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Family Business and Transaction Exposure

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Abstract: This study provides additional evidence and insight into theories on transaction exposure as it empirically examines the magnitude of transaction exposure in Kuwait, a developing country. Specifically, it investigates factors that might influence Kuwaiti firms' responses to their transaction exposure and how being a family business or part of a family business group could play a mediating role in this response. Through conducting a questionnaire survey with the largest 147 industrial and commercial Kuwait firms, the results of a multinomial logistic regression indicate that theories on financial hedging seem to be inapplicable in the Kuwaiti case. However, these theories provide only partial explanations for management behavior in response to the transaction exposure of Kuwaiti companies. Findings show that a firm being part of a family business group is significantly correlated with its level of hedging, suggesting that firms that are members of a family group of businesses are expected to hedge at a higher level. This points to other theories, such as institutional theory, as playing greater roles in explaining the transaction exposure behaviors of firms in developing countries, and also suggests that family-controlled businesses are expected to engage in more innovative financial strategies and hedge at a higher level. The research findings imply that Kuwaiti firms need to be more aware of their transaction exposure and pay more attention to the related issues. Training programs in risk-management strategies should be provided to decision makers to help them evaluate the hedging strategies they employ. This study shows how different behaviors toward risk exist between firms that operate in developed and developing countries, including the effect of being part of a family business resulting in firms engaging in more innovative financial strategies when dealing with risk.

Keywords: transaction exposure; hedging; financial derivatives; family business; gulf countries

JEL Classification: D81; F31

1. Introduction

Between 5 January 2002, and 19 May 2007, the Kuwaiti dinar (KD) was pegged to the US dollar (USD) at an exchange rate of KD 0.29963 per USD 1, with margins of plus or minus 3.5%. Adopting a policy of pegging the KD to the USD aimed to protect Kuwait's purchasing power and contain the inflationary pressures that were affecting the local economy. However, after the USD depreciation against the major currencies during that time, the Central Bank of Kuwait decided, on 19 May 2007, to peg the KD to an undisclosed weighted basket of international currencies of Kuwait's major trading and financial partner countries [1]. Following this transition, Kuwaiti exporters and importers were fundamentally exposed to higher levels of transaction exposure, whereas prior to this decision, they had been immune to fluctuations in the USD because of the pegging policy.

As a response to this transaction exposure, Kuwaiti firms used a wide range of hedging strategies and instruments, such as using money-market-hedging techniques or currency derivatives in the form of currency forwards, futures, options, or swaps. However, there is no empirical evidence in the literature that documents Kuwaiti importers and exporters' use of currency derivatives or hedging strategies to manage their transaction exposure to risks of currency fluctuations. This study provides new evidence and insight into transaction-exposure risk-management (TERM) theories as it examines the magnitude of transaction exposure Kuwaiti firms face, the way these firms deal with this risk, and the factors that might affect their hedging levels.

International Accounting Standard (IAS) 21 defines two kinds of accounting exposures to exchange-rate risks: transaction exposure and translation exposure. The first concerns the foreign cash in- and out-flows that are denominated in foreign currencies and that could create accounts receivables or accounts payables denominated in a foreign currency in a business entity's records [2]. The latter arises from the need, for the purposes of reporting and consolidation, to adjust subsidiaries' financial statements from the foreign currencies involved to the local currency [3].

For the purpose of this research and within the context of the Kuwaiti environment, it is more appropriate to investigate Kuwaiti firms' transaction exposure. First, typically, the maturity date, the amount, and the currency of the transaction are known to the firm. Therefore, for firms, managing this form of currency risk is quite straightforward. In this context, Chow et al. [4] emphasize that transaction exposure, especially from commitments such as receivables and payables, is typically considered straightforward in terms of being evaluated and hedged. Second, in 2018, Kuwait reported exports and imports valued at USD 79.77 billion and USD 61.65 billion, respectively [5]. Oil represents 95% of Kuwait's exports, and these originate under the umbrella of one governmental company. Accordingly, most private Kuwaiti companies are importers from such countries as the US, Europe, and China. This makes these companies highly exposed to foreign-currency transactions.

Third, the act of managing translation exposure is criticized on the basis that this action is taken purely as a result of paper gains and losses. Bartov et al. [6] argue that gains and losses resulting from translation exposure do not necessarily represent changes in a firm's real costs or revenue streams, and, therefore, this is inconsistent with the concept of value maximization in financial theory. Within this context, Redhead [7] notes the following:

> *It is sometimes argued that translation exposure is unimportant and that firms should not attempt to hedge this form of exchange rate risk. The reasoning underlying this view is that the exchange rate movement, relative to the currency of the home country, does not reduce the foreign currency profitability of the overseas investment. (P. 2)*

Furthermore, Grant and Soenen [8] attribute the basic problem with accounting exposure to the fact that book values bear little relation to shareholders' wealth maximization. At the empirical level, Pramborg [9] examines the value effect from different aspects of accounting exposure in relation to hedging activities and foreign operations. Findings from a sample of Swedish firms, over the period 1997 to 2001, suggest that there seems to be a positive value effect associated with hedging transaction exposure but hedging translation exposure does not add value. Hagelin and Pramborg [10] investigate Swedish firms' use of financial hedges against transaction and translation exposure. Their survey responses indicate that over 50% of the sampled firms employ financial hedges and that transaction exposure is more frequently hedged than translation exposure.

Belk and Glaum [11] survey the largest 17 manufacturing companies in the UK and find that transaction exposure is the focus of UK multinational firms, whereas translation exposure captures less attention. Batten et al. [12] survey the 500 largest Australian firms in order to examine their reactions to accounting exposure. The empirical results of their study indicate that transaction exposure is the most relevant risk Australian firms face, whereas these firms do not consider translation exposure to be important. Fatimi and Glaum [13] examine the response of German multinational firms to accounting

exposure and find that 62% of these firms hedge their transaction exposure while only 17% of the respondents actively manage their translation exposure.

Despite these findings, some authors [3] argue that the paper gains and losses due to translation exposure still need to be hedged because they have an effect on tax payments and, consequently, cash out-flows. In fact, this argument is valid in most countries but not in Kuwait or within the context of the Gulf countries where income tax is nearly zero. Consequently, this kind of accounting exposure is not expected to be the focus of Kuwaiti companies.

Fourth, only parents of foreign subsidiaries experience translation exposure; therefore, it would not be practical to examine translation exposure due to the existence of a very limited number of parent companies required to prepare consolidated financial statements [14].

All of the above findings point to the need to examine the transaction exposure Kuwaiti companies face and the factors that influence their responses in, for example, their transaction-exposure risk-management (TERM) techniques. It is notable that the majority of the previous studies on accounting exposure and accounting risk management have been conducted within the context of developed countries. Therefore, this study fills this gap by contributing to the current literature in the following areas.

First, its focus is Kuwait, in particular, because it is an ideal model for a case study for this research. Kuwait is an open economy and is the only Gulf country to introduce a semifloating exchange-rate policy, following the termination of pegging their currency (Kuwaiti dinar) to the US dollar. This means Kuwaiti companies are not immune to any currency fluctuations, even to the US dollar.

Second, this study examines a new variable, which we believe is very important within the context of Kuwait, i.e., a firm being affiliated to a family business. This variable will be an added-value insight to TERM theories in developing countries because it is the dominant corporate-governance model of ownership in all Gulf countries. Third, there is very little evidence on accounting exposure in the Gulf countries in general, and how firms react to the exchange-rate risk they face in this part of the world.

Fourth, most of the previous studies in the literature on exchange-rate-risk management investigate the use of currency derivatives as hedging instruments [10,15–24]. Therefore, these studies use a binary dependent variable and mainly employ binary logistic regression as a statistical model. This study is designed such that the dependent variables are divided into four categories. Each category represents a different reaction to the transaction exposure Kuwaiti firms face. Consequently, currency derivatives are not the only instrument used to hedge transaction exposure in this research but constitute one of four reactions firms can employ to manage their transaction exposure.

Fifth, the results of this study can be generalized to all Gulf countries due to their common political, social, and economic features. Other than sharing the same geographical area on the Arabian Peninsula, these countries (i.e., Kuwait, Saudi Arabi, Qatar, UAE, Oman, and Bahrain) also share the same religion (Islam); ethnicity; language (Arabic, with similar dialects); political regime (a monarchy); economic conditions (they rely on oil as a main source of income); and have similar histories, cultures and traditions [25]. Therefore, it is not surprising to find similar corporate characteristics across these countries, including the dominance of the family affiliation model of ownership [26], the financial capabilities that enable them to hire financial expertise, the dominance of controlling shareholders as board members [27], and the existence of a large number of state-owned corporations [28]. Therefore, this study investigates one of the most important and rich regions in the Middle East and its implications could be beneficial to all Gulf countries.

The rest of this paper is organized as follows: the next section explains the development of the research hypotheses and the literature related to each variable. The methodological approach adopted in this research is illustrated in Section 3, where the data, the firm sample, and the research model are explained in detail. Section 4 is dedicated to the analyses and results; Section 5 discusses the results; and the conclusions, implications, limitations, and further research are discussed in Section 6.

2. Literature Review

The literature on exchange-rate exposure and its risk-management practices mainly addresses three strands. The first strand investigates the impact of exchange-rate exposure (ERE) (i.e., transaction and economic exposures) and the use of currency derivatives on firm value [17,23,29–44]. Most of these studies report significant impacts for ERE and the use of currency derivatives on firm value. However, the evidence is not clear on whether this effect is positive or negative.

The second strand of literature investigates the determinants of the ERE that firms face. Researchers in this strand collect the relevant data through questionnaires or interview surveys [9,11–13,19,45–54]. The majority of these studies are located in developed countries, such as the US, the UK, and Germany, and find that the ERE multinational and exporter firms face is determined by firm size, their degree of involvement in the foreign environment, and the degree of competition they face. Moreover, these firms are found to be neutrally risk averse and heavy users of foreign-exchange-hedging instruments, especially currency derivatives.

The third strand of research focusses on the effect of ERE hedging on firms' performance. These studies compare the performance of different hedging strategies and instruments and hedging at different maturity dates [15,20,22,24,32,40,55–65]. Most of these studies do not provide evidence to support the hypothesis that hedging strategies perform better than nonhedging ones. Consequently, these findings raise questions about why firms hedge despite the unconvincing results of the superiority of hedging strategies. Answering this question constitutes undertaking a research agenda on exchange-rate-risk management (ERRM). Here, researchers try to explain the motivation behind corporate hedging. Optimal hedging theories, which are provided mainly by Stulz [66], Smith and Stulz [67], and Froot et al. [68], argue that the rationality behind corporate hedging is based on the notion that hedging could reduce earnings volatility and maintain future cash flows through reduced taxes, costs of financial distress, and agency costs and improvements in investment opportunities. Other hedging theories discuss whether derivatives are used to reduce or mitigate risk [17,21,24,37,40].

In addition to the above three streams of literature that investigated the ERRM, another stream of literature examined family businesses and open innovation and reported that family-controlled firms are more likely to adopt innovative financial and operating strategies [69–71]. Findings in this stream also report that firms adopting open innovation strategies are more likely to outperform other firms in their industries and engage in better operating and financial practices [72–78]. Building on this stream of research, it may be plausible to suggest that Kuwaiti firms being more family-controlled are likely to respond in less bureaucratic and innovative ways when dealing with financial risk.

Although many studies examine ERE and ERRM from different strands of literature, these issues are rarely investigated in relation to developing countries, especially those in the Middle East and the Gulf region. Over the last decade, however, the number of studies on these topics has accelerated, especially in relation to East Asian countries, such as Malaysia, Bangladesh, and India. For example, Mohapatra [79] examines ERE in the manufacturing and service sectors in India. By using trade-weighted exchange-rate data from January 2000 to December 2013 as an explanatory variable, the results suggest that Indian firms are highly exposed to exchange-rate changes and that the degree of the ERE is higher among manufacturing firms. Wahab et al. [80] examine whether 123 nonfinancial Malaysian firms hedge their foreign-exchange exposure. The paper proxies these firms' levels of exposure by their percentages of foreign sales. The study employs multiple panel logistic regressions and finds that foreign-sales ratios and firm size are significant factors for hedging activity among Malaysian nonfinancial firms. Additionally, Cheng et al. [40] examine the relationships between the foreign-currency exposure of Malaysian firms in terms of their account receivables and account payables and total value. The findings suggest that Malaysian firms do not hedge their currency exposure to the USD very well; large firms are not equipped to improve firm value when they are highly exposed; and hedging strategies are not effective and do not improve firm value.

Within the context of the Middle East and Gulf regions, Solakoglu [81] examines the association between exchange-rate exposure and firm-specific factors, such as firm size, involvement in foreign

activities, firm maturity, and their measure of natural hedging. The study results show that firm size and degree of involvement in international activities are significant determinants in lowering exchange-rate exposure. Further, firms that are characterized as net importers or net exporters are more likely to face high and significant levels of ERE. Nimer [82] examines the transaction and economic exposure of Jordanian firms. This study is based on 122 questionnaire-survey interviews and 17 face-to-face interviews with the largest nonfinancial Jordanian firms. The study documents that theories of ERE and hedging are not applicable to the Jordanian environment as Jordanian firms do not hedge as a response to their levels of transaction and economic exposure. Besides, Jordanian firms are more aware of their transaction exposure than they are of their economic exposure. However, institutional factors, such as family-business affiliations and the regulatory environment, play more determinant roles than financial factors, such as involvement within the foreign environment, firm size, and the industry effect. Within the GCC countries, Tanha and Dempsey (2017) [83] use International Financial Reporting Standard (IFRS) 7 (Disclosure of Financial Instruments) to investigate the use of hedging by firms in the GCC countries. The results of panel and cross-sectional logistic regressions indicate a focus on foreign-exchange exposure, and interest-rate and commodity risk. They also find that the use of hedging instruments (in their study, only derivatives) is positively influenced by firm size and firms' gearing ratios—the latter to a lesser degree—and negatively influenced by these firms' tendency toward growth.

3. Hypothesis Development

3.1. Transaction Exposure and the Foreign Environment

Theories of exchange-rate exposure note that firms with higher linkages to the foreign environment face higher degrees of transaction exposure [10,17,20,21,24,29,37,40,52,80,84–86]. Doukas et al. [86] argue that the effects of exchange-rate fluctuations are stronger for firms with higher exposure to the foreign environment compared to firms with low or no direct linkages with the foreign environment. This perception is criticized by other researchers who argue that multinational firms with higher linkages to the foreign environment are less susceptible to accounting exposure due to the natural offsetting that occurs between in- and out-flows of foreign cash [30,87–89]. However, this argument could only be valid in cases of favorable matches between the time horizons and the amounts of the exposure these firms face [90].

The majority of previous studies that examine the degree of transaction exposure a firm faces employ the percentage of foreign sales to total sales as a proxy for the level of involvement within the foreign environment [4,17,29,36,85,91–93]. All of these studies document a high effect for a firm's involvement with the foreign environment and the magnitude of its accounting exposure. Other studies employ the percentage of foreign debt to total debt as one proxy of the foreign environment [12,15,18,65,93–98]. Most of these studies also support the theory of exchange-rate exposure and find a positive relationship between a firm's level of foreign debt and its level of ERE. Nevertheless, few studies use foreign purchases as a proxy for the foreign environment [40,84,89,99]. This might be attributed to the fact that most of these studies are conducted in countries that have higher tendencies to export rather than import and where data on their inputs are usually unpublished and more difficult to obtain than data on their outputs.

For the purpose of this research, consistent with previous studies, we employ the percentage of foreign sales to total sales, the percentage of foreign debt to total debt, and the percentage of foreign purchases to total purchases as proxies for the level of involvement with the foreign environment. Although many previous studies did not use the third variable—the percentage of foreign purchases to total purchases—it is essential to use it within the Kuwaiti context because most Kuwaiti firms are importers rather than exporters. Consequently, this proxy could be the main determinant for the level of transaction exposure Kuwaiti firms face. Based on this, we hypothesize the following:

Hypothesis 1 (H1). *Firms with a higher percentage of foreign sales to total sales would hedge at a higher level.*

Hypothesis 2 (H2). *Firms with a higher percentage of foreign debt to total debt would hedge at a higher level.*

Hypothesis 3 (H3). *Firms with a higher percentage of foreign purchases to total purchases would hedge at a higher level.*

3.2. Transaction Exposure and Family-Business Affiliations

The importance of family business groups in Kuwait stems from the historical background of Kuwaiti society with its tribal mentality and strong concept of family. This model of corporate governance exists not only in Kuwait or the GCC countries, but it is also dominant in many developing countries. In Kuwait, the majority of corporations from all sectors—banking, finance, real estate, manufacturing—are wholly family owned, and some of them are even named after the families that established them. Within this context, a 2018 KPMG survey [100] highlights that "in the GCC, perhaps more than anywhere else worldwide, family businesses are all around us. From small and medium enterprises (SMEs) to renowned multinational corporations—family owned and managed companies . . . ". Moreover, PricewaterhouseCoopers' (PWC) 2019 [101] Middle East Family Business Survey reports that family businesses, where shareholders are linked by blood ties, own more than 60% of the region's listed shares and employ over 80% of its workforce.

In general, the effect of this type of corporate governance has been investigated within many fields in the literature, especially in developing countries where family businesses dominate [82,102–104]. However, very little evidence exists regarding the impact of the family business group on risk-management practices in general or TERM, in particular. Allayannis et al. [105] examine the effects of family affiliation on the ERRM practices of East Asian corporations. Using a dummy variable that has a value of 1 if a firm is a member of a family affiliation and 0 otherwise, the coefficient is consistently positive but not significant. Therefore, they insist that family affiliation is not an important determinant of ERRM in East Asian corporations.

Due to the importance of this concept in the GCC countries in general, and in Kuwait in particular, we expect to see differences in the TERM practices between firms that are members of family business groups and firms that are not, for the following reasons: First, most family business groups in Kuwait are conglomerates. This means that they are highly diversified and have a wide range of experience, a high potential to deal with exchange-rate risk, and they undertake many cash in- and out-flow transactions that are denominated in foreign currencies. This enables them to practice offsetting within the group, which creates natural hedging techniques that are not available to individual firms [30]. Besides, financial institutions exist within these groups and many of these groups own banks. This enables these firms to mitigate the structural barriers posed by world financial markets and facilitates their use of money-market hedging techniques and financial currency derivatives; hence, their higher levels of hedging.

In this research, consistent with similar previous studies [82,102], Kuwaiti firms that are members in a family business group are coded as 1 and firms that are not members are coded as 0. Further, our fourth hypothesis is the following:

Hypothesis 4 (H4). *Firms that are members of a family business group would hedge their transaction exposure at higher levels than firms that are not members of a family business group.*

4. Methodology and Research Model

4.1. Data and Sample

The data related to the hedging strategies Kuwaiti firms use were collected through a questionnaire survey adopted from Nimer [82], who applied a similar data-collection technique to Jordanian firms.

Other financial data (i.e., firms' characteristics) were collected from published financial statements for listed firms and through a questionnaire for unlisted companies.

Consistent with several previous studies [49,50,106], the sample in this study consisted of Kuwait's largest firms because they are expected to face higher magnitudes of transaction exposure and to use hedging strategies due to the availability of the required expertise and financial capacities, as well as the fact they have access to money and financial markets. The sample consisted of the 200 largest nonfinancial Kuwaiti listed and nonlisted companies that are members of Kuwaiti commercial and industrial chambers of commerce. The exclusion of financial firms from this research is attributed to the complexity of examining these firms' ERRM practices due to the difficulties in distinguishing between speculative and risk-management operations [19,30].

Most previous studies sent questionnaires to firms (treasury officials) through the post or via email to obtain information related to their hedging activities. For this research, however, due to the nature of the research population, the personal approach was deemed the most appropriate. Postal and online questionnaires are uncommon methods in Kuwait because people ignore them most of the time. Therefore, to get access to and meet the required personnel, it was crucial to establish connections with a key contact in each company, through friends, relatives, and business relationships. This step was time-consuming and costly, and it was difficult to meet the targeted 200 firms. Therefore, 147 Kuwaiti firms were personally contacted, and structured interviews with their managers or financial managers took place from January 2018 to June 2019, representing a response rate of 72%. Each interview lasted for about 15 to 20 min. Among these firms, 42 were listed companies and 105 were unlisted companies.

4.2. Research Model

4.2.1. Dependent Variable (Level of Hedging)

Typically, in most of the previous studies, responses to firms' transaction exposures (TE) are treated as binary variables, with 1 for firms that hedge (i.e., mainly using currency derivatives) and 0 for firms that do not hedge [15,19,83,107]. Nevertheless, for the purpose of this study, the Kuwaiti firms' responses were classified into 4 levels: Level 1: responding to TE by doing nothing; Level 2: managing TE through the use of some techniques that are employed within the firm or within 1 group, without involving a contractual relationship with a third party; Level 3: managing TE by using spot money-market instruments, such as short-term deposits and short-term borrowing; and Level 4: managing TE by using currency derivative instruments. The logic behind these classifications, which differ from the classifications of most of the previous studies, was based on the idea that most of the previous studies had been conducted in developed countries where currency derivatives instruments are available and easily used; therefore, it was acceptable to design the dependent variable according to hedgers or nonhedgers because it is the hedgers that use currency derivatives. However, within the Kuwaiti environment, currency derivatives are not available to every company and, therefore, some companies might use different hedging instruments.

4.2.2. Independent Variables

In total, 2 independent variables were examined as factors that might have an impact on the level of hedging as it was explained in the hypothesis development section; namely the involvement with the foreign environment and a firm being affiliated to a family business.

In total, 3 variables were employed as proxies for the degree of involvement with the foreign environment; the percentages of foreign sales to total sales (FS/TS), foreign debt to total debt (FD/TD), and foreign purchases to total purchases (FP/TP). Each of these variables were ranked as ratios from 0% up to 100%.

To examine the effects of a firm being affiliated to a family business, we used the same variable that has been used in the previous similar studies (see Allayannis et al. [105]), where a firm being a member of a family business group is coded as 1 and an individual firm that does not work within a group is coded as 0.

4.2.3. Control Variables

Consistent with most of the previous studies, 2 variables were examined as control variables in our research model: firm's size and the nature of the business.

Unfortunately, we were unable to use an algorithm for a firm's total assets or market value, which would be consistent with previous studies, because most of our sample included nonlisted companies that do not publish their data. Therefore, we had to rely on information collected by our questionnaire survey. However, the reliability of this information was examined by comparing the answers given in the questionnaire with the published data for the listed companies and other sources regarding the nonlisted companies in our sample, such as information from the Kuwaiti stock exchange and the chambers of commerce and industry in Kuwait. Therefore, Kuwaiti firms were asked to rank the approximate value of their total assets to the nearest USD 10 million values, starting from USD 100 million (about 30 million Kuwaiti Dinar) up to more than USD 1 billion (approximately more the 300 million KD). Starting from USD 100 million was attributed to the selected sample, which consisted of the largest 200 Kuwaiti firms (the value was calculated by taking the average value of total assets for all listed nonfinancial listed companies). These firms were then classified within 11 categories, starting from those whose total values were less than USD 100 million, up to those valued at more than USD 1 billion. Each category spanned a 100-million-USD range.

The second control variable in our model was the nature of the industry. Previous studies typically examine the industry effect as a control variable by dividing firms into categories based on the sector: food industry, electricity, mining, pharmaceuticals, cigarettes, etc. [54,87,108–113]. However, in these studies, the sample firms would be those conducting the same type of business (i.e., all manufacturing firms); therefore, it is acceptable to categorize firms from one sector in one overall group due to same nature of the foreign cash in- and out-flows. Our sample included manufacturing and merchandising companies; therefore, if we divided our sample based on the sector—for example, food industry—then we would have had manufacturing and merchandising companies listed as being in the same industry, whereas the nature of their foreign cash flows would be completely different. Kuwaiti merchandising companies mainly import their final products from abroad and sell them in the local market; therefore, their accounts payable are mainly denominated in a foreign currency. Manufacturing firms, on the other hand, might import part of their inputs (i.e., raw materials) from abroad and then sell their final products either in the local market or abroad. Therefore, these companies are expected to face lower levels of transaction exposure because a percentage of their inputs is denominated in a foreign currency and they might also have accounts payables and accounts receivables denominated in a foreign currency, which provides them with opportunities to match foreign cash in- and out-flows. Within this context, in his study on the exchange-rate exposure of the CNX 100 companies, Mahadevan [89] finds that firms that face the highest levels of foreign-exchange-rate exposure are exporters and net importers, but firms that can offset exports and imports might face lower levels of transaction exposure due to the natural offsetting that takes place between foreign cash in- and out-flows, which was the case of the manufacturing firms in our sample. Additionally, Bergbrant et al. [114] find that firms that are importers face higher degrees of exchange-rate exposure than exporting firms. Therefore, for the purpose of this research, Kuwaiti firms were divided into 2 categories: merchandising and manufacturing. Some previous studies follow this classification and divide firms based on the nature of their business. For example, Mohapatra [79] examines transaction exposure among manufacturing and service firms in India and finds that manufacturing firms face higher levels of transaction exposure than service firms do.

Based on the above discussion variable functional definitions, our research model would be as follows:

$$\text{AERM} = \alpha + \beta 1\text{FS/TS} + \beta 2\text{FP/TP} + \beta 3\text{FD/TD} + \beta 4\text{FA} + \beta 5\text{Size} + \beta 6\,\text{Nat} + \varepsilon,$$

where AERM is the accounting exposure risk-management level; FS/TS is the percentage of foreign sales to total sales; FD/TD is the percentage of foreign debt to total debt; FP/TP is the percentage of

foreign debt to total debt; Size is the firm size; and Nat is the nature of the company (i.e., merchandising or manufacturing).

Although the majority of the previous studies employ binary LOGISTICT (LOGIT) regressions to examine similar hypotheses, this study employed multinomial LOGIT regressions to achieve the research objectives. This test is another form of a LOGIT regression, but it is used when the dependent variable has more than two values (i.e., in our model, we had 4 categories as responses to TE). Previous studies employed binary LOGIT regressions because they classified firms into hedgers and nonhedgers, whereas in our research we included 4 levels of reactions, as was explained in the dependent variable definition.

5. Analysis and Results

5.1. Descriptive Analysis

This section summarizes the descriptive statistics of the dependent, independent, and control variables. Table 1 provides general descriptive information such as mean, median, Std. Deviation, range, minimum, and maximum for all variables included in the model. After that, a descriptive analysis is provided for each variable individually.

Table 1. Descriptive analysis to all variables included in the research model.

	Hedging Level	Nature of Business	Firm Size	FP/TP	FS/TS	FD/TD	Listed/ Non-Listed	Family Business
Valid	147	147	147	147	147	147	147	147
Missing	0	0	0	0	0	0	0	0
Mean	2.5646	1.3810	4.0952	6.7823	2.7143	2.2653	0.3265	0.5986
Median	2.00000	1.0000	3.0000	8.0000	1.0000	2.0000	0.0000	1.0000
Std. deviation	1.2663	0.4873	2.5731	2.9366	2.5423	1.7569	0.4706	0.4919
Range	3.00	1.00	10.00	9.00	9.00	8.00	1.00	1.00
Minimum	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Maximum	4.00	2.00	11.00	10.00	10.00	10.00	1.00	1.00
Sum	377.00	203.00	602.00	997.00	399.00	333.00	48.00	88.00

As Table 1 reveals, the dependent variable has a mean of 2.565 and a variation (SD) of 1.266 among companies with a minimum of 1 (i.e., no hedge) and a maximum of 4 (sophisticated level of hedging). The independent variables recorded an average of 6.782 with 2.93 standard deviations for foreign purchases to total purchases (FP/TP), an average of 2.714 with 2.45 standard deviations for foreign sales to total sales (FS/TS) and an average of 2.2653 with 0.47 standard deviations for foreign debt to total debt (FD/TD). These results support the previous discussion on the tendency of Kuwaiti firms to import in a foreign currency, rather than export, as the majority of Kuwaiti firms are merchandising companies and rely on importing finished goods from abroad and this increases their level of transaction exposure due to the naked position they face [115].

5.1.1. The Independent Variable—The Level of Hedging

Kuwaiti firms were asked to rank their use of a range of hedging instruments on a five-point Likert scale from "never use this instrument" to "always use this instrument." Table 2 summarizes Kuwaiti firms' responses to this question.

As Table 2 shows, the majority of the Kuwaiti firms in the study sample do not use heavy hedging techniques to manage their transaction exposure. Firms that follow this step were categorized along four levels: Level 1 includes 44 firms that do not ever hedge their transaction exposure. Firms that use a sophisticated level of financial hedging (i.e., currency derivatives) are classified under Level 4; this entails a total of 55 firms that scored 3 or higher in their use of any of the currency derivatives

instruments. As we can see, the forward contract is the only currency derivatives instrument Kuwaiti firms use. This could be attributed to the nonexistence of futures or options currency contracts that are denominated in the KD, the noncustomized nature of forward contracts, which enables the hedger to determine the currency, the amount and the maturity date, and because forward contracts are provided by local financial institutions. These results are consistent with the results of most previous studies that found that currency forwards are the currency derivatives most commonly used by firms that wish to hedge their transaction exposure [11,13,19,82,107,116]. Level 2 includes 31 firms that use natural hedging techniques, such as netting (only available to firms within one group), matching, leading and lagging, pricing, and currency baskets. According to the figures in the table, a higher number of firms use these instruments; but this result is due to the nature of the questions, as firms that use these instruments but also use other higher-level instruments (for example, forward contracts) are classified in Level 4 and not Level 2. The same holds for firms listed in Level 3. Therefore, the final classifications for the sample are shown in Table 3.

Table 2. Kuwaiti firms' responses to their use of hedging instruments.

Instruments	Always	Usually	Sometimes	Seldom	Never	N
Forward	25	10	20	7	85	147
Futures	0	0	0	0	147	147
Options	0	0	0	0	147	147
Short-term borrowing	25	12	7	8	95	147
Short-term deposit	12	5	0	4	126	147
Netting	31	23	24	5	64	147
Leading lagging	35	18	20	17	57	147
Matching	20	16	28	8	75	147
Currency basket	57	18	8	3	61	147
Pricing	25	9	7	4	102	147

Table 3. Distribution of Kuwaiti firms according to their level of hedging.

Level of Hedging	Frequency	Percent (%)	Valid Percent (%)	Cumulative Percent
No response	44	29.9	29.9	29.9
Hedging—level 1	31	21.1	21.1	51.0
Hedging—level 2	17	11.6	11.6	62.6
Hedging—level 3	55	37.4	37.4	100.0
Total	147	100.0	100.0	

5.1.2. The Dependent Variable—The Degree of Involvement in the Foreign Environment

In order to examine the effect of the foreign environment on the Kuwaiti firms' responses to their foreign exposure, these firms' managers were asked to rank their percentages of foreign sales to total sales, foreign debt to total debt, and foreign purchases to total purchases, from 0% to 100%. Figure 1 shows the distribution of Kuwaiti firms based on their involvement within the foreign environment as measured by the above three variables.

As the figures show, Kuwaiti firms have a high tendency to import rather than export, as 93 of the firms (or 63%) in the sample import more than 60% of their inputs and pay for this in a foreign currency, whereas 77 companies do not have foreign sales, and 32 companies have less than 30% of their sales denominated in a foreign currency. Additionally, it is very rare for Kuwaiti firms to incur foreign debt that is denominated in a foreign currency, as 73 companies do not have debt denominated in a foreign currency, and another 44 companies have less than 40% of their debt denominated in a foreign currency, indicating that Kuwaiti firms' transaction exposure mainly occurs through importing and from having their accounts payables, in their financial statements, mainly denominated in a foreign currency. This result shows that Kuwaiti firms, especially those that are importers, face a high magnitude of transaction exposure because they face a naked position [66]. Many empirical

studies support this result. For example, Mahadevan [89] examines exchange-rate exposure and its determinants among CNX 100 companies. Their results suggest that 49% of the sample companies have significant positive foreign-exchange-rate exposure and those that face the highest degree of exposure are mainly exporters or net importers.

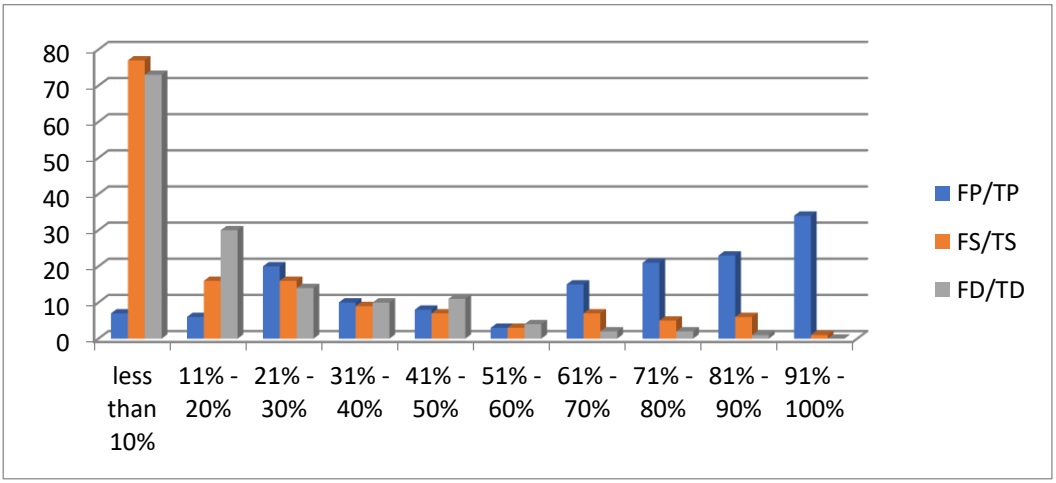

Figure 1. The distribution of the Kuwaiti firms based on their foreign environment.

5.1.3. The Dependent Variable—A Firm Being Affiliated to a Family Business

Respondents in the Kuwaiti firms were asked to indicate whether their firms are affiliated to a family business or not. Figure 2 represents the distribution of Kuwaiti firms and shows that we have 88 firms (i.e., nearly 60% of the sample) that are affiliated with family business and 59 individual firms, representing 40% of the total firms.

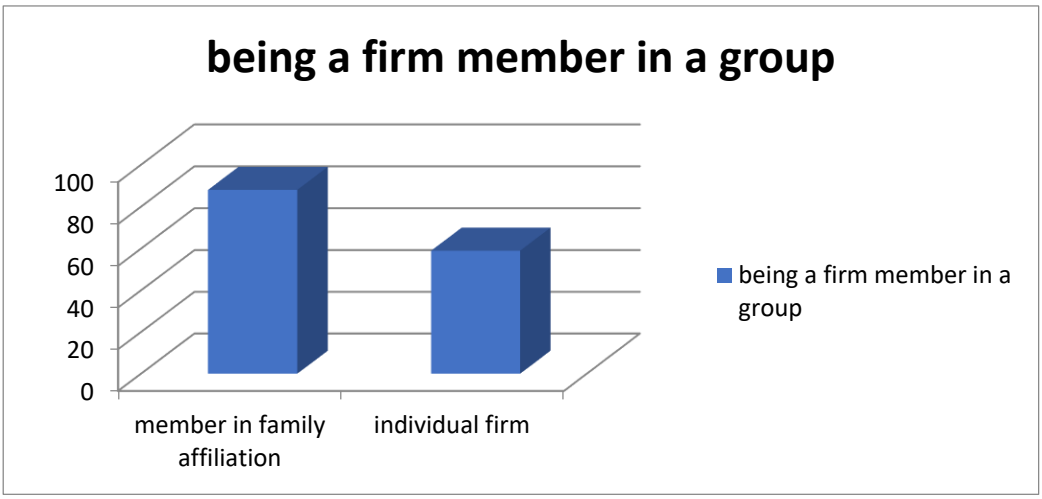

Figure 2. Distribution of Kuwaiti firms based on family-business affiliations.

5.1.4. Control Variable—Firm Size

Respondents in Kuwaiti firms were asked to indicate the value of their assets in 1 of 11 categories, starting from those whose total values are less than USD 100 million, up to those valued at more than USD 1 billion. Each category spans a USD 100-million range. Figure 3 shows the distribution of Kuwaiti firms among these categories. As the figure shows, the majority of the firms are within the first categories (i.e., between USD 100 M and USD 500 M). More specific, 116 firms (79%) are within the first five categories and only 31 firms have assets with more than USD 500 M value.

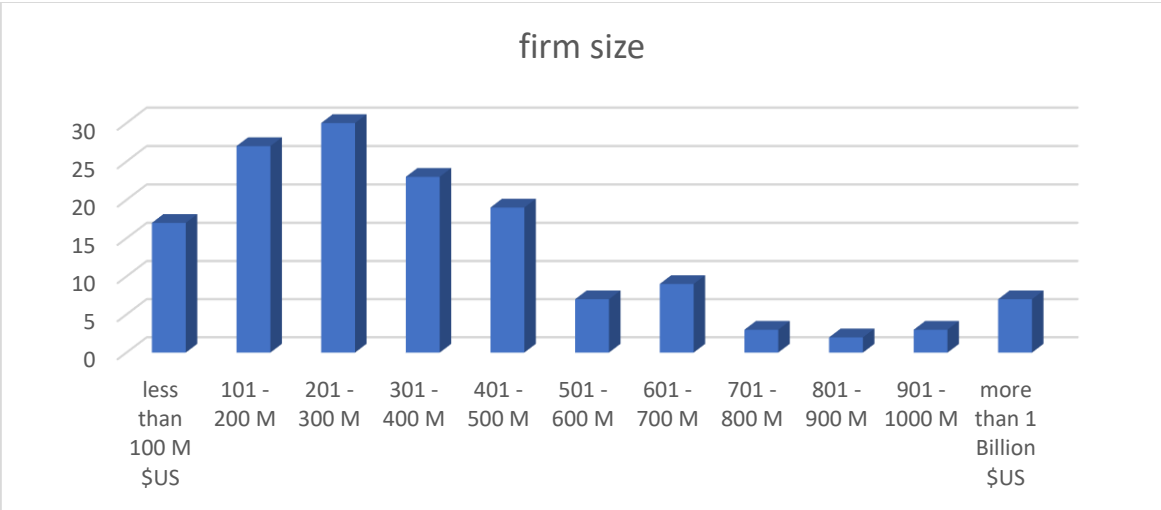

Figure 3. Distribution of Kuwaiti firms based total assets to the nearest 100 M USD.

5.1.5. Control Variable—Nature of Business

As indicated in the research model, Kuwaiti firms were classified into manufacturing and merchandising companies based on their nature of business. Figure 4 illustrates Kuwaiti firms' distribution based on their industry, as it shows that 91 firms (62%) are merchandising, and 56 firms are in the industrial sector representing 38% of the total firms.

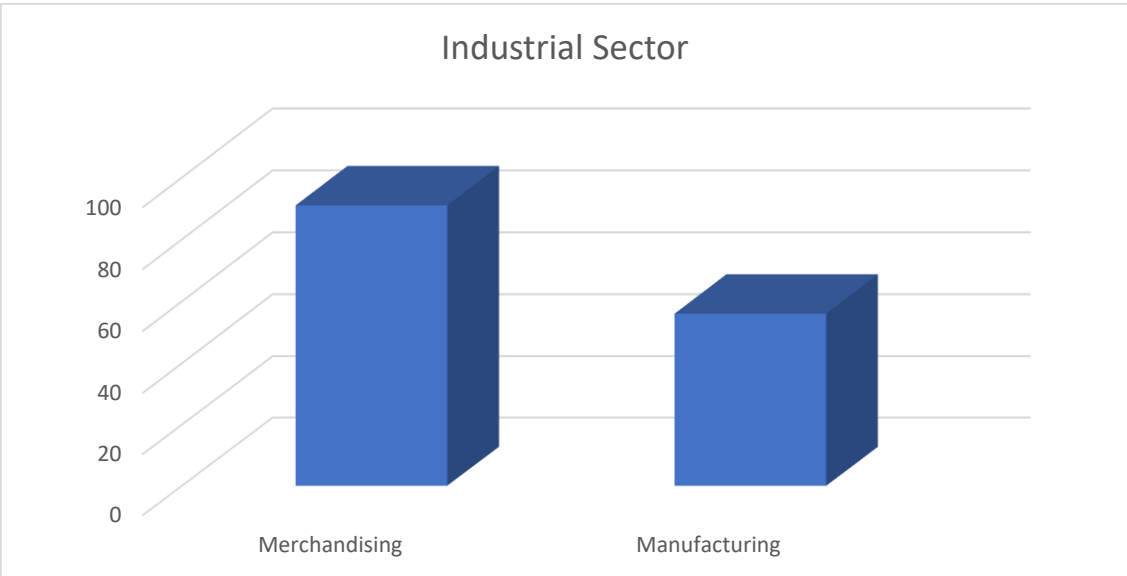

Figure 4. Distribution of Kuwaiti firms between merchandising and manufacturing.

5.2. Correlation Results

Before running the model, the Breusch-Pagan test was used to check the data for heteroscedasticity. The results concluded that the residuals were homogeneous. We used the Ramsey test to test for omitted variable bias and concluded that we did not need more variables. In addition, the Variance Inflation Factor (VIF) was calculated to test for multicollinearity and we found that the independent variables were not multicollinear, as the VIF values for all variables were less than 3 with exception to the nature of the business variable, which was 4.105. VIF values for all variables are presented in Appendix A. Table 4 illustrates the Pearson correlation matrix for the dependent and independent variables. The level of hedging is significantly and positively correlated with being part of a family

business group (r = 0.366) and the percentage of foreign purchases to total purchases (FP/TP) (r = 0.311) shows a value of $p < 0.05$ for both variables. The rest of the variables are correlated with the level of hedging but not significantly. The variables that are significantly correlated with the level of hedging, namely belonging to a family business group and the percentage of FP/TP, are correlated with each other but the correlation is less than 0.75, suggesting that no multicollinearity problem might occur when we conduct the regression analysis, which we do in the next section.

Table 4. Pearson correlation matrix for the dependent and independent variables.

	Industry	Size	FP/TP	FS/TS	FD/TD	Level H	Listed	F-Group
Industry	1							
Size	0.353 ** 0.000	1						
FP/TP	−0.746 ** 0.000	−0.263 ** 0.001	1					
FS/TS	0.585 ** 0.000	0.299 ** 0.000	−0.655 ** 0.000	1				
FD/TD	−0.167 * 0.043	0.005 0.952	0.149 * 0.071	−0.117 0.157	1			
Level H	−0.240 0.003	0.116 0.162	0.311 ** 0.000	−0.062 0.453	0.074 0.374	1		
Listed	0.798 ** 0.000	0.212 * 0.010	−0.647 ** 0.000	0.598 ** 0.000	−0.106 0.203	−0.185 * 0.025	1	
F-group	−0.358 ** 0.000	0.074 0.375	0.461 ** 0.000	−0.351 ** 0.000	0.203 * 0.014	0.366 ** 0.000	−0.374 ** 0.000	1

* Significant at the 0.10 significance level; ** significant at the 0.05 significance level. Source: author's own data, based on a survey of managers of Kuwaiti firms.

5.3. Hypothesis Testing

The model fitting information table (Table 5) shows the likelihood ratio of the Chi-square test. The results show a significant improvement in fit over a null model, where the Chi-square is 68.820 with a significance $p < 0.001$.

Table 5. Model fitting information.

Model	Model Fitting Criteria			
	−2 Log-Likelihood	Chi-Square	DF	Sig
Intercept Only	373.620			
Final	304.800	68.820	21	0.000

In Table 6 the conventional $\alpha = 0.05$ threshold shows that only a firm that is a member of a family business group reported a positive significant relationship with the level of hedging at significance $p < 0.001$. The reported Chi-square (28.353) indicates that there are significant differences in hedging behaviors between individual firms and firms that are members of a family business affiliation. Although the percentage of the FP/TP and the percentage of FS/TS shows differences in the levels of hedging between groups but at a significance of $p < 0.10$, which is considered an insignificant factor in determining the level of hedging in Kuwaiti firms. None of the other independent or control variables reported any significant differences.

Table 7 provides information that compares each hedging group against the reference group, which consists of the nonhedgers (i.e., those that do not hedge, at any level, against their transaction exposure). Specifically, the regression coefficient indicates which predictors significantly discriminate between firms that hedge at Level 1 (coded 1 in this portion of the model) and firms that do not hedge

(coded 0), between firms that hedge at Level 2 (coded 1 in this portion of the model) and firms that do not hedge (coded 0), and between firms that hedge at Level 3 (coded 1 in this portion of the model) and firms that do not hedge (coded 0).

Table 6. The value of Chi-square statistic and the significance of the model variables.

Effect	Model Fitting Criteria	Likelihood Ratio Tests		
	−2 Log-Likelihood of Reduced Model	Chi-Square	DF	Sig
Intercept	308.925	4.125	3	0.248
Nature of business	307.014	2.215	3	0.529
Size	307.074	2.274	3	0.518
FP/TP	311.592	6.792	3	0.079 *
FS/TS	312.364	7.564	3	0.056 *
FD/TD	310.998	6.188	3	0.103
Listed or non-listed	306.076	1.276	3	0.735
Member in family	333.153	28.353	3	0.000 **

* Significance at 0.10. ** Significance at 0.05.

Table 7. The covariance matrix for the three levels of hedging in comparison with no hedge level.

								95% Confidence Interval for Exp (B)	
Level of Hedging		B	Std Error	Wald	DF	Sig	Exp (B)	Lower Bound	Upper Bound
Level-1	Intercept	−0.343	2.030	0.029	1	0.866			
	Nature	−1.306	1.018	1.647	1	0.199	0.271	0.037	1.991
	Size	0.027	0.120	0.051	1	0.821	1.028	0.812	1.301
	FP/TP	0.099	0.148	0.453	1	0.501	1.105	0.827	1.476
	FS/TS	0.251	0.161	2.442	1	0.118	1.286	0.938	1.762
	FD/TD	0.245	0.163	2.279	1	0.131	1.278	0.929	1.758
	Listed	−0.695	0.984	0.498	1	0.480	0.499	0.073	3.436
	Family	0.215	0.594	0.132	1	0.717	1.240	0.387	3.975
Level-2	Intercept	−2.735	2.426	1.271	1	0.260			
	Nature	−0.984	1.200	0.673	1	0.412	0.374	0.036	3.925
	Size	0.087	0.142	0.374	1	0.541	1.091	0.826	1.441
	FP/TP	0.299	0.179	2.782	1	0.095	1.348	0.949	1.916
	FS/TS	0.161	0.168	0.914	1	0.339	1.174	0.845	1.632
	FD/TD	0.391	0.201	3.799	1	0.051	1.479	0.998	2.191
	Listed	0.715	1.218	0.345	1	0.557	2.044	0.188	22.255
	Family	−1.754	0.816	4.622	1	0.032	0.173	0.053	0.856
Level-3	Intercept	−3.416	2.022	2.855	1	0.091			
	Nature	−1.224	1.072	1.305	1	0.253	0.294	0.036	2.402
	Size	0.142	0.109	1.706	1	0.192	1.153	0.931	1.426
	FP/TP	0.317	0.142	4.997	1	0.025	1.373	1.040	1.812
	FS/TS	0.401	0.158	6.436	1	0.011	1.493	1.095	2.034
	FD/TD	0.049	0.159	0.095	1	0.758	1.050	0.769	1.434
	Listed	0.153	1.014	0.023	1	0.880	1.165	0.160	8.505
	Family	2.044	0.629	10.593	1	0.001	7.718	2.247	26.503

This table is the covariance matrix for the three levels of hedging; level 1, level 2 and level 3 with the comparison of level-0 (no response). (The reference category is: no response toward the transaction exposure (TE), that is why it is not showing in the table).

The first set of coefficients represents a comparison between nonhedgers and companies that hedge at Level 1. None of the variables show significant effects between nonhedgers and hedgers at this level. The second set of coefficients represents a comparison between nonhedgers and companies that hedge at Level 2. Only one firm that is a member of a family business group reported significant differences at the 0.05 level, where $p = 0.032$. These results might be predictable because Level 2 hedging represents firms that use money-market techniques to hedge, such as short-term deposits or short-term borrowing. Therefore, firms that have a high percentage of FD/TD would be reported as Level 2 hedgers. The third and last set of coefficients represents a comparison between nonhedgers and

firms that hedge at Level 3. Notably, a firm being a member of a family business affiliation reported a high significant impact at the 1% level as $p = 0.001$. The percentage of FP/TP also shows a significant impact at the 5% level, where $p = 0.025$. These results suggest that firms that are members of a family business group and that have a higher percentage of FP/TP are expected to hedge at a sophisticated level and use currency derivatives to manage their transaction exposure

Finally, Table 8 shows the classification statistics that are used to determine which group of firms were best predicted by the model. The model correctly predicted hedgers at the highest level (i.e., Level 3) 78.2% of the time, followed by firms that do nothing about their transaction exposure, which the model correctly predicted 65.9% of the time. However, the model is very poor in predicting the response of firms that hedge their transaction exposure by using natural hedges (Level 1) or those that use money-market hedging techniques (Level 2).

Table 8. Classifications of groups based on the model's predictive ability.

	Predicted				
	No Response	**Hedge—Level 1**	**Hedge—Level 2**	**Hedge—Level 3**	**Percent Correct**
No response	29	1	0	14	65.9%
Hedge—Level 1	7	7	3	14	22.6%
Hedge—Level 2	6	1	6	4	35.3%
Hedge—Level 3	7	3	2	43	78.2%
Overall Percentage	33%	8.2%	7.5%	51%	57.8%

This tables shows which level of hedging was highly predicted by the model. Level 3 is correctly predicted by the model more than the other levels.

5.4. Robustness

In order to show the robustness of our model and to be consistent with the majority of the previous studies, we employed the Binary LOGIT regression to test our data by reclassifying our dependent into two categories. Consistent with the previous studies, firms that use currency derivatives to manage their transaction exposure are classified as hedgers and are coded as 1, and firms that do not use currency derivatives are classified as nonhedgers and are coded as 0. The results of the Binary Logit regression were consistent with the results of the Multinomial Logit regression and show that only family business affiliation reveals significant association with hedging at 0.001 significant level. None of the other independent variables revealed any significant association with the hedging. Appendix B shows the results of the Binary LOGIT regression analysis.

6. Discussion and Conclusions, Implications, Limitations, and Further Studies

6.1. Discussion and Conclusions: Open Innovation of Family Business

This paper is one of the first to investigate firms' transaction-exposure risk-management practices in the GCC region with special emphasis on the role of family business groups in risk management behavior. It provided a comprehensive description of the transaction exposure Kuwaiti firms face and their responses to such a risk. In addition, it analyzed the factors that might have impacts on Kuwaiti firms' reactions toward transaction exposure and whether transaction-exposure risk-management theories are applicable to a developing country, namely Kuwait. Indeed, many of the findings of this research are noteworthy and contribute to the knowledge and insight of exchange-rate risk-management theories within the context of developing countries.

After conducting 147 questionnaire surveys with the largest commercial and manufacturing Kuwaiti firms, the resulting empirical evidence showed that transaction-exposure risk-management theories that are explicated in developed countries provide a partial explanation about the transaction exposure practices of firms in Kuwait. Most of the Kuwaiti firms in our sample did not appear to hedge as a response to the magnitude of their transaction exposure. Our results showed no significant relationships between the level of these firms' transaction exposure, proxied by their degree of involvement within the foreign environment, and their hedging levels. Both the percentage of foreign

sales to total sales and the percentage of foreign purchases to total purchases showed an association with firms' hedging levels at the 10% level of significance. These results suggest that Kuwaiti firms do not hedge as a response to their level of transaction exposure due to the insignificant association, and due to the fact that it was expected to find positive association between the level of hedging and the percentage of foreign purchases to total purchases but not with the percentage of foreign sales to total sales, because of the high tendency of Kuwaiti firms toward importing rather than exporting. This supports our argument that Kuwaiti firms hedge due to other factors, such as being a firm affiliated with family business as we have found, but not as a response to the level of transaction exposure that they face. These results contradict the results of most of the previous studies conducted on developed countries [8,17,19–21,24,37,52,86,89,107]. Most of these studies report significant and positive associations between firms' involvement in the foreign environment—proxied by their percentages of foreign sales and foreign debt—and their firm size, with their hedging activities-proxied mainly by currency derivatives. Nevertheless, within the context of developing countries, the empirical evidence is mixed. For example, Cheng et al. [40] do not report any significant relationship between firms' involvement in the foreign environment and their hedging activities. In addition, their results suggest no differences in risk-management behaviors between large and small firms; they also find that hedging is neither common nor effective, in general, in Malaysian nonfinancial firms. Also, Lily et al. [117] report a high exchange-rate exposure for Malaysian firms, regardless of their size or involvement within the foreign environment. Within the context of the Middle East and the GCC, Solakoglu [81] reports that firm size and the degree of involvement in international activities are significant determinants in lowering exposure. Further, firms that are characterized as net importers or net exporters are more likely to face high and significant levels of exchange-rate exposure. Nimer [82] documents that theories on exchange-rate exposure and hedging are not applicable within the Jordanian environment as Jordanian firms do not hedge as a response to their level of transaction and economic exposures. Besides, Jordanian firms are more aware of their transaction exposure than they are of their economic exposure. Tanha and Dempsey [83] investigate the usage of derivatives in hedging activities by firms in the GCC countries. The results of panel and cross-sectional logistic regressions indicate a focus on foreign-exchange exposure, interest-rate risk, and commodity risk. They also find that the use of hedging instruments (i.e., in their study, only derivatives) is positively influenced by firm size and firm's gearing ratio, but the latter to a lesser degree, and negatively to its tendency toward growth.

This research introduced a new variable in its examination of the transaction-exposure risk-management behaviors of Kuwaiti firms. A firm being a member of a family business group seems to be associated with its level of hedging. The results of multinomial Logit regressions showed significant differences in the level of hedging between individual firms and firms that are members of family-business affiliations, especially at the highest level of hedging (Level 3). This suggests that family-controlled firms are expected to respond positively to their transaction exposure by adopting more innovative financial strategies and hedge at higher levels. These results support the argument that family business groups in Kuwait are huge conglomerate affiliations that dominate different kinds of businesses including merchandising, manufacturing, services, and financial companies, and have access to world financial markets through the financial institutions they own within their groups. These companies also have higher capabilities, potential access to funds, significant expertise, and maintain access to advanced financial systems and solutions when dealing with major kinds of risks. The results, however, contradicted similar studies that examine the family-business-affiliation effect on risk-management practices, such as Allayannis et al. [105] who examine the effect of family affiliation on exchange-rate risk-management practices in East Asian corporations and find that family affiliation is not an important determinant of this behavior in these corporations, but supported the results of Nimer [82], who examines the impact of a firm being a member of a family business affiliation in Jordan and finds that this variable is significantly correlated with these firms' levels of hedging. This could be attributed to the similar nature of the Jordanian and Kuwaiti societies and to the domination of this type of corporate governance within both countries. The results reported by this

research are also consistent with other studies that find family-controlled firms to be more likely to engage in more innovative strategies and practices [69–71].

6.2. Implications and Recommendations for Further Research

This study provides valuable implications for several related parties. First, as the responses to the survey are fairly representative of top Kuwaiti companies, it is reasonable to conclude that the majority of the managers of these firms are not capable of evaluating the degree of transaction exposure their firms face from exchange-rate changes. Therefore, Kuwaiti firms need to arrange and organize special training for their managers in order to increase both their awareness of this issue and how to deal with it. Second, financial institutions that provide risk-management instruments must create programs that educate companies about such instruments and how to use them to mitigate the effects of exchange-rate changes. Finally, audit firms that provide professional consultancy, such as the Big Four, should provide advice to companies' management with regards to evaluating transaction risk and the appropriate available risk-management programs.

In addition, the empirical results of the multinomial regression showed that Kuwaiti companies do not hedge as a response to the magnitude of the transaction exposure they face. This indicates that other factors play a role in Kuwaiti firms' reactions to this risk. This study provides one of these factors, which is a firm being a member of a family business group. Other institutional factors can be examined in further research, and the roles of these factors should be evaluated according to the transaction-exposure risk-management techniques Kuwaiti firms employ, such as regulatory environment variables, corporate-governance variables, cultural variables, and many others. In addition, there is a possibility to conduct a study that covers all GCC countries to compare the hedging instruments that each GCC country uses, factors that influence the level of hedging in each country, and the level that each country reaches in managing their transaction exposure. There is also the possibility of investigating other unexplored factors by conducting in-depth interview surveys with managers and financial managers of Kuwaiti firms.

6.3. Limitations

The questionnaire survey, as a method of collecting data, has well-known limitations as well as benefits. However, within the context of developing countries, the limitations are higher because of the resistance researchers face in having the appropriate person filling out the questionnaire. For example, in our study, first we uploaded the questionnaire online and sent the links via email to those whom we determined to be the best person in each company to provide us with the necessary data, but we received nearly no responses. Therefore, we had to conduct personal meetings with each manager or financial manager in the Kuwaiti companies in our sample and fill the questionnaire surveys ourselves, during these meetings. This was very costly and time-consuming. In addition, most Kuwaiti firms are unlisted; therefore, we had to rely on the information these firms' managers provided, in terms of asset size, percentage of foreign sales to total sales and so on for other financial variables that could have been collected from financial statements if all of these companies had been listed. These situations provide limitations to the analysis methods used.

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Appendix A. The Multicollinearity Test Results (VIF Values)

Table A1. The Results of the Multicollinearity analysis showing the coefficient and VIF for each variable in the study.

Coefficients							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	1.131	0.772		1.465	0.145		
Industr	−0.392	0.390	−0.151	−1.007	0.316	0.249	4.015
size	0.072	0.042	0.147	1.743	0.084	0.784	1.275
Fpurchas	0.134	0.055	0.311	2.444	0.016	0.346	2.894
Fsales	0.128	0.055	0.248	2.345	0.020	0.499	2.003
Fdebt	−0.013	0.056	−0.018	−0.239	0.812	0.942	1.061
Listed	0.127	0.353	0.047	0.361	0.718	0.326	3.067
family	0.684	0.227	0.266	3.008	0.003	0.719	1.392

Appendix B. Binary Logistic Regression

Table A2. The fit of the binary Logistic regression and variables in the model.

Variables in the Equation							
		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 [a]	family	2.188	0.456	23.018	1	0.000	8.914
	Constant	−2.005	0.403	24.810	1	0.000	0.135

[a] Variable(s) entered in step 1: family.

Table A3. The results of the Logistics regression: variables not in the model.

			Score	df	Sig.
Step 1	Variables	Industr	0.068	1	0.795
		size	1.818	1	0.178
		Fpurchas	0.768	1	0.381
		Fsales	1.814	1	0.178
		Fdebt	1.381	1	0.240
	Overall Statistics		10.442	5	0.064

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