Exploratory Scenario Analysis of the VAT effect on the Financial Performance of Supply Chain Companies listed in Kuwait Financial Market

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ABSTRACT

The Gulf Corporation Council (GCC) member states have recently confirmed the introduction of the Value added tax (VAT) formally in the first quarter of 2018 across the six GCC member states. Therefore, the economies and markets of these countries are estimated to be directly influenced by this new tax. This research paper aims at investigating the impact of the Value added tax (VAT) on the Kuwaiti listed supply chain companies' financial performance. Data analysis revealed significant differences in supply Chain Company's financial performance in all of the four projected scenarios used in this research ranging from optimistic to pessimistic. The research concludes with recommendations for related companies and decision makers. The research concludes that the real negative effects of the VAT are only reflected on companies' revenue and not on their net profit across all possible scenarios consistently. This conclusion means that the negative effect of the VAT is going to be passed on to customers rather than baring the negative effects with them.

Keywords: Value Added Tax (VAT), Supply Chain, Scenario Analysis, Exploratory Study, Financial Performance

INTRODUCTION

The taxation system in any country is considered as one of the main income sources for the government to finance and meet its public sector expenses and expenditures whether it was social, economic or even political. The GCC countries seem to be searching for sources of income; therefore, the member states of these countries have confirmed the introduction of a local VAT system to be effective in the first quarter of 2018 at the least. As per Deloitte & Touche report that was published in February 2017, the Value added tax (VAT) rate will start with 5% the first year in Kuwait and the other GCC countries.

The report added "This is significantly lower than The Organization for Economic Co-operation and Development (OECD) average VAT rate of approximately 19%". VAT is known as an indirect tax that is applied on the consumption of most goods and services. Price Waterhouse Coopers (PWC) report (January 2017) indicates that the new tax which is the VAT will be imposed on the businesses and companies that are involved and depend on the supply of goods and services as part of their main operations.

Once the VAT taxation system is implemented in Kuwait, it is expected to have direct impact on different areas such as sales through the changes of the pricing system, Human capital (education and training), financial aspects through cash flow and purchases, suppliers and legal procedures. On the other side, different areas could be exempted from the implications of this type of taxes such as the pharmaceutical, education and healthcare sectors in addition to all milk and bread products.

Literature Review

The implication of the VAT in Kuwait and the other GCC countries in the beginning of year 2018 will have a significant impact on the financial performance of the companies that are operating in these countries including Kuwait. No significant research has been done yet on the VAT implications in Kuwait and its estimated effect of the performance of the Kuwaiti companies.

One of the most important measures of company's financial performance is evaluating its profitability. In this paper, the estimated effect of the value added tax (VAT) on the financial performance of the supply chain companies listed in Kuwait Financial Market will be examined.

Kusi (1998) states that many countries of the world depend mainly on taxation for generating required income to meet their financial needs. Adesola (2000) explained the (VAT) value added tax as a consumer tax and is charged before the goods are sold. Also, he mentioned that the value added tax is often defined as the sum of profit and wages.

Tax's main purpose is to enable the public sector to finance its activities to achieve the nation's economic and social objectives. Wealth redistribution to ensure social justice can also be one of its goals. Therefore, taxes can be used as an instrument for achieving both micro and macroeconomic objectives especially in developing countries such as Nigeria, Ola (2001). However, Musgrave and Musgrave (2004) mention that the declining level of the revenue generation coming from the tax in the developing countries makes it difficult to rely on the tax as a tool or an instrument to achieve the economic development.

Brautigam (2008) confirms that a good tax system can help governments in developing countries organize and prioritize their spending, develop and improve democratic accountability in addition to building stable institutions.

Some countries like Netherland, United Kingdom, Canada and the United States have substantially influenced their economic development through tax revenue generated from Value Added Tax, Company Income Tax and Personal Income Tax and have grew through tax revenue (Oluba, 2008).

Nairayan (2003) agrees with the introduction of VAT in Nigeria as an instrument for the balance of payments structuring through zero-rating of exporting goods to encourage exports. Gendron (2005) argues that the value added tax is being favored over income tax as a tax base.

Previous research was conducted on the effect of VAT on the companies financial performance through testing its effect on different financial indicators. Huiha et al. (2009) concluded that the Chinese companies would increase its fixed assets investments due to the Value added tax. Huihua et al. (2009) also concluded that the transformation of value added tax would lead to the increase of fixed assets investment by considering only the perspective of production inputs. Pfister (2009) believes that the tax provides a stable flow of revenue and makes it easier for financing the development projects.

In some African countries, natural resources generates the significant portion of tax revenue such as income from production sharing corporate income tax on mining and oil companies, Pfister (2009). The researcher adds that the tax sources are the most reliable sources of government income because of their certainty and flexibility characteristics.

A study was conducted by Ironkwe and Peter (2015) found negative relationship between the profitability and the VAT implication. Another research proved that there is a positive relationship was found when Varedi and Ebrahimi (2015) investigated the relationship between VAT and both profitability and liquidity indicators.

Research Methodology and Data Analysis

This research paper aims at investigating the impact of the Value added tax (VAT) on the listed Kuwaiti supply chain companies' net profit and revenue performance. These companies are represented through the six sectors of Consumer Goods, Consumer Services, Industrials Companies, Technology Companies, Banks and Basic Materials Companies in Kuwait. In order to explore the effect of VAT on the above mentioned companies, four possible scenarios were constructed according to the level of sales drop expected as a function of VAT introduction. The first scenario was the very optimistic one as it predicted a sales drop of only 3%, whereas the second less optimistic scenario reflected a drop of 6% in sales because of VAT introduction. The third scenario assumed a pessimistic drop in sales up to 9% whereas the most pessimistic fourth scenario projected a drop that reached 12% in sales due to the effect of VAT.

Analysis of Scenario One (Most Optimistic)

This scenario is the most optimistic one as it assumes a post VAT decrease in sales of 3% only for the investigated supply chain companies listed in Kuwait Financial Market. A paired sample T test is used to examine whether we have a significant difference between post and pre VAT net profit and revenue figures for this scenario. Since the results indicate that the significance value for the change in net profit is higher than 0.05, then we conclude that the average increase of 25.0583 million Kuwaiti Dinars cannot be attributed to the effect of VAT. However, the opposite is true for Revenue increase of 9.4794 Kuwaiti Dinars since the significance value for this change is less than 0.05. Therefore, we can conclude that the average increase of 9.4794 Kuwaiti Dinars in revenue is attributed to the effect of VAT introduction as shown in Table1.

ANOVA analysis of post VAT net profit and revenue figures for the investigated companies in scenario one is used to determine any significant differences between sectors. For the net profit figures, the Levene's test for equality of variance indicates that the variance between the investigated sectors are all equal since the significance level of F is higher than 0.050 as table 1.2 shows.

Since equal variance of sectors is assumed then the Bonferroni ANOVA test is used to investigate the existence of any significant differences between sectors regarding the post VAT net profits of companies in each sector. The results revealed that there are no significant differences across sectors in its post VAT net profit means as Table 1.3 indicates.

In reference to the ANOVA test for revenue figures, the Levene's test for equality of variance indicates that the variance between the investigated sectors are all equal since the significance level of F is higher than 0.050 as table 1.4 shows.

Since equal variance of sectors is assumed then the Bonferroni ANOVA test is used to investigate the existence of any significant differences between sectors regarding the post VAT revenue of companies in each sector. The results revealed that there are no significant differences across sectors in its post VAT revenue means as Table 1.5 indicates.

Analysis of Scenario Two (Optimistic)

This scenario is also an optimistic one (but less than the previous scenario) as it assumes a post VAT decrease of 6% only in sales for the investigated supply chain companies listed in Kuwait Financial Market. The paired sample T test results indicate that the significance value for the change in net profit is higher than 0.05, which leads to the conclusion that the average increase of 23.30980 million Kuwaiti Dinars cannot be attributed to the effect of VAT. However, the opposite is true for Revenue increase of 3.4481 Kuwaiti Dinars since the significance value for this change is less than 0.05. Therefore, we can conclude that the average increase of 3.4481 Kuwaiti Dinars in revenue is not due to chance variation, and can be attributed to the effect of VAT introduction as Table 2 indicates.

ANOVA analysis of post VAT net profit and revenue figures for the investigated companies in scenario two is used to determine any significant differences between sectors. For the net profit figures, the Levene's test for equality of variance indicates that the variance between the investigated sectors are all equal since the significance level of F is higher than 0.050 as table 2.2 shows.

Since equal variance of sectors is assumed then the Bonferroni ANOVA test is used to investigate the existence of any significant differences between sectors regarding the post VAT net profits of companies in each sector. The results revealed that there are no significant differences across sectors in its post VAT net profit means as Table 2.3 indicates.

In reference to the ANOVA test for revenue figures, the Levene's test for equality of variance indicates that the variance between the investigated sectors are all equal since the significance level of F is higher than 0.050 as table 2.4 shows.

Table 1: Paired sample T test for scenario one

Paired Samples Test

		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	Post_Revenues_3_decr - Pre_Revenues	9.4794734	15.1194775	1.9519162	5.5736982	13.3852486	4.856	59	.000
Pair 2	Post_Net_profit - Pre_Net_Profit	25.0583839	146.5408220	18.9183388	-12.7971245	62.9138924	1.325	59	.190

Table 1.2: Levene's test for equality of variance for post VAT net profit in scenario one

ANOVA

Post_Net_profit

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	199271.702	5	39854.340	1.286	.283
Within Groups	1673167.771	54	30984.588		
Total	1872439.474	59			

Table 1.3: Bonferroni ANOVA test for post VAT net profit in scenario one

Multiple Comparisons

Post_Net_profit
Bonferroni

(I) Sector	(J) Sector	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	-94.7851055	104.1374377	1.000	-414.633041	225.062830
	3	3.7402219	93.8860009	1.000	-284.621430	292.101874
	4	23.7925176	152.4415995	1.000	-444.416917	492.001953
	5	-132.0322378	102.7761054	1.000	-447.698974	183.634499
	6	.2372112	124.4680448	1.000	-382.054192	382.528614
2	1	94.7851055	104.1374377	1.000	-225.062830	414.633041
	3	98.5253274	64.5514749	1.000	-99.738202	296.788857
	4	118.5776231	136.3479117	1.000	-300.201627	537.356873
	5	-37.2471323	76.9105948	1.000	-273.470488	198.976223
	6	95.0223168	104.1374377	1.000	-224.825618	414.870252
3	1	-3.7402219	93.8860009	1.000	-292.101874	284.621430
	2	-98.5253274	64.5514749	1.000	-296.788857	99.738202
	4	20.0522957	128.6884931	1.000	-375.201800	415.306392
	5	-135.7724597	62.3314916	.507	-327.217528	55.672609
	6	-3.5030106	93.8860009	1.000	-291.864662	284.858641
4	1	-23.7925176	152.4415995	1.000	-492.001953	444.416917
	2	-118.5776231	136.3479117	1.000	-537.356873	300.201627
	3	-20.0522957	128.6884931	1.000	-415.306392	375.201800
	5	-155.8247554	135.3110304	1.000	-571.419326	259.769815
	6	-23.5553064	152.4415995	1.000	-491.764741	444.654129
5	1	132.0322378	102.7761054	1.000	-183.634499	447.698974
	2	37.2471323	76.9105948	1.000	-198.976223	273.470488
	3	135.7724597	62.3314916	.507	-55.672609	327.217528
	4	155.8247554	135.3110304	1.000	-259.769815	571.419326
	6	132.2694490	102.7761054	1.000	-183.397288	447.936186
6	1	-.2372112	124.4680448	1.000	-382.528614	382.054192
	2	-95.0223168	104.1374377	1.000	-414.870252	224.825618
	3	3.5030106	93.8860009	1.000	-284.858641	291.864662
	4	23.5553064	152.4415995	1.000	-444.654129	491.764741
	5	-132.2694490	102.7761054	1.000	-447.936186	183.397288

Table 1.4: Levene's test for equality of variance for post VAT revenue in scenario one

ANOVA

Post_Revenues_3_decr

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	758619.056	5	151723.811	1.655	.161
Within Groups	4949607.923	54	91659.406		
Total	5708226.978	59			

Since equal variance of sectors is assumed then the Bonferroni ANOVA test is used to investigate the existence of any significant differences between sectors regarding the post VAT revenue of companies in each sector. The results revealed that there are no significant differences across sectors in its post VAT revenue means as Table 2.5 indicates.

Analysis of Scenario Three (Pessimistic)

This scenario is a pessimistic one as it assumes a post VAT decrease of 9% in sales for the investigated supply chain companies listed in Kuwait Financial Market. The paired sample T test results indicate that the significance value for the change in net profit is higher than 0.05, which leads to the conclusion that the average increase of 21.56127 million Kuwaiti Dinars cannot be attributed to the effect of VAT. However, the opposite is true for Revenue decrease of 2.58350 Kuwaiti Dinars since the significance value for this change is less than 0.05. Therefore, we can conclude that the average decrease of 2.58350 Kuwaiti Dinars in revenue is not due to chance variation, and can be attributed to the effect of VAT introduction as Table 3 indicates.

ANOVA analysis of post VAT net profit and revenue figures for the investigated companies in scenario three is used to determine any significant differences between sectors. For the net profit figures, the Levene's test for equality of variance indicates that the variance between the investigated sectors are all equal since the significance level of F is higher than 0.050 as table 3.2 shows.

Table 1.5: Bonferroni ANOVA test for post VAT revenue in scenario one

Multiple Comparisons

Post_Revenues_3_decr
Bonferroni

(I) Sector	(J) Sector	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	256.8623418	179.1111166	1.000	-293.259902	806.984585
	3	144.3145057	161.4791648	1.000	-351.652925	640.281937
	4	320.1581561	262.1918276	1.000	-485.138350	1125.454662
	5	-54.0628454	176.7696941	1.000	-596.993639	488.867948
	6	270.7647152	214.0787308	1.000	-386.757129	928.286559
2	1	-256.8623418	179.1111166	1.000	-806.984585	293.259902
	3	-112.5478361	111.0252664	1.000	-453.551062	228.455390
	4	63.2958143	234.5114999	1.000	-656.983278	783.574906
	5	-310.9251872	132.2823264	.336	-717.217390	95.367016
	6	13.9023734	179.1111166	1.000	-536.219870	564.024617
3	1	-144.3145057	161.4791648	1.000	-640.281937	351.652925
	2	112.5478361	111.0252664	1.000	-228.455390	453.551062
	4	175.8436503	221.3376881	1.000	-503.973369	855.660670
	5	-198.3773511	107.2070074	1.000	-527.653169	130.898467
	6	126.4502095	161.4791648	1.000	-369.517222	622.417641
4	1	-320.1581561	262.1918276	1.000	-1125.454662	485.138350
	2	-63.2958143	234.5114999	1.000	-783.574906	656.983278
	3	-175.8436503	221.3376881	1.000	-855.660670	503.973369
	5	-374.2210014	232.7281166	1.000	-1089.022606	340.580603
	6	-49.3934408	262.1918276	1.000	-854.689947	755.903065
5	1	54.0628454	176.7696941	1.000	-488.867948	596.993639
	2	310.9251872	132.2823264	.336	-95.367016	717.217390
	3	198.3773511	107.2070074	1.000	-130.898467	527.653169
	4	374.2210014	232.7281166	1.000	-340.580603	1089.022606
	6	324.8275606	176.7696941	1.000	-218.103233	867.758354
6	1	-270.7647152	214.0787308	1.000	-928.286559	386.757129
	2	-13.9023734	179.1111166	1.000	-564.024617	536.219870
	3	-126.4502095	161.4791648	1.000	-622.417641	369.517222
	4	49.3934408	262.1918276	1.000	-755.903065	854.689947
	5	-324.8275606	176.7696941	1.000	-867.758354	218.103233

Table 2: Paired sample T test for scenario two

Paired Samples Test

		Paired Differences							
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	Post_Revenues_6_decr - Pre_Revenues	3.4481667	5.4993718	.7099658	2.0275283	4.8688050	4.857	59	.000
Pair 2	Post_Net_profit - Pre_Net_Profit	23.3098298	141.6914920	18.2922930	-13.2929638	59.9126235	1.274	59	.208

Table 2.2: Levene's test for equality of variance for post VAT net profit in scenario two

ANOVA

Post_Net_profit

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	187136.222	5	37427.244	1.286	.283
Within Groups	1571273.309	54	29097.654		
Total	1758409.531	59			

Table 2.3: Bonferroni ANOVA test for post VAT net profit in scenario two

Multiple Comparisons

Post_Net_profit
Bonferroni

(I) Sector	(J) Sector	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	-91.8536095	100.9166926	1.000	-401.809342	218.102123
	3	3.6245472	90.9823106	1.000	-275.818704	283.067799
	4	23.0566675	147.7269116	1.000	-430.672065	476.785400
	5	-127.9487598	99.5974635	1.000	-433.852609	177.955090
	6	.2298775	120.6185182	1.000	-370.238082	370.697837
2	1	91.8536095	100.9166926	1.000	-218.102123	401.809342
	3	95.4781567	62.5550379	1.000	-96.653512	287.609826
	4	114.9102770	132.1309665	1.000	-290.917039	520.737593
	5	-36.0951503	74.5319170	1.000	-265.012630	192.822329
	6	92.0834870	100.9166926	1.000	-217.872245	402.039219
3	1	-3.6245472	90.9823106	1.000	-283.067799	275.818704
	2	-95.4781567	62.5550379	1.000	-287.609826	96.653512
	4	19.4321203	124.7084372	1.000	-363.597624	402.461865
	5	-131.5733069	60.4037138	.507	-317.097395	53.950781
	6	-3.3946697	90.9823106	1.000	-282.837921	276.048582
4	1	-23.0566675	147.7269116	1.000	-476.785400	430.672065
	2	-114.9102770	132.1309665	1.000	-520.737593	290.917039
	3	-19.4321203	124.7084372	1.000	-402.461865	363.597624
	5	-151.0054273	131.1261537	1.000	-553.746559	251.735705
	6	-22.8267900	147.7269116	1.000	-476.555523	430.901943
5	1	127.9487598	99.5974635	1.000	-177.955090	433.852609
	2	36.0951503	74.5319170	1.000	-192.822329	265.012630
	3	131.5733069	60.4037138	.507	-53.950781	317.097395
	4	151.0054273	131.1261537	1.000	-251.735705	553.746559
	6	128.1786373	99.5974635	1.000	-177.725212	434.082487
6	1	-.2298775	120.6185182	1.000	-370.697837	370.238082
	2	-92.0834870	100.9166926	1.000	-402.039219	217.872245
	3	3.3946697	90.9823106	1.000	-276.048582	282.837921
	4	22.8267900	147.7269116	1.000	-430.901943	476.555523
	5	-128.1786373	99.5974635	1.000	-434.082487	177.725212

Table 2.4: Levene's test for equality of variance for post VAT revenue in scenario two

ANOVA

Post_Revenues_6_decr

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	712414.607	5	142482.921	1.655	.161
Within Groups	4648181.735	54	86077.440		
Total	5360596.342	59			

Since equal variance of sectors is assumed then the Bonferroni ANOVA test is used to investigate the existence of any significant differences between sectors regarding the post VAT net profits of companies in each sector. The results revealed that there are no significant differences across sectors in its post VAT net profit means as Table 3.3 indicates.

In reference to the ANOVA test for revenue figures, the Levene's test for equality of variance indicates that the variance between the investigated sectors are all equal since the significance level of F is higher than 0.050 as table 3.4 shows.

Table 2.5: Bonferroni ANOVA test for post VAT revenue in scenario two

Multiple Comparisons

Post_Revenues_6_decr
Bonferroni

(I) Sector	(J) Sector	Mean Difference (I–J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	248.9185000	173.5716101	1.000	-284.189692	782.026692
	3	139.8530172	156.4849752	1.000	-340.775250	620.481284
	4	310.2575000	254.0828205	1.000	-470.132985	1090.647985
	5	-52.3888636	171.3026026	1.000	-578.528021	473.750294
	6	262.3900000	207.4577542	1.000	-374.796163	899.576163
2	1	-248.9185000	173.5716101	1.000	-782.026692	284.189692
	3	-109.0654828	107.5915030	1.000	-439.522241	221.391276
	4	61.3390000	227.2585834	1.000	-636.663470	759.341470
	5	-301.3073636	128.1911297	.337	-695.033857	92.419130
	6	13.4715000	173.5716101	1.000	-519.636692	546.579692
3	1	-139.8530172	156.4849752	1.000	-620.481284	340.775250
	2	109.0654828	107.5915030	1.000	-221.391276	439.522241
	4	170.4044828	214.4922081	1.000	-488.387316	829.196282
	5	-192.2418809	103.8913343	1.000	-511.333934	126.850172
	6	122.5369828	156.4849752	1.000	-358.091284	603.165250
4	1	-310.2575000	254.0828205	1.000	-1090.647985	470.132985
	2	-61.3390000	227.2585834	1.000	-759.341470	636.663470
	3	-170.4044828	214.4922081	1.000	-829.196282	488.387316
	5	-362.6463636	225.5303562	1.000	-1055.340753	330.048025
	6	-47.8675000	254.0828205	1.000	-828.257985	732.522985
5	1	52.3888636	171.3026026	1.000	-473.750294	578.528021
	2	301.3073636	128.1911297	.337	-92.419130	695.033857
	3	192.2418809	103.8913343	1.000	-126.850172	511.333934
	4	362.6463636	225.5303562	1.000	-330.048025	1055.340753
	6	314.7788636	171.3026026	1.000	-211.360294	840.918021
6	1	-262.3900000	207.4577542	1.000	-899.576163	374.796163
	2	-13.4715000	173.5716101	1.000	-546.579692	519.636692
	3	-122.5369828	156.4849752	1.000	-603.165250	358.091284
	4	47.8675000	254.0828205	1.000	-732.522985	828.257985
	5	-314.7788636	171.3026026	1.000	-840.918021	211.360294

Table 3: Paired sample T test for scenario three

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Post_Revenues_9_decr - Pre_Revenues	-2.5835000	4.1210894	.5320303	-3.6480903	-1.5189097	-4.856	59	.000
Pair 2	Post_Net_profit - Pre_Net_Profit	21.5612755	136.8921395	17.6726992	-13.8017139	56.9242649	1.220	59	.227

Table 3.2: Levene's test for equality of variance for post VAT net profit in scenario three

ANOVA

Post_Net_profit

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	175381.966	5	35076.393	1.286	.283
Within Groups	1472579.712	54	27269.995		
Total	1647961.678	59			

Table 3.3: Bonferroni ANOVA test for post VAT net profit in scenario three

Multiple Comparisons

Post_Net_profit
Bonferroni

(I) Sector	(J) Sector	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	-88.9221125	97.6959474	1.000	-388.985642	211.141417
	3	3.5088677	88.0786201	1.000	-267.015983	274.033718
	4	22.3208125	143.0122233	1.000	-416.927217	461.568842
	5	-123.8652911	96.4188213	1.000	-420.006252	172.275670
	6	.2225400	116.7689913	1.000	-358.421975	358.867055
2	1	88.9221125	97.6959474	1.000	-211.141417	388.985642
	3	92.4309802	60.5586006	1.000	-93.568827	278.430788
	4	111.2429250	127.9140211	1.000	-281.632456	504.118306
	5	-34.9431786	72.1532390	1.000	-256.554782	186.668424
	6	89.1446525	97.6959474	1.000	-210.918877	389.208182
3	1	-3.5088677	88.0786201	1.000	-274.033718	267.015983
	2	-92.4309802	60.5586006	1.000	-278.430788	93.568827
	4	18.8119448	120.7283810	1.000	-351.993447	389.617337
	5	-127.3741588	58.4759358	.507	-306.977266	52.228948
	6	-3.2863277	88.0786201	1.000	-273.811178	267.238523
4	1	-22.3208125	143.0122233	1.000	-461.568842	416.927217
	2	-111.2429250	127.9140211	1.000	-504.118306	281.632456
	3	-18.8119448	120.7283810	1.000	-389.617337	351.993447
	5	-146.1861036	126.9412768	1.000	-536.073796	243.701589
	6	-22.0982725	143.0122233	1.000	-461.346302	417.149757
5	1	123.8652911	96.4188213	1.000	-172.275670	420.006252
	2	34.9431786	72.1532390	1.000	-186.668424	256.554782
	3	127.3741588	58.4759358	.507	-52.228948	306.977266
	4	146.1861036	126.9412768	1.000	-243.701589	536.073796
	6	124.0878311	96.4188213	1.000	-172.053130	420.228792
6	1	-.2225400	116.7689913	1.000	-358.867055	358.421975
	2	-89.1446525	97.6959474	1.000	-389.208182	210.918877
	3	3.2863277	88.0786201	1.000	-267.238523	273.811178
	4	22.0982725	143.0122233	1.000	-417.149757	461.346302
	5	-124.0878311	96.4188213	1.000	-420.228792	172.053130

Since equal variance of isectors is assumed then the Bonferroni ANOVA test is used to investigate the existence of any significant differences between sectors regarding the post VAT revenue of companies in each sector. The results revealed that there are no significant differences across sectors in its post VAT revenue means as Table 3.5 indicates.

Table 3.4, Levene's test for equality of variance for post VAT revenue in scenario three

ANOVA

Post_Revenues_9_decr

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	667669.753	5	133533.951	1.655	.161
Within Groups	4356204.278	54	80670.450		
Total	5023874.030	59			

Table 3.5: Bonferroni ANOVA test for post VAT revenue in scenario three

Multiple Comparisons

Post_Revenues_9_decr
Bonferroni

(I) Sector	(J) Sector	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	240.9720000	168.0317153	1.000	-275.120948	757.064948
	3	135.3862069	151.4904355	1.000	-329.901821	600.674235
	4	300.3550000	245.9732449	1.000	-455.127718	1055.837718
	5	-50.7200000	165.8351279	1.000	-560.066345	458.626345
	6	254.0150000	200.8363134	1.000	-362.834056	870.864056
2	1	-240.9720000	168.0317153	1.000	-757.064948	275.120948
	3	-105.5857931	104.1574990	1.000	-425.495345	214.323759
	4	59.3830000	220.0051585	1.000	-616.341286	735.107286
	5	-291.6920000	124.0996462	.336	-672.851903	89.467903
	6	13.0430000	168.0317153	1.000	-503.049948	529.135948
3	1	-135.3862069	151.4904355	1.000	-600.674235	329.901821
	2	105.5857931	104.1574990	1.000	-214.323759	425.495345
	4	164.9687931	207.6462483	1.000	-472.796311	802.733897
	5	-186.1062069	100.5754288	1.000	-495.013781	122.801367
	6	118.6287931	151.4904355	1.000	-346.659235	583.916821
4	1	-300.3550000	245.9732449	1.000	-1055.837718	455.127718
	2	-59.3830000	220.0051585	1.000	-735.107286	616.341286
	3	-164.9687931	207.6462483	1.000	-802.733897	472.796311
	5	-351.0750000	218.3320912	1.000	-1021.660623	319.510623
	6	-46.3400000	245.9732449	1.000	-801.822718	709.142718
5	1	50.7200000	165.8351279	1.000	-458.626345	560.066345
	2	291.6920000	124.0996462	.336	-89.467903	672.851903
	3	186.1062069	100.5754288	1.000	-122.801367	495.013781
	4	351.0750000	218.3320912	1.000	-319.510623	1021.660623
	6	304.7350000	165.8351279	1.000	-204.611345	814.081345
6	1	-254.0150000	200.8363134	1.000	-870.864056	362.834056
	2	-13.0430000	168.0317153	1.000	-529.135948	503.049948
	3	-118.6287931	151.4904355	1.000	-583.916821	346.659235
	4	46.3400000	245.9732449	1.000	-709.142718	801.822718
	5	-304.7350000	165.8351279	1.000	-814.081345	204.611345

Analysis of Scenario Four (Very Pessimistic)

This scenario is a very pessimistic one as it assumes a post VAT decrease of 12% in sales for the investigated supply chain companies listed in Kuwait Financial Market. The paired sample T test results indicate that the significance value for the change in net profit is higher than 0.05, which leads to the conclusion that the average increase of 19.81272 million Kuwaiti Dinars cannot be attributed to the effect of VAT. However, the opposite is true for Revenue decrease of 8.61483 Kuwaiti Dinars since the significance value for this change is less than 0.05. Therefore, we can conclude that the average decrease of 8.61483 Kuwaiti Dinars in revenue is not due to chance variation, and can be attributed to the effect of VAT introduction as Table 4 indicates.

ANOVA analysis of post VAT net profit and revenue figures for the investigated companies in scenario four is used to determine any significant differences between sectors. For the net profit figures, the Levene's test for equality of variance indicates that the variance between the investigated sectors are all equal since the significance level of F is higher than 0.050 as table 4.2 shows.

Since equal variance of sectors is assumed then the Bonferroni ANOVA test is used to investigate the existence of any significant differences between sectors regarding the post VAT net profits of companies in each sector. The results revealed that there are no significant differences across sectors in its post VAT net profit means as Table 4.3 indicates.

In reference to the ANOVA test for revenue figures, the Levene's test for equality of variance indicates that the variance between the investigated sectors are all equal since the significance level of F is higher than 0.050 as table 4.4 shows.

Since equal variance of sectors is assumed then the Bonferroni ANOVA test is used to investigate the existence of any significant differences between sectors regarding the post VAT revenue of companies in each sector. The results revealed that there are no significant differences across sectors in its post VAT revenue means as Table 4.5 indicates.

CONCLUSION

The aim of this research was to explore the effect of the VAT introduction on the net profit and revenue of the supply chain companies listed in Kuwait Financial Market. According to the analysis of four possible scenarios ranging from the very optimistic one (where sales drop for only 3%) to the very pessimistic one (where sales drop around 12%), the real negative effects of the VAT is only reflected on companies revenue and not on their net profit across all possible scenarios consistently. This conclusion means that the negative effect of the VAT is going to be passed on to customers rather than baring the negative effects with them. Especially that the net profit of the supply chain companies is going to stay healthy and well away from the effect of the VAT introduction across all sectors.

The negative effects of VAT are not going to cause a real decrease in the supply chain companies' revenue until sales drop 9% or lower as a result of its introduction. Therefore, only pessimistic scenarios will witness a real drop in sales revenue in the market. However, ANOVA tests for all possible scenarios revealed that the grim effect of VAT introduction is expected to take roughly the same severity across all sectors of the supply chain companies including consumer goods and services, industrials companies, Technology companies, Banks and Basic Materials companies in Kuwait.

Future Research Recommendations

The current study is considered to be a first step to explore and predict the effect of the VAT introduction on companies in the GCC. This study is confined by its limited data availability and lack of previous research in the Arabian Gulf Region and the

Table 4: Paired sample T test for scenario four

Paired Samples Test

		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	Post_Revenues_12_decr - Pre_Revenues	-8.6148333	13.7406027	1.7739042	-12.1644074	-5.0652593	-4.856	59	.000
Pair 2	Post_Net_profit - Pre_Net_Profit	19.8127207	132.1482131	17.0602609	-14.3247826	53.9502240	1.161	59	.250

Table 4.2: Levene's test for equality of variance for post VAT net profit in scenario four.

ANOVA

Post_Net_profit

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	164008.933	5	32801.787	1.286	.283
Within Groups	1377086.978	54	25501.611		
Total	1541095.911	59			

Table 4.3: Bonferroni ANOVA test for post VAT net profit in scenario four

Multiple Comparisons

Post_Net_profit
Bonferroni

(I) Sector	(J) Sector	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	-85.9906150	94.4752018	1.000	-376.161939	204.180709
	3	3.3931924	85.1749292	1.000	-258.213256	264.999641
	4	21.5849650	138.2975344	1.000	-403.182360	446.352290
	5	-119.7818191	93.2401787	1.000	-406.159891	166.596253
	6	.2152025	112.9194640	1.000	-346.605866	347.036271
2	1	85.9906150	94.4752018	1.000	-204.180709	376.161939
	3	89.3838074	58.5621632	1.000	-90.484138	269.251753
	4	107.5755800	123.6970752	1.000	-272.347865	487.499025
	5	-33.7912041	69.7745607	1.000	-248.096930	180.514522
	6	86.2058175	94.4752018	1.000	-203.965507	376.377142
3	1	-3.3931924	85.1749292	1.000	-264.999641	258.213256
	2	-89.3838074	58.5621632	1.000	-269.251753	90.484138
	4	18.1917726	116.7483244	1.000	-340.389265	376.772811
	5	-123.1750115	56.5481576	.507	-296.857136	50.507113
	6	-3.1779899	85.1749292	1.000	-264.784439	258.428459
4	1	-21.5849650	138.2975344	1.000	-446.352290	403.182360
	2	-107.5755800	123.6970752	1.000	-487.499025	272.347865
	3	-18.1917726	116.7483244	1.000	-376.772811	340.389265
	5	-141.3667841	122.7563994	1.000	-518.401036	235.667468
	6	-21.3697625	138.2975344	1.000	-446.137088	403.397563
5	1	119.7818191	93.2401787	1.000	-166.596253	406.159891
	2	33.7912041	69.7745607	1.000	-180.514522	248.096930
	3	123.1750115	56.5481576	.507	-50.507113	296.857136
	4	141.3667841	122.7563994	1.000	-235.667468	518.401036
	6	119.9970216	93.2401787	1.000	-166.381051	406.375094
6	1	-.2152025	112.9194640	1.000	-347.036271	346.605866
	2	-86.2058175	94.4752018	1.000	-376.377142	203.965507
	3	3.1779899	85.1749292	1.000	-258.428459	264.784439
	4	21.3697625	138.2975344	1.000	-403.397563	446.137088
	5	-119.9970216	93.2401787	1.000	-406.375094	166.381051

Table 4.4: Levene's test for equality of variance for post VAT revenue in scenario four

ANOVA

Post_Revenues_12_decr

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	624379.444	5	124875.889	1.655	.161
Within Groups	4073725.041	54	75439.353		
Total	4698104.485	59			

Arab World in general. Therefore, it is highly recommended that post VAT introduction research in conducted across all market sectors and in all GCC countries in order to verify current predictions and find ways to further reduce the negative effect of VAT on both companies and consumers across the GCC markets.

Table 4.5: Bonferroni ANOVA test for post VAT revenue in scenario three

Multiple Comparisons

Post_Revenues_12_decr
Bonferroni

(I) Sector	(J) Sector	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	233.0280000	162.4923796	1.000	-266.051421	732.107421
	3	130.9222414	146.4963997	1.000	-319.027095	580.871578
	4	290.4550000	237.8644876	1.000	-440.122465	1021.032465
	5	-49.0495455	160.3682048	1.000	-541.604772	443.505681
	6	245.6400000	194.2155408	1.000	-350.874002	842.154002
2	1	-233.0280000	162.4923796	1.000	-732.107421	266.051421
	3	-102.1057586	100.7238415	1.000	-411.469168	207.257651
	4	57.4270000	212.7524655	1.000	-596.021350	710.875350
	5	-282.0775455	120.0085756	.336	-650.672126	86.517035
	6	12.6120000	162.4923796	1.000	-486.467421	511.691421
3	1	-130.9222414	146.4963997	1.000	-580.871578	319.027095
	2	102.1057586	100.7238415	1.000	-207.257651	411.469168
	4	159.5327586	200.8009793	1.000	-457.207773	776.273290
	5	-179.9717868	97.2598579	1.000	-478.695910	118.752336
	6	114.7177586	146.4963997	1.000	-335.231578	564.667095
4	1	-290.4550000	237.8644876	1.000	-1021.032465	440.122465
	2	-57.4270000	212.7524655	1.000	-710.875350	596.021350
	3	-159.5327586	200.8009793	1.000	-776.273290	457.207773
	5	-339.5045455	211.1345525	1.000	-987.983634	308.974543
	6	-44.8150000	237.8644876	1.000	-775.392465	685.762465
5	1	49.0495455	160.3682048	1.000	-443.505681	541.604772
	2	282.0775455	120.0085756	.336	-86.517035	650.672126
	3	179.9717868	97.2598579	1.000	-118.752336	478.695910
	4	339.5045455	211.1345525	1.000	-308.974543	987.983634
	6	294.6895455	160.3682048	1.000	-197.865681	787.244772
6	1	-245.6400000	194.2155408	1.000	-842.154002	350.874002
	2	-12.6120000	162.4923796	1.000	-511.691421	486.467421
	3	-114.7177586	146.4963997	1.000	-564.667095	335.231578
	4	44.8150000	237.8644876	1.000	-685.762465	775.392465
	5	-294.6895455	160.3682048	1.000	-787.244772	197.865681

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