

中国青年经济学家论丛

环境会计学

A STUDY ON ENVIRONMENTAL
ACCOUNTING

By Li Lianhua 李连华 著



湖南人民出版社

中国高校会计专业教材系列

环境会计学

A STUDY ON ENVIRONMENTAL
ACCOUNTING

By Li Xiaohua 李新华 著



经济人民出版社

环境会计学

A STUDY ON ENVIRONMENTAL ACCOUNTING

By Li Lianhua 李连华 著

湖南人民出版社

图书在版编目(CIP)数据

环境会计学/李莲华著. —长沙:
湖南人民出版社, 2001.6

(中国中青年经济学家论丛)

ISBN 7-5438-2613-5

I.环... II.李... III.环境管理-会计学
IV.F230

中国版本图书馆CIP数据核字(2001)第039103号

责任编辑:车戈平

装帧设计:廖铁

环境会计学

李莲华 著

*

湖南人民出版社出版、发行

(长沙市展览馆路66号 邮编:410005)

湖南省新华书店经销 湖南省出版发行学校印刷厂印刷

2001年6月第1版第1次印刷

开本:850×1168 1/32 印张:9.25

字数:221,000

ISBN7-5438-2613-5

F·421 定价:15.00元

ABSTRACT

The industrial revolution begun in 1760s raised the curtain on human toward modern civilization and industrialization. After the industrial revolution, the mechanized factories took place of old workshops, the capacity of production was improved greatly, and economic scale also become bigger. Since then, the life of humankind has become more interesting and comfortable. Unfortunately, human did not realize the importance of friendship between the natural environment and mankind during the process of industrialization and economic development. On the one hand, human exploited useful resources from the environment, on the other hand, they emitted waste materials into the environment. As a result, environment had been polluted; people lost clear and bright sky, peace and quiet surroundings. This condition has being restricted social economic development further, as well as threatened human's existence.

Faced with tremendous loss and calamity consequence, people have begun to introspect own behaviors, change attitude toward the ecological environment, and

have used existing knowledge to treat environmental pollution.

More and more disciplines have permeated through the field of environmental management, many subjects relative to environment have been created such as environmental economy, environmental management, industrial ecology and so on. In my opinion, accounting as a important management discipline should and has a ability to play more positive actions in environmental improvement. On the two basic considerations that enterprises should be responsible for environmental improvement, and accounting should play more actions in the process of enterprises to treat environmental pollution, I have studied how accounting to provide good services in overcoming current ecological crisis. After earnest researches and thoughts, I have realized that we must combine accounting with the knowledge of environment to found environmental accounting. The summary of this dissertation is as followed.

Section 1 the theoretical analysis of enterprises' environmental responsibilities

The causes of environmental pollution are many aspects. In reality, human improper habits can lead to pollution, and the actions of enterprises' emissions can also bring about environmental pollution. But the enterprises' emissions, in the analysis of environmental economy, is a main aspect. So environmental pollution in nature is an economic problem, the focal point of controlling pollution lies in designing an effective control system to supervise

enterprises' emissions. If not, enterprises not only do not develop new skills but also do not utilize the current techniques of controlling pollution because emission free is with the lowest cost among all measures of emission.

Why have enterprises not purified wastes voluntarily for a long time? One reason is that enterprises have believed that their goals are to provide goods, services, and achieve maximum profits. Another reason is related to managers' responsibility. According to traditional accountability, managers responsibility is to make profits, does not include the task of environmental improvement. But recently, because of ecological crisis and decrease in government belief, more and more people have realized that enterprises should shoulder responsibility to improve environmental condition. On the account of this realization and understanding, I support the extended accountability, and hold that enterprises should shoulder four environmental responsibilities.

- liability to protect environment in law
- responsibility to protect environment in moral
- responsibility for maintaining environment and restoring polluted environment
- responsibility for reporting environmental information

At present, enterprises have not consensus opinions about the relationship between environmental protection and economic development. Generally speaking, the enterprises with attitude of "light green" do not have enthusi-

asm to do the work of environmental protection because they think that ecological environment has not met with crisis, and investment in environmental restoration would result in the decrease of economic development and decline of cooperate profits. Opposite, the enterprises with "dark green" attitude support the opinion that environmental crisis has appeared, so much as threatened the existence and further development of human society, and more significantly environmental improvements do not lead to decrease of profit, But favor in gaining long advantages of competition. I approve of the latter, and maintain that enterprises should adopt positive environmental policy.

Section 2. the development of environmental accounting

There are various concepts for traditional accounting. My understanding is that traditional accounting is the system of accounting theories and methods, the core of which is to persue maximum profit, and only considers entity' s benefits. Traditional accounting originally comes from the double entry bookkeeping of Luca. Pacioli, and it to this day holds dominant status in accounting practice. Traditional accounting can not meet the demands for environmental management because it only measures and records economic events, but ignores environmental events. Thus it is necessary to found environmental accounting for the purpose of environmental improvement, which is the inevitable outcome of accounting further development.

The current condition of environmental accounting

development is situated in the stage to construct conceptual framework and to design practical methods. In summary, there are three research trains of thought. First is thought of extending to the field of environmental management from financial accounting, and calls the mixture between financial accounting and environmental management Environmental Accounting. Second is thought of extending into the field of environmental management from management accounting and calls the mixture Environmental Management Accounting. The last recommend that the studying of environmental accounting should be made under the framework of social accounting, and the mixture between social accounting and environment is Social Responsible Accounting. It is necessary to point out that some people oppose environmental accounting because they believe that accounting information may be is misunderstood by the readers of financial report if accounting involve in the measurement and recording of environmental events. But most people approve of constructing environmental accounting. Especially environmental accounting in developing countries is necessary and urgent.

In my opinion, environmental accounting can be defined as a control system, whose functions are to measure, record, evaluate, and disclose the environmental events by monetary attribute and non – monetary attribute.

Environmental accounting in concept is not equal to accounting for sustainable development, social responsible accounting and national accounting. Environmental ac-

counting comes from traditional accounting. But is a independent subject, instead of a part of traditional accounting. It is with characters of synthesization, borderline and intersect. Its basic theories are relative to following subjects such as environmental management, ecological economy, economy for sustainable development, and enterprises' ethics etc.

The appropriate pattern of constructing conceptual framework of environmental accounting should be along with the line: the aims of reporting (the characteristics of accounting information), the elements of accounting (the standards of accounting). This pattern is the current fashion of constructing conceptual framework of financial accounting in U. S. Among the elements of conceptual framework, the objective is on the highest level, and dominates other elements of conceptual framework of environmental accounting.

The objective of environmental accounting is the outcome affected by many factors. Those factors contain the functions of environmental accounting, the aims of enterprise, and the features of accounting. In my opinion, environmental accounting has two basic aims; the aim of reporting and the aim of controlling. The contents of the aim of reporting are to record environmental - economic events, to provide the information for decision, and explain the meaning of the information. The contents of the aim of controlling include:

- design perfect internal environmental control system

- evaluate the economic outcome suffered from environmental emissions

- drew up the programs, and help to make decision

Hypothesis is necessary for any subjects that require abstract analysis. So environmental accounting should set up its presumes to support the judgement by accountants and others. I hold the idea that the presumes of environmental accounting be constructed by judging and drawing on the presumes of financial accounting. From perspective above, the hypothesis of environmental accounting contains entity, environmental factors distinguished from other factors, environmental information being useful for decision, environmental events can be measured. The principles of environmental accounting are consisted of principle for reporting and principle for controlling. The principle of reporting includes relativity, reasonable measurement, and neutrality. The principle for controlling concludes: environmental development being as important as environmental protection, preventing environmental pollution, and circumstances alter cases.

Section 3. the recognition and measurement of elements of environmental accounting

The current concept of assets is aimed at traditional accounting, it can not meet the demands for environmental management, and has uncovered following shortages: ① ignores the measurement and recording of environmental events, which leads to distortion of accounting information. ② the assets used to treat environmental pollution

are not recognized and reported independently. So it is essential to separate environmental asset from current assets. Environmental assets, in definition, are the assets relative to environment, which are necessary to be recognized and reported in accounting. Compared with other assets, the environmental assets are with features of scarcity and much usefulness. On the consideration of current environmental management system, I divide environmental assets into six items: deposit for environmental protection, receivable caused by environmental exposures, techniques and skills for environmental improvement, licenses for waste emission, equipment used to control environmental emission, and stock resources. For most items of environmental assets, their measurement can be made by historic cost, but stock resources can only be measured by value discovered.

Environmental liability is the claims that outsiders make on entity assets; those claims are originated from the facts that entity emitted waste and hazardous materials that caused loss to outsiders. In the measurement of environmental liabilities, according to the extent of measurement, environmental liabilities can be divided into two categories, a definitely determinable environmental liability and estimated environmental liability. The definitely determinable environmental liability contains payable for environmental fine, payable for environmental compensate and future payment for environmental improvement. In their measurements, the future payment for environmental

improvement should be calculated in accordance with position of finance and results of operation, but measurement of others, generally speaking, are determined by a court. For estimated environmental liability, the probability of its coming should be fully considered in measurement. However, enterprises can meet demands for amending polluted environment only if estimated reserve is more because recently legal community adopts the concept of " joint and several debt".

Environmental cost as an economic phenomenon has existed for a long time. Instead of measuring and recording dependently, traditional accounting practice merged it into other expenses such as overhead etc. This practice is with shortages as followed:

- the information relative to environmental cost is not clear and definite, can't provide help in making decision about environment.

- the linkages between cost and waste emission are broken

- the relationships between product and its profitability are misinterpreted easily

Environmental cost and its measurement have become a focus. According to my understanding, the scope of environmental cost is rather broad, it includes environmental fine, cost for amending environment, outlay for waste emission, cost for environmental evaluation. The measurement of environmental costs can generally be made on the base of historical cost.

Section 4. the disclosure of environmental information

There are many explanations for the intention of environmental information disclosures. The theory of accountability, theory of decision, and the theory of voluntary disclosures are primary. I believe that any single theory can not explain the reason effectively. Perfect explanation depends on the joint among theories above. The environmental information disclosure is very important to decisions of stakeholders. With using of environmental information, Managers of enterprises can judge effectively environmental policy, potential investors and creditors can evaluate the risks created from environmental events, Public and governments can know what types of enterprises' environmental policy is, and how it is carried out by the entity. Generally speaking, the more environmental information is disclosed, the more advantages is for users. But environmental accounting can't provide indefinable information. I think information that should be provided by environmental accounting only contains basic information and specific information.

The basic information includes enterprise's emission, environmental policy, environmental responsibility, environmental internal control system etc. The specific information is the information needed by governments and internal managers for a particular purpose. For the patterns of environmental information disclosure, my suggestion is that environmental information should be reported

separately from economic information. The statements for environmental information disclosure are: ① The statement of environmental assets and environmental liabilities. ② The statement of environmental costs. ③ The statement of environmental emission and its influences. ④ The report for environmental transaction. ⑤ The report for environmental policy.

It is necessary to point out, the position of environmental information disclosures is not perfect because most information disclosed is with self – praising, instead of critic information. In addition, information with quantity is very lack.

Section 5. the analysis of environmental cost control and evaluation for environmental performances

Environmental cost, according to its intention, can be divided into cost of environmental pollution and cost of environmental restoration. According to the extent of controlling, environmental cost can also be divided into controllable environmental cost and uncontrollable environmental cost. In its behaviors, environmental pollution cost is directly related to the quantity of production, which means that environmental pollution cost can decrease only if production declines. For the environmental treatment cost, its curve is similar to that of production cost. In short time, the more equipment' s capacity is used, the smaller environmental treatment cost is. But with passing of a particular point, the cost may grow along with increase of equipment use, which means that there is a rea-

sonable region. In this region, environmental treatment has double effects, environmental effect and economic effect. Otherwise, there is with environmental effect without economic effect, or with economic effect without environmental effect.

In the analysis of environmental control, I think that cost analysis is more practical than the analysis of cost – benefit because revenue is very rare in the field of environmental treatment. In practice, company can choose the best program by comparing the costs of all plans.

The current indicator system is with obvious shortages: environmental indicators without considering economic effect, and economic indicators without considering environmental effect either. So it is urgent to construct environmental – economic indicators. In my opinion, the usefulness of environmental – economic metrics depends on six key factors:

- comparability
- scope
- credibility
- quantification
- transparency
- extendibility

Under those principles, the environmental – economic indexes can be constructed as followed: ① energy consumption. ② the loss of environment in monetary attribute. ③ investment in environmental treatment. ④ environmental emission. ⑤ the effect of environmental

control.

Generally, environmental evaluation has two meanings, the evaluation of projects and the evaluation of environmental performances. Here discuss the latter. From economic perspective, two factors should be considered fully in evaluation of environmental performances. One is how enterprises carry out their environmental responsibilities. Another is what achievements are gained in improvement of environmental condition.