate (interest uplift method, risk premium method).

The advantage of the risk premium method, which is normally used nationally and internationally, is that it is based on empirically observable behaviour. It permits a market-oriented approach to measuring risk premiums. In view of the difficulty in making a clear differentiation between them, no difference should be drawn between specific and overall risks, and the (entire) entity risk should be reflected solely in the discount rate. The numerator of the valuation formula is then the expected future business profits (expected values). Forecast calculations are to be adjusted if they reflect different values.

In practice, the specific amount of the risk premium is often only determinable with the help of standardised amounts, particularly regarding the extent of risk aversion. Market-based risk premiums can serve as a starting point, but they are to be adjusted to reflect the specific characteristics of the business being valued. A mere selection of market risk premiums is particularly unacceptable if the business being valued is different in its risk structures from those entities upon which market risk premiums are based with regard to both external and internal factors (e.g. location, economic environment and sector influences, financing structure, customer dependency, product range, marketability of the entity's equity shares). Furthermore, past risk premiums must be adjusted if different influences are expected in future. The entity-specific risk premium must cover both business risk from operating activities and financing risk, which is linked to the business's debt/equity structure.

A market-based determination of the risk premium can be applied by using the capital asset pricing model ("CAPM") (see section 7.3.2.5. below).

6.3. Reduction of discount rate for personal income taxes

Business profits from the business are to be compared with business profits which could be achieved from making an alternative investment. In establishing an objectively-determined value of a business this is normally based on a risk-free investment on the capital markets. As business profits from alternative investments to be made on the capital markets are normally subject to personal income tax of the business's owners, this tax charge is to be included in the discount rate.

The risk premium (see section 6.2. above) can then either be set as a gross risk premium on an (untaxed) risk-free base interest rate (risk-free gross interest rate) or as a net risk uplift on the taxed risk-free base interest rate (risk-free net interest rate). Both methods lead to the same discount rate and thus to identical values of the business if the net risk premium is the same as the gross risk uplift less personal income tax. As market-based risk premiums are normally gross risk premiums, gross risk premiums are normally to be calculated.

6.4. Reflection of growing business profits

Business profits are also affected by inflation. Expected inflation can be reflected either in a business valuation as part of a nominal calculation, or indirectly as part of a real calculation. Business profits and discount rates are to include expected inflation in a nominal calculation and are to exclude inflation in a real calculation (like-for-like approach). Although, if consistently used, nominal and real calculations lead to the same results, nominal calculations should normally be used, as business profits subject to income taxes are in any event based on nominal values. Furthermore, normal country interest rates which serve as the basis for determining the discount rate to be used for objectively-determined valuation of a business include an inflation premium and are thus nominal rates.

Furthermore, changes in nominal business profits can be caused by quantity and structural changes (expansion or reduction in sales, cost savings) as well as by inflation.

Hence, expected rates of inflation can only be an initial starting point for the estimate of future (price and/or quantity-related) nominal growth in business profits. Price increases which the business expects from its procurement markets can vary more or less from such inflation rates and, in addition, will vary depending on the relevant factors concerned. Furthermore, it cannot be automatically assumed that these price increases can be passed on entirely to customers. An assumption must be made for each specific valuation whether, and to what extent, price increases can be passed on and what quantity and structural changes are to be expected.

If business profits grow to perpetuity at constant rates the application of the formula for continuing value can be made mathematically using a growth deduction from (nominal, net of personal tax) discount rates. The business profits at the start of this phase are then discounted using a discount rate reduced by the growth rate. When using the phase method, the business profits individually forecast in the initial phase are discounted using nominal discount rates (only reduced by personal income taxes). Only as from the first year of the second phase are nominal business profits discounted using discount rates net of personal income tax and reduced by the growth rate. The additional discounting to the valuation date is then to be calculated using a nominal discount rate (only reduced by personal income taxes).

6.5. Gross or net present value

The value of a business can be calculated mathematically directly (onestep) as a net present value, in which the business profits net of interest on third-party debt are discounted in one step (capitalised earnings valuation, equity method as a variant of the DCF method). The value of the business can also be determined mathematically indirectly (multi-step) as a gross present value, in which individual components of the business profits are discounted using different

interest rates, or in which the business profits from operating activities are discounted in one step and then reduced by the market value of third-party debt. This point of view forms the bases for adjusted present value (APV) concept and also for the concept of weighted average cost of capital (WACC), which are further variants of the DCF method. Using this method, the present values of individual components of business profits are to be determined using risk-adjusted interest rates. The numerator and denominator of the valuation formula must also be consistent with each other.

7. VALUATION PROCEDURES

7.1. Use of the capitalised earnings method or DCF method

Capitalised earnings and discounted cash flow methods are based on the same conceptual framework (present value calculation); in both cases the present value of future business profits is calculated. Conceptually, both objectively-determined entity valuations and subjective valuations can be established using either valuation procedure. Where the valuation assumptions or simplifications are the same, particularly with respect to financing, both methods lead to the same entity valuation. In practice, if different valuations are determined using both procedures, this is due to different assumptions, particularly with respect to the financing structure, risk premium and other forecast data used.

7.2. Determination of business value using the capitalised earnings method

7.2.1. *Procedures to be used*

The capitalised earnings method calculates a business's value by discounting the future business profits flowing to the entity's owners, which derives from future commercial profits (statement of earnings).

7.2.2. *Determination of earnings from operating assets*

7.2.2.1. *Adjustment of past performance*

It is recommended that prior years' income statements (see section 5.2. above) be adjusted for the following significant matters:

- elimination of expenses and income from assets not used in the business (e.g. income from investments not required for business activities),
- adjustment to arrive at a proper periodisation of income (e.g. proper allocation of profits on work-in-progress to the correct periods, allocation of significant prior period expenses and income to the periods to which they relate and adjustments resulting from the setting up and release of provisions and accruals),
- adjustment due to exercising options in applying accounting policies (e.g. correction of effects on income of changes in accounting policies),
- adjustment of personal-related and other specific success factors (e.g. inclusion of imputed remuneration for the owner/manager of a partnership, adjustment for the effects on income of specific purchase and sales relationships within a group of companies),
- changes resulting from adjustments made (in particular adjustments relating to previous years or subsequent years and recalculation of expenses, such as taxes and bonuses, which are dependent on income levels).

7.2.2.2. Budgeted expenses and income

As the adjusted past results are calculated using commercial income statements, it is recommended that future business profits be forecast for the various planning phases based on expense and income budgets.

To the extent possible, a detailed analysis should be made of income from individual products and product groups as well as trends in expenses and income in order to develop budgets and forecasts. It can be useful to allocate expenses and income to profit centres.

7.2.2.2.1. Revenues

The future income of a business is primarily based on sales. Reference should normally be made to the operating sales budget of the business when evaluating the amount of sales included in the budgeted income statement. It is particularly important to determine probable future growth trends for the industry as a whole, whether there are reasons to support growth at entity level being different from the industry, and what regularly-recurring seasonal influences are reflected, or should be reflected, in forecasting sales volumes.

If the quantities to be sold in their final form are either determined using forecast rates for different future periods or, to the extent not otherwise possible (particularly for periods of time further into the future), using an average production volume, these quantities are to be multiplied by prices expected to be achieved, net of normal sales deductions. It is the accountant's responsibility to make a critical analysis of budgeted sales volumes and the underlying assumptions, using plausibility considerations and sensitivity analyses, in order to use growth rates for the forecast which he believes to be reasonable.

7.2.2.2.2. Expenses

Based on forecast sales, it should be determined in particular whether the assumptions made result in a constant ratio of costs to sales (and hence, ignoring the effects of any quantity changes, the assumption that prices on the procurement and sales markets will move in parallel) or whether reductions or increases in the ratios of costs to sales are to be expected.

- For the projection of *cost of materials* (use of raw materials, consumables and supplies and purchases of merchandise and third-party services) future production quantities (including percentages for waste, weight loss and rejects) and probable purchase prices for raw materials, consumables and supplies are to be estimated.
- As a starting point for projecting *personnel expense* (production wages, salaries, etc.) it may be most appropriate to use expenses results from the structure of

personnel in the past. Measures already taken or planned relating to changes in staff numbers (reductions or increases in personnel) are to be reflected. Wage and salary increases are to be included in personnel expense.

Where pension expense and pension payments are substantially different from one another because an equilibrium has not yet been reached, separate projections are required in order to reflect the effects of pension plans on the financing and taxation of the business.

- The calculation of *depreciation* in the initial phase and the *reinvestment rate* in the future phase is to be based on capital expenditure forecasts. Capital expenditures can be divided into the following categories:
 - replacements (the same equipment, but new),
 - expansions (additional equipment of the same type or technologically improved),
 - upgrading (technically new equipment),
 - other (environmental protection, social, administration, etc.).
 - See section 4.4.2.1. above for the scope of the business upon which the valuation should be based.
 - Capital expenditures are to be included in the cash flow forecast (see also section 7.2.2.3. below).
- Included in *other expenses* are additions to provisions and accruals which are intended to cover the specific risks associated with the operations and which are of particular importance. For business valuation purposes the expected actual use of such provisions and accruals is to be based on past experience.

7.2.2.3. Cash flow forecasts and interest projections

Every capitalised earnings calculation must reflect the financing volumes of a business, which normally fluctuate over the projection period. To this extent, the forecast of interest expense and income is intended to reflect the financing of the business and its future fluctuations.

Each change in financing requirements or excess funds has a direct effect on the drawing down or repayment of third-party debt or leads to changes in the assets (e.g. the acquisition of financial assets from excess funds). This leads to interest expense and income, which is reflected in the forecast income statement. It should also be considered that an increase (or decrease) in debt will cause the financing situation of the entity to deteriorate (improve) and this normally leads to an appropriate risk increase (risk deduction) for holders of equity and debt. This is reflected by use of an appropriately higher (lower) interest rate for third-party debt and a resulting adjustment to the discount rate.

Financing assumptions (see also section 4.4.2.3. above) are normally of considerable importance in determining the capitalised earnings value. However, for practical reasons cash flow forecasts should be restricted to reflecting significant transactions.

7.2.2.4. Income taxes

The profits upon which the earnings to be capitalised are based are initially to be reduced by any income taxes at the entity level and then by the personal income tax of the owners of the business.

7.2.3. Determination of earnings from non-operating assets

See section 4.5. above with respect to the calculation of values of assets not used in the business.

7.2.4. Determination of discount rate

The business profits from an entity are to be discounted to the valuation date using an appropriate discount rate to make them comparable with alternative investments available to an investor.

7.2.4.1. Discount rate used for subjective valuation

When calculating subjective valuations the discount rate is based on the individual situation of each investor. In this case the maturity is also to be considered and, if appropriate, a growth deduction included.

Example: 2 alternatives to deal with growth of profits (growth rate 10%, discount rate 10%)

	1.1.t1	1.1.t2	31.12.t2
profits	100	110	121

Valuation:

1. Alternative: $100 + 110/1,1 + 121/1,21 = B_0 = 300$

(growth of profits, no growth deduction in discount rate)

2. Alternative: $100 + 100/1 + 100/1 = B_0 = 300$

(no growth of profits, growth deduction 10% p.a.)

7.3. Determination of business value using the DCF method

7.3.1. Overview

DCF methods determine the valuation of a business by discounting cash flows. The cash flows represent expected payments to the provider of capital. This is defined differently depending on the procedure used (see particularly section 7.3. below). Whereas the market value of equity is determined indirectly as the difference between the enterprise value and the market value of debt using the weighted average cost of capital method (WACC) and the adjusted present value method (APV), the equity method determines the market value of equity by discounting cash flows net of cost of debt using the return on equity (cost of equity). The concepts of weighted average cost of capital and adjusted present value are based on gross values (enterprise value methods), whereas the concept of direct calculation of the value of equity is based on net capital. Regardless of the difference in the method used, the individual DCF procedures result in the same values.

7.3.2. The weighted average cost of capital (WACC) concept

7.3.2.1. General procedure

Enterprise value using weighted average cost of capital is calculated by discounting cash flows (before interest). These can be estimated as a constant or can be divided into phases. In the initial phase cash flows can be forecast in detail (see section 5.3. above). A residual value is applied for the subsequent phase. Cash flows are discounted using the weighted average cost of capital. The value of assets not used in the business is then added to arrive at the overall business value.

The WACC method assumes that, apart from tax effects, the enterprise value is not affected by the type of finance used. In a second step the enterprise value is divided between equity and debt. The market value of debt is obtained by discounting the cash flows to providers of debt using an interest rate which reflects the risk potential of these cash flows. The difference between enterprise value and market value of debt then represents the market value of equity (business value).

7.3.2.2. Determination of future cash flows

Future cash flows are those business profits which are available to all providers of capital to the business after considering distribution restrictions under company law. The cash flows represent business profits after capital expenditures and taxes on the business but before interest. In determining the cash flows the ability of the entity to distribute business profits is

reflected by including changes in liquid funds/debt. Cash flows can be determined indirectly as follows:

Profit/(loss) for the year/unappropriated profit or loss	
+ Interest on third-party debt	
- Entity-related tax saving due to tax deductibility of interest on third-party debt (tax shield)	
+ Corporation tax available for offset	
+ Depreciation and other expenses not using cash	
- Income not providing cash	
- Capital expenditures	
+/- Deduction/increase in working capital including liquid funds/debt	
= Cash flow	

The addition of interest on third-party debt can include interest due to explicit loan agreements as well as implicit interest rates (particularly for pension obligations). The latter assumes that the pension obligations are reflected as part of third-party debt and the related cost of third-party debt is included as part of weighted average cost of capital. Taxes paid by the entity and not available for offset by the entity's owners are to be deducted in determining cash flows. As cash flows are determined under the assumption that no interest is to be paid on third-party debt, the tax shield arising from deduction of interest on third-party debt is to be deducted from the earnings for the year

7.3.2.3. Determination of residual value

The residual value is determined assuming continuation of the business as a going concern or the disposal of the business. Unless there are legal or economic reasons for not assuming continuation of the business or liquidation, the higher value is to be used (see also section 7.4. below).

The residual value is the present value of cash flows after the end of the detailed forecast period. Weighted average cost of capital is usually assumed to be constant for this period.

If it is assumed that the business will be sold, the expected sales value of the business, less any related costs, is to be used.

7.3.2.4. Value of non-operating assets

See section 4.5. above with respect to the determination of the value of assets not used in the business.

7.3.2.5. Determination of cost of capital

The weighted average cost of capital depends on the cost of equity and debt, the differences in treatment for taxation purposes of debt and equity at entity level and on the ratio of debt to equity (based on the ratio of market value of debt to market value of equity). The weighted average cost of capital is to be adjusted if it is expected that the ratio of market value of debt to equity will change in future. Adjustments are also to be made for any changes in the cost of equity and/or cost of debt.

The cost of debt is calculated as the weighted average cost of the individual forms of debt. Where the various components of debt are not explicitly interest-bearing, a market interest rate for equivalent debt is to be used. Taxation borne by the business is to be deducted.

The capital asset pricing model is normally used to determine the cost of equity. This is based on a comparison of the return on equity of the business with the return of the entire equity market (a market portfolio) and is thus normally suitable for an entity which is listed on the stock exchange. Using this method the cost of equity is the total of a risk-free base interest rate and a risk premium for the business concerned (an entity-specific beta multiplied by market risk premium; this represents the difference between the return of the market portfolio and a risk-free base rate).

In practice, the determination of the risk premium is often based on an equity index and past values rather than future returns of a market portfolio. For example, for a entity listed on a stock exchange, the entity-specific beta can then be calculated as the difference between return on equity of the business to be valued and the return of an equity index. Projections of betas are available from financial consultants. The beta projections should be evaluated for each specific case.

7.3.3. The adjusted present value (APV) concept

The concept of adjusted present value divides total enterprise value into its component parts. Initially, it is assumed that the business is entirely financed by equity and thus the market value of a debt-free entity is determined. Thereafter, the contribution to value provided by debt is calculated. The total of the market value of the debt-free entity and the contribution of debt equals the overall enterprise value which, after deduction of the market value of debt, results in the business value of the equity.

Cash flows are discounted using equity cost of a debt-free entity. The contribution to value provided by debt is discounted using interest rates for debt.

7.3.4. *The equity concept*

The concept of direct calculation of equity value discounts the cash flows flowing to equity owners using cost of equity (of an entity with debt). The net cash flows are hence reduced by payments made to providers of debt in the period and discounted using the equity cost of capital, which reflects both the operational risk of the business and the financing risks arising from the entity-specific financing structure.

7.3.5. *Consideration of personal income taxes of the owner*

The value of a business to the business's owners is also based on net receipts flowing to them when the business is valued using the DCF method. When using this method, taxation should be provided on a liability basis because of changing differences (See Annex 2).

7.4. Determination of liquidation value ²

In particular for loss-making businesses, the present value of assets which would result from liquidation of the entire business may be higher than the value assuming a continuation of the business as a going concern. In certain countries, in such cases the liquidation value of the business is the base value to be used for valuing the entity; only when there is a legal or actual requirement for the entity to continue in business is the assumption of continuation of the business as a going concern to be used.

Liquidation value is based on the present value of net receipts which arise from selling the assets less liabilities and liquidation costs. A deduction for income taxes may be required. On the other hand, when limited liability companies are liquidated tax recoveries on part of the equity already subject to corporation tax may affect the value.

7.5. Matters to be considered in a plausibility evaluation

7.5.1. *Market price*

To the extent prices are available for equity shares in the entity listed on a stock exchange these are to be used in carrying out valuations of the entity as a plausibility evaluation of the above-based methods for calculating the value of the entity or shares in the entity. Specific factors which could possibly have an effect on the price quoted on the stock exchange are to be carefully analysed and described (e.g. small number of shares quoted on the stock exchange, specific market conditions).

² In the UK, liquidation is a legal process, in this context is referred to a European approach that means the sale of assets.

Substantial variances between the earnings-based value and the stock market price which are not factually justifiable should be taken as a reason for critically examining the data and assumptions upon which the valuation was based (e.g. a different view of the entity taken by the market).

However, the use of prices quoted on the stock exchange cannot replace the valuation of the entity or shares in the entity using the above-mentioned methods. When carrying out his valuation of the entity, the accountant can normally use internal information and forecast considerations which are not freely available on the market (e.g. reflection of measures affecting income which are not discernible externally). Furthermore, the stock market price is also subject to influences not depending on the value, e.g. political and psychological factors which often lead to considerable short-term fluctuations in price without having any effect on the long-term change in the value of the entity or shares in the entity.

7.5.2. Simplified price determinations

Simplified price determinations are sometimes used for entities in practice; especially for SMEs. These determinations include the use of earnings multiples, or sales or product quantity-oriented multiples.

When using earnings multiples the price of an entity is the product of what is deemed to be the normal income before taxes for the entity and a sector or entity-specific multiple. The multiple reflects the current cost of capital, the risk weighting for potential acquirers and supply and demand on the market for business transactions. The application of earnings-based multiples represent an extremely simplified form of the capitalised earnings method.

In practice, sales or product quantity-oriented multiples are used particularly for determining market prices of smaller service entities. These market prices are often considerably influenced by the value of the transferable customer base. The market value of professional practices are also mainly determined by transferable client lists. This method provides no direct link to the capitalised earnings method.

Simplified pricing methods can be a basis for plausibility checks of the results of the valuation using capitalised earnings or DCF methods.

If there is a difference between the earnings-based value and a value using a simplified price method for plausibility control purposes, this could be a reason for carrying out a critical review of the data and assumptions used for the valuation and, adjusting the valuation, to the extent additional knowledge is obtained (e.g. with respect to expected profits).

If the accountant acts as an advisor for the determination of a subjective value the comparison of an earnings-based value with a simplified pricing method can give indications for recommendations regarding the purchase or sale of the entity.

In his valuation report (see section 9.2. below) the accountant should clearly state the extent to which, and with what consequences, simplified pricing methods have been used.

8. SPECIAL MATTERS RELATING TO BUSINESS VALUATIONS

As a general rule, a business value is to be carried out using generally accepted procedures (see section 4. above) regardless of the nature and size of the business concerned. However, in specific cases special matters can influence the value of the business. Based on purely financial objectives, in such cases the valuation of the business depends also solely on the ability of the business to produce distributable business profits.

8.1. Valuation of rapidly-growing businesses

Businesses which are growing rapidly are often distinguished by product and output innovation, high expenditures on human and physical capital, considerable up-front investments in development, production and sales, growing capital requirements and the use of risk capital, rapid changes in its organisation and related rapidly increasing revenues.

For these entities, past results often do not provide an appropriate basis for the projection of future developments and carrying out plausibility analyses.

The projection of business profits, and particularly the achievement of stability or a steady state, are subject to considerable uncertainties and fluctuations connected with a high sensitivity of the forecast parameters. In determining the value of the business an analysis is to be made of the market and competitive abilities of the business's product and output programmes, availability of resources, changes to the internal organisation due to rapid growth and financing of the business's growth. Finally the risk premium and growth deduction must adequately reflect the specific features of fast-growing entities.

8.2. Valuation of businesses with poor earnings

8.2.1. Background

A business can be described as achieving poor earnings if its return on equity has been lower than the discount rate over a period of time. A long period of poor earnings can lead to an inability to pay creditors and over-indebtedness, factors leading to insolvency.

When valueing businesses which are recording poor levels of earnings the accountant must evaluate not only the ability of the business to continue as a going concern but also the break-up concepts, to the extent break-up concepts represent a reasonable alternative in the specific case. If the present value of business profits arising from the liquidation of an entity is higher than the present value of business profits from continuation of the business as a going-concern, the liquidation value is the base value to use in valueing the business (see section 7.4. above for calculation of the liquidation value).

If it is assumed that the entity recording poor earnings will continue in business as a going concern the business strategy underlying such assumption is of particular importance. If an objectively-determined business valuation is to be established, only those measures already

introduced to counteract the poor performance are to be reflected, whereas a subjective business valuation includes additional measures planned but not yet introduced (see section 4.4.2.1. above). The accountant should review the measures planned and business profits forecast by the business set out in its plan for counteracting the poor performance to determine whether they are plausible and achievable and, as a result, serve as a basis for projecting the future business profits of the business (see section 5. above).

8.2.2. Not-for-profit organisations

If an entity with insufficient return on equity does not have financial objectives, but whose primary aim is output (e.g. not-for-profit entities), the value of the entity from the point of view of the producer of the output is not a future return on equity but the entity's replacement value (see section 8.3. below). If the output to be achieved by the entity being valued could be achieved with an unchanged current net operating expense by establishing a more efficient net asset base or structure, whose establishment cause much lower expenses, the replacement value is to be lowered accordingly. Assets not used in the operations are to be valued at their break-up value.

For such entities the objectives of the entity are primarily aimed at the production of output, to provide public services (e.g. the residential and town planning or transport sectors) or for charitable purposes. In such instances it is assumed that the production of output is in the public or charitable interest and would also be carried on regardless of any entrepreneurial activity. Even if such entities generate insufficient earnings power, in such cases liquidation valuation is not an alternative to the assumption of continuation of the entity as a going concern, but rather an alternative investment to the entity being valued is to be used.

8.3. Net asset valuation

In contrast to the liquidation value as a sale or liquidation value, a valuation of net assets is based on the in-use value of net operating assets. The net asset value is the replacement value of all existing intangible and tangible assets and liabilities used in the business. To this extent it reflects cash outflows already incurred which can be saved by not having to establish an identical entity. The age of the net assets is to be reflected by deductions from the replacement value of new assets, based on the ratio of the remaining useful lives of the assets in place to their total useful lives, or the ratio of their remaining useful potential to their total useful potential (replacement time method). Due to the practical difficulties in determining assets not included in the balance sheet, particularly intangible assets, a net asset value is normally calculated as a net partial replacement value.

The net asset value, being a net partial replacement value, does not have a direct relationship to future business profits. Hence, it does not have a value function as such.

Net asset values are only to be calculated by the accountant if this is specifically laid down in the terms of engagement for the valuation report. For the determination of net asset values the general principles of the purpose of the valuation (see section 4.1. above), the valuation of the business unit (see section 4.2. above), the specific valuation of assets not used in the business

(see section 4.5. above) the comprehensibility of valuation premises (see section 4.6.above) and the valuation date (see section 4.3. above) are valid.

9. DOCUMENTATION AND REPORTING

9.1. Working papers

In determining business valuations, the normal professional principles with respect to working papers are to be applied accordingly. This also includes receipt of a letter of representation.

The working papers must enable a knowledgeable third party to understand the results of the valuation and estimate the effects on the business valuation of any assumptions made.

9.2. Valuation report

The contents of the report should include the following:

- description of valuation engagement
 - name of client
 - engagement (reason for valuation; in which function the valuation is being carried out)
- description of business being valued
 - legal background
 - financial background
 - tax matters
- description of the information underlying the valuation
 - analysis of past results
 - budgets, setting out underlying assumptions
 - availability and quality of underlying data (including reports from third-party experts)
 - plausibility review of budgets
 - statement of responsibility for information received
- description of specific valuation of assets not used in the business
- description of valuation of assets used in the business
- conclusion.

In his valuation report the accountant must set out a clear value or range of values for the business and explain the values. Furthermore, the details and considerations underlying the

business valuation must be described in sufficient detail to meet generally accepted reporting standards.

The valuation report must reveal the function in which the accountant has acting in carrying out the valuation and on which principles the valuation is based.

Furthermore, there must be an adequate description of the procedures carried out for the business valuation. The valuation method used (capitalised earnings method, DCF method) should be described. Furthermore, the procedures involved in making projections and discounting business profits should be described. The scope and quality of underlying data and the extent of estimates and assumptions together with considerations underlying them should be set out. In particular, for the sake of clarity the valuation report must clearly state the significant assumptions upon which the business value is based. To the extent simplifications are considered permissible, these are also to be set out.

When reporting there may be instances, for example for protection of confidential internal data, when it is necessary to keep the figures confidential. In such situations, the report can be divided so that the valuation report sets out verbally the major valuation principles and background to the valuation, the procedures adopted and valuation result, together with underlying major assumptions and the material required to be kept confidential is summarised in a separate exhibit.

ANNEX 1 - Example of letter of engagement and another practical guidance

Personal/Confidential

Mr.

Date

Dear Mr.....,

We would like to thank you for your letter of ... in which you engaged us to determine the business enterprise value (value of the shares of ...% in ...) of

The purpose of this appraisal is to calculate an objectified/subjectively determined value of the company. For this purpose, we are acting in the capacity of a neutral appraiser/consultant/independent expert. We would like to point out that the business enterprise value (value of the shares) is not representative of a price agreed for the Company between independent parties in negotiations, but is intended merely to be of assistance in the price fixing process.

1. Valuation method

Our examination is based on the Standards for the Valuation of Business Enterprises pursuant to Technical Opinion XY.

In accordance with our assignment, the capitalized earnings value / the discounted cash-flow method / simplified pricing methods is / are to be used for the determination of the business enterprise value (determination of the value of shares) in our capacity as appraisers.

2. Approach and documents to be used

2.1 Financial statements

The financial statements of the company for the fiscal years will be examined with reference to the corresponding audit reports to determine whether and to what extent forecasts of future cash flows prepared by management on the basis of past results are plausible. Incidental and extraordinary effects as well as effects relating to other periods or effects of balance sheet policy measures on past performance will therefore be eliminated or adjusted accordingly.

We would like to point out that the scope of our reviews and work relating to the financial statements of the Company does not constitute an audit in accordance with generally accepted auditing principles. We therefore do not render an audit opinion on the financial and other data presented in our appraisal. Our responsibility and liability is thus restricted to the application of professional care.

2.2 Forecasts

The future earnings development that is of decisive importance for the business enterprise evaluation will be based on the forecast projections prepared by the management of the company for the years to ... These planning considerations and documentation should also contain an investment and a finance budget.

We will scrutinize the projections of the company with regard to their

- clerical accuracy,
- conformity of the accounting and valuation principles used in the planning statement with the principles in the financial statements as well as their consistency throughout the planning period,
- consistency as regards material planning assumptions within the planning period,
- plausibility in terms of attainability based on past performance as well as on the basis of data generally available on the specific branch of industry and on the economy as a whole.

The analysis was essentially carried out on the basis of the planning documentation provided as well as the information supplied to us by the board of management (the management) and with reference to the main planning assumptions.

Without further engagement specific instructions, such review does not involve direct contacts with outside parties such as for instance major suppliers or major customers or the application of substantive procedures such as for instance review of contracts and customers or order files.

We wish to emphasize that it is the sole responsibility of the board of management of ... to prepare and to provide adequate support for the plan and that all the premises on which the planning statements are based and all the important data and figures are correct, complete and non-discretionary. This also falls under the sole responsibility of the board of management. Hence our liability and responsibility is restricted to the due professional care usually applied in a critical assessment and appraisal.

3. Knowledge and information available and documentation provided by the management of the company (and the client)

Our appraisal work is based on the information and knowledge available as of the cut-off date for the business enterprise evaluation/determination of the value of the shares) taking into account events after that date which throw light on past events until approx. ... (*Submission of draft appraisal*). This information and level of knowledge will be based on the work set forth above, including the information and documentation provided to us thereon by the management of Knowledge above and beyond this will only be taken into account to the extent that it is derived from data in the public domain relating specifically to the company, the branch of industry or to the economy as a whole. Such data was taken into account exercising due professional care.

At the conclusion of our work we will ask the management of the Company to provide us with a general representation letter to the effect that, in their professional judgment, we have been provided with all information, knowledge and documentation necessary to assess the business planning of the Company prepared by the board of management (by management) for the period from ... to ... Moreover, they confirmed that the management has presented their planning considerations to us in their entirety and also that, in their judgment, the calculation of the business enterprise value (calculation of the share value) carried out by us appropriately reflects the information at their disposal and their assessments.

4. Reporting

Our analyses, findings and calculations in connection with the business enterprise valuation will be recorded in our working papers. We will present our results in a written report.

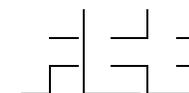
This appraisal, in which we inform you of the results of our activities within the scope of our assignment, is (not) to be disclosed to third parties (only with our approval). To the extent that it is passed on to third parties with our approval or presented to third parties with our approval for information purposes, the principal has undertaken to agree in writing with the third party (parties) towards us. You agree to hold us harmless from any possible liability to third parties exceeding the maximum liability amount agreed on between you and us which arises from our report being disclosed to them with or without our approval. In our appraisal we will refer to this ruling on the distribution of the appraisal and to the liability arrangement made with you.

5. Fees

Our fee is based on the time worked which is charged at our customary hourly rates (or per diem rates). Out-of-pocket expense and VAT are charged in addition.

6. Liability rulings

In accordance with professional or national rulings or an agreement with the client.



ANNEX 2 – Examples of DFC method and Capitalisation method

Premises

Important notice: The purpose of the following figures and percentages is to illustrate the body of the guidance; they need to be adapted depending on the country and the time when they are applied. Therefore, they should not be taken as a model applicable in all circumstances.

Legal Form: Limited Liability Company

Personal income taxes	35.00%	
Corporate tax	25.00%	
Municipal trade tax	0.00%	0%

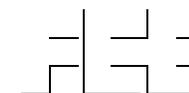
Third party debt 31.12.2000		-4.000
Rate of returned profit	50.00%	
Interest rate third party debt	6.00%	

Discount rate	Phase I	Phase II
Base interest rate	6.00%	6.00%
Risk premium	4.00%	4.00%
	10.00%	10.00%
Personal income tax	- 3,50%	- 3,50%
	1.00	6.50%
	6.50%	6.50%
Deduction of growth	0.00%	0.00%
	6.50%	6.50%

Tax loss carry forwards	
Municipal trade tax	0
Corporate tax	0

	EW	DCF	
Business value 31.12.2000	8.961	8.961	0,000

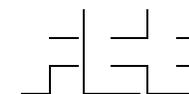
	2.001	2.002	2.003	2.004ff
EBIT	1.000	1.300	1.400	1.500
Including depreciation	- 200	- 240	- 240	- 250
Capital expenditure	300	100	100	250



CAPITALIZATION OF EARNINGS

	Phase I	Phase II
Discount rate after personal income tax	6,50%	6,50%

	2001	2002	2003	2004 ffq
EBIT	1.000	1.300	1.400	1.500
EBT	760	1.071	1.204	1.339
	760	1.071	1.204	1.339
Earnings after taxes of the business	570	803	903	1.004
Earnings after business tax and retain	285	402	451	1.004
Earnings to be capitalized	185	261	293	653
Period	1	2	3	4
Discount rate	0,9390	0,8817	0,8278	12,7361
Value at valuation date	174	230	243	8.314
Business value		8.961		



INTEREST PROJECTION

	2000	2001	2002	2003	2004 ffq
Debts 1.1		-4.000	-4.100	-3.675	-3.133
Retains previous year			285	402	451
Debts after retains		-4.000	-3.815	-3.273	-2.682
Depreciations		200	240	240	250
Capital expenditures		-300	-100	-100	-250
Debts 31.12	-4.000	-4.100	-3.675	-3.133	-2.682
Average debts		-4.050	-3.745	-3.203	-2.682
Interests	6%	-240	-229	-196	-161
Interest rate		6,00%	6,00%	6,00%	6,00%

DISCOUNTED CASH FLOW METHOD

	Phase I	Phase II
discount rate after personal taxes	6,50%	6,50%

	01	02	03	04 ff.
EBIT	1.000	1.300	1.400	1.500
municipal trade tax	0,000%	0	0	0
earnings A after municipal trade tax	1.000	1.300	1.400	1.500
corporate tax	25,000%	-250	-325	-375
earnings A including personal taxes		750	975	1.050
personal taxes	35,000%	-163	-201	-210
earnings A after personal taxes		587	774	840
depreciation		200	240	240
capital expenditures		-300	-100	-100
Free Cash Flow		487	914	980
earnings A including personal taxes		750	975	1.050
retains		-285	-402	-451
* basis for personal taxes		465	573	599
cost of debt including taxes	6,000%	6,000%	6,000%	6,000%
cost of debt including personal taxes	4,500%	4,500%	4,500%	4,500%
cost of debt after personal taxes	2,925%	2,925%	2,925%	2,925%
cost of equity after personal taxes	6,500%	6,500%	6,500%	6,500%
WACC	5,397%	5,465%	5,598%	5,747%
rate of debt	30,86%	28,96%	25,22%	21,08%
rate of equity	69,14%	71,04%	74,78%	78,92%
present value 1.1.01	462	823	835	10.841
present value 1.1.02		867	880	11.426
present value 1.1.03			928	12.050
present value 1.1.04				12.725
gross present value	12.961	13.173	12.979	12.725
market value of third party debt	4.000	3.815	3.273	2.682
market value of equity 1.1.	8.961			

ANNEX 3 – Calculation of the Discount Rate (CCEF, France 2001)

LA DETERMINATION DU TAUX D'ACTUALISATION*

- Rappel sur l'approche du taux d'actualisation "K":

ELEMENTS CONSTITUTIFS DU TAUX	NATURE DES ELEMENTS	POURCENTAGE D'ESTIMATION
Taux de base qui ajusterait offre et demande d'actifs monétaires L.M.T.	Taux de rendement des obligations d'Etat (OAT à 10 ans)	4 à 6 % actuellement proche de 5,35 %
Risque général d'entreprise	Couverture du risque général d'entreprise (avec majoration pour le marché des entreprises non cotées: prime de non liquidité)	4 à 6 % actuellement 4 %
Risque sectoriel	Positif ou négatif (par référence au risque général d'entreprise)	A apprécier + / - 50 % du risque général
Risque spécifique de l'entreprise considérée	Voir grille ci-dessous	A apprécier + 1 à 15 %

- La grille d'évaluation du "risque spécifique d'entreprise" qui a été établie par la commission comporte 8 rubriques, et se présente ainsi (faisant référence à une éventuelle période de transition avant la période dite de stabilité).

RUBRIQUES	Pondération n	Risque pendant la période de Transition						Risque pendant la période de Stabilité					
		Nul 10 %	Moyen 25 %	Elevé 50 %	Très élevé 75 %	Absolu 100 %	NA	Nul (1)	Moyen (2)	Elevé (3)	Très élevé (4)	Absolu (5)	NA
1 – Technologie													
2 – Management													
3 – Chef d'entreprise													
4 – Dépendance													
5 – Production													
6 – Position concurrentielle													
7 – Liquidité-défaillance													
8 – Autres													
TOTAL													

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Risque Global

KT =

KT =

ANNEX 4 - Additional sources provided by FEE Member Bodies

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