

Argument of Accounting for Oil and Gas Upstream Activities

Dr. Ibrahim Ali Abushaiba, and Dr. Ibrahim Eldanfour

Abstract—For many years the debates of oil and gas accounting practice has been disagreed on how oil and gas companies should treat their costs of upstream activities. Companies around the world such as the UK, the US and Canada are still able to choose between Full Cost method (FC) and Successful Effort method (SE) methods to treat their costs of upstream activities. The main difference between FC and SE methods is the costs treatment of unsuccessful activities, they are capitalised under FC method and expensed under SE method. The debate over FC method versus SE method has remained unresolved, each of these two accounting methods has their supporters and critics, who argue that a method is more appropriate than the other and one is the optimum method. The current research has sought to point out the argument of FC and SE methods.

Keywords—Oil and gas upstream activities, Accounting treatment, argument of FC and SE methods.

I. INTRODUCTION

THE treatment of oil and gas upstream costs under FC method is to capitalise all costs incurred even the costs associated with unproved reserves, in other words the FC method capitalises successful and unsuccessful costs and allocates them over the life of supplying oil and gas. Thus, these costs under the FC method appear as assets in the balance sheet and the depreciation of these costs are charged in the profit and loss account. However, the treatment of oil and gas upstream costs under the SE method is different to the FC method. SE method capitalises only the incurred costs associated with proved reserves, on the other hand, the costs associated with unproved reserves are expensed. The SE method capitalises only the costs of successful wells and allocates them over the life of supplying oil and gas, whereas the costs of unsuccessful wells are expensed. Thus, the capitalised costs appear as assets in the balance sheet and the depreciation of these costs are charged in profit and loss account, while the expensed costs are charged directly in the profit and loss account.

II. OIL AND GAS UPSTREAM ACTIVITIES

Oil and gas upstream activities generally include all the costs involved in finding and producing oil and gas up to the initial point that the oil or gas is capable of being sold or used (Wright and Gallun, 2008). These costs can be classified to four basic costs which include costs of acquisition activities, costs of exploration activities, costs of development activities and costs of production activities.

Dr. Ibrahim Ali Abushaiba and Dr. Ibrahim Eldanfour, are with Accounting Department, Misurata University/Libya.

The costs of acquisition activities include costs incurred in acquiring property, which include lease or purchase of properties, lease or signature bonuses, legal costs, brokers' fees, portion of costs applicable to mineral when land and mineral rights are purchased in fees and other costs incurred in obtaining mineral rights. In regard to the costs of exploration activities, they are costs incurred in exploring property. These costs include identifying areas, drilling exploratory wells and exploratory-type stratigraphic test wells, depreciation and applicable operating costs of support equipment and facilities and other of exploration activities. In respect to the development costs, they include development drilling sites, road building, draining, clearing ground, gas lines, relocating public roads, costs of platforms of well equipment, production storage tanks, depreciation and applicable operating costs of support equipment and facilities and other costs of development activities. Regarding the costs of production activities, they include cost of operate and maintain wells, transportation costs, depreciation operating costs of facilities and support equipment and other production costs (Jennings et al., 2000).

III. ACCOUNTING FOR OIL AND GAS UPSTREAM ACTIVITIES

There are two generally accepted methods to account for costs of upstream activities; these methods are the FC and the SE methods. The main difference between the two methods is capitalisation versus expensing of unsuccessful activities costs. The SE method capitalises only the costs of successful activities, whereas the costs of unsuccessful activities are expensed under this method. On the other hand, the FC method capitalises not only the costs of successful activities, but also the costs of unsuccessful activities.

Prior to the mid 1950s, almost all oil and gas operating companies were treating their costs of upstream activities under accounting principles that might collectively be called the SE accounting method. Although almost all oil and gas companies were using the SE method, they were not following the same accounting principles (Brock et al., 1982). For example, how does one determine which geophysical and geological exploration costs represent costs of SE? Some supporters of SE method capitalised them, others attempted to divide them between the acreage acquired and the acreage not acquired, treating the former cost as an asset and the latter as an expense, others charged all of them. Thus the comparability between companies was sorely lacking. In the mid 1950s a new approach was introduced to account for costs of upstream activities, this approach was known as the FC accounting method which was adopted by small and new

companies (Brock et al., 1982). However, by 1970 about half of the oil and gas operating companies whose stocks were publicly traded adopted FC accounting method including a few of the large companies. Under the FC method both costs of successful and unsuccessful activities are capitalised (Brock et al., 1982).

In 1977 the Financial Accounting Standards Board (FASB) under Statement No.19 required oil and gas operating companies to adopt a uniform financial accounting rule in the oil and gas industry. Under this statement oil and gas companies were required to follow the SE method to treat their costs of upstream activities (Deakin, 1979). However, FC companies launched an intense lobbying effort against the FASB No. 19. This lobbying effort was led by the smaller, independent companies that used and relied on the FC method to treat the costs of upstream activities (Cortese et al, 2009). Consequently, in 1978 the Securities and Exchange Commission (SEC) under Accounting Series Release (ASR) No. 253 permitted oil and gas companies to use either FC method or SE method to treat their costs of upstream activities. However, SEC required FC companies under ASR 258 (Regulation SX 4-10) to do ceiling tests at the end of each quarter (Aboody, 1996). A ceiling test is applied to determine if companies capitalised costs are overstated. If companies are found to have overstated capitalised costs, then the overstated costs must be written off (Al Jabr & Spear, 2004). Thus, Oil and gas companies may follow either FC method according to the SEC ASR No. 253, or SE method according to the FASB statement No. 19.

IV. ARGUMENT OF FC AND SE METHODS

The main difference between FC and SE methods is the cost treatment of unsuccessful activities; should be capitalised or expensed. Each of these two accounting methods has their supporters and critics, who argue that a method is more appropriate than the other and one is the optimum method for the company to treat its costs of oil and gas upstream activities.

V. ARGUMENTS IN FAVOUR OF FC AND SE METHODS

Oil and gas companies are in the business of searching for oil and gas reserves, the companies must drill wells to attain such reserves. However, some of these wells are productive and others are not productive. Supporters of the FC method believe that costs of unsuccessful drilling are necessary costs to search for oil and gas. Thus both successful and unsuccessful costs should be capitalised because the costs of unsuccessful wells are needed to find successful wells (Bierman et al, 1974; Pruet & Vanzante, 2003).

Advocators of the FC method believe that the method is attractive for investors especially for small companies looking for more investors and to avoid losing the current investors. The FC method helps these companies by reporting financial statements which give a more favourable view of their income and financial position. Whereas, if they use SE method, there will be peaks and valleys in earnings over time (Baker, 1976; Al Jabr & Spear, 2004; Brooks, 2005).

In respect of arguments in favour of the SE method, conservatism requires the charging of unsuccessful costs to be expensed as they are incurred, this requirement is provided only under the SE method. The expensing of these types of costs would eliminate hundreds of hours of detailed work which is required in analysing records and assigning costs to specific acreage. In addition, it would provide a direct relationship between production and exploration. Katz (1985) asserts that the relationship between production and exploration leads to show less risk for the SE method because the method capitalises only costs which produce economic benefit in the future. Thus, by capitalising these costs, financial statements of the company will show assets that relate to future cash flow. Thus, users of financial statements will be better able to estimate future cash flows if costs which do not produce future economic benefit are not capitalised as assets.

Baker (1976) states that traditional accounting theory requires that financial statements of going concerns should comprise a summation of monetary assets, postponed costs which result in future economic benefit and the original cost of operating capital less appropriate amortisation. The author argues that the capitalisation of losses leads to a misunderstanding of asset valuation and measurement theory, whereas the SE method classifies only the costs as assets which result in future economic benefit.

Defenders of the SE method argue that it is the optimum method for oil and gas accounting practice, because unsuccessful costs are reflected in the annual reports. Furthermore, the SE method improves matching concept with related revenues and consistent with traditional accounting. Additionally, the SE method alerts stockholders to an overextension of companies' exploration programs (Naggar, 1978). Therefore, the SE method produces realistic and accurate financial statements which yield financial results matching with economic performance. In addition, their financial statements are less subjected to manipulation by management under SE method than under FC method which enables management to maximise the profit in order to maximise their compensations. This might happen under FC method when management obtain a greater portion of company profit through accounting treatment of transactions (Cooper et al, 1979). The SE method provides better measurement of assets on the balance sheet than FC. FC violates the matching concept arguing that dry wells are necessary to find productive wells which results in long-term assets on the balance sheet that have no value. It can be argued these assets should be expensed and written off in the income statement as they occur (Macintosh & Baker 2002).

VI. ARGUMENTS AGAINST FC AND SE METHODS

Baker (1976) believes that the capitalisation of unsuccessful costs is an abuse of the matching concept, because in the future these costs will not match the economic benefits. It is difficult to understand how the costs of formally abandoned properties provide any future benefit. These costs should not be postponed if they do not provide economic

benefit in the future. The definition of the matching concept is simply matching the expenses of a period against the revenues of the same period. Costs of dry holes do not produce future revenue, they are losses. Therefore, capitalisation of these costs is a violation of the matching concept. Baker (1976) also argues that SE and FC methods are depending on estimates of hydrocarbon reserves for calculation of amortisation and depletion. The estimation of reserves is far from an exact procedure and is consequently subject to error. Because the amount of postponed cost is subject to amortisation and depletion it is greater under the FC method than the SE method for similar companies, there is typically thus a greater degree of error in cost measurement under the FC method (Baker, 1976).

Critics of FC methods asserted that oil and gas companies who use the FC method inflate their current figures earnings, because unsuccessful operations are capitalised, which leads to inflating the figures in the income statement. The inaccurate operations have adverse effects on investors; because they yield information that does not assist investors to understand the company's operations (Pruett & Vanzante, 2003). In addition, the FC method puts non-assets on balance sheet statement which should be in the income statement against the revenues. These non-assets should not be capitalised, because they do not have future economic benefits (Naggar, 1978). FC companies treat their costs of upstream activities by capitalising all costs included not only costs of wells which need to be developed, but also costs of dry wells. Such capitalisation of both costs lead to increase current earnings reported to stockholders. Furthermore, the main reason FC companies postpone their costs and treat them as capital investment is a desire to offset the outlays with the eventual sale of discovered oil. But that makes it harder for an investor or investigator to tell how successful a company has been in its drilling efforts.

In respect to the arguments against SE method, Dyckman (1979) argues that using the SE method does not represent an exact economic picture of the petroleum industry. The system of oil and gas producing companies revolves around the search for oil and gas. When companies search for oil and gas they expect from exploration wells that some wells will produce reserves and other wells will not produce reserves. Thus, under this view, it seems unreasonable to not include all of the costs associated with finding reserves.

FASB Statement No.19 was strongly against oil and gas companies who used the FC method, when it required them to use SE method to treat their costs of oil and gas upstream activities. FC companies were usually small independent companies. Therefore, FC companies argued that the change to SE method would affect their reporting earnings adversely as they are small companies. In addition, these companies argued this change would decrease their competitiveness in the oil and gas industry and perhaps in exploration and production of new oil and gas reserves as well. This might endanger the existence of these companies (Cooper et al, 1979).

Critics of SE methods asserted that oil and gas companies who use the SE method, have financial statements that bears no relationship to economic reality. This is because such a large amount of costs is expensed under this method. In addition, critics asserted that companies who use the SE method would minimise their assets, and also their earnings are significantly at variance from period to period. The variance is caused by those costs associated with unsuccessful wells or no commercial wells. This leads to producing financial statements that are less conducive to attract investors, because the investors will find the financial statement for these companies are not steady from period to period (Cooper et al, 1979; Pruett & Vanzante, 2003).

VII. CONCLUSION

From a conceptual perspective, the researcher believes that the SE method is a more appropriate method than the FC method to treat the costs of upstream activities. This is argued according to two dimensions: the matching concept and transparency. The FC method does not match the expenses of a period against the revenues of the same period, whereas the SE method recognises them as expenses. Therefore, the SE method matches the expenses of a period against the revenues of the same period. In respect to transparency, the researcher believes that the SE method is more transparent than FC method when they treat the costs of upstream activities. This is because the FC method hides unsuccessful activities and mixes them with successful activities, whereas SE method separates them. Consequently, the hiding of unsuccessful activities does not help information users to make an appropriate decision.

From a practical perspective, the researcher believes that the FC method is a more appropriate method than SE for both small companies and local governments. The FC method helps small companies to look for more investors and to avoid losing the current investors by reporting financial statements which give a more favourable view of their income and financial position. If they use SE method, there will be peaks and valleys over time. Large companies have a portfolio of projects and one project failure is subsumed into other success which helps them to avoid losing investors. If these companies use the FC method, they will report an arguably inaccurate income figure which also leads to increase tax liabilities for the local government.

REFERENCES

- [1] Aboody, D. Recognition versus disclosure in the oil and gas industry. *Journal of Accounting Research*, vol. 34, pp. 21-32. 1996.
- [2] Al Jabr, Y. and Spear, N. Oil and gas asset impairment by full cost and successful efforts firms *Petroleum Accounting and Financial Management Journal*. pp. 1-20. 2004.
- [3] Baker, C.R. Defects in full-cost accounting in the petroleum industry. *Abacus*, vol. 12, pp. 152-8. 1976.
- [4] Bierman, H., Jrand, D., Roland, E. and Thomas, R. Financial accounting in the petroleum industry. *Journal of Accountancy (pre-1986)*, vol. 138, no. 4, pp. 58-64. 1974.
- [5] Brock, H.R., Klingstedt, J.P and Jones, D.M. Accounting for oil & gas producing companies Part 2: amortization, conveyances, full costing and disclosures, North Texas State University, Denton, Texas. 1982.

- [6] Brooks, M. Financial reporting: oil and gas accounting - The mystery. *Accountancy*, vol. 136, no. 1343, pp. 80-81. 2005.
- [7] Cooper, K., Flory, S.M. and Grossman, S.D. New Ballgame for oil and gas accounting. *The CPA Journal*, vol. 49, no. 1, pp. 11-17. 1979.
- [8] Cortese, C.L., Irvine, H.J. and Kaidonis, M.A. Extractive industries accounting and economic consequences: Past, present and future. *Accounting Forum*, vol. 33, no. 1, pp. 27-37. 2009.
- [9] Deakin, E.B. An analysis of differences between non-major oil firms using successful efforts and full cost methods. *The Accounting Review*, vol. 54, no. 4, pp. 722-34. 1979.
- [10] Dyckman, T.R. Market effects of the elimination of full cost accounting in the oil and gas industry: another view. *Financial Analysts Journal*, vol. 35, no. 3, pp. 75-80. 1979.
- [11] Jennings, D.R., Brock, H.R., Feiten, J.B. and Professional Development Institute. *Petroleum accounting: principles, procedures & issues*, 5th, Professional Development Institute. 2000.
- [12] Katz, L.C. Oil and gas: a compromise method of accounting. *Journal of Accountancy (pre-1986)*, vol. 159, no. 6, pp. 116-124. (1985), 1985.
- [13] Macintosh, N.B. and Baker, C.R. A literary theory perspective on accounting: towards heteroglossic accounting reports, *Accounting, Auditing & Accountability Journal*, vol. 15, no. 2, pp. 184-222. 2002.
- [14] Naggar, A. Oil and gas accounting: where Wall Street stands. *Journal of Accountancy (pre-1986)*, vol. 146, no. 3, pp. 72-77. 1978.
- [15] Pruett, S., and Zante, N. Successful Efforts Versus Full Cost: A Continuing Controversy May Soon be Resolved. *The Journal of 21st Century Accounting*, vol. 3, no. 1, pp. 1-19. 2003.
- [16] Wright, C.J. & Gallun, R.A. *Fundamentals of oil & gas accounting*, 5th, Penn Well Corporation, United States. 2008.