

CHOICE OF ACCOUNTING METHODS AND REPORTED EARNINGS BY OIL AND GAS PRODUCING FIRMS IN NIGERIA: A CRITICAL EVALUATION OF FULL COST VERSUS SUCCESSFUL EFFORT METHODS

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Abstract

The debate over choice of Accounting methods in the oil and gas sector in the face of alternatives between Full Cost and Successful Effort method dates back to the mid 20th century and is unlikely to abate soon. Full cost method capitalizes all costs while Successful Efforts method capitalizes only cost that discovers reserves and expenses 'dry hole' costs. The debate is further fueled by the inability of regulators to choose one method over the other leaving the decision to the whims and caprices of the firm who may choose one method over the other to mask their real intentions. This paper examines the pros and cons of the two methods. Investors must be weary and realize that any of the methods adopted represents a historical perspective that is not reflective of the economic reality especially reserves under successful Effort method. Investors must note that using Full cost method approximates the book values of the reserves close to the economic value while at the same time it suffers from the disadvantage that it can be used to mask unprofitable investments. In summary, the raging arguments reveal the possibility of manipulation of earnings by oil firms depending on intentions through choice of accounting method. In Nigeria, Multinational firms tend to adopt accounting method in line with the method chosen by the parent company to ensure uniformity and ease of comparison of results while indigenous firms adopt the methods that best suit their operations

Keywords: *Accounting methods, full cost, successful effort, reporting earnings, oil and gas*

1.0 INTRODUCTION

The past few decades has witnessed in a greater momentum the emergence of a major controversy in accounting practice and debate concerning two equally reputable techniques of Accounting in the oil and gas upstream operations. The Oil and gas sector features certain unique attributes; the requirement of up-front investment of large and risky capital prior to generating earnings and the demand for special treatment from an accounting perspective. One technique, "full-costing", has been shown to produce positive results for the stakeholders, while the alternative, "successful efforts" accounting, produces tremendous accuracy and is of special use to internal financial analysts and astute investors who can see beyond the sublime and occasional presentation of a pessimistic outlook of the firm's activities. The controversy over the choice of any of the Accounting methods in preference to the other is exacerbated by the failure of standard setting bodies to make a defined and agreed choice of one method over the other. The large capital outlay

and attendant profit or loss motivates investors, regulators, employees and other users of financial statement to show preference for a method which best serves their interest. The choice of method therefore is a function of company philosophy, motive and environmental variables.

1.1.1 Statement of the Problem

The peculiarity of oil and gas firms in terms of huge capital outlay, variability and volatility in earnings, government regulation, ownership structure, fluctuation in international prices of products, taxation, non-correlation between the amount of investment made and returns obtained and high sensitivity to market risk, operational risk and foreign exchange risk have attracted diverse interest in the activities, choice of accounting methods and reported numbers presented by these companies. It is a widely held belief that Choice of accounting methods affects reported earnings. For Oil and gas firms, two methods of accounting successful effort and Full Cost Method are recognized. In the United States, the choice of accounting method in effect receives regulatory approval because the Financial Accounting Standards Board_(FASB), which is responsible for establishing and governing GAAP, and the Securities and Exchange Commission (SEC), which regulates the financial reporting format and content of publicly traded companies, are divided over which is the correct method.

The *Statement of Financial Accounting Standard (SFAS) 19*, the FASB requires that oil and gas companies use the SE method, while the SEC allows companies to use the FC method. These two governing bodies have yet to find the ideological common ground needed to establish a single accounting approach. Other countries similarly recognizes two methods mainly due to the multinational nature of the oil prospecting companies which tries to ensure uniformity in accounting policies and procedures between the subsidiaries and the group. Due to the impact of choice of accounting methods on reported earnings, accountants and researchers are interested on the effects of these two dominant accounting methods of reporting in the oil and gas industry. In Nigeria, oil revenue accounts for more than 70 percent of earnings. The heavy dependence of the Nigerian economy on oil and the unabated controversy amongst scholars about the two accounting methods for oil and gas in the Petroleum sector attracted a review by this writer to examine the pros and cons of the two methods of Accounting.

1.1.2 Aim and Objective

The aim of this paper is to examine the controversy between the two accounting methods 'full cost versus Successful Efforts methods' within the context of financial reporting in Nigeria. The objective being to review the pros and cons of the accounting methods on reported earnings and interested users of the financial statements prepared in line with the methods of accounting in the oil and gas sector.

2.0 REVIEW OF RELATED LITERATURE

2.1.1 Successful Efforts Method

The successful efforts (SE) method allows a company to recognize as assets (capitalize) only those expenses related to successful discovery of new oil and natural gas reserves. For unsuccessful (or "dry hole") outcomes, the associated operating costs (expenses) are immediately charged against revenues for that period in line with the matching concept. A drilling effort is classified as successful if it results in the extraction of economically recoverable oil and gas and classified as unsuccessful if it results in a dry hole. According to the view behind the Successful Effort method, the ultimate objective of an oil and gas company is to produce the oil or natural gas from reserves it locates and develops so that only those costs relating to successful efforts should be capitalized. Conversely, because there is no change in productive assets with unsuccessful results, costs incurred with that effort should be expensed.

2.1.2 Full Cost Method

The full cost (FC) method, allows all operating expenses relating to locating new oil and gas reserves - regardless of the outcome - to be treated as an asset (capitalization) in the financial

statement. It allows for capitalization and amortization (systematic write off) of the capitalizes assets over the useful or economic life time of the asset.

Exploration costs capitalized under either method are recorded on statement of financial position as part of Non-current assets. This is because oil and natural gas reserves are considered productive assets for an oil and gas firm. In Nigeria, Statement of Accounting standard 14 (Accounting in the Petroleum Industry: Upstream Activities and SAS 17 Accounting in the petroleum sector used prior to adoption of IFRS in 2012 required that the costs to acquire those assets be charged against revenues as the assets are used in line with the matching concept. The view represented by the Full Cost method holds that, in general, the dominant activity of an oil and gas company is simply the exploration and development of oil and gas reserves. This implies that all costs incurred in pursuit of that activity should first be recognized, capitalized and then amortized (written off) over the course of a full operating cycle or economic useful life of the asset.

The two alternative methods for recording oil and gas exploration and development expenses is the result of two alternative views of the realities of exploring and developing oil and gas reserves. Each view insists that the chosen accounting method best achieves transparency relative to an oil and gas company's accounting of its earnings and cash flows.

2.2.0 Categorization of costs of oil and gas

Choice of method does not have an impact on the classification of cost. Oil and gas firms will incur costs that are identified and classified as belonging to one of four categories regardless of the method chosen:

2.2.1 Acquisition Costs

Acquisition costs are cost incurred to obtain exploration rights for development and production of oil or natural gas. This includes expenses relating to either purchase or lease the right to extract the oil and gas from a property not belonging to the company. Lease bonus payments paid to the property owner along with legal expenses, title search, broker commission and recording costs are also categorized as acquisition costs. All acquisition costs are recognized as assets under both methods.

2.2.2 Exploration Costs

These are Costs incurred for the collection and analysis of geophysical and seismic data involved in the initial examination of a targeted area and later used in the decision of whether to drill at that location. Other exploratory costs include those associated with drilling a well, which are further considered as being intangible or tangible. Intangible costs in general are those incurred to ready the site prior to the installation of the drilling equipment whereas tangible drilling costs are those incurred to install and operate that equipment. All intangible costs will be charged to the statement of comprehensive income as part of that period's operating expenses for a firm under the Successful Effort method. All tangible drilling costs associated with the successful discovery of new reserves will be capitalized as Non-current asset in the statement of financial position while those incurred in an unsuccessful effort are treated as expenses and added to operating expenses for that period in the statement of comprehensive income . In contrast to the treatment of Tangibles and Intangibles in Successful Effort method, in the Full cost method; all exploration costs whether tangible or intangible are capitalized and treated as Non-Current Assets in the statement of financial position of the firm.

2.2.3 Development Costs

Development costs involve the preparation of discovered reserves for production such as those incurred in the construction or improvement of roads to access the well site, with additional drilling or well completion work, and with installing other needed infrastructure to extract (e.g., pumps), gather (pipelines) and store (tanks) the oil or natural gas from the reserves. Both Successful Effort Method and Full Cost Method allow for the capitalization of all development costs and inclusion as Non-current assets in the statement of financial position

2.2.4 Production Costs

Costs incurred in extracting oil or natural gas from the reserves is known as production costs. Production costs are wages for workers and electricity for operating well pumps. Production costs are considered part of periodic operating expenses and are charged directly to the statement of Comprehensive income statement both accounting methods.

2.3 Current Regulations covering Oil and Gas Accounting Methods:

IFRS 6 (Exploration for and Evaluation of Mineral Resources) touches on issues that are unique to the extractive industries, other standards relevant to the oil and gas are IAS 16 (Property, Plant and Equipment), IAS 31 (Interests in Joint Ventures), IAS 36 (Impairment of Assets) and IAS 38 (Intangible Assets). IFRS 6 applies to expenditures incurred by an entity in connection with the search for mineral resources. The standard divides upstream activities into two groups namely exploration & evaluation activities and development activities. The standard under paragraph 9 discusses exploration and evaluation activities. Examples of expenditures that can be categorized as exploration and evaluation according to paragraph 9 are acquisition of right to explore, topographical, geological, geochemical and geophysical studies, exploratory drilling, trenching, sampling costs, costs incurred in trying to evaluate the technical feasibility and commercial viability of extracting resource. These cost are capitalized and classified as tangible or intangible. (IFRS;2011). Developing activities involves developing the results from extractive activities. This usually requires huge amount and paragraph 10 of IFRS 6 states that these expenditures should be categorized as intangible assets and treated as per the guideline provided in intangible Assets -IAS 38 "(Ejiroghene Elizabeth Agbudo;2013)

3.0 EFFECTS OF CAPITALIZATION OF COSTS UNDER SUCCESSFUL AND FULL COST METHODS

The effect of choosing one accounting method over another is apparent when periodic financial results involving the income and cash flow statement are compared with the effect of highlighting the way each method treats the individual costs falling into these four categories. The comparison discloses the impact to periodic results caused by differing levels of capitalized assets under the two accounting methods. Periodic charges of depreciation, depletion and amortization of costs relating to expenditures for the acquisition, exploration and development of new oil and natural gas reserves impacts the income and cash flows the same way it affects other business entities in distinct industries. For exploration and production firms, they include the depreciation of certain long-lived operating equipment; the depletion of costs relating to the acquisition of property or property mineral rights, and the amortization of tangible non-drilling costs incurred with developing the reserves. The periodic depreciation, depletion and amortization expense charged to the statement of comprehensive income is determined by the "units-of-production" method, in which the percent of total production for the period to total proven reserves at the beginning of the period is applied to the gross total of costs capitalized on the statement of financial position.

Depreciation, depletion, amortization, production expenses and exploration costs incurred from unsuccessful efforts at discovering new reserves are recorded on the statement of Comprehensive Income. Initially, net income for both Successful Effort and Full Cost Methods is impacted by the periodic charges for depreciation, depletion, amortization and production expenses, but net income for the Successful Effort firm is further impacted by exploration costs that may have been incurred for that period. Thus, when identical operational results are assumed, an oil and gas company adopting the Successful Effort method can be expected to report lower near-term periodic net income than firms adopting Full Cost method. However, without the subsequent discovery of new reserves, the resulting decline in periodic production rates will later begin to negatively impact revenues and the calculation of depreciation, depletion and amortization for users of the two methods. The full cost method will result in higher level of capitalized costs and resulting higher periodic depreciation, depletion and amortization expenses. During periods of declining revenue,

the periodic net earnings of the Successful Effort firms will improve relative to those for the Full Cost firms and will eventually exceed those costs resulting in higher net earnings. As with the statement of Comprehensive Income, when identical operational outcomes are assumed, for firms adopting the Full Cost method of accounting near-term results (shown in the cash flows from operations (CFO) portion of the statement of cash flows) will be superior to those for a firm adopting the Successful Effort method. Cash Flow from operations is basically net income with non-cash charges like depreciation, depletion and amortization added back so, despite a relatively lower charge for depreciation, depletion and amortization, Cash flow operations for Successful effort firms will reflect the net income impact from expenses relating to unsuccessful exploration efforts. However, when there are no new reserves being added, reported net income under longer term Successful Effort and Full Cost method, each firms Cash flow from operations will be the same. This is because adding back the non-cash charge for depreciation, depletion and amortization effectively negates the relatively larger impact to net income under the Full Cost method of accounting.

Firms that are desirable in managing tax costs sometimes make use of the effect of accounting method choice on profit as a strategy in tax planning. Such firms deliberately strategize to mitigate their tax costs by adopting the successful effort method since expenses from dry holes will be charged to the statement of Comprehensive income thus reducing taxable profit. In contrast, firms that are inclined to reporting huge income numbers will prefer to use the full cost approach. Endales (2011) postulated that capitalizing all the expenditures incurred will overcapitalize an entity and defer recording of expenses so that companies register excess income in the first accounting year. This phenomenon captures in a nutshell why smaller firms are more inclined to the use of full cost method as higher profits puts them in a vintage position when negotiating with investors. Smaller companies tend to favor the use of full cost method Cortese et al (2008). Firms that adopt the successful efforts method are likely to report on the statement of financial position a value of reserve that is far lower than the actual economic value of the reserves. On the other hand, companies that use full cost method are more likely to report on the statement of financial position a value of reserves that is closer to the economic value of the reserves. It is also possible for firms to magnify the positives and hide the negatives. This assumption may be valid with the full cost accounting method where expenses from both successful and unsuccessful efforts are recognized and capitalized. With the full cost method there is a possibility that details of some non-viable and risky investments would be masked by the profitable investments. Financial statements prepared with the successful effort method are more prone to earnings volatility than that prepared with the full cost method.

4.0 DISCUSSION OF PROS AND CONS OF THE METHODS

4.1 Arguments for Successful and Full Cost method

The main business of oil and gas firms is to explore for oil reserves. These efforts in exploring for oil are sometimes unsuccessful. Protagonist of Full cost method argues that drilling costs of unsuccessful search for reserves is a necessity to find reserves and therefore should be capitalized. This argument is supported by Bierman et al, 1974. Furthermore, the protagonists also argue that Full cost method is favorable to small companies as it gives a positive outlook of their income which makes it attractive to potential investors. In support of this argument Brooks (2005) and Baker (1976) argues that if small companies adopt Successful Effort method there will be fluctuations in earnings which might result in loss of investors. It is also argued that Full cost method encourages smaller companies to be more aggressive in exploration and subsequent discovery of more viable wells for expansion. Furthermore, Capitalization of Cost under Full cost method is deemed to promote competition necessary for industry growth. Bigger companies can easily absorb losses and drive smaller companies out of business but with Full cost method; untimely exit of smaller companies and monopoly by large companies is prevented thereby engendering competition. In contrast, Protagonist of Successful Effort method relies on the

principle of prudence and conservatism and asserts that charging costs of unsuccessful Efforts to statement of Comprehensive income is in line with the concept which requires that losses are recognized immediately. They further supported their preference for Successful Effort method by suggesting that expensing cost of unsuccessful wells will eliminate tedious and long hours of work required in analysis and assignment of cost to specific acreages. It is also argued that the method links production costs to exploration as only exploration cost associated with proved reserves are capitalized. This is in tandem with the definition of an asset under IASB as “a resource controlled by the entity as a result of past events and from which future economic benefits are expected to flow to the entity” and consistent with IAS 38 (Research and Development) which stipulates that research should meet the definition of an asset only if it is directly related to any particular product with future economic benefit”(Ejiroghene Elizabeth Agbudo;2013). Proponents of the successful method also argue that users of financial statement will be able to estimate future cash flows better if costs which do not produce future economic benefits are not capitalized. Baker (1976) supports Successful Effort method by arguing that capitalization of losses by Full cost method leads to understatement of asset valuation and negates measurement theory while Successful Effort method in contrast only recognizes assets with a future flow of economic benefits. It is further argued that Successful Effort method is the best method for oil and gas because costs of unsuccessful Efforts are expensed and reflected in the financial statement in a period in which it occurs. They argue that Successful Effort method improves the matching concept through the match of expenses of ‘dry holes’ against revenue of the period (Ayres and Raybern; 1991). Successful Effort method is also alleged to alert stakeholders to an over extension of the firms’ exploration program and produces a realistic financial statement which matches economic performance. Successful Effort method also provides a better valuation of asset without violating the matching concept. Proponents of Successful Effort method also infer that it is more informative and provides a clearer view of the efficiency of the firm to investors.

4.2 Arguments for and against Successful efforts and Full Cost methods

One of the major arguments advanced by Critics of Successful Effort method is that it causes earnings variability as earnings change from period to period in addition to asset minimization. The variability is attributed to cost of unsuccessful wells which is of no commercial viability. The earnings variability affects investors reliance on the financial statement (Cooper et al ; 1977) as useful investment decisions cannot be made from such financial statement. It is also argued that the financial statement prepared using successful efforts method bear no relationship to economic realities because of the huge expenses charged to the statement of comprehensive income. 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.

Critics of Full Cost method on the other hand argues that earnings are inflated because unsuccessful operational costs in search for reserves are capitalized. The adverse effect is that the financial statement gives inaccurate information to investors who cannot rely on the reported earnings to make decisions. It is also argued that the Full cost method puts non asset of no economic value to the statement of financial position as the capitalized cost does not meet the criteria of capitalization which is reasonable assurance of future flow of economic benefits (Nagar; 1978). They further argue that the capitalization of costs of ‘dry holes’ could lead to increase current earnings reported to shareholders. It is also the argument of the critics that the major reason Full cost firms defer their expenses and treat them as capital investment is a desire to offset the cost outlays from the proceeds of sale of discovered oil. This approach negates the underlying reason for financial reporting and makes it harder for an investor or analyst to ascertain the degree of success of the firm in

exploration efforts. Capitalization of costs of 'dry holes' yield no benefit or revenue; it is therefore violation of the Matching concept. The calculation of estimates of hydrocarbon reserves is based on estimate which is subject to a degree of error. Depreciation, amortization and depletion are calculated on the capitalized costs. The capitalization of the cost of 'dry holes' magnifies this error and questions the rationale for full cost method

5. CONCLUSION

Despite the controversies surrounding the two oil and gas methods of accounting, It is the view of this writer that Successful Efforts method discloses the internal flaws and supports the investor in reaching reasonable investment decision. First, it meets the underlying principles of the matching concept by matching revenue and expenses within the period and proper timing of cash flows. Secondly, it upholds the concept of conservatism by recognizing losses as it occurs. Thirdly, it is transparent and removes the risk of manipulated earnings to mask the real intent of the Manager which is a major drawback of the full cost method by revealing the extent and nature of losses incurred on unsuccessful wells. This view however has not completely obliterate the benefits of the full cost method highlighted by proponents as the Full Cost methodology in the long run reveals more positive bottom-line results for the firm, thus attracting capital from a broader base of investors.

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