

Application of the international accounting standard n°21 “the impact of exchange rate “ in Sonatrach group

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Abstract:

The study aims to show how the Sonatrach group deals with exchange rate changes in accounting and see if exchange accounting is being applied in keeping with the principles established by international accounting standard n°21 and the Algerian accounting system, given that the group is an Algerian company so its submit to the Algerian system, through studying Sonatrach's financial statement for 2020.

The study found that the Algerian accounting system principles related to exchange accounting are consistent with International Accounting Standard N° 21 in the most important points, which is applied in Sonatrach group consolidated accounts, and the accounting results of the group declined in 2020 due to the global health crisis.

Keywords: Exchange rate, The international accounting standard N°21, the Algerian financial accounting system, financial reports, Sonatrach

Jel Codes Classification : F3 ; G3 ; M4

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تطبيق المعيار المحاسبي الدولي رقم 21 "أثر تغيرات أسعار الصرف" في مجمع سونطراك.

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ملخص

تهدف الدراسة إلى إظهار كيفية تعامل مجمع سونطراك مع تغيرات الصرف محاسبيا، وما إذا كان يتم تطبيق المعيار المحاسبي الدولي رقم 21 وما يناظره من مبادئ النظام المحاسبي الجزائري المتعلقة بمحاسبة الصرف، باعتبار أن المجمع جزائري الجنسية ويخضع للنظام الجزائري، وذلك من خلال تحليل التقارير المالية للمجمع لسنة 2020. توصلت الدراسة إلى أن مبادئ النظام المحاسبي الجزائري المتعلقة بمحاسبة الصرف تتوافق مع المعيار المحاسبي الدولي رقم 21 في أهم النقاط، وهو ما يتم تطبيقه في الحسابات المجمعة لمجمع سونطراك، وإن سنة 2020 شهدت انخفاض في النتائج المحاسبية للمجمع بسبب الأزمة الصحية العالمية. الكلمات المفتاحية: أسعار الصرف ، المعيار المحاسبي الدولي رقم 21 ، النظام المحاسبي الجزائري، القوائم المالية ، سونطراك. تصنيف JEL: M4 ; G3 ; F3

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I. Introduction:

The advancement of global markets and the liberalization of international trade have made the exchange rate the most important economic variable influencing international transactions. On the other hand, due to the variety of accounting systems throughout states and diverse accounting treatment of exchange changes methods, IAS21 a common international accounting standard has emerged from the International Accounting Standards Committee, includes a set of principles that help for accounting processing to the various transactions carried out in foreign currency; like commercial operations (importing and exporting), financial operations (lending and borrowing), and the translation of financial statements from subsidiary company to the main company (multinational companies). This international standard aims to facilitate access and understanding the financial information around the world.

In Algeria, there is The Financial Accounting System law 07/11 which consults the effect of changes in foreign currency, so the first question is :

- Does the Algerian Financial Accounting System have the same principles of the IAS21?

To ensure; the study will be conducted on the consolidated financial statements of Sonatrach which is an Algerian multinational company, and to answer the second following question:

- Does Sonatrach apply for the IAS21?

The objective of this study is to see if the Algerian companies apply international standards; this enhances transparency which may increase investment opportunities.

II. Literature review:

The International Accounting Standard 21 was released in 1983 and entitled Accounting for the Effects of Changes in Foreign Exchange Rates, it has undergone a lot of modifications until 2008 when the committee made the final version of the standard. (Deloitte ,ias plus, www.iasplus.com/en/standards/ias/ias21)

Below are some definitions included in the statement: (Deloitte,ias plus, www.iasplus.com/en/standards/ias/ias21)

- Functional coin: is the currency used by the entity in the economic environment that operates in.
- Exchange difference: means the divergence that occurs when a particular quantity of currency units is exchanged for another currency at different exchange rates.
- Closing rate: The currency exchange on the day of preparing the financial statement is defined. (MAAMAR TAYEB, 2022/2023)
- Historical exchange rate: the prevailing price was on the date of the transaction.
- Foreign entity: An entity that is outside the reporting entity's activities.

The following is the financial statements translation in accordance with IAS21.
: (EL-SAYED Ahmed ,2004 ,p175)

- The closing price is used to translate all cash items.
- Non-cash items registered are translated by cost at historical exchange rates.
- The components of the revenue list are translated based on past exchanges.

, and sometimes used an average exchange rate during the accounting period. (MAAMAR TAYEB ,2018 ,p245)

- All exchange differences that result shall be included in other comprehensive income.
- If it is a foreign entity; all exchange differences are recognized as a separate part of equity. (ELDJAARAT,2008 ,p199)

The international accounting committee compelled the acceding countries to modify their accounting systems in line with the international accounting standard principles, this is what Algeria did in 2009 when it addressed for the first time the effect of the exchange rate.

Algeria's official gazette which was published on 25 March 2009 included in its title 1; chapter 3; class 07 how to deal with transactions in foreign currencies as follows: (General Secretariat of the government,2009,p 20,21)

- Assets acquired in hard currency are transferred into the national currency by converting its cost into hard currency; the transaction will be based on the exchange rate that is in effect on the day it is completed. The balance sheet retains this value until the assignment is consumed or the assets disappear.
- If cash elements remain (treasury and elements of assets and liabilities that require payment or receipt based on specific or indeterminable cash flow amounts) in foreign currencies in the balance sheet until the fiscal year's end., using the most recent currency rate in force on that particular day, their original recording is updated.
- The values resulting from the transfer differ from those initially documented in the historical cost accounts. On the inventory date increase or decrease the original amounts. These differences constitute financial burdens or financial products for the fiscal year.
- The associated conversion differences are recorded exchange rate changes regarding an entity's net investment in one of its institutions located abroad and considered independent in the field of financial management and exploitation (recorded) directly in private capital under "transfer difference" without being included in the revenue statement.

According to the information above, Algeria's financial accounting system conforms with the international accounting standard; that's through both of them rely on the historical exchange rate to register the assets acquired or non-cash items, closing rate is used to register cash items in both of them, the exchange differences between are reported in the income list if these differences come from an affiliate entity,if it is not this differences are reporting in equity (private capital).

III. Previous studies:

There are so many domestic and foreign studies addressing the effect of exchange rates and how to treat it on financial statements using the IAS 21 and some of them use the financial accounting system, it is arranged as follow:

(BENKHLIFA ,BERHOUMA ,2014) Study entitled "Algeria's financial accounting system approach to international accounting standards", researchers adopted the comparative

descriptive method to each international standard and its corresponding law of the financial system.

In Syria (ALKADI, and HASHEM,2015) studied the deceptive influence of International Accounting Standard No. 21 on the information users at private banks in Syria. The study's purpose is to demonstrate the results of implementing accounting standard N° 21, and hard currency prices affect Syrian banks. According to the study's findings, applying IAS N°21 arbitrarily while flouting the application of IAS N°29 to account for inflation would affect financial statements and give misleading results, casting doubt on the accompanying disclosure's capacity to accurately represent the operations and financial outcomes of Syrian private banks.

Coming back to Algeria (BERREGUI, RACHEDI,2017) studied the influence of fluctuations in foreign exchange rates on financial statements, in accordance with IAS 21 and the requirements of the financial accounting system. , the study aimed to clarify the main strides to deal with the impact of changes of foreign currency on financial statements according to IAS 21 and financial accounting system using the analyzing method with giving examples.

The study of (MAAMAR TAYEB,2018) entitled "Translation of Consolidated Financial Statements in Foreign Currency"; This study describes how to convert financial statements from subsidiary companies to the parent company using IAS and the financial accounting system law.

Also (DHRIF, CHENOUF,2018) compared between IAS and SCF concerning the effects of changes in foreign exchange rates, looked at the cheese and dairy company of BOUDOUAOU, the objective of the study was to emphasize the similarities between IAS 21 and the financial accounting system in accounting for exchange rate variations, applying on Cheese and Dairy Company of Boudouaou. The study concluded that the company applies the accounting system techniques which are the same as the international accounting standard.

And (RACHEDI,2019) addressed in his research the impact of converting financial transactions into foreign currencies on financial statements as per the IAS21 financial accounting system, the study aimed to clarify how to treat accounting for the effect of exchange rate fluctuations on financial statements by IAS 21 and the Algerian financial accounting system, and presenting by application examples the most important procedures and principles that can be referred to address the effects of exchange changes of foreign currencies on the financial statements.

Going to Iraq,(GSHAYYISH ZWAID and others, 2021) studied the alteration of currency exchange and its alignment with Iraq's regulations and international accounting standards, the objective of the study was to determine whether Iraq's accounting rules and IAS n° 21 are in harmony with each other in the accounting treatment of currency changes. The study found that there are differences between Iraqi accounting rules and the IAS n°21, especially non-disclosure of change to foreign transaction classification and Iraq's export accounting rules.

IV. Material and methods:

The analysis of Sonatrach's financial statements is used in the study to determine whether it complies with IAS 21 and the Algerian financial accounting system and see how the main company deals with exchange rate changes.

Sonatrach is an Algerian multinational entity that includes 43 sections and contributions outside of Algeria especially in Europe.

The study will draw on the published annual reports of Sonatrach in 2020.

V. Results and discussion:

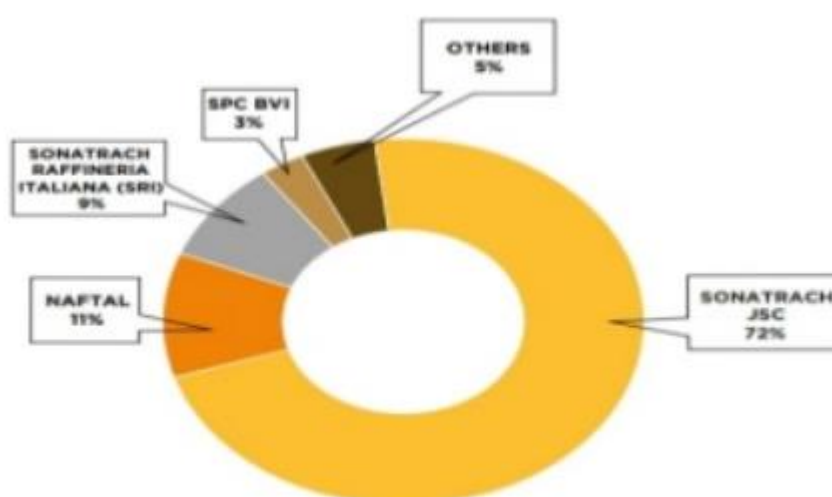
The Sonatrach annual report provides in the chapter " Financial report for consolidated accounts" that: (Sonatrach annual report, 2020,p92-93)

- ✓ The consolidated accounts of Sonatrach group are prepared according to the recognized accounting principles in Algeria, especially included in law 07/11 of 25 November 2007.
- ✓ The consolidated accounts are presented in the Algerian dinar unless otherwise specified.
- ✓ The currency used for subsidiary company accounts and contributions are determined by the country they are located in.
- ✓ Converting the balance sheet accounts of subsidiaries and contributions abroad to the Algerian Dinar is done using the exchange rate at the end of the fiscal year, which leads to conversion reserves.
- ✓ The average exchange rate for the fiscal year is used to convert the income statement and record any differences as a result of the transfer in accounts.

Table 01: The consolidated turnover by entity of 2020.

(In millions of DZD)	2020	2019
SONATRACH JSC	2 852 658	4 055 014
NAFTAL	435 451	471 957
SONATRACH RAFFINERIA ITALIANA (SRI)	338 379	488 462
SPC BVI	131 991	309 611
MEDGAZ	34 232	-
ENGTP	31 071	18 819
SH PEROU	24 699	27 677
SGM	22 420	55 023
ENSP	21 799	8 941
SGC	13 642	-
KAHRAMA	10 079	9 176
GCB	10 067	20 911
Tassili airlines TAL	6 742	11 699
SARPI	5 181	9 361
Others	42 036	51 232
Total Consolidated Turnover	3 980 445	5 537 884
Including SONATRACH JSC	72%	73%

Source: Sonatrach annual report of 2020 p111.

Figure 01: consolidated turnover by entity of 2020.

Source: Sonatrach annual report of 2020 p112.

The previous table and figure are used to see what entities affect the group's result for 2020, this is to know to what extent the foreign entities especially the exchange rate affect the financial result.

First, the SONATRECH JSC or SPA takes the lead in terms of revenue by 72% of total revenue.

SONATRACH RAFFINERIA ITALIANA (SRI) came second in 2019, then it dropped to third place in 2020 by 9% of total revenue. This is why it is one of the most important companies in the group, so there is an effective impact of the exchange changes.

NAFTAL and SONATRACH Petroleum holding corporation SPC BVI are also two of the locally effective entities in the group with a total of 14% for both.

In addition, the other local and foreign entities and projects constitute 5% of the total turnover of the group.

Following the discovery that foreign branches especially SRI had an impact on the company's results, the study will go to see how the main company records the exchange differences in its consolidated financial statements.

The next table is the shareholder's equity part from the consolidated balance sheet of Sonatrach Group for 2020.

Table 02: Shareholders equity of Sonatrach group in 2020

(In millions of DZD)	2020	2019	Variation
Shareholders' equity	1 000 000	1 000 000	0%
Property held by the state	-	-	0%
Uncalled subscribed capital	-	1 940	-100%
Valuation differences	187 888	124 590	51%
Issue, merger & contribution premiums	31 667	31 667	0%
Legal reserve	100 000	100 000	0%
Optional reserves and other reserves	5 597 217	5 178 495	8%
Adjustments resulting from changes	1 602	-	100%
Total shareholders' equity of Sonatrach JSC (a)	6 918 373	6 436 693	7%
Group reserves	1 005 386	1 091 790	-8%
Minority reserves	5 889	14 287	-59%
Consolidated reserves (b)	1 011 275	1 106 077	-9%
Equity valuation difference (c)	- 34 287	- 7 124	-381%
Group's profit / loss	- 13 971	373 135	-104%
Translation difference on group's profit/loss	- 2 382	13	18764%
Restatements & currency conversion impact on result	-	-	0%
Total group's profit / loss	- 16 353	373 123	-104%
Minority income	9 754	459	2024%
Income of all consolidated entities (d)	- 6 598	373 581	-102%
Net income of all consolidated entities	- 4 216	373 594	-101%
Total of Shareholders equity (a)+(b)+(c)+(d)	7 888 763	7 909 228	0%

Source: Sonatrach annual report of 2020, analysis of liabilities accounts,p106.

The above table represents Sonatrach's private capital for 2019-2020.

The frame shape displays the group result along with how the difference in currency conversion affected the outcome;

$$\text{the variation} = \frac{\text{the 2020 result} - \text{the 2019 result}}{\text{the 2019 result}} \times 100$$

The group got losses estimated at 13971 million DA in 2020 after earning profits in 2019 estimated 373 135 million DA, so the variation in group results between the two years was - 104%, the group also got losses on the currency translation difference estimated at 2382 million DA in 2020 and 13 million DA in 2019.

The final result after adding the translation difference to the group profit or loss was 373 132 million DA in 2019 and estimated -16 353 million DA in 2020.

As stated at the outset of the report, Sonatrach Group's consolidated accounts are being prepared following the recognized accounting principles in Algeria, especially included in law 07/11 of 25 November 2007; so the translation differences mentioned above are from the foreign entities.

Table 03: Financial incomes

(In millions of DZD)	2020	2019
Interest income on loans & other debts	6 155	1 192
Received dividends	-	-28 493
Income from other financial assets	25 144	10 949
Income from operating receivables	1 464	3 025
Exchange gains & forward transactions	47 064	60 456
Other financial incomes	15 872	22 450
Financial income from participation	95 700	69 578
Net income from disposal of non-current financial assets	902	-
Financial incomes	96 601	69 579

Source: Sonatrach annual report of 2020, analysis of consolidated income statement, p112

Table 04: Financial expenses

(In millions of DZD)	2020	2019
Interest expenses	13 180	8 113
Credit losses linked to shareholdings	-	945
Exchange losses	67 511	58 144
Net losses on disposals of current financial assets	6	-
Various financial expenses	211 144	477 334
Interests & similar expenses	291 840	544 536

Source: Sonatrach annual report of 2020, analysis of consolidated income statement,p116.

The two tables are from the income list of the group in 2020; the first one shows the part of financial income which includes the exchange gains and forward transaction, it decreased to 47

064 million DA in 2020 after it was 60 456 million DA in 2019. On the other hand, the second table shows that the exchange losses rose to 67 511 million DA after it was 58 144 million DA.

Always with the recognized accounting principles included in law 07/11; the above financial incomes and expenses are resulting from the differences between the historical and the closing prices.

VI. Conclusion:

Based on the previous analysis the study concluded that :

- ✓ The international accounting standard N° 21 has the same principles as the Algerian financial accounting system which addressed the exchange rate accounting.
- ✓ Sonatrach group depends on the basis of the Algerian financial accounting system as such the international accounting standard N° 21.
- ✓ The group's result is significantly influenced by foreign branches and projects.
- ✓ The currency utilized for subsidiary companies' accounts and contributions is identical to that of the country in which they are based.
- ✓ Using the exchange rate at the fiscal period's close to convert the balance sheet accounts of subsidiaries and contributions abroad into the Algerian Dinar, resulting in conversion reserves (in the equity part).
- ✓ Converting the income statement is done by using the fiscal year's average exchange rate, and divergences are recorded transfer in accounts as a result of the transfer.
- ✓ Sonatrach recorded exchange losses in 2020 compared to 2019, due to the economic recession in the world left by the coronavirus pandemic.

The international accounting standard and the Algerian financial accounting system have addressed many important accounting issues some of which are concerned with foreign transactions that constitute an important topic that directly affects the organization's financial situation and seeks to provide the best way to address differences exchange and translate financial statements, this is why all companies have to comply with them for making a clear financial reports, thus increasing investment opportunities.

VII. Bibliography

1. Rachedi Amine, (2019). The effect of translation of financial operations in foreign currencies on the financial statements in accordance with the financial accounting system in accordance with IAS21. The Algerian journal of economic and financial researches , 31-46.
2. BENKHLIFA Belkacem, BERHOUMA Abdelhamid ,(2014). Algeria's financial accounting system approach to international accounting standards, Journal of Economic and Financial Studies, volume 7, issue 2,p 161-175.
3. Deloitte (s.d.) *ias plus*, <https://www.iasplus.com/en/standards/ias/ias21>

4. DHRIF Meriem, CHENOUF Chouaib ,(2018). A comparative study of the effects of changes in foreign exchange rates between IAS and SCF _a case study of cheese and dairy company of BOUDOUAOU. Economic dimensions , volume 8, issue 2 , p 441-459.
5. ELDJAARAT Khaled Djamel,(2008), International Financial Reporting Standards IFRS& IAS 2007, ITHRAA Publication and Distribution, First edition AMMAN.
6. General Secretariat of the government,(2009, march 25), the official gazette of the Republic of Algeria, issue 19, Algeria.
7. Alkadi Hussein, Hashem Mohamed,(2015), the misleadings impact of international accounting standard N° (21) individually on users of informative at private Syrian banks, journal of TECHRINE University, p 47-68.
8. MAAMAR TAYEB Ibtissem, (2018), translation of consolidated financial statements in foreign currency, Journal of Economic Research, volume 19, issue 13,p 245.
9. JASIM GSHAYYISH ZWAID and others, (2021). Changing of currency exchange and its harmony with accounting Iraq's rules and international accounting. studies of applied economics ,p 11-39.
- 10.EL-SAYED AHMED Lotfi Amine, (2004), international accountant and multinational companies, Eddar Eljamiiya, Alexandria.
11. MAAMAR TAYEB Ibtissem, BENYOUSSEF Meriem, (2022/2023). The international accounting standard n21 . Dans international accounting standards lectures. blida.
- 12.General Directorate of Sonatrach,(2020), the annual report. Algeria: Jnan El-Malik ,Hydra.
- 13.TIDJANI BERREGUI, RACHEDI Amine. (2017). The impact of foreign exchange rate changes on financial statements according to the international accounting standard 21 and financial accounting system requirements. el-bachair economic journal , volume 3, issue 1, p 152-170.

