Why do multinational companies deconsolidate operations in a country?

The case of Venezuela

Abstract

Consolidation consists of a procedure whereby the financial results of several subsidiary companies are combined into the financial results of the parent entity. Deconsolidation is the opposite process. When a subsidiary is deconsolidated, any retained noncontrolling equity investment in the former subsidiary shall be initially measured at fair value. Deconsolidation by a multinational of one of its subsidiaries is a topic barely covered in the accounting literature. This paper discusses a rare event that occurred in 2015 when 15 US multinational companies deconsolidated the financial statements of their subsidiaries from Venezuela. Using a probit model and a decision tree classifier, we hypothesize a series of variables that may explain the decision to deconsolidate. We find that multinationals having larger foreign exchange rate losses from their subsidiary (in Venezuela), and belonging to the consumer sector were more likely to deconsolidate.

Deconsolidation, failed state, multinationals, probit analysis, Venezuela.

1. INTRODUCTION

The purpose of financial statements is to offer pertinent information about an organisation's financial position and performance, which is relevant for different audiences: investors, analysts, lenders, employees, and regulators.

Before the consolidation of parent companies' and their subsidiaries' financial statements became mandatory, it was assumed that the financial statements of the parent company alone could meet the information requirements of different stakeholders. However, once financial statements began to be consolidated, the focus of academic interest shifted: Was it still necessary to simultaneously publish those of the parent company?

In this line of ideas, Niskanen, Kinnunen, and Kasanen (1998), Abad, García-Borbolla, Larrán, Pinero, and Garrod (2000), Shuto (2009), and Müller (2011) showed that the informative content of the consolidated statements is superior to those of the parent company. Although it is true that the consolidation of financial statements solves problems of information transmission to some

stakeholders, little is known about what occurs in situations in which a subsidiary is exposed to a large economic or political event that may be hidden in among the consolidated information. In this paper, we argue that, considering the foreign exchange losses experienced by subsidiaries of multinational corporations in Venezuela, the country constitutes a natural experiment via which to study these type of events.

Soo and Soo (1994), Bartov (1997), and Şabac, Scott, and Wier (2005) revealed that foreign exchange gains or losses of subsidiaries affect the stock price of multinational corporations. Their results suggest that the market recognizes the importance of the accounting standards that provide information on such exchange operations, especially in cases where a company uses the currency of the country where a transaction takes place as its functional currency.

The majority of the foreign companies working in Venezuela established a subsidiary to operate in the country. This Venezuelan subsidiary was consolidated with the rest of the subsidiaries and with the parent company for accounting purposes (IFRS or US GAAP). However, political uncertainty, hyperinflation, foreign exchange controls, and price controls established by President Hugo Chávez, starting in the early 2000s, caused fear and insecurity, hindering the continuation of operations in Venezuela. In this paper, we document the deconsolidation of 15 US multinationals (out of a sample of 66 firms analyzed) present in Venezuela (where the parent company allegedly lost control of its Venezuela went from being the fourth largest Latin American economy in 2001 (and the first in terms of per capita income), to being the seventh largest economy in Latin America (and ranking 22nd in GDP per capita) in 2018, following years of economic mismanagement.

We argue that, in the case of Venezuela, a very special set of unique conditions (to which we will refer to later) converged in history, leading to the decision to deconsolidate financial statements from the country by 15 US multinationals. However, as rare as this event may have been, we are also afraid that a similar phenomenon could be repeated in the future in other contexts in emerging economies due to political, social, and environmental phenomena, as we will also argue later.

In the second part of the paper, we review the business environment prevalent in Venezuela at the time the deconsolidations took place, and offer a brief review of the (scant) existing literature on consolidation and deconsolidation by multinationals, considering that this is an unusual phenomenon. In the third part, we present the two hypotheses of the paper, followed by, in Section Four, the data and methodology used to test the hypotheses. In Section Five, we offer the results and conclusions. Finally, we present the recommendations and possible extensions of the study.

2.   THEORETICAL FRAMEWORK

2.1. Foreign exchange controls and business environment in Venezuela

Starting in 1999, with the rise to power of President Hugo Chávez as the then democratically elected President of Venezuela, the country's economic model underwent considerable changes, including the introduction of price, interest rate, and foreign exchange controls, the expropriation of companies belonging to "strategic" sectors of the economy, the enactment of laws and regulations that interfered with the basic functions of a market economy and, in general, a far greater intervention of the state in economic activities (for a review of these measures and the related political economy, see Corrales and Penfold, 2011).

As state intervention deepened and oil prices fell, the country's main economic indicators deteriorated markedly. The annual GDP growth rate in the 2010–2015 period was a meagre 0.04%, including a sharp contraction of 6.2% in 2015. The GDP growth rate averaged 3.48% per year in the previous decade. Similarly, the average annual rate of inflation between 2010–2015 was 46.51%, reaching a record of 180.90% in 2015, while for the 2000–2010 period it had been lower, at 20.97%. Capital controls were implemented in 2003 and continued in force by 2015. In this environment, the parallel or "black" market foreign exchange rate multiplied by 100 times in just five years, from 9.14 VEB / USD in 2010 to 910.62 VEB / USD in 2015 (VEB: Venezuelan bolivar). In terms of the foreign exchange rate structure, and according to the International Monetary Fund (IMF, 2016), the exchange arrangement and regulatory framework for current and capital transactions followed in Venezuela corresponded to a multiple exchange rate mechanism, in which "items associated with imports of essential goods and services, remittances to students and retirees, special health-related cases, sports, and other items are settled at a specific exchange rate" (p. 19).

In Venezuela, firms (domestic and multinational) and individuals requiring foreign exchange at each rate had to present the respective request to CENCOEX (previously CADIVI), a Government agency set up for that purpose. As mentioned above, exchange rate controls had been implemented since February 2003, and the Central Bank of Venezuela (BCV) had already issued 33 foreign exchange decrees, which defined the characteristics and scope of all possible transactions made using foreign exchange in the country. For multinationals these agreements established the exchange rates at which they could purchase and sell foreign currency, dedicated to imports of inputs, payments of technical services, royalties, dividends, and eventual repatriation of capital. In addition, the agreements explicitly stated that multinationals had the right to access certain exchange rates to repatriate dividends, interest, royalties and capital (Jaramillo & Ortiz, 2016).

Inevitably, multinationals incorporated the distortions of the Venezuelan economy when they

consolidated their operations from Venezuela. For example, cash that was accumulated in bolivars awaiting authorization by the Venezuelan government to acquire foreign currency (at the preferential rates) in order to pay dividends and/or accounts payable to suppliers, was transferred to the functional currency of the parent company at a grossly overvalued exchange rate. This created the illusion that the corporation had more liquid resources than it actually had. In addition, intangible assets and account receivables related to the operations in Venezuela suffered constant impairments. For financial statements, and assuming the existence of free currency convertibility, the process of monetary unification consists of presenting the non-monetary items (fixed assets, inventories, and equity capital, among others) at the closing date and at the closing exchange rate. In turn, monetary items (cash, accounts receivable and accounts payable, among others) must be presented at the exchange rate in effect on the date that they originated.

The translation of the financial statements to a functional currency (e.g., US dollar) becomes rather complicated when the foreign exchange controls involve multiple exchange rates, as was the case for Venezuela in 2015. First of all, the existence of multiple exchange rates creates ambiguity regarding which rate to apply to a specific item, as this was not always clear. Second, there was no complete certainty regarding the provision of foreign exchange to the private sector at these government-controlled rates by the government. Indeed, many companies receive only a fraction of the amounts of foreign exchange that they had requested. Some received not even $1.

2.2. Accounting aspects and other considerations related to deconsolidation

As we mentioned earlier, consolidation consists of a procedure whereby the financial results of several subsidiary companies are combined into the financial results of the parent entity. Consolidation is normally used when a parent company owns more than 50% of the shares of another company.

Abad et al. (2000) investigate the value-relevance of consolidated versus parent company accounting information. The results show that, from a valuation perspective, consolidated information dominates non-consolidated, or parent company, information. However, neither the currently reported minority interest components of net total assets and earnings, nor their values under the full equity method of consolidation, are found to be value relevant. These results raise the question of whether group definitions based on the equity theory of consolidation are the most useful to investors.

Shuto (2009) examines whether consolidated earnings in a sample of Japanese firms (1980–1999) are managed to a greater extent than parent-only earnings or vice versa, in an attempt to exceed a

certain threshold. The analysis reveals that earnings management (to avoid earning decreases) is more pronounced in parent-only earnings.

Müller (2011) estimated and confirmed the usefulness of consolidated information in predicting the market value of companies in the three main European financial markets (2003–2008): London, Paris, and Frankfurt. Müller (2011) questions the need to publish parent company financial statements (according to national regulations) as long as they present consolidated financial statements.

The deconsolidation of a subsidiary, the phenomenon that we study in our paper, consists in removing a subsidiary from the financial results of a parent company by applying rarely used accounting rules. When a subsidiary is deconsolidated, any retained noncontrolling equity investment in the former subsidiary shall be initially measured at fair value. Any gain or loss resulting from the deconsolidation of the subsidiary company is measured based on the fair value of any noncontrolling equity investment.

2.2.1. What is control?

In the context of US GAAP (FASB, 1995), a regulation that applies to the companies in our study, the normal condition for consolidation consists in the ownership of more than 50 percent of the voting stock of another company, excluding this process in specific situations:

a)   When the control does not rest with the majority owner.

b)   Constitution of joint ventures.

c)   The acquisition of an asset or group of assets that does not constitute a business.

d)   A combination between entities by common control.

e)   A combination between not-for-profit entities or the acquisition of a for-profit business by a not-for-profit entity.

Additionally, FASB (1995) notes that control does not rest with the majority owner if the subsidiary is undergoing a legal reorganization; is in bankruptcy proceedings; or is operating under severe foreign exchange restrictions, controls, or other governmentally imposed uncertainties, as was the case for multinationals operating in Venezuela in 2015.

2.3.   Consolidation and disclosure considerations related to multinationals operating in Venezuela

Deloitte (2014) was the only one of the four large multinational auditing companies that issued an alert regarding accounting and disclosure under U.S. GAAP in connection with an entity's

5

Venezuelan operations (December 23, 2014). The firm consulted with specialists from the US Securities and Exchange Commission (SEC) regarding the relevance of a multinational company's deconsolidation of its operations in Venezuela. Officers from the SEC did not object to such an accounting procedure.

In turn, PricewaterhouseCoopers (PwC, 2014, 2018) focused its attention on the interpretation of IFRS related to the exchange rates that should be used in the financial statements of companies that consolidate operations with their subsidiary in Venezuela (IAS 21), and with the application of the standard for hyperinflationary economies in Venezuela (IAS 29).

The accounting standards applicable in the world (IFRS and US GAAP) provide the flexibility for the consolidation and deconsolidation processes to be managerial decisions, since in both cases, they indicate the required conditions. However, these standards also leave the door open for possible exceptions.

In a very recent paper, Dyreng, Hoopes, Langetieg, and Wilde (2020) used data provided by multinational firms to the Internal Revenue Service regarding their foreign subsidiary locations to explore the accuracy of public subsidiary disclosures in Exhibit 21 of Form 10-K per SEC rules. The overall incidence of nondisclosure is low, suggesting that most firms comply with Exhibit 21 disclosure rules, and that for most applications, Exhibit 21 disclosures provide a reasonable proxy for locations of significant subsidiaries. Nevertheless, there is some evidence of nondisclosure, particularly when subsidiaries are in tax havens, when the firm is more highly scrutinized in the media, or when the firm has other characteristics consistent with low-quality disclosures such as SEC comment letters.

Dyreng et al. (2020) suggest that:

Managers may also be sensitive to disclosing the presence of a subsidiary in a politically sensitive location for at least two reasons. First, subsidiary disclosures in certain countries under U.S. sanctions could raise concern related to the political risk associated with doing business that could be perceived to be in violation of U.S. sanctions. Second, the presence of subsidiaries in certain politically unstable locations (e.g., Venezuela) might suggest the firm's assets could be expropriated by the government because of the unstable economic and political environment (e.g., Reuters [2017]). Their political risk measure may not capture risks related to U.S. sanctions explicitly, but it is likely to be correlated with them given other country attributes. (p. 650)

2.4. Effects of the foreign exchange exposure of subsidiaries on the performance of multinational companies

In principle, the more disclosure there is of the activities of subsidiaries of multinational companies, the easier it is for investment analysts, non-controlling shareholders, and creditors to assess the performance and risk of such subsidiaries in relation to the parent company.

Soo and Soo (1994) examine whether the stock market reacts to foreign exchange transaction and translation gains and losses when pricing equity securities, and whether the value assigned by the market is significantly different from that assigned to other components of accounting earnings. They find evidence that the market incorporates information on foreign exchange gains and losses reported in income when valuing equity securities.

Şabac et al. (2005) showed analytically, and found empirically, that valuing a firm with foreign operations in the presence of exchange rate uncertainty requires information on the foreign operating cash flows disaggregated by currency. More specifically, given consolidated earnings, investors need information on the exchange gain or loss on permanent foreign operating cash flows. They concluded that disclosure of cash flows by currency should enhance the valuation of firms with foreign operations.

Jaramillo and Ortiz (2016) conducted a qualitative study where they reviewed the financial statements of companies included in the S&P 500 with operations in Venezuela. The authors argue that, according to US GAAP, all the conditions were met for these companies to deconsolidate their local operations from Venezuela, as they were facing foreign exchange controls, high inflation, government restrictions on maximum profits, and the setting of maximum prices for sale to the public.

Bahar, Molina, and Santos (2018) analysed daily stock prices for 110 multinational corporations operating in Venezuela and found negative cumulative abnormal returns (CARs) associated with five local currency devaluations in Venezuela that occurred in the previous years, within the context of tight exchange rate controls and large black-market premiums. They interpreted these results as a suggestive indication of stock market inefficiencies.

We chose the year 2015 for our cross-sectional study in order to understand how US multinational companies with subsidiaries in Venezuela adapted their financial statements to reflect major changes in the business environment. This is due to the fact that, in that year, 15 US multinational companies proceeded to deconsolidate their financial statements from their Venezuelan subsidiary. The 2015 was characterized by an inflation rate that surpassed 180% (reaching a new record at the time), four devaluations of the official exchange rate, and by the fact that the specialized press began to recurrently publish articles that pointed out the relevance of multinational companies

deconsolidating their operations in the country due to the evident loss of control that they had suffered.

2.5. Hypotheses

The following are the two hypotheses of our paper. For each of them we include excerpts from the 10-K report of a multinational to provide a basis for the respective hypothesis.

H1: The larger the impact of foreign exchange losses from a subsidiary on the global profits of a multinational, the higher the probability to deconsolidate the subsidiary

An example in which this concern arises, involves Goodyear Tire's 10-K report as of December 31st, 2015.

The lack of currency exchangeability, combined with these other operating restrictions, have significantly limited our Venezuelan subsidiary's ability to maintain normal production and control over its operations. As a result, we deconsolidated the operations of our Venezuelan subsidiary, recognized a pre-tax $646 million charge and began reporting its results using the cost method of accounting effective December 31, 2015. (The Goodyear Tire & Rubber Company, 2015, p. 24)

The market value of Goodyear Tire's equity as of December 31st, 2015 was $8.56 billion. The recognized pre-tax $646 million charge represented 7.56% of its market capitalization and had a massive impact of 153.45% on its net profit for that period. A number of multinationals in Venezuela were putting their credit ratings at risk (and thus potentially increasing their cost of capital) by continuing to incur such large losses. In addition, such losses generated negative perceptions from investment banking analysts. Furthermore, and as we mentioned earlier, Bahar et al. (2018) found that in the days near the announcement of the devaluation of the official exchange rate, the share price of multinational companies operating in Venezuela tended to fall.

Another example of how multinationals monitored their currency exposure in Venezuela is reflected in the following paragraph extracted from Mead Johnson Nutrition's 10-K Report at the end of 2015:

In light of the ongoing and challenging macroeconomic and political environment in Venezuela, we continue to actively monitor and manage our investments and exposures. We do not have any current plans to exit the business, and have taken certain protective measures against currency devaluation, government restrictions (i.e., pricing controls, distribution) and other operational risks. However, such measures may not offset further currency devaluation or other operational risks that may occur. (Mead Johnson Nutrition Company, 2015, p. 35)

H2. Multinationals belonging to the consumer sector are more likely to deconsolidate

Multinationals belonging to the consumer sector did not receive foreign exchange rates at

preferential rates to pay for inputs and raw materials because the Venezuelan State did not consider such purchases as representing priority products. These companies also often had to sell finished products at prices that were regulated by the state and too low to generate profits.

The following is an excerpt from the Newell Rubbermaid I.nc company 10-K report explaining why it decided to deconsolidate its Venezuelan operations:

As of December 31st, 2015, the Company determined it could no longer exercise control over its Venezuela operations because the availability of U.S. Dollars had declined significantly over the past several years in each of Venezuela's three exchange mechanisms.

As part of the changes implemented in the first quarter of 2014, the Venezuelan government also issued a Law on Fair Pricing, establishing a maximum profit margin of 30% for the types of products the Company sells in Venezuela. In addition, new regulations implemented in 2015 require the Company to identify the ultimate retail price to consumers on products it sells to distributors in Venezuela. As a result, the Company deconsolidated its Venezuelan operations effective December 31, 2015 and began accounting for its investment in its Venezuelan operations using the cost method of accounting. (Newell Rubbermaid Inc, 2015, p. 13)

Some companies in this group left the country altogether, while others compensated for the losses of regulated products by implementing a cross-subsidy strategy with the gains of other products that were not regulated (Jaramillo & Ortiz, 2016).

3.   RESEARCH METHODS

3.1.   Data and measures

The sample studied consists of 66 US multinational companies with subsidiaries in Venezuela, and was obtained from two lists. The first was published by the Bloomberg information service in April 2015 (Crooks, 2015) and included 45 US companies with exposure to Venezuela and belonged to the Standard & Poor's 500 (S&P 500) index. The second list was obtained from Bahar et al. (2018), who studied 110 listed multinationals operating in Venezuela (from the US and from other countries) and which had at least 25 percent of the shares of their Venezuelan subsidiaries.

We consolidated both lists in order to avoid duplications. We then had to discard 43 companies given that their financial statements were not available in EDGAR (Electronic Data Gathering, Analysis, and Retrieval system). These were foreign companies that did not directly list their shares on the US stock exchanges (although some of them did have ADRs), and accordingly they did not have the obligation to publish their financial statements in that database. In the end, 66 listed US companies with businesses in Venezuela and available financial statements remained

in the database.

We obtained information regarding foreign exchange exposures, potential and recognized losses, the impairment in the value of assets (tangible and intangible), as well as some managerial decisions taken to face the complex business environment in Venezuela (reduction of personnel, decrease in the volume of production, and sales of assets, among others), from the quarterly (10-Q) and annual (10-K) financial statements of the sample companies, and for the 2014–2015 period. It is important to note that multinational companies report operating losses that eventually lead them to deconsolidate the financial statements from their subsidiaries in notes to the financial statements that do not follow a standard format. This implies that those who review this material must have accounting training and spend a substantial amount of time searching within each 10-K report for paragraphs referring to the exchange adjustments of Venezuelan operations.

Table 1 shows that these companies had total assets of $5,900 billion (2014), with an average asset value of $90.7 billion, and a standard deviation of $248 billion[1]. The average net margin (measured as a percentage of sales) is in the order of 10% with a standard deviation of The multinationals belonged to the following sectors: Mass Consumption: 44% (29 companies), Health: 10.6% (7), Oil and Gas: 10% (6), Media: 7.5% (5), Computing: 7.5% (5), Industrial Equipment: 6% (4), Airlines: 6% (4), Financial Services: 4.5% (3), Conglomerates: 3% (2), and Private Security: 0.9% (1).

Table 2 shows that 15 companies in the sample (22.7%) deconsolidated their operations from Venezuela. Out of those 15, 80% belong to the mass consumption sector and the rest to the industrial security and telecommunications sectors. The *Exchange Loss* variable was calculated by dividing the exchange losses in Venezuela by the global net profit of each company, for both 2014 and 2015, and then taking the average of both years. The average exchange loss of the companies that deconsolidated was 9.41% with a standard deviation of 18.84%.

3.2. Variables

3.2.1. Dependent variable

Our dependent variable, *Deconsolidate*, takes the value of 1 if a multinational company decided to deconsolidate operations in Venezuela during the year 2015 (as reported in the annual 10-K financial statements), and 0 otherwise.

3.2.2. Independent variables

---

[1] Table 1 reports the Natural Logarithm of these values.7.4%. Losses from exposure to Venezuela were on average equivalent to 8.23% of the total net income of the multinational with a standard deviation of 17.29%.

To test the two hypotheses of the paper we propose two variables extracted from the 10-K reports of the companies studied. The first variable, *Exchange Loss*, is calculated as the average of the quotient between foreign exchange losses of the Venezuelan subsidiary reflected in the 10-K reports and the corporation's net income for the years 2014–2015. The sign of the estimated coefficient must be positive, since the greater the losses are (as a percentage of a company's global profit), the greater the pressure for the multinational to deconsolidate. The second variable, *Consumption*, takes the value 1 if the company belongs to the mass consumption sector and 0 otherwise. The sign of the estimated coefficient must be positive to the extent that the company belongs to a sector that the Venezuelan government considers of lower priority compared to other sectors (and hence, less likely to receive foreign exchange at preferential rates from the government). This gives rise to a greater likelihood that the multinational will decide to deconsolidate due to a loss of control over the local operation.

3.2.3. Control variables

In our set up, we propose the following four control variables:

1) "*Firm size*", measured as the natural log of the book value of total assets in the year 2014 as reported in the 10-K report. Intuitively, we expect a negative relation between firm size and the probability to deconsolidate. This is because larger firms would be expected to cope with the particular problems of a subsidiary more efficiently.

2) "*Investments*", measured as the quotient between capital expenditures and total assets. We take this variable as a measure of the intensity of capital investments and expect a positive relation between this variable and the probability to deconsolidate. That is, a firm implementing an investment plan is not willing to cope with the particular problems of a subsidiary and will thus be more likely to deconsolidate.

3) "*Delta Revenue*", measured as the variation in net revenues between 2014 and 2015. We expect a positive sign considering that a firm with higher variability in net revenue is expected to be more vulnerable to the particular problems of a subsidiary and will thus be more likely to deconsolidate that subsidiary.

4) "*Net Margin*", measured as the ratio of net profits to revenues for each multinational firm. We argue that firms with higher net margins should be more resistant in terms of any difficulties that may arise and will therefore be less likely to deconsolidate.

3.3. Model

A probit model was run to estimate the probability of occurrence of deconsolidation in Venezuela

in 2015, with a binary dependent variable:

Where x is a set of explanatory variables:

$$y = 1|x$$

$$P\ (y =\ 1|x\ ) = G\ (\beta_0 + \beta_1\ x_1 + ... + \beta_k\ x_k\mathsf{c}$$

Independent variables:

- Exchange loss (from the operation in Venezuela)

- Consumption

Control variables:

- Firm size (of the multinational)

- Investments

- Delta Revenue

- Net margin (at the multinational level)

4.   RESULTS

Table 3 shows three specifications for the model proposed. A number of results become apparent from the analysis. First, we find that foreign exchange losses arising from the Venezuelan operation had a positive and significant effect on the probability to deconsolidate (Hypothesis 1). This result supports the idea that companies with greater losses arising from their exposure to Venezuela are more likely to deconsolidate their subsidiary. Second, the variable *Consumption* is positive and statistically significant. This result sheds light on the effect that being in the mass consumption sector has on the decision to deconsolidate (Hypothesis 2). Presumably, companies belonging to the consumption sector had lower expectations (compared to other sectors) of being granted foreign exchange at the official rates by the Venezuelan Government and, thus, had a greater incentive to deconsolidate their operations from Venezuela.

Regarding the control variables, and for all specifications in Table 3, we obtained that the variable *Net Margin* was negative and statistically significant in explaining the probability to deconsolidate. We interpret this result as the fact that a multinational will postpone the decision to deconsolidate if it has enough resources to face the uncertainty and losses that could be caused by its presence in Venezuela. Although not statistically significant in our specification and sample studied, the other control variables behave as expected in all models presented in Table 3.

Table 4 reports the marginal effects for the variables under study. Model 1 reports the marginal

effect of *Exchange Loss* on the probability to deconsolidate. A unit change in this variable increases the probability to deconsolidate by 0.48. Model 2 shows the effect of being in the mass consumption sector on the probability to deconsolidate. On average, companies from the consumption sector have a 0.32 higher probability to deconsolidate than those from other sectors. An encompassing model with the two variables is presented in column 3. The contributions of all the variables decrease slightly in this last model in the explanatory percentage power, but they maintain their expected and validation signs of their corresponding hypotheses, as well as the levels of significance previously achieved. It is worth noting that this last model is feasible because there are companies in the sample that simultaneously fulfilled the two conditions provided in the variables; that is, they presented losses due to their exposure in Venezuela and they belonged to the mass consumer sector.

To deal with any potential problem of independence, normality, and multicollinearity in the probit model, we decided to use a decision tree classifier to test the effect of our variables on the decision to deconsolidate. Our purpose is not to classify per se but to observe the impact of the variables under study on the decision to deconsolidate. The tree-like visual form of the decision tree allows us to analyse the interaction among variables from an if-then rule perspective. Although it might not be the best classifier, the decision tree is easy to understand.

To build our tree we used the classification and regression tree (CART) approach developed by Breiman, Friedman, Stone, and Olshen (1984). We use the rpart (recursive) algorithm to split the dataset recursively into smaller sets. At each node, the algorithm selects the most-single variable on the target variable. The tree stops when all final nodes are single valued or there are no more variables available for a pure split.

Figure 1 shows the result of the decision tree for the variables under study. The results suggest that the most critical variable in our sample to the decision to deconsolidate is the foreign exchange loss (suffered by the Venezuelan subsidiary on average during the years 2014–2015). If foreign exchange losses were higher than 0.05, then the second critical variable in the decision to deconsolidate is the fact of belonging to the mass consumption sector. Altogether, for those firms with both, higher losses and being in the consumption sector, the probability to deconsolidate was 0.75. When firms do not belong to the consumption sector, this probability goes to 0.25. For those firms with an average foreign exchange loss lower than 0.5, the second critical value is net margin. That is, when exchange losses were not high, but present, and the net profit was not higher than 0.053, the probability to deconsolidate was 0.43. When net margin is higher than 0.053, the third critical value in the decision to deconsolidate is firm size. Altogether, firms with lower foreign

exchange losses, higher net margin, and smaller in size had a probability to deconsolidate of 0.14. As stated earlier.

5.   DISCUSSION

From the previously commented results of the probit model, we find the following validations and restatements of our initial assumptions. Despite the fact that , as we mentioned above, there is no clear theoretical framework of the reasons why multinational companies might decide to deconsolidate their operations in countries suffering economic stress, we elaborated two possible hypotheses that we then contrasted using a probit model. These hypotheses are related to the impact of a subsidiaries´ foreign exchange losses on the global performance of a multinational, and to the effect of a multinational being in the consumer sector.

When we validated the explanatory power of our first explanatory variable (Foreign Exchange Loss), we found that deconsolidation responds to the impact of the exchange losses arising from the Venezuelan operation on the consolidated net profits. Multinationals in better financial condition could more comfortably bear the negative contribution of their troubled subsidiaries. However, we conjecture that there must come a threshold where such losses could affect their global capital costs and the valuation of their shares, at which point deconsolidation ceases to be an option and becomes an obligation.

One should remember that, in principle, executives of multinationals thought that the State (either through CADIVI or CENCOEX) would grant access to preferential exchange rates to consumption goods. Since the vast majority of imports were carried out with loans from the parent to the Venezuelan subsidiary, the executives had the presumption that recognizing a higher exchange rate in their financial statements than the official one was a sign that they were giving up acquiring foreign currency at preferential rates and, therefore, they only changed the exchange rate with which they accounted for assets and liabilities, when the State modified (i.e., devalued) the corresponding official rate, in their accounting.

In the effort to explain the probability of deconsolidation due to the greater or lesser access to foreign exchange at preferential (official) rates, in relation to our second explanatory variable, *Consumption*, our model tests that the probability of deconsolidation is mainly influenced by the sector to which the multinational belongs. In this regard, we find a greater orientation towards deconsolidation when the company belongs to the consumption sector.

Multinationals that deconsolidate specific subsidiaries do so in an effort to omit from their financial statements the noise generated by the complex situation of countries facing conflicts and serious

economic distress, such as was the case for Venezuela in 2015. As such, these multinationals proceeded to exclude those outliers that would disfigure the overall situation of the rest of the subsidiaries.

By deconsolidating, companies recognize the exposure to risk that is affecting the performance of their subsidiaries. Thereafter, the parent company generally cuts the credit lines to the subsidiary and only recognizes in its financial statements those transactions actually received in the functional currency of the parent company.

We use a decision tree to render much more explicit the relationships between independent and control variables with the decision of whether or not to deconsolidate. The variable *Exchange Loss* is the one that has the greatest impact on the decision to deconsolidate since those companies with losses greater than 5% of consolidated profits had a 55% probability of deconsolidating. The greater the impact of the losses of the subsidiary, the greater the pressure to more clearly disclose these amounts in the financial statements.

Exchange losses reflect different sources of destruction of value, including: monetary operations (cash, liabilities or receivables) and non-monetary operations (inventories, fixed assets and trademarks) with the parent company or with third parties (bank loans, accounts payable to unrelated providers).

An example of these foreign exchange adjustments is related to the US GAAP's treatment of inventories, an item that cannot be revalued by devaluation of the local currency and that must be recorded at the minimum value between the acquisition cost and the replacement cost.

Dividends that were decreed by a subsidiary but not paid to the parent company (because the government had not provided the respective foreign exchange for this transaction) became a permanent source of foreign exchange exposure.

Intangible assets of multinational companies also constituted a source of exposure to foreign exchange losses. Again, we went to the 10-K reports of one of these companies, in this case, the Coca Cola Co. in 2015.

The decision tree clearly shows that companies with significant exchange losses and belonging to sectors of activity that are not considered a priority by the Venezuelan State are very likely to deconsolidate their local operations.

It is not surprising then that mass consumption companies, which have a business model that requires a high volume of sales to compensate for their low profit margin per unit sold, have a probability to deconsolidate their local operations of the order of 75%, which is the highest

probability of deconsolidation of the entire sample analysed.

When a multinational has significant exchange losses but does not belong to the mass consumer sector, the probability of deconsolidation would be 25%. The managers of companies belonging to sectors producing essential goods are likely to give some weight to the promise of eventually accessing the preferential currency market, as they think that the State still considers them a priority sector of the economy.

To multinationals with an average foreign exchange loss that is lower than 5%, the control variables *Net Margin* and *Firm Size* provide relevant information on the decision to deconsolidate. In the case of large companies, with high net margins, the probabilities of deconsolidation are null. When companies are small but have a high net margin, the probability of deconsolidation increases to 14%. When the profitability of the business is low, the propensity to deconsolidate is in the order of 43%, even when foreign exchange losses are not significant. These companies simply cannot afford the losses in their local operations without inflicting substantial damage on the parent company.

6.   CONCLUSIONS, RECOMMENDATIONS AND FUTURE RESEARCH

This study examined the probability of deconsolidation by 67 US multinational companies with subsidiaries in Venezuela for the year 2015 when, in a very rare and unusual event, 15 of those companies ultimately decided to deconsolidate the operations of their subsidiaries in that country. The reasons behind multinationals' decision to deconsolidate a subsidiary is a topic scarcely covered in the accounting literature; thus, we believe that this paper presents a novel contribution to this area of knowledge.

Our findings reveal that the probability of deconsolidation is influenced by the two variables that we proposed. First, we found that deconsolidation responds to the impact of the foreign exchange losses arising for the Venezuelan operation on the consolidated net profits of the multinational. The greater the exchange loss as a percentage of the company's global profit, the greater the probability of deconsolidation. And second, we found a higher likelihood to deconsolidate when the company belongs to the mass consumption sector.

Our analysis also indicates that the most critical variable in our sample in predicting the decision to deconsolidate is the foreign exchange loss suffered by the subsidiary. Furthermore, the probability to deconsolidate was 0.75 for those firms that suffered higher foreign exchange losses and that also belonged to the mass consumption sector. When firms are not in the consumption sector, the probability to deconsolidate drops to 0.25. Also, firms with lower foreign exchange losses, higher net margin and smaller in size showed a probability to deconsolidate of 0.14.

Our sample of US multinationals with subsidiaries in Venezuela suffered foreign exchange losses that impacted their global net profits by 14% (on average), despite the apparent low relevance of this country, which represented less than 0.3% of the world's GDP in 2015. This gives rise to the question of why relatively few multinationals decided to deconsolidate the operations from their Venezuelan subsidiaries despite their direct, significant, and tangible weight on their global profits, and considering that accounting regulations allowed multinationals to deconsolidate their operations from foreign subsidiaries.

The Great Recession of 2008–09 encouraged a revaluation of the appropriateness of capital controls across countries as diverse as Brazil, Iceland, and Switzerland. Fernández, Klein, Rebucci, Schindler, and Uribe (2015) comment that a number of recent IMF policy papers allow the use of capital controls as part of a country's "policy toolkit" under specific circumstances. Argentina reimpose strict foreign exchange controls in 2019 after having abandoned them in late 2015. Recent and similar calls for foreign exchange controls have also arisen in the face of the Great Lockdown of 2020. Therefore, what we document here as a special case of sudden deconsolidations of operations by multinationals from a specific country (Venezuela), and for which the imposition of foreign exchange controls played an important role, represents a phenomenon that we could perhaps also observe in other countries in the future.

In line with what is indicated by Bahar et al. (2018), we suggest more specific disclosures on a wide variety of topics including the exchange rates used to account for different types of transactions, and impairments in monetary and non-monetary items which include intangibles such as trademarks.

Finally, there is a high degree of dispersion in the quality and level of detail regarding the information that multinationals disclose in relation to the operations of their foreign subsidiaries, a phenomenon that hinders the work of external analysts. We believe that there should be greater standardization of the information disclosed, particularly in the case of subsidiaries operating in fragile and failed countries. For this to happen, we must inquire into the factors that corporate managers weigh in when considering the possibility of deconsolidating the operations of their subsidiaries.

There are four lines of future research that could be pursued. First, Venezuela has recently been referred to by some analysts as a "failed state", that is, "a territorial entity that has achieved statehood, but whose government has only a minimal degree of effectiveness, if any, over the state's territory" (Woolaver, 2014, p. 595). Interest in failed states has accelerated as a result of, among

other reasons, the supposed link between failed states and diverse global security threats. In this regard, the results from our paper could be used to explore the reasons that might explain the decision made by some multinationals to remain in such difficult places.

Second, and as we mentioned earlier, the overvaluation experienced by the official exchange rate(s) in Venezuela, especially between 2012 and 2015, led to a situation in which the operation of multinationals in the country produced a false appearance of their being extremely profitable (when expressed in foreign currency). For example, whereas in early 2014 the official exchange rate was 10 Bs/USD, the parallel (black market) rate was actually substantially more depreciated, at around 100 Bs/USD. Therefore, 100 Bs. of profits were reported as $10 because multinationals were using the official exchange rate (the legal exchange rate to which nonetheless they did not have access), but in reality those profits were closer to being only $1 (using the parallel exchange rate). This situation created other distortions. For instance, and analogous to the previous calculations, the illusionary high profitability of the Venezuelan operation for many multinationals also led to bonuses for managers running the Venezuelan operation (which were normally paid in USD) to be artificially high. Presumably, this situation should have caused some agency problems at these subsidiaries, such as a resistance by these managers to reflect a more devalued exchange rate in the financial statements (when such a decision was possible), or an unwillingness to accept the deconsolidation of operations. This is an interesting subject that could be explored in a future study.

Third, an event study similar to the one conducted by Bahar et al. (2018) could be carried out to test whether the announcements of deconsolidation of their subsidiaries in Venezuela by multinationals had any impact on the prices of their shares, which trade in US stock markets.

Finally, an option theory framework could be used to explore the implications of the fact that, after deconsolidation, a subsidiary can be regarded as an out-of-the-money call option for the parent company. The subsidiary is expected to survive on the resources it has in the country where it operates. If the subsidiary survives an economic crisis, its results could eventually be consolidated with the parent company and the call option could be exercised.

TABLE 1 Descriptive statistics for the sample of US multinationals (at the aggregate level)

	1	2	3	4	5
VARIABLES	N	mean	sd	min	max
NetMargin	65	0.101	0.0739	-0.114	0.289
deconsolidate	66	0.227	0.422	0	1
Consumption	66	0.439	0.500	0	1
TAssets14 (sin LN) USD MM	65	90,769	248,093	1,195	1,84E+09
Investments	64	0.0429	0.0320	0.00174	0.168
AvgExchLoss	66	0.0823	0.173	0	0.993
DeltaRevenue	65	-0.0642	0.148	-0.431	0.679

Source: EDGAR, Bloomberg, Datastream www.cadivi.gob.ve, www.cencoex.gob and own calculations

TABLE 2 Data and descriptive statistics of multinationals that deconsolidated their Venezuelan subsidiary

			Dependent variable (Y)	Indepent Variables (X)		Control Variables (X)			
cik	Ticker Symbol	Name	Deconsolidate (yes=1)	Exchange Loss % (Av 2014-2015)	Consumption (yes=1)	FirmSize 2014 LN Assets (USD Millions)	Investments (Capital expenditures /Assets)	Delta Revenue %	NetMargin % (Av 2014-2015)
1579241	ALLE	Allegion PLC	1	8,57%	0	7,6088		-2%	8,27%
8868	AVP	Avon Products Inc	1	0,24%	1	8,6300	4,6%	-19%	-4,34%
886035	BCG	General Cable Corp	1	44,44%	0	8,1217	3,4%	-22%	-10,50%
21665	CL	Colgate-Palmolive Co.	1	38,22%	1	9,5074	6,0%	-7%	12,62%
31462	ECL	Ecolab Inc	1	12,13%	1	9,8744	3,7%	-5%	8,42%
1632790	ENR	Energizer Holding	1	0,00%	1	7,0857	7,9%	-11%	8,55%
42582	GT	The Goodyear Tire & Rubber Comp	1	76,87%	1	9,8006	6,8%	-9%	13,52%
895655	JAH	Jarden	1	25,85%	1	9,2872	7,6%	4%	2,93%
55785	KMB	Kimberly-Clark Corporation	1	5,07%	1	9,6503	3,4%	-6%	7,74%
794323	LVLT	Level 3 Communications, Inc.	1	3,14%	0	10,0918	3,3%	21%	4,63%
1103982	MDLZ	Mondelez International, Inc.	1	5,91%	1	11,1097	5,1%	-13%	6,38%
814453	NWL	NEWELL BRANDS INC	1	26,26%	1	8,8070	6,8%	3%	6,60%
77476	PEP	Pepsi	1	12,35%	1	11,1635	10,0%	-5%	3,20%
80424	PG	Procter	1	11,07%	1	11,8794	2,2%	-5%	14,02%
887921	REV	Revlon Inc	1	0,00%	1	7,5726	2,3%	-1%	2,11%
		Total	15		12				
		Mean		9,41%		9,9927	3,86%	-5,98%	10,36%
		Standar deviation		18,84%		1,8690	2,96%	14,34%	8,03%

Source: EDGAR, Bloomberg, Datastream www.cadivi.gob.ve, www.cencoex.gob and own calculations

TABLE 3 Summary of the results of each model

VARIABLES	(1) model 1	(2) model 2	(3) model 3
Exchange Loss	1.96**		2.51**
	(1.00)		(1.22)
Consumption		1.69***	1.82***
		(0.53)	(0.58)
Firm Size	-0.13	-0.14	-0.07
	(0.15)	(0.17)	(0.17)
Investments	4.62	8.83	6.46
	(6.44)	(7.13)	(8.23)
DeltaRevenue	0.94	0.74	1.06
	(1.27)	(1.25)	(1.28)
Net Margin	-7.89**	-8.92**	-9.85**
	(3.38)	(3.47)	(3.90)
Constant	0.87	-0.05	-0.97
	(1.55)	(1.73)	(1.85)
Observations	62	62	62
Pseudo R2	0.226	0.371	0.435

Standard errors in parentheses
*** $p<0.01$, ** $p<0.05$, * $p<0.1$
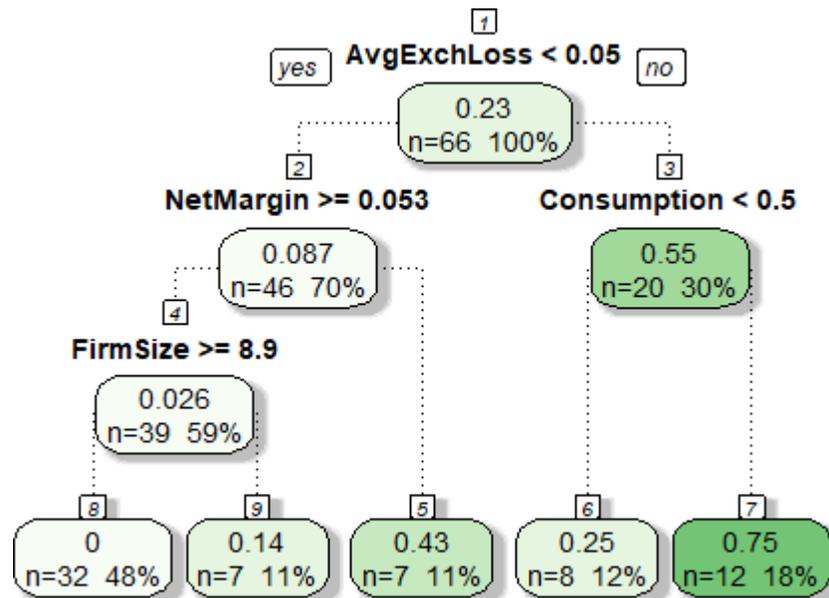
TABLE 4 Marginal effects for the variables under study

VARIABLES	(1) Predicted Prob Model 1	(2) Predicted Prob Model 2	(3) Predicted Prob Model 3
Exchange Loss	0.483*		0.402*
	(0.250)		(0.224)
Consumption		0.315***	0.291***
		(0.101)	(0.108)
Observations	62	62	62

Standard errors in parentheses
*** $p<0.01$, ** $p<0.05$, * $p<0.1$
NOTE: All predictors at their mean value

FIGURE 1 The decision tree under deconsolidate

REFERENCES

Abad, C., Laffarga, J., García-Borbolla, A., Larrán, M., Pinero, J. M. & Garrod, N. (2000). An Evaluation of the Value Relevance of Consolidated versus Unconsolidated Accounting Information: Evidence from Quoted Spanish Firms. *Journal of International Financial Management and Accounting*, *11*(3), 156–177. https://doi.org/10.1111/1467-646X.00060

Acosta-Henao, M., Alfaro, L., & Fernández, A. (2020, April). *Sticky Capital Controls* (NBER Working Paper No. w26997). https://www.nber.org/papers/w26997

Bahar, D., Molina, C., & Santos, M. (2018). Fool's Gold: The Impact of Venezuelan Currency Devaluations on Multinational Stock Prices. *Economía*, *19*(1), 93–128. https://ideas.repec.org/a/col/000425/016955.html

Bartov, E. (1997). Foreign Currency Exposure of Multinational Firms: Accounting Measures and Market Valuation. *Contemporary Accounting Research*, *14*(4). 623–652. https://doi.org/10.1111/j.1911-3846.1997.tb00544.x

Beams, A., Anthony, J., Bettinghaus, B., & Smith, K. (2018). *Advanced Accounting* (12th ed.). Pearson.

Breiman, L., Friedman, J., Stone, C. J., & Olshen, R. (1984). *Classification and regression trees*. CRC press.

The Coca Cola Company. (2015, December 31). *Form 10-K*. United States Securities and Exchange Commission. https://www.sec.gov/Archives/edgar/data/21344/000002134416000050/a2015123110-k.htm

Corrales, J. & Penfold, M. (2011). *Dragon in the Tropics: Hugo Chavez and the Political Economy of Revolution in Venezuela*. Brookings Latin America Initiative Books.

Crooks, N. (2015, April 24). These U.S. companies are hurting from Venezuela's hyperinflation. *Bloomberg*. https://www.bloomberg.com/news/articles/2015-04-24/these-u-s-companies-are-hurting-from-venezuela-s-hyperinflation

Daniels, J., Radebaugh, L. & Sullivan, D. (2018). *International Business* (16th ed.). Pearson.

Deloitte. (2014, December 23). *Consolidation and Disclosure Considerations Related to Venezuelan Operations* (Financial Reporting Alert 14-5). https://www2.deloitte.com/content/dam/Deloitte/us/Documents/audit/ASC/FRA/2014/us-aers-fra-14-5-222015.pdf

De Gregorio, J., Edwards, S. &Valdés, R.O. (2000). Controls on Capital Inflows: Do They Work? *Journal of Development Economics*, *63* (1): 59–83. https://doi.org/10.1016/S0304-3878(00)00100-0

Dyreng, S., Hoopes, J., Langetieg, P. & Wilde, J. (2020). Strategic subsidiary disclosure. *Journal of Accounting Research*, *58*(3), 643–692. https://doi.org/10.1111/1475-679X.12308

Edwards, S. (2007). *Capital Controls and Capital Flows in Emerging Economies: Policies, Practices, and Consequences*. National Bureau of Economic Research, University of Chicago Press.

The Financial Accounting Standards Board. (1995). *Consolidated Financial Statements: policy and procedures*. Financial Accounting Foundation.

The Financial Accounting Standards Board. (2015, February). Consolidation (Topic 810) (Accounting Standards Update No. 2015-02). Financial Accounting Foundation. https://asc.fasb.org/imageRoot/92/63493892.pdf

Fernández, A., Klein, M., Rebucci, A., Schindler, M. & Uribe, M. (2015, April 22). Capital Control Measures: A New Dataset (IMF Working Paper No. 15/80). IMF. https://www.imf.org/en/Publications/WP/Issues/2016/12/31/Capital-Control-Measures-A-New-Dataset-42867

The Goodyear Tire & Rubber Company. (2015, December 31). Form 10-K. United States Securities and Exchange Commission. https://www.sec.gov/Archives/edgar/data/42582/000095012316013733/gt-q4201510k.htm

International Monetary Fund. (2016). Annual Report on Exchange Arrangements and Exchange Restrictions 2016. IMF. https://www.imf.org/en/Publications/Annual-Report-on-Exchange-Arrangements-and-Exchange-

Restrictions/Issues/2017/01/25/Annual-Report-on-Exchange-Arrangements-and-Exchange-Restrictions-2016-43741

Jaramillo, C. & Ortiz, N. (2016). «Desconsolidar»: una respuesta de las multinacionales a un entorno económiCo. hostil. debates IESA, 21(2), pp. 23–28. http://www.debatesiesa.com/debatesweb/wp-content/uploads/2017/09/Jaramillo-Ortiz-Desconsolidar-Debates-IESA-abril-diciembre-2016.pdf

Mead Johnson Nutrition Company. (2015, December 31). Form 10-K. United States Securities and Exchange Commission. https://www.sec.gov/Archives/edgar/data/1452575/000145257516000063/mjn2015form10-k.htm

Müller, V. (2011). Value Relevance of Consolidated Versus Parent Company Financial Statements: Evidence from the Largest Three European Capital Markets. Journal of Accounting and Management Information Systems, 10(3), pp. 326–350. https://ideas.repec.org/a/ami/journl/v10y2011i3p326-350.html

Newell Rubbermaid Inc. (2015, December 31). Form 10-K. United States Securities and Exchange Commission. https://www.sec.gov/Archives/edgar/data/814453/000081445316000176/nwl-12312015x10k.htm

Niskanen, J., Kinnunen, J. & Kasanen, E. (1998). A note on the information content of parent company versus consolidated earnings in Finland. The European Accounting Review, 7(1), pp. 31–40. https://doi.org/10.1080/096381898336565

PepsiCo. Inc. (2014, December 27). Form 10-K. United States Securities and Exchange Commission.

Pfizer Inc. (2015). Form 10-Q. United States Securities and Exchange Commission. https://www.sec.gov/Archives/edgar/data/78003/000007800315000051/pfe-9272015x10q.htm

PricewaterhouseCoopers. (2014). 26 Exchanges rates in Venezuela. PwC. https://inform.pwc.com/26-exchanges-rates-in-venezuela

PricewaterhouseCoopers. (2018, November 22). Accounting considerations for Venezuelan entities (update as of November 2018). PwC. https://www.pwc.com/gx/en/audit-services/ifrs/publications/accounting-considerations-for- venezuelan-entities.pdf

Reinhart, C. M., Magud, N. & Rogoff, K. (2011, February 1). Capital Controls: Myth and Reality - A Portfolio Balance Approach (NBER Working Paper No. 16805). NBER. https://www.nber.org/papers/w16805

Reuters. (2017, April 19). General Motors Says Venezuela Illegally Seizes Auto Plant. Reuters.com. https://www.reuters.com/article/us-gm-venezuela/general-motors-says-venezuela-illegally-seizes-auto-plant-idUSKBN17M08I#:~:text=CARACAS%20(Reuters)%20%2D%20General%20Motors,actions%E2%80%9D%20to%20defend%20its%20rights.

Şabac, F., Scott, T.W., & Wier, H.A. (2005). An Investigation of the Value Relevance of Alternative Foreign Exchange Disclosures. Contemporary Accounting Research, 22(4), pp. 1027–1061.

Shuto, A. (2009). Earnings Management to Exceed the Threshold: A Comparative Analysis of Consolidated and Parent-only Earnings. Journal of International Financial Management & Accounting, 20(3), pp. 199–239. https://doi.org/10.1111/j.1467-646X.2009.01031.x

Soo, B. S. & Soo, L. G. (1994). Accounting for the multinational firm: Is the translation process valued by the stock market? The Accounting Review, 69(4), pp. 617–637. https://www.jstor.org/stable/248434

Woolaver, H. (2014). State Failure, Sovereign Equality and Non-Intervention: Assessing Claimed Rights to Intervene in Failed States. Wisconsin International Law Journal, 32, pp. 595–620. https://ssrn.com/abstract=3352398