

**INTANGIBLES' ACCOUNTING FOR KNOWLEDGE ERA**

LEONOR FERREIRA \*  
JUSTINA FIJALKOWSKA \*\*  
MANUELA SARMENTO \*\*\*

TECHNICAL UNIVERSITY OF LISBON

Rua Miguel Lupi, 20 1200 Lisbon  
Portugal

Tel.: +351 21 842 8500 • Fax: + 351 21 842 8501

E-mail: [mleonorfernandesferreira@hotmail.com](mailto:mleonorfernandesferreira@hotmail.com)

E-mail: [fjustyna@wp.pl](mailto:fjustyna@wp.pl)

E-mail: [msc@clix.pt](mailto:msc@clix.pt)

**Abstract**

It is widely accepted that organizations have entered a new era called knowledge era, which is characterized by prevalence of innovation, especially in high technology, in spread of communication, in new organizational forms, and intangible factors creating added value for companies. The main motives that boost market value are intangible assets, which are described also as the new wealth of organizations or the innovative notion of companies' wealth. As Goldfinger (1997) suggested the source of economic value is no longer the production of material goods but the creation and manipulation of intangible assets. Hence, the present paper aims at focusing on the presence of intangibles in the listed companies in Portugal and Poland, based on the calculation of the market-to-book value ratios. This research intends to identify and explain similarities and differences between the two countries.

---

\* National coordinator of the HARMONIA programme for Portugal. The author acknowledges the financial contribution of the European Commission through the Human Potential Programme, contract HPRN-CT-2000-00062.

\*\* Young researcher of the HARMONIA programme in Technical University in Lisbon, Portugal. PhD Student of Lodz University, Poland. The author acknowledges the financial contribution of the European Commission through the Human Potential Programme, contract HPRN-CT-2000-00062.

\*\*\* Principal researcher at Center of Management Studies of Technical University of Lisbon.

## **1. Introduction**

Organisations are facing a new phase in economic development, which is characterized by the prevalence of innovation, especially in high technology, in spread of communication, in new organizational forms and intangible factors creating added value for companies. They operate within the so-called new or intangible economy. Therefore, many individual researchers as well as institutions worldwide, such as Organisation for Economic Cooperation and Development, European Union Commission, governments, and national accounting standardisation bodies have turned their attention to the implications of the intangible economy.

The empirical study is based on calculation of market-to-book values of listed companies for the years between 1997 and 2002. Computed market values in Portugal and in Poland have been greater than book value for every period. The evidence from this research is in line with Eccles and Mavrinac (1995), Lev and Zarowin (1999) Amir and Lev (1996) and Garcia-Ayuso, Monterrey and Piñeda (1997). It indicates the lack of relevance of the accounting information, thus leaving investors without appropriate information for decision-making process. The achieved results have implication for accounting standard setting and book value figure can be understood due to conservative practice to protect creditors in Portugal and Poland.

In order to become Portuguese and Polish financial reporting more relevant for investors, a special attention should be paid to intangibles, following the recommendation from the International Accounting Standards Board. Descriptive report of intangibles should supplement the financial statements making the generated information more transparent and better reflecting the market value.

## **2. Literature Review**

Intangible assets and intellectual capital of the company have been widely analysed in the economic and accounting literature. Examined issues include the economic nature, definition, classification, recognition and measurement, as well as the relevance of those assets for value creation and decision-making processes. However, on some of those issues there is no one common idea, shared by all authors.

Investments in intangibles have been increasing as most of companies understood that it would give them or allow maintaining the competitive advantage. Schumpeter (1942) underlined that innovation is a fundamental source of wealth. The possible causes of innovation are investments in research and development, but also investments in human resources, new technologies, advertising, marketing, and software development. For young innovative firms that operate in highly competitive environment, such as pharmaceutical, wireless communication, and Internet services, intangibles are the most important long-term assets. These assets include employees' knowledge, technology under development, manufacturing arrangements and marketing and distribution system, which are absent from financial statement (Mortensen, Eustace and Lannoo, 1997). These categories may be called together intellectual capital of the company.

Traditional management accounting, which dates back to the beginning of the last century, has served as a tool for accumulation and sorting data on costs and calculation of the costs of products. Thus, first based on historical costs, later it was also used to create budgets. The instant increase of the indirect costs in the last decades led to the lost of precision in the calculation of the unit costs (Jaruga, Nowak and Szychta, 2001). Traditional accounting usually ignored intangibles and especially human resources.

Only in 1964 Hermans noticed that the balance sheet does not reflect the true picture of the company, as it does not include the human capital (Roslender and Dyson 1992). Attempts to treat people as assets and to value them began with Likert (1967) and Flamholtz (1987). The former underlined the necessity of including the human resources to the long term planning while the latter proposed the criteria to value them. Sackman, Flamholtz and Bullen (1987) highlighted the importance of so called “human resources accounting”, by stating that capitalizing human resources may simplify the decision-making process.

Later, in the 80’s the interest concerning the role of human resources in accounting declined, mostly because it was based on too many assumptions, and due to ethical issues.

However, with entering the knowledge era, the concept returned. Representatives of management theory and practice state that economy is based on the intangible assets. Innovative companies usually allocate the invested resources in the intangible part of the company as they notice that their development is the key for the success of the company in future. According to Tollington (1994), balance sheet in the way it is constructed today leads to distortion of certain elements to such a degree that it cannot be accepted any longer and must be revealed, if professional credibility is to be preserved. Kerstei and Kim (1995), and Hansson (1997) conclude that investors value in a more positive way those companies that make investments. According to their studies, expenditures on investments in tangible and intangible assets are strongly and positively associated with the substantial returns. However, if companies invest in their employees and do not reflect that in their financial statements in the appropriate way, potential investors do not have this important information. Moreover, showing to users an expense in intangibles, instead of an investment, will discourage potential investors from allocating funds to the firm and the capital markets.

The utility of traditional accounting and reporting is declining (Roslender, 1997). The usefulness of reported earnings, cash flow and book (equity) values have been deteriorating over the last 20 years (Lev and Zarowin, 1999). Wallman (1996) presented some reasons of this distortion and underlined the necessity of changes in the traditional conduct of companies. He noticed the difficulties concerning the measurement of those reasons, which usually derive from intangibles. He also highlighted the low utility of financial reports. Ryan and Tibbits (1996) claimed that apart from valuing intangible assets, based only on the historical costs, it is necessary to create new systems of presentation, taking into account actual information concerning present values. This would be unable to liquidate the gap between the market value of the company and the book value presented in the balance sheet.

It is the authors’ opinion that the theoretical framework behind the emergence of new ideas on valuation of intangibles is mainly economic theory. One may observe the shift from valuation based on costs, which was inspired by Adam Smith, David Ricardo and Karl Marx to valuation based on utility assumptions. The criteria to classify an item as an asset based on legal ownership is giving place to the assumption of utility to the user, as a basis for considering items as assets of a company.

The recent approach to the valuation of intangibles is based on the concept of intellectual capital<sup>1</sup>. It is called “the new wealth of organizations” (Stewart, 1997, Sveiby 1997), “the buried treasure” (Dzinkowski, 1999a) or “revealed treasure” (Dzinkowski, 1999b). The broadest definition of intellectual capital is “the difference between a company’s market value and its book value” (James, 1997). In a narrower sense, intellectual capital is “the sum of the knowledge of its members and the

---

<sup>1</sup> The concept of *knowledge management* has also attracted extensive attention in recent years (Davenport *et al.*, 1998; Nonaka and Takeuchi, 1995; Sveiby, 1997; Wiig, 1997). *Knowledge management* is defined as the capacity or processes within an organization to maintain or improve organizational performance based on experience and knowledge (Pan and Scarbrough, 1999). However, as Sveiby (2001) wrote, it is probably correct to regard intellectual capital and knowledge management as two branches of the same tree, the only difference being that intellectual capital is static and needs a verb to describe what managers can do with it.

practical translation of this knowledge, that is brands, trademarks and processes" (Roos *et al.*, 1997).

If intellectual capital is an important component of the market value of a company and its disclosure is random, non systematized and mainly voluntary, the investors' decisions will likely be based, in part at least, on unreliable and non-comparable information (Rodrigues and Oliveira, 2002).

A few companies have quickly implemented the concept and even some Scandinavian governments made intellectual capital statement obligatory. Skandia was the first company to publish a supplement to the yearly financial statement on intellectual capital in the 1994. The company reported the possession of knowledge, applied experience, organizational technology, customer relationships and professional skills that provide it with a competitive edge in the market (Edvinsson 1997).

Authors with slightly different definitions and approaches to the intellectual capital agree that it is becoming the critical resource for a firm's viability and success (Bontis *et al.*, 1999).

Several models of reporting have emerged as an attempt to manage, measure and report the intellectual capital of a firm. Table 1 lists the names and main contents of the most well known of those models.

Table 1. Models of intellectual capital reporting

<b>Authors</b>	<b>Method</b>	<b>Classification of intellectual capital</b>
Kaplan, Norton (1992)	Balanced Scorecard	Internal Business Perspective Customers Perspective Innovation and Learning Perspective Financial Perspective
Petrash (1996)	Platform Value	Human Capital Customer Capital Organizational Capital
Haanes and Lowendahl (1997)	Classification of Intangible Resources	Competencies Relations
Sveiby (1997)	Intangible Asset Monitor	External Structure Internal Structure Competences
Edvinsson and Malone (1997)	Skandia Intellectual Capital Model	Human Capital Structural Capital
Danish Confederation of Trade Unions (1999)	Three Categories of Knowledge	People Systems Market

The general concept in the models of intellectual capital reporting is very similar although one can observe slight differences concerning their contents. These models have been voluntarily used by several companies. It is worth mentioning that national and international regulations in force do not contain such detailed and clear reporting prescriptions.

### 3. Regulation on valuation of intangible assets

Accounting law in Portugal and Poland provides the regulation on the recognition, valuation, measurement, amortization and impairment of intangible assets, namely for Portugal these are the Official Accounting Plan and accounting guidelines, issued by the Portuguese Accounting Standardisation Board, and for Poland, the Act on Accounting<sup>2</sup>.

Both Portuguese and Polish regulation present very limited definition of intangibles. Portuguese law does not provide a general definition of assets, able to characterise the qualities that must be met to categorise a resource as intangible asset. It gives a list, a kind of inventory classification of intangible assets. The definition provided by the Polish Act on Accounting is wide and gives characteristics that allow classifying certain assets as intangibles. One may observe that in both countries some resources, which are part of the intellectual capital, are not included in the legally binding rules of accounting and thus they are either underestimated or totally ignored in the financial statements.

The most important similarity between Portuguese and Polish regulation is that investments on intangibles are expensed in the year when they are incurred and may only exceptionally be capitalised as an assets in the balance sheet.

Table 2 presents a comparison between Portuguese and Polish reporting regulation about intangibles. It describes major similarities and minor discrepancies in the regulation about reporting on intangible assets by Portuguese and Polish companies. Basically, the national rules of each country are in line with international ones, namely those from International Accounting Standard Board (IAS 38), which will be compulsory for companies with listed shares when presenting group financial reports for the years after 2005.

---

<sup>2</sup> Accounting regulation, which applies to banks, other financial institutions, and insurance companies are different and are not described in this paper. In Portugal, Bank of Portugal and Insurance Institute of Portugal issued those regulations. In Poland a separate section of the Act on Accounting contains unique rules for banking and insurance sector.

Table 2. Comparison between Portuguese and Polish reporting regulation about intangibles<sup>3</sup>

	<b>Portuguese regulation</b>	<b>Polish regulation</b>
Definition	<ul style="list-style-type: none"> <li>- There is not a legal definition of the term intangible assets, although the law provides definitions of each category of intangibles.</li> <li>- The accounting law provides the complete list of fixed intangible assets, namely: start-up costs, R&amp;D expenditures, industrial property and other rights, goodwill.</li> </ul>	<ul style="list-style-type: none"> <li>- The Polish definition states that intangible assets are economically usable property rights, required by an entity and included in its fixed assets, with anticipated useful life of more than one year, that are used by the entity.</li> <li>- The act on accounting provides a list of intangibles, containing: authors' economic rights and neighbouring rights, licences and concessions, rights to inventions patents, trademark, utility and decorative designs, know how, the acquired value of the firm, costs of development projects completed.</li> </ul>
Recognition	<ul style="list-style-type: none"> <li>- Intangibles' investments should be expensed in accounting period in which they are incurred.</li> <li>- Intangibles' expenditures may only be capitalised in exceptional cases.</li> </ul>	<ul style="list-style-type: none"> <li>- Recognition of an intangible asset should be done according to its acquisition price and manufacturing cost.</li> <li>- Recognition of an intangible asset includes costs of bringing an asset to a useable condition or trading, namely costs of transport, loading, unloading, storage, and bringing into trade.</li> </ul>
Measurement	<ul style="list-style-type: none"> <li>- Only in historical and benchmark cost.</li> </ul>	<ul style="list-style-type: none"> <li>- Only in historical and benchmark cost.</li> </ul>
Revaluation	<ul style="list-style-type: none"> <li>- Not admitted, unless authorised by law.</li> </ul>	<ul style="list-style-type: none"> <li>- Not admitted, unless it is authorised by law.</li> </ul>
Amortisation	<ul style="list-style-type: none"> <li>- Amortisation should be done.</li> <li>- Amortization methods not indicated in the law.</li> <li>- Maximum period of amortization is 5 years. In exceptional cases it may be extended according to the useful life of the asset, but the reason for that must be disclosed. In addition, amortization of goodwill must not exceed 20 years.</li> </ul>	<ul style="list-style-type: none"> <li>- Depreciation or amortization write-offs should be done.</li> <li>- Goodwill should be amortised in a period not exceeding 5 years. In justified cases (that must be reported and justified in additional information), it can be extended to 20 years.</li> </ul>
Impairment	<ul style="list-style-type: none"> <li>- Impairment should be done.</li> <li>- No specific rule provided by the Portuguese law, thus IAS should apply.</li> </ul>	<ul style="list-style-type: none"> <li>- Impairment should be done.</li> <li>- No specific rule issued by the Polish law.</li> </ul>

The very restrictive accounting criteria for the recognition and valuation of intangible assets difficult or in many cases make even impossible to disclose them in the annual accounts. As a consequence, financial statements are becoming less informative on the firms' current financial position and future prospects because they provide reliable but not relevant estimates of the value of

<sup>3</sup> Detailed information about regulation on intangibles is provided in Ferreira (2001) for Portugal and in Jaruga and Martyniuk (red) (2002) for Poland.

companies (Cañibano, L., Garcia-Ayuso, M., Sanchez, P., 2000). They do not provide investors and other stakeholders with the appropriate information for decision-making process.

#### 4. Research Framework

One indicator of presence of intangible assets, which are not included in the financial statement, is the simplest measure of the difference between market value and book value. Several authors, such as Sveiby (1997) and Brooking (1996), tested this difference. However, due to its simplicity, it is not able to capture all the complexity of the real situation as it ignores some factors influencing the market value of a company, such as deregulation, supply conditions and general market nervousness. According to Financial and Management Accounting Committee (1998) this indicator may also be inaccurate because book values can be affected if firms adopt tax depreciation rates for accounting purposes that do not approximate the diminution in the value of an asset.

These reasons justified that more recently researchers have adopted the market-to-book value as the proxy to intangibles not recognised as assets. Several empirical papers have explored the gap between market and book values, following the pioneer study by Lev (1996), which reported an increase in the market-to-book value from 1973-1992 in U.S. companies. Examples, either from North America or later from Europe, are Lev and Zarowin (1999), Amir and Lev (1996), Cañibano and Sanchez (1997), Garcia-Ayuso, Monterrey and Piñeda (1997), Francis and Schipper (1999), Brennan and Connel (2000) and Rodrigues and Oliveira (2002). They all evidence a growing gap between market and book values of the companies. These authors conclude that financial statements ignore many intangibles and as a result accounting reporting is losing its explanatory power for those who intend to make rational economic decisions on they basis.

This research adds two more countries to previous literature<sup>4</sup>. It aims at analysing financial reporting process concerning the reflection of the intangible assets in Portuguese and Polish companies, thus it compares the market value to the book value of companies in these two countries.

Two variables were chosen, as alternative proxies to measure the non-recognised intangible assets in Portuguese and Polish companies. First, we calculate the mean value of the individual market to book ratios of all firms in each sample (MEAN1), e.g. MV/BV ratio for each company. Secondly, we calculate the aggregated average market to book value (MEAN2), in line with Givoly and Hayn (2000). These authors argued that using the aggregated market to book value has the advantage over the simple average ratio across individual companies of being independent of the cross-sectional variance in the ratio.

$$MEAN1_j = \frac{\sum_{i=1}^n \frac{MV_{ij}}{BV_{ij}}}{n}$$

$$MEAN2_j = \frac{\frac{\sum_{i=1}^n MV_{ij}}{\sum_{i=1}^n BV_{ij}}}{n}$$

with  $i = 1, \dots, n$ , where:

---

<sup>4</sup> Rodrigues and Oliveira (2002) calculated the market to accounting book values of Portuguese listed companies for the period 1995-1999, considering all together financial and non-financial companies, although the accounting regulation for banks and other financial institutions differ from those, which apply to the formers. As far as we know, nobody did this kind of study before for Poland.

$MV_{ij}$  – market value of the company  $i$  at the end of year  $j$ ;  
 $BV_{ij}$  – book value of the company  $i$  at the end of year  $j$ ;  
 $n$  – number of companies.

Aggregated market to book ratio is the total market capitalization of all firms in the sample divided by the total sum of the book value figures of all firms in the sample. The reason for using two variables aims at checking the results.

The samples are compounded by companies with shares listed in the main markets at the Portuguese Stock Exchange (BVL) and at the Warsaw Stock Exchange (GPW) on the 31<sup>st</sup> December of the years 1997 to 2002. Three reasons justified these criteria. First, the availability of information, as listed companies must disclose and publish their annual reports and financial statements. Secondly, the accuracy in the financial information disclosed by those companies was considered, due to the fact that they are subject to an audit, in Portugal even additional audit according to the stock exchange regulation code. The third reason is that companies listed in the main market have higher frequency of trading.

Some restrictions were imposed to the sample. Banks and other financial institutions with listed shares were excluded because they are subject to different accounting rules. Additionally, the following criteria for exclusion were adopted. Companies with information not suitable for analysis on a comparison basis were excluded from each sample. Moreover companies, which reported negative book value, were deleted from the samples (1 Portuguese company and 4 Polish companies). All the cases (companies) with missing values for any variable were not considered in each sample. The final samples' size is 215 companies for Portugal and 220 companies for Poland. Table 5 and Table 6 show the samples sizes for each year considering the period from 1997 to 2002. Portugal and Poland, thus we have both for Portugal and Poland six samples.

The sources of data used to build the samples were gathered from Datastream, the database available at the Portuguese Stock Exchange (DATHIS), the Warsaw Stock Exchange, the financial statements published by companies, and data retrieved from the Internet. Comparing the several sources above referred made validation of data. When discrepancies in the value assumed by any case occurred, Datastream was chosen. A remark should be made to the fact that it is still difficult to find a centralised and available public database to get the needed information in both countries. The information was collected either from the individual annual accounts or from the consolidated accounts. The first ones were privileged. Nevertheless, in most cases, only consolidated information was available. This may be assumed as a limitation.

Sample size varies per year. New firms went public and simultaneously listed firms were excluded from Portuguese Stock Exchange and Warsaw Stock Exchange.

## 5. Interpretation of results

Table 3 and Table 4 present descriptive statistics for Portugal and Poland, respectively. Data for the Portuguese samples was collected in Euros, while for Poland it was retrieved in Polish zloty. In order to compare data, Polish data were converted into euros considering the exchange rate 1 PL = 0.25EUR<sup>5</sup>.

Table 3. Descriptive statistics of the samples for Portugal

---

<sup>5</sup> Exchange rate from the National Bank Poland (*Narodowy Bank Polski*) on December 31, 2002.



<i>(Euros)</i>	<b>Price per share</b>	<b>Book value per share</b>	<b>Book value</b>	<b>Market value</b>
Min	0.40	0.32	4,866.00	1,600.00
Max	174.08	86.82	6,204,731.00	11,380,050.00
Mean	12.46	9.02	451,994.26	849,089.72
Median	8.77	7.87	84,597.00	89,322.45
Standard deviation	17.62	8.80	1,154,848.13	2,199,284.52

Table 4. Descriptive statistics of the samples for Poland

<i>(Euros)</i>	<b>Price per share</b>	<b>Book value per share</b>	<b>Book value</b>	<b>Market value</b>
Min	0.05	0.04	471.75	525.00
Max	105.00	80.72	2,973,750.00	9,660,000.00
Mean	7.70	5.99	150,806.29	281,759.55
Median	4.21	4.29	40,560.00	41,698.25
Standard deviation	13.70	7.62	427,126.64	1,098,691.26

Table 3 and 4 allow getting the feeling of accounting data and market data of the companies in Portuguese samples and Polish samples. There are differences around book values and market values between the two countries. However, when divided by the number of issued shares, unitary book and market values are comparable. A look at the data from companies, which are provided in the descriptive statistics of the samples, is an indicator of individual differences among Portuguese and Polish companies in the samples.

Table 5 and Table 6 present the market-to-book ratios for non-financial listed companies in Portugal and Poland, respectively. Calculation was made for the years from 1997 to 2002 considering the two variables described in the research framework, e.g. mean value of the individual market to book ratios of all firms in each sample (MEAN 1), and the aggregated average market to book value (MEAN 2).

Table 5. Market-to-book ratios for non-financial listed companies in Portugal

<b>Sample</b>	<b>Year</b>	<b>Sample size (# companies)</b>	<b>MEAN1</b>	<b>MEAN2</b>
PR1	1997	38	1.87	2.25
PR2	1998	38	1.79	2.26
PR3	1999	36	1.67	2.15
PR4	2000	36	1.68	1.74
PR4	2001	36	1.85	1.74
PR6	2002	31	1.86	1.34

Table 6. Market-to-book ratios for non-financial listed companies in Poland

Sample	Year	Sample size (# companies)	MEAN1	MEAN2
PL1	1997	26	1.54	1.31
PL2	1998	35	1.05	1.76
PL3	1999	42	2.53	2.62
PL4	2000	41	1.50	2.25
PL5	2001	41	1.38	1.43
PL6	2002	35	1.05	1.43

Both means allow to conclude in the same sense and, thus this helps to validate the findings. The market to book value from the period 1997 to 2002 is always greater than one in both countries, showing that there is a gap between market and book values. In Portugal, the market to book values range from 1.34 to 2.26, while in Poland they vary between 1.31 to 2.62. Thus, one may interpret these results as a signal that financial statements do not reflect all the intangible assets that create market value. Like this, the authors assumed, as others have been doing before, that market prices are correct.

Figure 1 shows a comparison for the results achieved in both countries, concerning the evolution of the individual market to book value ratio in Portugal and in Poland. In Portugal the gap is big, and stable, while in Poland although it is also large, one may not conclude about a growing pattern.

Figure 1. Evolution of the mean value of the individual market to book ratios in Portugal and in Poland

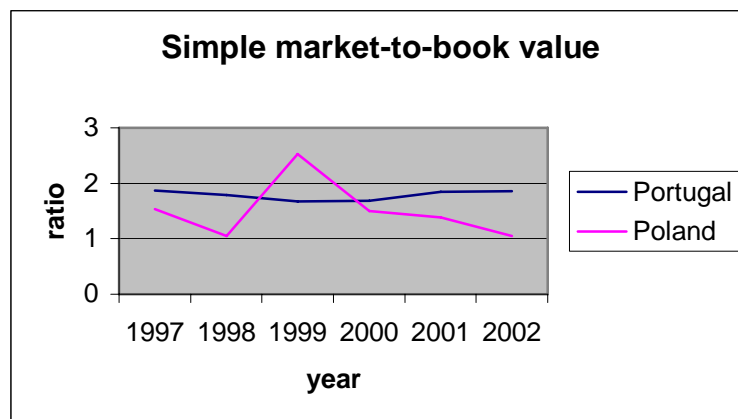
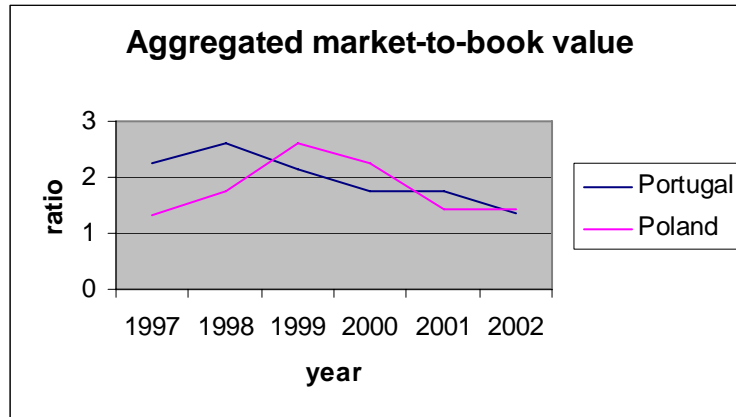


Figure 2 shows a comparison for the results achieved in both countries, concerning aggregated average market to book value ratios. Polish evolution repeats the pattern found in Portugal.

Figure 2. Evolution of the aggregated average market to book value ratios in Portugal and in Poland



Although these results are affected by the way in which the market to book value has been calculated, the individual market to book ratio (MEAN1) and aggregated average market to book value ratio (MEAN2) lead to similar conclusions.

## 6. Conclusion

This paper gives evidence on the lack of relevance of the accounting information presented in the financial statements of non-financial listed companies in Poland and in Portugal. The value of company that they present differs from real market value, using both variables (MEAN1 and MEAN2). In Portugal, the market to book values range from 1.34 to 2.26, while in Poland they vary between 1.31 to 2.62. Little attention is given to the intangible part of companies (intangible assets, liabilities, investments) even though they are the real value generators in the new economy. From purely economic point of view, there is no theoretical basis upon which a clear distinction should be between intangible and tangible assets, as both represent future economic benefits for the firm, resulting from past transactions or events (Cañibano, Garcia-Ayuso, Sanchez, 2000).

Generally, the evidence from this research is in line with the findings in the previous review of the literature in this paper. Concerning Portugal, this research confirms the results in Rodrigues and Oliveira (2002) that indicate the lack of relevance of the accounting information; we use a different methodology and add more years to the analyses. For Poland, this is the first evidence of the gap between market and accounting information.

The achieved results have implication for accounting standard setting. Book value figure can be understated due to conservative practice to protect creditors in Portugal as well as in Poland. Most of the intangible investments even though they contribute to generate future value and future earnings, according to the accounting law and practices in both Portugal in Poland, are immediately expensed in the income statement. They are not reflected in the balance sheet. Therefore financial statements do not reflect the real value of the companies and fail being an effective tool of making economically rational decisions.

Polish and Portuguese Accounting Standards give little attention to intangibles, in spite of the International accounting Standard Board recommendations that descriptive report on intangibles should supplement the financial statements. The issue of accounting standards that would regulate some the matters of intangibles “missing” in the financial statements could improve this *status quo*. That would be helpful in generating more transparent information reflecting more accurately the

real market value of companies. In order to provide the users of financial statements with relevant information that could enhance the process of rational economic decision-making, standards setting bodies should provide guidelines for the better recognition, valuation and presentation in financial statements the information on intangibles.

Both financial measures and the information presented in the financial statements need to be modified broaden and adjusted to the requirements of the new market situation and must reflect the importance of intangibles in the creation of the value of the company. Thus the information will become more useful.

## References

- Amir, E. and Lev, B. (1996) "Value-relevance of Non-financial Information: The Wireless Communications Industry". *Journal of Accounting and Economics*. 22: 3-30.
- Bontis, N., Dragonetti, N., Jacobsen K., and Goran, R. (1999) "The Knowledge Toolbox: A Review of the Tools Available to Measure and Manage Intangible Resources". *European Management Journal*. Vol. 17 (4), August.
- Brennan N. and Connell B. (2000) "Intellectual Capital: Current Issues and Policy Implementation". Paper presented at the 23rd Annual Congress of the European Accounting Association, Munich.
- Brooking, A. (1996) *Intellectual Capital*. London: Thomas Business Press.
- Cañibano, L. and Sanchez, P. (1997) "La Valoracion de los Intangibles. Estudios de Innovacion vs. Informacion Contable-financiera" Paper presented at the IX Congress of Asociación Espanola de Contabilidad y Administration de Empresas. Salamanca, pp. 287-307.
- Cañibano, L., Garcia-Ayuso, M., and Sanchez, P. (2000) "Accounting for Intangibles: A Literature Review". *Journal of Accounting Literature*. Vol., 19, 102-130.
- CNC [Comissão de Normalização Contabilística ] ( 1989) *Plano Oficial de Contabilidade*". Decree-Law Nr. 410/89.
- Danish Confederation of Trade Unions (1999) *Your knowledge – can you book it?* Rapport presented on the International Symposium of Measurement and Reporting of Intellectual Capital. June, 1999, Amsterdam.
- Dzinkowski, R. (1999a) "Buried Treasure". *World Accounting Report Financial Times*. Issue 2 (4), May.
- Dzinkowski R. (1999b) "Revealed Treasure". *World Accounting Report Financial Times*. Issue2:5 June.
- Eccles, R. and Mavrinac, S. (1995) "Improving the Corporate Disclosure Process". *Sloan Management Review*, Vol. 36 (4): 11-25.
- Edvinson, L. (1997) "Developing Intellectual Capital at Skandia". *Long Range Planning*. 30 (3).
- Edvinsson, L. and Malone, M. (1997) *Intellectual Capital; the Proven Way to Establish your Company's Real Value by Measuring its Hidden Brainpower*". London: Piatkus.
- Ferreira, L. (2001) "Portugal", in *European Accounting Guide*. Alexander, D. and Archer, S. (eds), 4<sup>th</sup> Ed, Gaithersburg and New York: Miller, Aspen Law & Business, pp. 796-877.
- Financial and Management Accounting Committee, (1998) *The Measurement and Management of Intellectual Capital: An Introduction*. IFAC, September.
- Financial Accounting Standards Board (FASB) (2001) *Improving Business Reporting: Insights into Enhancing Voluntary Disclosure*.
- Flamholtz, E. (1987) *Human Resource Accounting and Effective Organizational Control: Theory and Practice*. Los Angeles: Jossey-Bass Publishers.
- Francis, J. Schipper, K. (1999) "Have financial statements lost their relevance?". *Journal of Accounting Research*. 37 (2): 319-352.
- Garcia-Ayuso, M. Monterrey, J. Piñeda, C. (1997) "Empirical Evidence on the Convex Relationship between Prices and Earnings: The Role of Abnormal Earnings in Equity Valuation". *Working Paper*. University of Seville.

- Givoly, D. and Hayn, C. (2000) "The Changing Time Section Properties of Earnings, Cash Flows and Accruals: Has Financial Reporting Become more Conservative?". *Journal of Accounting and Economics*. Vol. 29: 287-320.
- Goldfinger, C. (1997) "Understanding and Measuring the Intangible Economy: Current Status and Suggestions for Future Research". CIRET seminar. Helsinki.
- Haanes, K. and Lowendahl, B. (1997) *The Unit of Activity: Towards an Alternative to the Theories of the Firm. Strategy, Structure and Style*. Copenhagen: John Wiley and Sons.
- Hansson, B. (1997) "Personnel Investments and Abnormal Return". *Journal of Human Resource Costing and Accounting*. Vol. 2, (2): 9-29.
- James, D. (1997) "The Troubled Language of Accounting Gets Tongue-Tied over Intangibles". *Business Review Weekly*. October, 92-4.
- Jaruga, A. and Fijalkowska, J. (2002) *Rachunkowosc i Zarzadzania Kapitałem Intelktualnym. Koncepcje i Praktyka*. Gdansk: ODDK.
- Jaruga, A. and Martyniuk, T. (red) (2002), *Komentarz do Ustawy o Rachunkowosc. Rachunkowość. MSR. Podatki*. Oddk, Gdansk.
- Jaruga, A., Nowak, W.A., and Szychta, A. (2001) *Rachunkowość Zarządcza, Koncepcje i Zastosowania*. Wydanie II, Łódź: Absolwent SWSPiZ.
- Kaplan, R., and Norton, D., (1992): "The Balanced Scorecard: Measures that Drive Performance". *Harvard Business Review*. January-February.
- Kerstein, J. and Kim, S. (1995): "The Incremental Information Content of Capital Expenditures". *The Accounting Review*. No 70: 513-526.
- Lev, B. and Zarowin, P. (1999) "The Boundaries of Financial Reporting and How to Extend Them". *Journal of Accounting Research*. 37 (2): 353-385.
- Likert, R. (1967) *The Human Organization: Its Management and Value*. New York: McGraw-Hill.
- Mortensen, J, Eustace, C., and Lannoo, K., (1997) "Intangibles in the European Economy". Paper presented at the CEPS workshop on intangibles in the European Economy. Brussel.
- Nonaka I., and Takeuchi, H. (1995) *The knowledge-Creating Company: How Japanese Companies Create the Dynamics of Innovation*. New York: Oxford University Press.
- Pan, S. and Scarbrough, H. (1999) "Knowledge Management in Practice: an Exploratory Case Study". *Technology Analysis and Strategic Management*. Vol. 11: 359-74.
- Petrash, (1996) "Dow's Journey to a Knowledge Value Management Culture". *European Management Journal*. 14 (4).
- Rodrigues, L. and Oliveira, L. (2002) "The Measurement and Financial Reporting of Intellectual Capital in Portugal". Paper presented at the 25 the European Accounting Congress. Copenhagen.
- Roos, J., G., Roos, N. Dragonetti, C., and Edvinsson, L. (1997) *Intellectual Capital: Navigating the New Business Landscape*. London: Macmillan Press.
- Roslender, R., and Dyson, J., (1992) "Accounting for the Worth of Employees. A New Look at an Old Problem". *British Accounting Review*. 24: 315.
- Roslender, R. (1997) "Accounting for the Worth of Employees: Is the Discipline Finally Ready to Respond to the Challenge?". *Journal of Human Resource Costing and Accounting*, Vol. 2 (1): 9-26.
- Ryan, J., and Tibbits, G. (1996) "Intangibles – An Alternative View". *Australian Accountant*. May: 50-52.
- Sackmann, S., Flamholtz, and E., Bullen, M. (1987): "Human Resources Accounting: a State of the Art Review". *Journal of Accounting Literature*. (8): 235-264.

- Schumpeter, J. (1942) *Capitalism, Socialism and the Democracy*. 5<sup>th</sup> ed., London: George Allen & Unwin.
- Stewart, T. (1997) *The New Wealth of Organisations*. London: Nicholas Brealey.
- Sveiby, K. (1997) *The New Organizational Wealth: Managing and Measuring Intangible Assets*. San Francisco: Berrett-Koehler Publishers.
- Sveiby, K. (2001) "Intellectual Capital and Knowledge Management"[available [www.sveiby.com.au](http://www.sveiby.com.au)].
- Tollington, T. (1994) "The Steamy Heap". *Management Accounting*. 43-44.
- Ustawa z dnia 9 października 2000r. o zmianie ustawy o rachunkowości z 1994r. [The New Accounting Act].
- Visualizing Intellectual Capital in Skandia – Supplement to Skandia's 1994 Annual Report.
- Wiig, K. (1997) "Successful Knowledge Management: Does it Exist?". *European American Business Journal*. August [available at: [www.krii.com](http://www.krii.com)].
- Wallman, S. (1996) "The Future of Accounting and Financial Reporting. Part II: The Colorised Approach". *Accounting Horizons*. Vol. 9, (3): 81-91.