Farkas, B. (ed) 2011: Studies in International Economics and Finance. JATEPress, Szeged, pp. 181–191.

The relationship between international accounting standards and environmental accounting

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As a result of globalisation processes, accounting standards concerning international financial reports and audits have assumed more and more importance. Environmental pollution represents an increasingly dominant economic, social and political problem all over the world. Measures have been taken both on the national and international levels in order to protect the environment and reduce and prevent the effects of pollution. Due to these tendencies, companies are expected to develop and publish their environmental policy, commit themselves to environmental goals and programmes and disclose the environmental risks that accompany their activities.

Analysing the connection between environmental protection and accounting may raise the following question: to what extent do international accounting standards deal with environmental issues? The goal of the present paper is to analyse the environmental aspects of accounting standards and look into the question of whether there is a need at all for particular standards that handle environmental issues. The first part of the paper reviews the areas of international accounting regulations, then, after clarifying the concept of environmental accounting, the main focus falls on analysing the International Accounting Standards relevant to the present subject matter.

Key words: accounting, international accounting standards, environmental accounting,
JEL: M 41

1. Introduction

The role of accounting standards and environmental protection is important more and more. Currentlyt the Accounting Standards handel the environmental issues at minimum level. Through the gradiation fo problem, it would be important to work out a stronger regulation. Environmental accounting, as the subpart of accounting can be the solution. In this paper, the main focus falls on analysing the relationship between International Accounting Standards and environmental accounting.

2. The areas of international accounting regulation

International accounting has been influenced by the effects of three major systems. One of them is the accounting regulation defined by the European Union; the second one is the United States' generally accepted accounting principles (US GAAP); while international accounting standards (IASs, IFRSs) constitute the third large group. Approaches differ basically in the nature of regulation: the EU's accounting system is ("continental") comprehensive and theoretical in type, while the international accounting standards and the US GAAP ("Anglo-Saxon") are rather solution-focused and technical in nature (Kapásiné–Pankucsi 2003).

The EU's main goal lies in developing a unified reporting system as well as collecting data to be analysed, while in the US GAAP system, the authorized professional organisations draw up regulation that is treated as stipulation, and court decisions also assume a great role.

The EU's regulation is basically built on regulations and directives that also occur in the area of accounting. In the EU, two directives must be emphasised concerning enterprises' responsibility to prepare reports: one of them is the fourth directive (Directive 78/660/EEC on the annual accounts of companies), the other one being the seventh directive (Directive 83/349/EEC on consolidated accounts) (Kapásiné–Pankucsi 2003, Fekete 2005).

Commission Recommendation 2001/453/EC on the disclosure of environmental issues in the annual accounts and annual reports of companies, which will be reviewed later on, must be mentioned with relevance to our subject.

The original objective of the international accounting standards was to harmonise national accounting practices within the Union, but today, companies that wish to prepare their accounts and reports in accordance with IASs must meet serious criteria (Kapásiné–Pankucsi 2003). The preparation of IASs began in 1973[1]; however, a complete system was set up no earlier than the 90s. It also happened in this period that the reporting method following the US GAAP emerged and became accepted throughout the world (Fekete 2005).

In 1995, a harmonisation process began in which the Union took a stand in favour of introducing IASs (COM(95)508), while in 2002 the IAS regulation (1606/2002/EC) was created, that made the use of IASs and IFRSs obligatory in the consolidated accounts of public companies from 2005. Beyond these, the US's accounting system also underwent a process of harmonisation with international standards (Hungarian Banking Association 2006). The harmonisation of the two global systems is also demonstrated by the Norwalk Agreement, in which significant progress was reached (IASB 2002, IASB 2006). After clarifying the international accounting systems, let us review the concept and guidelines of environmental accounting.

[1] The International Accounting Standards Committee (IASC) was founded in 1973 with the task of drawing up IASs. The International Accounting Standards Board (IASB) was established in 2001, whose responsibility lay in adopting the standards accepted by IASC (which meant that the name IAS was kept) and creating standards with a new name. The standards issued after the establishment of the Board are called the International Financial Reporting Standards (IFRSs) (Epstein–Mirza 2003).

3. Environmental accounting

The increasing difficulties deriving from environmental problems must (or should) trigger answers in all walks of life, also including accounting. Environmental accounting occurred in the 80s and 90s when companies' environmental responsibility came to the foreground and focus shifted from environmental damages caused by large companies and combating pollution to prevention – all of these factors contributing to the development of environmental accounting (Csutora 2001).

"Environmental accounting may be defined as a sub-branch of accounting that includes the activities, methods and systems that register, analyse and disclose the environmental problems of a defined economic system or the economic effects of an environmental activity" (Csutora 2001, p. 7.).

Similarly to traditional accounting, environmental accounting also consists of two branches: one of them is environmental financial accounting that informs interested outsiders, while the branch of environmental management accounting supports decision making (Gray 2001).

The first legal obligations related to environmental reporting were introduced in Denmark. In 1996, approximately 3000 companies with significant environmental impact were required to publish their so-called green account. In Holland, 300 companies were required to prepare an environmental report in 1999 (KPMG 1999).

The existence of environmental accounting is justified by the fact that in many cases more optimal waste management carries a cost reducing impact, and environmental costs often remain hidden in total costs, and furthermore, it supports the introduction of environmental management systems winning more and more emphasis. In the area of environmental accounting, the following issues must receive special emphasis:

- identifying the area of environmental costs, analysing environment related costs (Gray 2001),
- introducing the financial aspects of environmental issues, and investigating what promotes adequate decision making,
- identifying areas that cause environmental risks,
- preparation for criteria prescribed by law, and generating numerical data on penalties and benefits,
- separation of environmental costs from total costs (Gray 2001),
- considering environmental liabilities, and the system of contingent liabilities and provisions,

– promoting more comprehensive information content and comparability of reports.

After reviewing the main aspects of environmental accounting, let us look at how this approach occurs in the IAS/IFRS system heading towards harmonisation.

4. The relationship between environmental accounting and IASs

Neither effective IASs nor new IFRSs include any standard dealing fundamentally with environmental issues. The basic question lies in whether independent environmental standards are needed. The fact that environmental liabilities and damages are not unique cases, these occur only as precedents and the existing standards are not enough to handle the increasing problems, supports their creation. An argument against it states that increasing environmental problems do not fall in the scope of International Accounting Standards. In the following, pros and cons will be listed relating to both approaches.

It is necessary to amend accounting reports concerning environmental issues because the players in the national economy need information on environmental issues as well, since all this may influence the decisions of those who use the data provided by the reporter.

The players in the national economy must take into account the published environmental information, which, however, may not be reliable or relevant. Investors may often need information about a company's relationship with the environment, while a controlling authority may need to check on the implementation of an environmental regulation or keep track of associated costs. The disclosure of environmental data in reports is at a rather low level, and often times it only focuses on preventing pollution and clean up costs. Furthermore, most of the time, only companies with great environmental load prepare such reports. Without harmonised guidelines, such comparison of companies proves difficult. The goal would be to provide affected parties with comparable data about the environmental involvement of companies. The IASs include various standards that may be linked to environmental issues although there exists no one that concerns environmental matters directly.

Before the detailed discussion of IASs, Commission Recommendation 2001/453/EC that deals with the disclosure of environmental issues in the annual accounts and annual reports of companies must be underlined. According to its aim, taking environmental costs and risks into account may increase companies' awareness of environmental issues (EC 2001).

Basically, standards IAS 1, IAS 16, IAS 36, IAS 37 and IAS 38 have environmental relevance, which will be discussed in detail after the introduction of the Framework.

The Framework already points out that in the course of drawing up the report, environmental risks must also be considered since even something relatively small may influence a company's reputation considerably (IASCF 2006).

A company's environmental problem may influence the entire society or a small part of it; however, most often, these social groups bear the emerging costs, and therefore, the disclosure of environmental issues in reports is well founded. The importance of an issue with environmental impact is influenced by its size, nature as well as the accompanying conditions; consequently, it is not enough to define its importance but it is also necessary to identify its nature and volume, for example, which events contribute to its growth, how sensitive it is and what potential consequences it involves. Besides all this, environmental clean up costs, fees and penalties also require special consideration. An insignificant company matter with relatively low costs may prove important in the context of the company's environment, for example, a relatively low fine may carry serious consequences for the company's reputation and image, while it influences environmental costs only to a slight extent.

4.1. IAS 1: Presentation of financial reports

The standard basically includes the comprehensive prescriptions on the presentation of financial reports, provides guidelines concerning its structure and defines minimum criteria (IASCF 2006).

From the aspect of the present subject, the shortcomings of the standard may be defined as follows:

In relation to environmental accounting, the separate disclosure of environmental costs and liabilities[2] should be required, especially in the case where it affects the financial situation and performance and influences the decision makers who rely on the information content of the financial statements considerably (Langford 1998). IAS 1 does not include any criterion concerning the presentation of environmental costs and liabilities; therefore, it is not obligatory to handle environmental costs separate from other costs. This raises the question of how much actual information analyses and reports include. Where environmental costs are separately disclosed, the accounting policies should state what these costs represent, the accounting treatment adopted and whether the amount concerned is derived from an allocation of total costs, or is restricted to those costs that relate wholly to environmental liabilities. Harmonisation is needed also in this area in order to make accounts and reports comparable.

[2] Environmental costs: include those costs that target the prevention, reduction and recovery of environmental harm. (Fees and fines due to not observing environmental legislation and compensations paid to third parties because of damages and losses are excluded from this definition.)
Environmental liabilities are obligations related to environmental costs that are incurred by an enterprise and meet the criteria for recognition as a liability. (ICAEW 1995).

The measurement of environmental liabilities and costs may raise problems in the fields of timing and measurement in the case of accounting records not reliable and precise enough, which also justifies the importance of environmental accounting. Environmental costs cannot include total costs, but only those that target the prevention, reduction and recovery of environmental damages wholly and exclusively. Fees and fines occurring due to not observing legislation on environmental pollution cannot be added to environmental costs (e.g. compensations paid to third parties) (ICAEW 1995). Reports are prepared based on the principle of continued company operations, which supposes continuous operations within a reasonable time frame. In an extreme situation it is possible that this principle is damaged due to modification in environmental legislation (e.g. company operations fail substantially because of legal modifications). The standard also lacks any guidelines concerning such cases.

4.2. IAS 16: Property, plant and equipment

The standard aims at the presentation of accounting for property, plant and equipment.

The shortcomings of the standard may be defined as follows:
First of all, it should clarify whether an increase in expected economic benefits, rather than continued benefits, is required. According to the principle of the enterprise's continued operations, the standard makes a stand for the latter one, since although the environmental investment may not increase economic benefits considerably, the activity could not be continued without it.

A smaller or larger part of the plant machinery and equipment are purchased due to environmental reasons. These investments may not directly increase economic benefits, although according to the basic requirement it is capitalised in the assets if it will produce economic benefit for the company in the future. IAS 16 allows such investments to be recognised as tangible assets, since later on economic benefits may exceed what could have been realised without the environmental investment (IASCF 2006).

The reduction of environmental damages may represent a form of future benefits, since it can help avoid potential suspension of operations. This does not increase benefits directly, but ensures future operations and allows for maintaining further benefits.

4.3. IAS 36: Impairment of assets

The standard defines the processes applied "to ensure that assets are carried at no more than their recoverable amount. An asset is carried at a higher amount than its recoverable amount if its balance-sheet amount is in excess of its value in use or net selling price. In such cases impairment must be accounted for the asset." (IASCF 2006, p. 1502.)

This standard raises the problems of measuring impairment of assets due to environmental factors, the difficulties of determining the recoverable amount and the uncertainties as regards the timing involved.

IAS 36 includes indications of impairment and states that "the economic organisation may also identify other indications of potential impairment" (IASCF 2006, p. 1507.). For example, such an environmental factor may be a polluting unit within the company. The recommendation should be improved in this area because, for example, the impact of environmental factors on assets is not defined.

The measurement of environmentally impaired assets may be affected by uncertainties deriving from the possibility of improvement in related technology or changes in legislation. The stigma effect must also be mentioned here (Langford 1998). This effect may deter potential purchasing power or limit market opportunities in other ways. Stigma is an aspect of asset contamination, in the case of which the impairment of the asset may be regarded as the extent to which diminution in value of an asset attributable to the existence of contamination exceeds the costs attributable to remediation of the asset, the prevention of future contamination, and any fees, penalties or insurance. In practice, the "stigma effect" occurs if a further discount is applied to the values of an asset after allowing for all expected remediation costs. The standard does not include any rules concerning this, which means that wherever the effect cannot be measured reliably and there have been no disposals of comparable contaminated sites, the problem cannot be handled adequately.

4.4. IAS 37: Provisions, contingent liabilities and contingent assets

The objective of the standard is to ensure that "the right criteria of representation and principles of evaluation are applied for provisions[3], contingent liabilities[4] and contingent assets[5]" (IASCF 2006, p. 1654.). These property items constitute the main areas in which environmental issues are likely to have an impact on financial reporting.

The standard requires that a provision should be recognised only when there is a present obligation as a result of a past event, if an outflow of resources embodying economic benefits will be required to settle the obligation and its amount can be reliably estimated (IASCF 2006). Concerning environmental issues, it is outstanding that the standard defines that future events include legal and technological changes if there is adequate evidence to prove that these will occur (IASCF 2006).

[3] Provision: a liability of uncertain timing or amount (IASCF 2006).

[4] Contingent liability: an obligation deriving from a past event that will be confirmed by the occurrence or non occurrence of a future event, or an obligation that derives from a past event but has not been recognised since it is not likely to bring along an outflow of economic benefits or because it cannot be measured reliably enough (IASCF 2006).

[5] Contingent asset: an asset deriving from past events that will be confirmed by the occurrence or non-occurrence of a future event (IASCF 2006).

The shortcomings related to the standard include the fact that it provides a rather narrow interpretation of environmental considerations. More special guidelines should be provided that recognise the growth of environmental liabilities depending on a future event and explore the presence and amount of liabilities wherever it is impossible to estimate these.

Environmental issues raise the following questions:

- Whether there is a present obligation. Its definition is not clear, and often an expert opinion must be used to be able to make a decision. It would be necessary to define all related criteria, which would help minimise the impact of differing interpretations.
- Whether a proposed change in the law gives rise to an obligation. An event that does not give rise to an obligation immediately may do so at a later date because of changes in the law; therefore, attention must be paid that the precedent of the new law should expire as soon as the new legislation is enacted.
- Contingent liabilities imply the following problems in relation to environmental issues: problems of uncertainty, the timing of clean up or the best technology available, and the amount of the obligation measured with insufficient reliability.

Environmental provisions must be recognised if the clean up obligations are already defined. Due to uncertainties of future legislation, technological changes and the expansion of environmental criteria, it is difficult to estimate these costs. The situation is the same with provisions as well (ICAEW 1995).

4.5. IAS 38: Intangible assets

This comprises the regulations on handling intangible assets in accounting. In relation to IAS 38, the following can be said: concerning pollution permits and emission rights that are subject to increasing use in the environmental area, and increasing use in terms of accounting, these rights should be recognised according to the criteria of intangible assets (Langford 1998).

This subject area is quite popular and frequently discussed (Starkey–Anderson 2005, Skea 1999), therefore, it is not discussed in detail in the present paper.

5. Summary and conclusions

Based on the present review it can be stated that the IASs do not set the stipulation of environmental issues in standards as a basic requirement, since no such specific standard exists, and the present standards include minimal guidelines concerning environmental issues. This implies the problem of such comparison among the reports, inadequate management of environmental costs, different calculating methods, and so on. The development of a comprehensive standard that would facilitate unified interpretation, the consideration of the aspects of environmental costs that do not just increase costs, and help with the harmonisation of reports and the follow up of enterprises' sensitivity related to environmental issues would offer a solution to this problem. At the same time, this also requires the harmonisation of national accounting systems, which may prove more problematic. Furthermore, the standards introduced above concern big companies, while these regulations may be exaggerated for small and medium sized companies.

Beyond all this, however, environmental problems show an increasing tendency, which justifies the fact that accounting lends growing focus to this direction; whatever the platform may be, facing these issues is essential on the local, national and international levels. In my opinion, international regulation could ensure that recommendations are implemented more effectively, validate the existence of environmental accounting and also help reduce environmental problems in the long term.

References

Csutora, M. 2001: *Vállalati környezetvédelmi költségek számbavétele* (Review of company's environmental costs). Tisztább Termelés Kiskönyvtár III. kötet, Budapest.

EC, 2001: *Commission Recommendation on the recognition, measurement and disclosure of environmental issues in the annual accounts and annual reports of companies*. 2001/453/EC.

Epstein, B. J. – Mirza, A. A. 2003: *Nemzetközi számviteli standardok. Magyarázatok és alkalmazások* (The international accounting standards. Note and adaptation). Perfekt, Budapest.

Fekete, I. 2005: A számviteli szabályozás változásai (The changing of accounting regulation). *Számvitel Adó Könyvvizsgálat,* 12, 537–539 o.

Gray, B. 2001: *Environmental accounting: Setting the Scene*. Advances in Environmental Accounting Proceedings of the ACCA/Environment Agency Seminar, May, London.

IASB, 2002: *Memorandum of Understanding "The Norwalk Agreement"*. Downloaded: 19.10.2007. http://www.fasb.org/news/memorandum.pdf.

IASB 2006: *A Roadmap for Convergence between IFRSs and US GAAP–2006–2008 Memorandum of Understanding between the FASB and the IASB*. Downloaded: 08.11.2007. http://www.iasb.org/NR/rdonlyres/874B63FB–56DB–4B78-B7AF–49BBA18C98D9/0/MoU.pdf.

IASCF, 2006: *International Financial Reporting Standards (IFRSs) 2006 including International Accounting Standards (IASs) and Interpretations.* 1 January, IASCF Publications Department, United Kingdom.

ICAEW, 1995: *Environmental issues in financial reporting.* Document of the Accounting Advisory Forum, Downloaded: 19/10/2007., http://ec.europa.eu/internal_market/accounting/docs/markt–1994–6004/6004_en.pdf.

Kapásiné, B. M. – Pankucsi, Z. 2003: Számvitel az Európai Unióban és Magyarországon (Accounting in the European Union and in Hungary). *Európai Füzetek,* 4, Budapest.

KPMG, 1999: *KPMG International Survey of Environmental Reporting 1999.* Downloaded: 30/10/2007., http://www.resourcesaver.org/file/toolmanager/O16F3333.pdf

Langford, R. 1998: *Global accounting rules on green issues - Review of international accounting standards for environmental issues.* Downloaded: 15/10/2007., http://www.p2pays.org/ref/26/25602.pdf.

Skea, J. 1999: *Pollution for sale: emissions trading and joint implementation*. Edward Elgar Publishing.

Starkey, R. – Anderson, K. 2005: *Domestic Tradable Quotas: A policy instrument for reducing greenhouse gas emissions from energy use.* Tyndall Centre Technical Report, No. 39.