

VALUE ADDED IN FINANCIAL ACCOUNTING A COMPARATIVE STUDY BETWEEN GERMANY AND FRANCE

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ABSTRACT

The most basic concept to measure the income and performance of an economic entity or even a whole economy is the value added created by its economic activities. This concept has been discussed and used in several countries as a useful measure for different purposes in accounting and other economic areas. Literature refers to Germany and France as being two of the countries in the world where the idea of value added is somehow integrated in several areas of accounting.

The aim of this article is to investigate this hypothesis in giving a comparative overview of the different uses of the value added in various areas of accounting in Germany and France. In particular the role of value added in financial reporting and analysis is investigated and explained. As an illustration, we present the results of an empirical survey on the inclusion of value added data or statements in annual reports of the 100 largest companies of the two countries.

Despite the existence of numerous convergences in Germany and France, the paper shows considerable differences especially in the definition of the term value added and its use in different context, especially in financial reporting.

INTRODUCTION

Value added (*Wertschöpfung, valeur ajoutée*) is a measure of economic performance of an economic entity which has a fairly long history of application in economics. It has been regarded as the increase in wealth of an economic entity. Thus, it is a particular concept of income measurement. It has its traditional roots in macro-economics, especially regarding the calculation of national income which is measured by the productive performance of a national economy and which is called National Product or Domestic Product. These notions represent the value added of a national economy during a specific period. Other than this common use of the value added concept, it has also been discussed and practised as a useful economic and performance indicator in different areas of economics and business administration.

The fact that it represents the result of a calculation means that the value added concept is related very much to accounting. But in contrast to the traditional income calculation, one of its major characteristics is that it can be and has been used not only in one or two accounting areas but in all three types of systems: national accounting, financial accounting and managerial accounting.

In contrast to income calculation which is always defined internationally as revenues minus expenses, value added can be defined in two ways, which shows the second crucial characteristic of the value added concept. This is often referred to as the "dichotomy" of value added (see for example Lehmann 1954, p. 11; Meyer-Merz 1985, p. 446; Dormagen 1991, p. 25).

The first way to calculate value added is the so-called **subtractive method**, which is defined as follows¹:

$$VA = O - I.$$

(O = Output; I = Input)

So value added can - comparable to accounting income - also be regarded as a net figure. It expresses the value an economic entity (such as a person, a company, an industry, or an entire national economy) adds to the goods and services it received (purchased) from other entities through its own economic (productive, creative) activities.

Due to the fact that all the created wealth is also allocated in some way the value added can also be computed by the so-called **additive method** which represents the sum of allocated (distributed) parts of the created wealth. Those parts represent primarily the remuneration of the productive factors which have led to the wealth creation. So, for example, in relation to a company the **additive method** of value added calculation is shown as follows²:

$$VA = RE + RG + RCP + NAP$$

RE = Remuneration of employees;

RG = Remuneration of government;

RCP = Remuneration of capital providers;

NAP = not appropriated income (retained earnings).

These two formulas reveal the characteristic content of the value added concept which can be split up into a performance and a social aspect. The performance aspect is expressed by the subtractive method and the social aspect by the additive one.

So, value added information provides not only economic but social information by identifying the portion of output which goes to each participant of the process of a company, say its stakeholders, e.g. labor, taxes, etc. Thus, value added is a much broader performance measure than net income, because it is not focused on and biased by the viewpoint of the equity-capital provider but it reveals the "income of the entity" which belongs to, and has to be distributed to, all stakeholders.³ Therefore the underlying "concept of the firm" is a coalition of various stakeholders.

While value added provides a fairly broad and simple concept, numerous value added definitions are found in literature and practice, depending on its specific uses. These different definitions are caused by specific classifications and contents or scopes of the various items of the value added calculation.

This article focuses on the comparison of conceptual and practical aspects of value added in financial accounting and not on the general discussion of the soundness and usefulness of the value added concept (for this, see Haller 1997, pp. 271-421). It concentrates on the literature available in Germany and France, although we are aware of the literature published in other countries (see for instance the major UK article on the subject by Burchell, Clubb and Hopwood 1985, or the book of Riahi-Belkaoui, 1992).

The aim of this article is to examine different uses of the value added concept in the two countries with special emphasis on financial reporting and analysis. The results of a survey on the inclusion of value added data or even value added statements in annual reports of the 100 largest companies of each of the two countries will be presented to provide empirical evidence.

HISTORY OF VALUE ADDED IN GERMANY AND FRANCE

As already mentioned the value added concept as a measure of economic wealth creation and performance can be traced back to the calculation of the productive efforts of a nation (Nerschmann 1916, p. 200; Cox 1979, p. 12). The theoretical roots of this concept is the "theory of the economic circle" which was first developed in France by Quesnay in creating the *Tableau Économique* around 1760 (Brümmerhoff 1994, p. 417). In Germany and France it was introduced in the national economy statistics (Census of Production) at the beginning of this century. In the national accounting context, value added has always been used as an indicator of the economic development of a country in comparison with other countries. Therefore the objective to reach a high degree of international comparability of the figures through the harmonization of the methods of calculating value added emerged quite early (see, for example, Nerschmann 1916).

In particular, after the second world war, the United Nations worked in depth on the development of a standardized concept of national value added calculations. Its "System of National Accounts," which had its first publication in 1952 and has been the subject of improvement in several revisions

(the last was in 1993), has been adopted by the vast majority of nations, so that an internationally standardized computation of "domestic income" has been achieved. Therefore, there are hardly any differences in the value added definition and the computation method throughout the world and this leads to a high degree of comparability of countries' economic performance world-wide. This comparability is very important for global economic policies, strategies and negotiations as well as for the effective work of institutions such as United Nations, OECD, International Monetary Fund, and World Bank. Thus, in respect to Germany and France there are no differences in the value added definition and calculation in the area of national accounting.

As will be explained below, the notion of value added has greater authoritative importance in France than in Germany. The reason for this is its being mentioned in the *Plan Comptable Général* (PCG - General Accounting Plan). This Plan traces its origins back to the second world war. At that time the German accounting philosophy was very much oriented to serve many more national economic objectives than those related solely to investors or creditors. In the years of German occupation, this orientation was forced upon the French economy through the Plan.

German accounting philosophy at that time was characterised by the objective that accounting should provide tools to measure and control the efficient use of economic factors and to increase micro-economic and macro-economic productivity. The idea was that an increase in productivity at the shop floor level increases the productivity at the firm level and - aggregated over the whole economy - the productivity of the national economy, which was regarded as the ultimate economic objective.

Thus, accounting should help to improve the national economy by providing information which was considered as important to control the whole economy. The 1930s and the 1940s constitute the period in which the concept of value added was discussed the most in German literature (especially by authors like Nicklisch and Lehmann; for example Nicklisch, 1932 & 1937; Lehmann 1937, 1942, & 1954). As a consequence, after the second world war the importance of developing an appropriate value added accounting system was regarded by some academics as an essential aid to the rebuilding of the severely damaged economy and the whole social environment of Germany.

Since France, in political and social respects, has always been a very centralized nation, the "accounting heritage" of the German occupiers was regarded as very useful for the French economy and therefore the accounting plan (improved and revised) was implemented in the French post-war economy. Since those days, the General Accounting Plan (PCG) has been the corner of French accounting regulations. Following from this historical background it is very understandable that the PCG, which was last revised in 1982, has been developed with the intention that corporate accounting should meet three objectives, which are (see Lagrange and Saint-Ferdinand 1990, p. 38):

- provide important information and data for national economic statistics and policy,
- provide useful information and data for the stakeholder groups of a company, and
- provide useful information and data for the management of the company to take appropriate decisions.

In this "three-dimensional-perspective" of accounting the concept of value added is an essential notion, because it is the only performance measure which can be used sensibly in all three accounting systems. Therefore, political and economical institutions, particularly in France, have regarded value added as one of the most important figures in accounting.

In Germany, from the beginning of the 1950s the academic and practical interest in value added accounting decreased very much. Perhaps this was mainly for political reasons because in those days all sections of society tried to get rid of the heritage of the "Dritte Reich." Additionally the economic and cultural influence of America was very strong. Value added had a renaissance in the 1970s and the beginning of the 1980s when discussion of the social responsibility of a company and - linked to that - the term "social accounting" became quite popular in academia and in practice (the same "fashion" could be recognized also in other countries, such as France, Great Britain and, to a smaller extent the USA). From the 1980s onwards value added has emerged from time to time in academic accounting discussions in different areas but has never obtained a standing such as it has in France.

GENERAL OVERVIEW OF THE USES OF THE VALUE ADDED CONCEPT IN ACCOUNTING

Against this historical and theoretical background of the primary use of the value added concept in national accounting many other uses and areas of application have developed in the three accounting systems -- national, financial and managerial. Especially in financial and managerial accounting most of the uses have only been discussed in literature and have rarely been introduced into practice. Discussion of different applications emerged not only in Germany and France but also in a number of other countries. For example, the application of the value added concept in financial accounting has been discussed quite extensively in Great Britain, Australia, South Africa, and the Netherlands among others; managerial accounting references apply particularly to Asian countries such as Japan and Singapore (Haller 1997, pp. 203-217).

However France and Germany can be considered as having a wide range of discussed and/or practised applications of the value added concept. Exhibit 1 illustrates the various purposes value added has been proposed or is used as economic measure in the three areas of accounting in the two regarded countries.

**INSERT EXHIBIT 1 ABOUT HERE:
DISCUSSED AND PRACTISED APPLICATION OF THE VALUE ADDED CONCEPT IN
THE THREE ACCOUNTING SYSTEMS**

The actual and potential applications show clearly the double-sided nature of the value added concept, that is to say, the performance measurement and the social aspect. Due to its characteristic of wealth creation measurement the value added concept has been discussed as a mean to estimate the productivity of economic entities through their efficiency in the use of productive factors such as work-force and capital (Lehmann 1954, pp. 25-29; Weber 1994, pp. 35-36). Efficiency is a crucial objective of economic behavior because it relates the amount of output to the respective input. For this purpose value added is often used as the relevant output figure.

As wealth is usually related to the size of an entity, value added is considered as an appropriate indicator of growth, size, and importance of an economic unit (Brunhes 1968, p. 444; Delsol 1968, p. 448; Küting 1980). The role of a company or an industry in national economic production is expressed by its value added. Therefore its use as an indicator of economic concentration is also reasonably obvious (see, for example, Pohmer and Kroenlein 1970, p. 1919; Kroenlein 1975, pp. 37-40).

The amount of added value related to the total output of an economic unit also gives indication on the structure of the business activities of this entity. Vertical integration illustrates how much an entity has created value on its own through its operating activities (Lehmann 1954, p. 24; Matje 1994).

In considering the social aspect of the value added concept it has been discussed in Germany as a basis for computing a company's income tax duty or its contributions to the social security system (Wissenschaftlicher Beirat beim Bundesministerium der Finanzen 1982; Rürup 1987; Mannel 1988; Weber 1994, p. 44). Additionally, corporate reporting of added value during a period and its calculation in the annual report has been regarded as useful information for the employees in particular and is therefore an instrument of social reporting.⁴

It was in the 1970s, when in Germany and France like for example in the United Kingdom the discussion on "social reporting" became very popular, due to the consideration of the social relations of a company and the role it plays in society. In this movement, the value added statement was considered as one of the central tools to disclose information relevant to society. Not only academics but also specially founded committees of industry organizations dealt with this topic and proposed the publication of a value added statement (the most important in Germany were the *Arbeitskreis 'Das Unternehmen in der Gesellschaft' im Betriebswirtschaftlichen Ausschuß des Verbandes der Chemischen Industrie e.V.* - 1975, and the *Arbeitskreis 'Sozialbilanz-Praxis'*, 1978).

According to the proposals of those institutions the value added statement should be a minor restructuring of the income statement and should show the calculation and appropriation of the value added of a company.

In the 1970s there was an increasing number of companies who disclosed value added statements in their annual reports (Schneider 1985, p. 180). However the publication practice was very often criticized by academics and especially by trade unions, because of the lack of relevant and comparable information and the chosen classifications of the statements (Scheibe-Lange 1978; Küller 1983; Scheider 1985, p. 184).

Due to the conflicting potential of the value added allocation, the discussion of the calculation of value added and the design of value added statements has always been regarded as a hot "political" issue. Thus, the arguments have had quite often more political than conceptual justifications. This might be the reason why academic interest in value added accounting has declined in the 1980s until today.

Because of the performance aspect of the "value added" notion it is quite reasonable - as has been argued in literature - to use this measure as a basis for employees incentive schemes (profit sharing). In France this idea has even led to the incorporation of the value added concept in the legal formula on minimum employees profit sharing.⁵

In Germany there is neither a legal requirement on employee participation nor - logically - a specific definition of value added in this respect. Profit participation varies greatly between German companies. Although the use of value added as a basis for the participation of employees in the performance of a company has been discussed since the 1930s,⁶ the incentive schemes which are currently used in practice are primarily based on financial accounting income and not on value added. However, the German trade unions favor the increase in gross value added as a measure for potential increases in salaries (Ehrenberg, 1992, pp. 200-207; Hujer and Lob 1992, pp. 208-253).

In the following text, the definitions and uses of the value added concept in financial accounting is regarded and explained in more detail.

DEFINITIONS OF VALUE ADDED IN FINANCIAL ACCOUNTING

In Germany, there is no promulgated accounting standard or requirement which deals somehow with or even mentions the notion *Wertschöpfung* (value added). In France, by contrast, "value added" is quoted as a term and as an accounting measure in the *Plan Comptable Général*.

Probably both the best known definition and the most used currently in France is contained in a table analysing the income statement called the *tableau des soldes intermédiaires de gestion* (table of intermediate results)⁷. This table is directly related to the income statement presented by nature, which means that the expenses are classified by their type, i.e. purchases of raw materials, external charges, taxes, salaries and social charges, financial expenses...) which is imposed for individual company financial statements (see exhibit 2).⁸

INSERT EXHIBIT 2 ABOUT HERE:
VERTICAL PRESENTATION OF INCOME STATEMENT BY NATURE OF EXPENSES
(FRANCE)

The General Accounting Plan defines value added (see an example in exhibit 3) as the difference between total production for the period, to which is added the "commercial" margin (gross margin) on merchandise sales, and the consumption of goods and services supplied by third parties for that production (see Conseil national de la comptabilité 1986, p. II.98). This method is known as the subtractive method, as explained before.

INSERT ABOUT HERE EXHIBIT 3:
COMPUTATION OF VALUE ADDED IN FRANCE - SUBTRACTIVE METHOD

The General Accounting Plan does not mention the calculation of value added by the additive method nor its distribution. Nevertheless French accounting literature deals also with the additive

method of value added calculation. The broadly accepted table in France to calculate value added using the additive method is presented in exhibit 4 (X 1986, pp. 44-50).

INSERT ABOUT HERE EXHIBIT 4: COMPUTATION OF VALUE ADDED IN FRANCE - ADDITIVE METHOD
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This method is known as "additive" because it mainly adds back to the net income all the expenses which have not been included in the subtractive method because they represent distributions to stakeholders. The term "additive" is, however, not totally correct because one should deduct the revenues, which result from a company's non-operating activities, not included in the subtractive computation.

These expenses (less the corresponding revenues), e.g. financial expenses less financial revenues, stand for the remuneration of the various factors of production. Thus, we find that value added equals "cost added" plus net income. "Cost added", a specific French term, means all costs of a company other than those related to the consumption of goods and services acquired from third parties (as such included in the subtractive method). As exhibit 4 reveals the major items of "cost added" are wages and salaries, financial expenses, taxes and depreciation.

Thus, typically, the additive table is structured according to the different stakeholder groups. The distribution of value added is usually represented as shown in exhibit 5, which is particularly characterized by its differentiation between "cost added" and "income".

INSERT ABOUT HERE EXHIBIT 5: DISTRIBUTION OF VALUE ADDED

THE USE OF VALUE ADDED IN FINANCIAL STATEMENTS ANALYSIS

The Principles

France

There is a long tradition of the use of value added as a tool for analysing financial statements in France, because of the strong influence of the *Banque de France* and its *Centrale de Bilans*. It should be noted that the *Centrale de Bilans* was created by the *Banque de France* in 1968 with the objective to supply in an sophisticated form the information which it is possible to draw out from financial statements of a large sample of French companies. Even when the "intermediate results" are not presented by a company, it is nevertheless possible to calculate the value added because of the standardized presentation of the income statement in the individual company accounts. This explains why the *Banque de France* was able to develop its very standardized analytical instruments.

Although there exists a standard definition given in the General Accounting Plan, the *Banque de France* and French financial analysts are used to "restate" the definition in order to adapt it to their needs.

Germany

Due to the fact that a comparable analytical system to the analyses of the *Centrale des Bilans* is missing in Germany, the analysis of value added (*Wertschöpfungsanalyse*) is not as popular as in France but is nevertheless quite often carried out by professional analysts. The correctness of the computation of the value added of a company by an external analyst depends on the format of the published income statement. German accounting standards allow companies to choose in their single company (in contrast to France) as well as consolidated accounts either the "total cost format" (presentation by nature⁹) or the "cost of sales format" (presentation by function).

Because of the increasing number of German companies (especially large multinationals) which switch from the traditional German "total cost format" to the universally more popular "cost of sales format", the value added analysis is becoming more and more difficult for financial analysts.¹⁰ Nevertheless there are also propositions of how to compute value added based on a "cost of sales format" income statement. The soundness of this calculation depends very much on the information which is disclosed by the company in the notes (see Küting and Weber 1994, pp. 316-318; Weber 1994, pp. 30-32).

There is no standardized version of the *Wertschöpfungsdefinition* (value added definition) in Germany. Most of the analysts adapt the definition to the analytical purpose they would like to achieve. Nevertheless, some general characteristics of the value added definition which is used for financial analysis can be recognized as follows (Coenenberg 1994, pp. 620-625; Weber 1994, pp. 17-32).

- production is the key figure of output;
- all revenues (other than income from investments and interests) are regarded as value added from operations;
- depreciation is regarded as input; that means that a net value added is calculated;
- value added from operating activities, from non-operating activities and from extraordinary events are separated;
- there are no adjustments for indirect taxes, subsidies, leases and costs of external personnel;
- value added appropriation is spread between:
 - share to employees (*Arbeitserrträge*)
 - government's share (*Gemeinerträge*)
 - creditors' share (*Fremdkapitalerträge*)
 - investors' share (*Eigenkapitalerträge*).

The general aim of the value added calculation by external analysts in Germany is to compute appropriate ratios and to investigate their development over the years or compare them with other companies. The most common ratios are related to the performance, productivity and structural analysis, and to the analysis of the distribution (appropriation) of value added.

External analysts are not alone in using the value added figure for analytical purposes, companies also do so in comparing their ratios with the ratios of their major competitors. Among the key benchmarking criteria are the different productivity levels of the companies. Since value added

based productivity ratios are regarded as the most useful, companies try to estimate the value added of their competitors.

Comparison Germany - France

Although the basic definition of value added seems to be similar between Germany and France, several considerable differences appear while studying the detailed definitions of the output and input components of the value added figure which is usually used in financial statement analysis in both countries. These differences are highlighted in exhibit 6.

INSERT ABOUT HERE EXHIBIT 6:
DIFFERENCES IN COMPUTATION OF VALUE ADDED IN GERMANY AND FRANCE

Ratios

Not the value added by itself but more particularly ratios which put value added in relation to other items are regarded as useful indicators and analytical instruments. Due to its "official" definition and its use as a financial statement analysis instrument by the *Banque de France*, there is in France a much larger variety of ratios, based on value added, than in Germany. While the key ratios for financial statements analysis are almost comparable between Germany and France, the results can hardly be compared because of the above mentioned differences in the applied value added definitions (see exhibit 6).

The exhibit 7 shows a summary of the most common ratios which are used in practice in Germany and France. Some information relating the ratios is given in the following.¹¹

INSERT EXHIBIT 7 ABOUT HERE:
SUMMARY OF RATIOS USED IN GERMANY AND FRANCE

Company Structure Analysis

Ratios of vertical integration

Value added/Sales (in %) or Value added/Production¹² (in %)

Theoretically, this relation can vary between 0 and 1. As shown in exhibit 10, a ratio close to 1 indicates that the company is highly integrated and in consequence rarely calls upon third parties. In our example, company A is much more integrated than company B which does not add a lot of value through its operations because it uses a maximum of outside services. Conversely, the ratios will be close to zero for a company sub-contracting most of its production. In addition to serving as an indicator of integration this ratio is used for measuring the economic efficiency of a company, that is, its capacity to valorise the factors of production (labour and capital).

INSERT EXHIBIT 8 ABOUT HERE:
VERTICAL INTEGRATION

Ratios of economic structure

These ratios are used to evaluate parts of the different factors in production. They represent the relative intensity of different productive factors of a company. It becomes obvious on which of the factors a company depends the most.

Wages and salaries/Value added (in %)	Factor:	Labour
Depreciation/Value added (in %)	Factor:	Investments
Profits/Value added (in %)	Factor:	Capital and Management

Ratios of productivity

The following ratios are used to measure the efficiency with which the internal production factors are used. They represent the productivity effort of the company.

Value added/Number of employees	Productivity of Labour
Value added/Production investments (in %)	Productivity of Capital

In Germany the ratios "Value added/total of labour hours" or "Value added/Personnel cost" are also used as figures to measure labour productivity. Furthermore, "Value added/Total of machine hours" as well as "Value added/Depreciation" are used to measure productivity of capital employed.

To take into account the mutual influence and substitution of the two productive factors, labour and capital, the application of a "total productivity ratio" (*Totaler Wertschöpfungs. Quotient*) has become more popular during the last years. It is defined as follows¹³:

$$((\text{Value added/Capital employed}) \times (\text{Value added/Number of employees}))^{1/2}$$

This is a ratio to evaluate the joint productivity of capital employed and the workforce.

Development of the Company

Ratio of development of value added calculated over several years

$$\text{Variation of value added/Value added (in \%)}$$

Looked at over a spread of several years, to smooth out the effect of changes in the economic environment, this ratio becomes a good indicator of the company's development. It shows the growth in value added. In France, this growth may be calculated on deflated values in order to obtain a growth rate in constant money terms rather than in current currency. This ratio is not common in German financial statement analysis.

Value added distribution

The value added distribution ratios (see exhibit 7) describing the distribution portion of value added to each of the major stakeholders are very common in Germany. They show how much of

the value added has been distributed to employees, creditors, investors and the government as income and how much has been kept undistributed in the company. Those ratios tend to provoke discussions about the fairness of the apportionment of the wealth created through the operations of a company. They were one major reason for the emergence of the value added statement as an instrument of social accounting in the 1970s.

REPORTING OF VALUE ADDED: AN EMPIRICAL SURVEY

Against this background of the different traditional developments and the differences in the role of value added in financial accounting, it is of interest whether all this has any influence on the financial reporting behavior of companies concerning value added information. Some of the major questions of interest are: How many companies do disclose any value added information at all? Where in the report and in which form are those information provided? What is the extent of disclosed information? Do companies publish entire value added statements, where they disclose the calculation and distribution of the created value added? If a value added figure is disclosed, how is it defined concerning the output and input components included? If the distribution of the value added is presented, how are the incomes of the different stakeholders defined? Those are the questions we tried to answer by an empirical survey.

For this purpose we looked through the 1993 annual reports of 100 of the largest groups (industrial, commercial and service companies) in each country.¹⁴ The findings are shown in the exhibits 9, 10 and 11.

Value added data in annual reports

INSERT HERE EXHIBIT 9: DISCLOSURE OF VALUE ADDED DATA IN ANNUAL REPORTS
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At first glance it is most surprising that a relatively low proportion of companies in France give value added information in their group reports. As a matter of fact, only 19 % compared to 26 % in Germany provide value added related data. It is necessary to state that the value added information was only looked for in groups, that is to say, in their consolidated accounts, because the consolidated financial statements are more used in financial analysis than individual company financial statements, which are often considered as having no financial and economic interest. Thus, if any company gives this information in the individual company accounts, it does not figure in our statistical analysis. However, it should be noted that scarcely any value added information was found in individual company accounts.

Our statistics do not surprise us since as early as 1977, Barthes (1977, p.1) noted that value added was largely ignored by companies. The volume of published value added information in the two countries is not overwhelming but nevertheless it is above the average disclosure rate which can be found in other countries (see Haller 1997, pp. 253-256).

In France, most of the annual reports surveyed show a value added figure as part of a multiple-step income statement or as a subtotal of the table of intermediate results (58%). In Germany, the information on value added is disclosed mostly in the General Report (65 %), which means in the

general presentation of the year's activity made by the management, outside the financial statements. The context of disclosure has direct impact on whether the particular information is audited or not. Because of its incorporation in the income statement or in the notes the rate of audited value added data in France is much higher (90 %) than in Germany (35 %) (Note that in both countries, as a result of the 4th EU-Directive, the data disclosed in the management report - management discussion and analysis - has to be verified by the auditor as to its conformity with the financial statements).

The interpretation of value added as a subtotal of the income statement is also the reason for the French lack of a value added statement, which is the most common way to disclose value added information in Germany. There is no French group in the sample which published a complete (consisting of two parts, the value added calculation and the value added distribution, which reflects the two methods of value added computation, say subtractive and additive) or even a partial value added statement (consisting only of one part). In Germany all value added related information is given through either complete (50 %), or incomplete (50 %) value added statements. Concerning the information on previous years and the disclosure of value added based ratios French groups are slightly more informative than their German counterparts. The ratios disclosed of the three French companies are Value Added per employee and Value Added per sales.

Value added measurement and distribution

INSERT EXHIBIT 10 ABOUT HERE:
ANALYSES OF VALUE ADDED MEASUREMENT AND DISTRIBUTION

It becomes very obvious that the standardized definition of value added of the General Accounting Plan has a crucial influence on the disclosure of value added information of French companies. The pure production orientation of the French value added concept shows in the exclusion of non-trading revenues from value added, and the non-disclosure of the value added distribution to the different stakeholders.

The lack of disclosed value added figures in France can be related to the fact that traditionally, and also obligatorily in the individual accounts, the income statement has the total cost format which means that it includes the whole production as revenues and that the expenses are structured by nature. Despite the fact that companies in consolidated financial statements can choose the cost of sales format, most of them still rely also in these statements on the traditional total cost format¹⁵. This explains our finding that in 76 annual reports of the 81 surveyed which do not disclose any value added information, the value added figure can nevertheless be computed by external analysts because the necessary data can be easily derived from the published income statements together with the appropriate information given in the notes.

Regarding German annual reports the survey points to a considerable variety of different definitions and disclosure practices. The most striking finding is the relatively high quantity of value added statements where the components of output and input included are not obvious to an external analyst, which reduces the reliability of the disclosed information. In the survey it becomes clear that the choice of a German company whether to define value added as production - or as sales-oriented - is directly correlated to the chosen format of the income statement of the particular

company. The companies which disclose a "cost of sales"-based income statement format compute a sales-oriented value added and vice versa.

Distribution statements in Germany

Because of the lack of disclosure of value added distribution in France the exhibit 11 shows the main characteristics of the distribution section of the value added statements of the surveyed German companies.

INSERT EXHIBIT 11 ABOUT HERE: ANALYSES OF DISTRIBUTION STATEMENTS
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Also, in respect of the presentation of the value added distribution the survey shows a wide variety of practices, concerning both the definition of the remunerated groups and the items which are included. A fairly high comparability exists in the amount of the "income of the employees" which is treated by the majority of companies as being identical to the personnel expenses disclosed in the income statements or in the notes. Additionally the separate disclosure of the value added share of owners of minority interests does not seem to be popular.

In total the survey reveals a very low comparability of the published value added statements in Germany which weakens the information content of those statements. The value added statements are nothing more than restructured income statements and therefore provide very little additional information. Due to the vast variety of methods applied to value added calculation and distribution it is not advisable to use the published value added statements (if there are any) for ratio analysis.

CONCLUSION

Although the academic accounting interest in value added as an economic performance measure is relatively limited this paper shows that in France and Germany there has been a varied discussion and practical application of the value added concept in all areas of accounting and particularly in financial accounting. But even in France, where it is explicitly incorporated in the General Accounting Plan as a performance measure and used as an important analytical tool by the *Banque de France* it has so far not achieved much popularity in accounting practice, like it has not either in Germany.

This finding is quite astonishing because Germany and France are internationally generally regarded as being countries in which the concept of value added does play a considerable role in financial accounting. This perception is only true in relation to the USA where value added is hardly known in financial accounting practice, but can be criticized as a general and absolute statement. The article shows that value added and value added related ratios are one of the key figures of the analytical system of the *Banque de France* which influences very much the financial statement analysis practice in France. Also in Germany the calculation of value added ratios are quite common as a tool to analyse published financial statements. However, the companies are quite reluctant in disclosing value added information or even entire value added statements. While in French financial reports the value added can usually be calculated due to the format of the

disclosed income statement, it is much harder to do so in German reports, if the company discloses its income statement classified by function.

The analysis of the presented value added statements which were found in 26 % of the surveyed German reports reveals a low level of comparability of the disclosed figures due to the differences in the applied definitions and to the high ambiguity of their calculation. With this finding this article adds an additional argument to the criticism which is sometimes expressed in Germany that the disclosed value added statements are used by companies more for public relation purposes than with the aim to increase the amount of useful information. If the format and the content of those statements was standardized their level of comparability would be higher and they would really add a good deal to the usefulness of financial reports. Because of the ambiguity of the value added statements presented by German companies which is detected in our survey it is advisable for comparative value added ratio analyses not to use the published value added statements (if there are any) but to take the figures necessary for the specific value added calculation according to the objective of the analysis from the primary financial statement. However, this is only possible if the appropriate items to calculate the value added are disclosed in the income statement or as supplementary information in the notes.

As there is evidence that value added based ratios, particularly value added based productivity measures have considerable relevance to assess the future prospects of a company (see Haller 1997, pp. 289-390) it is quite surprising that companies of the two surveyed countries but also those of other countries are very reluctant to disclose value added information in an manner that it could be compared between the companies.

As a future research, it would be interesting to discover the reasons for the neglect of the value added concept in corporate accounting. One of the possible reasons could be - even in continental Europe - the increasing predominance of the "shareholder" view (and bias) of accounting and corporate reporting with which the stakeholder concept oriented value added basically does not conform.

NOTES

¹Lehmann, M. (1954), p. 12; Force, J. (1977), p. 12; Renshall, M. et al. (1979), p. 12; Stobbe, A. (1980), p. 108; Meyer-Merz, A. (1985), p. 463; Jobard, J.-P./Navatte, P./Raimbourg, P. (1994), p. 392

² Lehmann, M. (1954), p. 13; Renshall, M. et al. (1979), p. 12, Meyer-Merz, A. (1985), p. 463; X (1986), p. 45.

³ That is the reason why the value added concept is a central element of the "enterprise theory" which was developed by Suojanen 1954.

⁴ Arbeitskreis "Das Unternehmen in der Gesellschaft" im betriebswirtschaftlichen Ausschuß des Verbandes der Chemischen Industrie e.V. (1975); Reichmann and Lange 1981.

⁵ For detailed information on this formula, see: "Dictionnaire de la comptabilité". Word "Participation des salariés". La Villeguerin Editions, 5th edition 1996/97.

⁶ H. Nicklisch had the opinion that the employees should participate in the so-called "Betriebsbeitrag" (which was a kind of performance figure which Nicklisch defined and which is quite comparable to value added, except that interest is not regarded as remuneration but as input) to the same extent as the equity-capital-providers; Nicklisch 1932, p. 700.

⁷ This table is used in connection with the "developed system" of annual accounts presentation, which is an optional system of presentation of financial statements. To a developed balance sheet, income statement and notes, it adds a table of intermediate results and a statement of changes in financial position (or a statement of cash flows). As being optional, even for big companies, the table of intermediate is rarely included in annual reports.

⁸ When a company presents consolidated financial statements, it should be pointed out that, in France, this company may opt to present the income statement by function, i.e. outlining the cost of goods sold, selling expenses, general and administrative expenses... This presentation is similar to that used in Anglo-Saxon accounting. On the basis of an income statement by function, the calculation of intermediate results is extremely difficult and that of value added virtually impossible. It could be different if companies would disclose the necessary information to restate an income statement by function to an income statement by nature, which is almost never the case. For instance, one should know the amount of personnel expenses included in the cost of goods sold to restate this amount and to compute the purchases and inventory variation (see exhibit 4).

⁹ See above the explanations relating to the presentation by nature of expenses in France.

¹⁰ This point has been dealt with above.

¹¹ There is an abundant literature dealing with ratios based on value added. (For France, see, Banque de France 1988, p. 21; Cohen 1994, pp. 328-333. For Germany, see, Coenenberg 1994, p. 624, Arbeitskreis "Das Unternehmen in der Gesellschaft" (1975), p. 164).

¹² The concept of production is shown in exhibit 3. It comprises the sales plus the produced products and services which are not sold during the period. In exhibit 4, it is represented by A + D.

¹³ Müller-Merbach, H. (1993), p. 31.

¹⁴ The French sample is the same as that used in the book "L'information financière en 1994", CCAS et al., CPC, 1994. For Germany the classification of the business journal "WirtschaftsWoche", no. 52, December 24, 1993, pp. 118-138 is used.

¹⁵ In our sample, 70 choose the presentation by nature of the income statement, 22 preferred the presentation by function and 8 presented the income statement in a very synthetic way (2 items for expenses).

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EXHIBIT 1
DISCUSSED AND PRACTISED APPLICATION OF THE VALUE ADDED CONCEPT IN
THE THREE ACCOUNTING SYSTEMS

Areas	National Accounting		Financial Accounting		Managerial Accounting	
	G	F	G	F	G	F
Fields of application	G	F	G	F	G	F
Measurement of performance and productivity	P	P	D/RP	D/RP	D/RP	D/RP
Measurement of growth and size, importance	P	P	D/RP	D/RP	D/RP	D/RP
Measurement of vertical integration	P	P	D/RP	D/RP	D/RP	D/RP
Measurement of economic concentration	P	P	-	-	-	-
Sales tax computation	P	P	P	P	-	-
Income tax computation	D	-	D		-	-
Measurement of social contributions	D	-	D		-	-
Social corporate reporting	-	-	D/RP	D/RP	D	-
Employees incentive schemes	-	-	D	D/P	D	-

Note: G = Germany; F = France; D = Discussed; P = Practiced; RP = Rarely Practiced

EXHIBIT 2

VERTICAL PRESENTATION OF INCOME STATEMENT BY NATURE OF EXPENSES (FRANCE)

Revenues	
Sales of goods purchased for resale	100
Sale of own production (products and services)	110
Production held as inventory (increase or decrease)	20
Production capitalised	10
Reversal of provisions	5
Operating subsidies	30
Other operating revenues	3
<i>Total operating revenues (A)</i>	278
Share of profits from joint ventures	1
Financial income	85
<i>Total financial revenues (B)</i>	86
Exceptional income	25
<i>Total exceptional revenues (C)</i>	25
Total revenues (D) = (A + B + C)	389
Expenses	
Purchase of goods for resale	60
Inventory movements of goods purchased for resale	12
Purchase of raw materials and other supplies	70
Inventory movements of raw materials and other supplies	-8
Other purchases and external expenses	20
Taxes and similar expenses (excluding income taxes)	10
Wages and salaries	60
Depreciation and provision expenses	15
Other operating expenses	7
<i>Total operating expenses (E)</i>	246
Share of profits (losses) from joint ventures	2
Financial expense	40
<i>Total financial expenses (F)</i>	42
Exceptional expenses	22
<i>Total exceptional expenses (G)</i>	22
Employee profit sharing (H)	10
Income tax (I)	45
Total expenses (J) = (E + F + G + H + I)	365
Income after income tax (K) = (D) - (J)	24

EXHIBIT 3
COMPUTATION OF VALUE ADDED IN FRANCE - SUBTRACTIVE METHOD

Sales of goods purchased for resale	(A)	100
Purchase of goods for resale		60
Inventory movements of goods purchased for resale		12
Acquisition cost of merchandise sold	(B)	72
Commercial margin (Gross margin)	(C) = (A-B)	28
Sale of own production (products and services)		110
Production held as inventory (increase or decrease)		20
Production capitalised		10
Total production for the period	(D)	140
Purchase of raw materials and other supplies		70
Inventory movements of raw materials and other supplies		-8
Other purchases and external expenses		20
Consumption of goods and services from third parties	(E)	82
Value added	(F) = (C+D-E)	86

The figures are taken from the income statement presented in exhibit 2.

EXHIBIT 4
COMPUTATION OF VALUE ADDED IN FRANCE - ADDITIVE METHOD

Income after income tax	24
+ Taxes and similar expenses (excluding income tax)	10
+ Wages and salaries	60
+ Depreciation and provision expenses	15
- Reversal of provisions	-5
+ Other operating expenses	7
+ Operating subsidies	-30
+ Other operating revenues	-3
+ Share of losses from joint ventures	2
- Share of gains from joint ventures	-1
+ Financial expense	40
- Financial income	-85
+ Exceptional expenses	22
- Exceptional income	-25
+ Employee profit sharing	10
+ Income taxes	45
= Value added	86

The figures are taken from the income statement presented in exhibit 2.

EXHIBIT 5
DISTRIBUTION OF VALUE ADDED

APPROPRIATION	VALUE ADDED =	
	COSTS ADDED	+ INCOME
Share of the employees	Wages and salaries	+ Employee profit sharing
Capital providers' share	Financial expenses	+ Dividends
Government's share	Taxes and similar expenses (excluding income taxes)	+ Income taxes
Enterprise's share (investors' share)	Calculated charges (Depreciation, amortization and write back)	+ Retained earnings

EXHIBIT 6
DIFFERENCES IN COMPUTATION OF VALUE ADDED IN GERMANY AND FRANCE

	Germany	France
output (revenues)	almost all revenues	only revenues from sales and production
input (expenses)	includes depreciation	excludes depreciation
input (expenses)	includes indirect taxes	excludes indirect taxes
input (expenses)	includes leasing charges	excludes leasing charges
input (expenses)	includes "bought-in-labour"	excludes "bought-in-labour"

EXHIBIT 7
SUMMARY OF RATIOS USED IN GERMANY AND FRANCE

	GERMANY	FRANCE
VERTICAL INTEGRATION (Value added/Sales) (Value added/Production)	Yes Yes	Yes Yes
ECONOMIC STRUCTURE Wages and salaries/Value added Depreciation expense/Value added Profits/Value added	No No No	Yes Yes Yes
PRODUCTIVITY Value added/Number of employees Value added/Production investments Total productivity	Yes Yes Yes	Yes No No
DEVELOPMENT OF THE COMPANY Variation of value added/Value added (in %)	No	Yes
DISTRIBUTION Wages and salaries/Value added Financial charges/Value added Taxes/Value added Dividends/Value added Not distributed value added/Value added	Yes Yes Yes Yes Yes	Yes Yes Yes No Yes

Yes: used in practice

No: not used in practice

EXHIBIT 8
VERTICAL INTEGRATION

	Company A	Company B
Sales	100	100
- Consumption of goods and services from third parties	- 20	- 90
= Value added	80	10
Value added/Sales	80 %	10 %

EXHIBIT 9
DISCLOSURE OF VALUE ADDED DATA IN ANNUAL REPORTS

	Germany		France	
Disclosure of value added data				
• Yes	26	26 %	19	19 %
• No	74	74 %	81	81 %
Context of disclosure				
• General report	17	65 %	2	10 %
• Financial statements	1	4 %		
- income statement			11	59 %
- notes			4	21 %
• Management report	8	31 %	2	10 %
Audit				
• Yes: value added information as part of financial statements	1	4 %	15	80 %
• Yes (agreement with the financial statements): value added as information in the management report	8	31 %	2	10 %
• No: value added as information in general report	17	65 %	2	10 %
Form				
• Only verbal	1	4 %	2	10 %
• Graphical	10	39 %	0	0 %
• Calculation	15	57 %	15	80 %
• As part of the financial highlights	0	0 %	2	10 %
Figures of previous years				
• No previous year	10	38 %		
• 1 previous year	13	50 %	14	74 %
• 2 previous years			3	16 %
• 4 previous years	3	12 %	2	10 %
Disclosure of supplementary analytical ratios				
• Yes	1	4 %	3	16 %
• No	25	96 %	16	84 %
Presentation of the data in a value added statement				
Yes:				
• Complete value added statement	13	50 %	0	0 %
• Incomplete value added statement	13	50 %	0	0 %
No	0	0 %	19	100 %

EXHIBIT 10
ANALYSES OF VALUE ADDED MEASUREMENT AND DISTRIBUTION

	Germany		France	
Basis of output measurement				
• Production	11	42 %	19	100 %
• Sales	7	27 %	0	0 %
• Not clear	8	31 %	0	0 %
Inclusion of trading non income (e.g.) financial revenues and "other revenues")				
• Yes	13	50 %	0	0 %
• No	4	16 %	19	100 %
• Not clear	9	34 %	0	0 %
Treatment of depreciation as part of input				
• Yes	17	65 %	0	0 %
• No	1	4 %	19	100 %
• Not clear	5	20 %	0	0 %
• Gross and net value added disclosed	3	11 %		
Presentation of the distribution				
• Yes	16	62 %	0	0 %
• No (or incomplete)	10	38 %	19	100 %

EXHIBIT 11
ANALYSES OF DISTRIBUTION STATEMENTS IN GERMANY

Structure of the format		
6 groups: employees, government, shareholders, minority interests, company, lenders	4	15 %
5 groups: employees, government, shareholders, company, lenders	9	35 %
4 groups: personnel expenses, interests, taxes, net income	8	31 %
3 groups: taxes and interests, net income, personnel expenses	4	15 %
• Not clear	1	4 %
Substructure in groups		
• Yes	6	23 %
• No	20	77 %
Scope of income to employees		
• Identical to personnel expenses	20	77 %
• Not clear	6	23 %
Scope of government's income		
• Only corporation taxes	8	31 %
• Corporation taxes plus other taxes	10	38 %
• Not clear	8	31 %
Explicit disclosure of minority interests		
• Yes	5	20 %
• No	21	80 %

Next we have tried to reconcile between Value Added and Net Operating Profit before Tax. This has shown how operating profit is dependent upon net value added. We also sought for exploring the degree of association between these two with the help of correlation coefficient with significance test. Value added in financial accounting: A comparative study between Germany and France. *Advances in International Accounting*, 11(1), 23-51. Stiles, P. and Kulvisaechana, S. (2003) Human Capital and Performance: A Literature Review, Retrieved on 10th September 2013 from http://www.bus.tu.ac.th/usr/sab/articles_pdf/research_papers/dti_paper_web.pdf. Financial Accounting is an accounting system which is concerned with the preparation of financial statement for the outside parties like creditors, shareholders, investors, suppliers, lenders, customers, etc. It is the purest form of accounting in which proper record keeping and reporting of financial data are done, to provide relevant and material information to its users. Financial Accounting is based on various assumptions, principles and convention like going concern, materiality, matching, realisation, conservatism, consistency, accrual, historical cost, etc. The financial statement consists of Value added : a comparative study*. STUART McLEAY. International Centre for Research in Accounting. and. Department of Accounting and Finance. University of Lancaster. Abstract. This article reports on an investigation into the relationship between corporate value added and its macroeconomic counterparts. The first part demonstrates the effect on macroaccounting identities. Accounting rules followed in company accounting vary between countries and that Germany and the U.K. fall into country groupings exhibiting different measurement practices (Nair & Frank, 1980). "Value-relevance of nonfinancial information: The wireless communications industry," *Journal of Accounting and Economics*, Elsevier, vol. 22(1-3), pages 3-30, October. Lardic, Sandrine & Mignon, Valérie, 2008. "Oil prices and economic activity: An asymmetric cointegration approach," *Energy Economics*, Elsevier, vol. 30(3), pages 847-855, May. If you know of missing items citing this one, you can help us creating those links by adding the relevant references in the same way as above, for each referring item. If you are a registered author of this item, you may also want to check the "citations" tab in your RePEc Author Service profile, as there may be some citations waiting for confirmation.