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"Exchange Risk Issues & Challenges Confronted Across Diamond & Jewelry Industry" – A Study on EXTERNAL Mitigation Strategies

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ABSTRACT

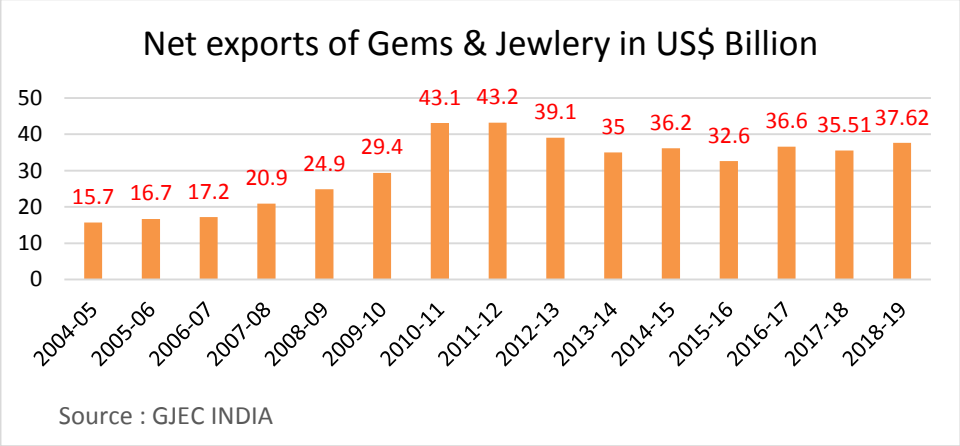
Diamond Exporting & Jewelry Making Industry is largely exposed to foreign exchange risk. These industries are having large cash outflow due to imports of gems, precious metals & other inputs needed for rendering services to the customers at the same time, this industry earns foreign exchange from exporting them. Major chunk of transactions is denominated in foreign currency. Substantial amount of, nearly 75% of inflow & out flow which occurs in foreign currency, these companies need to design appropriate risk management techniques to mitigate the foreign exchange risk. Appreciation & depreciation of home currency leads to losses for the company. This paper examines the currency risk management practices of top ten listed companies chosen under Diamond Exporting & Jewelry Industry. The companies were selected based on exchange exposure & MV of the o/s shares. The period selected for the study is post introduction of currency derivative i.e FY 2009 to 2017.

Introduction

Gems and Jewelry Industry in India

With the contribution of 6 to7% to country's GDP & 15% to merchandise exports, Gems and Jewelry sector is pivotal role in the Indian economy. 4.64 million workers have been employed in this sector. India's gems and jewelry exports stood at US$ 37 billion as on FY 2019. During the same period, exports of cut and polished diamonds stood at US$ 24.52 billion, thereby contributing about 76.96 per cent of the total gems and jewelry exports in value terms. It is one of the wildest growing sector backed by tremendously focused on exports & highly skilled labor force. The gems and jewelry market in India is home to more than 500,000 players,

with the majority being small players. The principal importers of Indian jewelry are UAE, US, Russia, Singapore, Hong Kong, Latin America and China.



Review of Literature:

Previous studies undertaken is as follows:

Kim,SungjaeF and Chance, Don M., (2018): This paper examines policies & practice of 101 large non-financial corporations in terms of exchange risk management. Results of the same are, there is a deviation in policy & actual practice. Majority of the firms were involved speculation rather than hedging. Market prices are major force in derivative usage.

Amat, Christophe & Michalski, Tomasz & Stoltz, Gilles, 2018: this paper examines forecasting of exchange rate. By means of machine learning, simple exchange rate models (PPP or UIRP) or Taylor-rule based models derived to exchange rate forecasts for major currencies over the floating period era 1973–2014 at a 1-month forecast horizon which beat the no-change forecast.

Michel Albouy and Philippe Dupuy (2017): author opines that selective hedging practices has been taken place among the French non-financial firms. The results show that French corporations are hedging more systematically than their foreign counterparts. Together, we observe that highly indebted and smaller firms tend to be more selective. We relate our findings to cultural differences and communication issues.

Wilford Mawanza(2016): opine that the One of the important tasks for tourism and hospitality in the Sub-Sahara Africa (SSA) region is exchange rate volatility and regime choices particularly exchange risk management for the international trade. The study done through Zimbabwe 28 tour operators reveals that the internal techniques, such as and mixed-method approaches, of receiving the currency and use it in the country of origin to import materials, matching receipts and payments in foreign currency, risk shifting though it come with low volumes and compromised repeat business.

Research Gap

It is evident from earlier review of literature, not much research has been taken particularly external foreign exchange risk management practices followed by jewellery and diamond industry. This particular industry does the entreport

transaction, major chunk of the transaction involved is foreign currency, in particular USD, its volatility management is the utmost concern in this industry. This research paved a way to undergo the undermentioned study.

Statement of the Problem

Foreign exchange risk management practices of Diamond Exporting & Jewelry Making Industry:

Diamond Exporting & Jewelry Making Industry is largely exposed to foreign exchange risk. These industries are having large cash outflow due to imports of gems, precious metals & other inputs needed for rendering services to the customers at the same time, this industry earns foreign exchange from exporting them. Major chunk of transactions is denominated in foreign currency. Substantial amount of, nearly 75% of inflow & out flow which occurs in foreign currency, these companies need to design appropriate risk management techniques to mitigate the foreign exchange risk.

Objectives of the Study:

Following objectives are set to study for Gems & Jewellery Industry of India to examine their foreign exchange operation.

1. **To study the foreign currency transaction exposure of the companies.**
2. **To evaluate the effect of exchange exposure on the exchange difference (profit or loss).**
3. To check the diverse currencies tangled in the global acts of corporations.
4. To examine the numerous currency derivative tools has been castoff for hedging currency risk.
5. To examine the impact of using the currency derivatives on minimizing the exchange risk.

2.5 Hypotheses:

Based on the objectives of the study the following hypotheses are set.

1) **H_{01}**: There is no significant impact of Foreign exchange exposure on exchange difference
2) **H_{02}:** There is no significant impact of factors on the choice of currency derivatives
3) **H_{03}**: There is no significant impact of currency derivatives and multiple currencies invoicing on abating foreign exchange difference.

Research Methodology:

The study is Analytical in nature, It emphases on analysing the causes of foreign exchange losses encountered in Gems & Jewllery Industry of India & derivative tools which can be used to minimise the exchange losses. The study follows stratified systematic sampling technique to collect the data. The data pertaining to international operations such as exchange earnings and outflow, exchange difference, currencies used, derivatives employed is collected from annual reports of 8 companies which represents Gems & Jewllery Industry of India industries. To have equal representation, companies were chosen on the basis of market capitalisation ranging from large cap to small cap.

List of companies chosen for the study

Name of the company

1) Rajesh Exports Limited
2) PC Jewllers Limited
3) Vaibhav Global Limited
4) Asian Star Company Limited
5) Githanjali Gems Ltd
6) Thribovandas Bhimji Zaveri Ltd.
7) Renaissance Jewllery Ltd.
8) Goldiam International Ltd.

Sources of Data Collection:

The data pertaining to international operations of the selected companies is collected from annual reports of selected companies for the reference period commencing from FY 2010 to 2016. As per section 134(3)(m) of the Act, read along with Rule, 8 of the Companies (Accounts) Rules, 2014The foreign exchange earnings and outgo is to be annexed along with director's report Information pertaining to derivative instruments used need to be specified in financial statements as per Accounting Standard 30. As per Accounting standard 11– foreign exchange transaction and translations loss/ gain need to be recorded in profit and loss account. For the purpose of analysis, such valid and reliable information is used. It is compiled in accordance with requirement of researcher for meaningful analysis.

Data Analysis Tools:

The researcher has used Multiple regression analysis in analysing the impact of exchange exposure, on exchange losses, to verify whether the choice of derivative instrument is the function of exchange losses, currency denominated, exchange exposure etc. to examine whether the derivative usage and multiple currency invoicing has reduced the exchange.

Results & Discussion:

Table 1. Foreign Exchange Operations of Rajesh Exports Limited

(Rs.in Crs)

Financial Year	Revenue	Inflow of Foreign Currency	Outflow of Foreign Currency	Net Flow	Exchange Difference	Profit (Net)	Margin of exchange difference	Derivatives used	exposure in
2009-10	18529.43	16253.6	18396.6	-2143	15.42	193.41	7.9727005	Forward	USD, SGD
2010-11	20622.83	17581	20242.1	-2661.1	241.51	247.99	97.386991		

2011-12	25850.33	23131.41	24910.49	-1779.08	-185.94	412.43	-45.084014		
2012-13	31228.65	24684.24	30781.75	-6097.51	-0.53	452.6	-0.1171012		
2013-14	29197.93	19188.42	21885.56	-2697.14	-169.85	357.54	-47.505174		
2014-15	50463	20354.92	35543.86	-15188.94	-188.62	654.91	--28.8009		
2015-16	165220.46	36852.21	37464.93	-612.72	-193.73	1069.92	-18.10696		
average	48730.38	22577.97	27032.18	-4454.21	-68.82	484.11	-4.89	1	2
S.D	52418.82	6950.96	7605.02	5024.81	164.29	298.54	44.22		
C.V	107.57	30.79	28.13	-112.81	-238.72	61.67	204.76		

Source: Compiled from annual reports of Rajesh exports Limited

The company is an export oriented unit generates nearly 75% of revenue from international operation. Revenues of the company grown by 10 times from 18529Cr to 165220Cr at a growth rate of 37%. Whereas exchange inflow & outflow are grown at the rate of 2 folds with CAGR 12.5%. re exporting of diamond & precious metals was the basic operations of the company due to which adverse exchange exposure reported by the company was due to par amount of exchange inflow & outflow. For all the years company reported exchange losses, which is 68.82Cr per annum. Exchange losses accounted for 4.89%. Equivalent amount of exchange inflow & out flow denominated in USD & SGD made a company to use Forward contract to mitigate the foreign exchange risk.

Table2. Showing Foreign Exchange Operations of PC Jewelers Limited

(Rs.in Crs)

Financial Year	Revenue	Inflow of Foreign Currency	Outflow of Foreign Currency	Net Flow	Exchange Difference	Profit (Net)	Margin of exchange difference	Derivatives used	exposure in
2011-12	3672.85	1002.71	912.5	90.21	-82.49	230.94	-35.71923	Forward	USD
2012-13	4613.45	1031.12	923.23	107.89	-5.59	291.01	-1.92089		

							6		
2013-14	5394.72	1323.65	1196.17	127.48	-23.79	356.29	-6.677145		
2014-15	6420.49	1810.99	1098.02	712.97	23.41	378.43	6.1860846		
2015-16	7388.78	2094.62	1959.84	134.78	27.67	399.66	6.9233849		
Average	5498.06	1452.62	1217.95	234.67	-12.16	331.27	-6.24	1	1
S.D	1462.05	484.07	431.69	267.95	44.66	69.31	17.43		
C.V	26.59	33.32	35.44	114.18	-367.29	20.92	-279.30		

Source : Compiled from annual reports of PC Jewelers Limited

The company is an export oriented unit generates nearly 30% of revenue from international operation. Revenues of the company grown by 2 times from 3672.85Cr to 7388.78cr at a growth rate of 10.5%. Whereas exchange inflow & outflow are grown at the rate of 2 folds with CAGR 12.5%. re exporting of diamond & precious metals was the basic operations of the company due to which favourable exchange exposure was reported by the company. For all the years company reported exchange losses, which is 12.66Cr per annum. Exchange losses accounted for 6.24. Comparable amount of exchange inflow & out flow denominated in USD made a company to use Forward contract to lessen the foreign exchange risk.

Table3. Foreign Exchange Operations of Vaibhav Global Limited

(Rs.in Crs)

Financial Year	**Revenue**	**Inflow of Foreign Currency**	**Outflow of Foreign Currency**	**Net Flow**	**Exchange Difference**	**Profit (Net)**	**Margin of exchange difference**	**Derivatives used**	**exposure in**
2009-10	343.39	121.94	40.64	81.3	-9.98	-68.001	14.676255	Forward	USD,GBP, HKD,JPY, THB,EURO
2010-11	537.49	145.62	39.24	106.38	-5.89	43.1	-13.66589		
2011-12	674.82	162.74	70.45	92.29	16.27	68.5	23.751825		
2012-13	930.55	229.79	92.54	137.25	21.02	-85.61	24.553206		
2013-14	1333.31	290.82	141.64	149.18	19.77	152.53	12.961385		

2014-15	1388.45	350.71	161.99	188.72	2.58	103.17	2.500727		
2015-16	1293.57	320.9	127.33	193.57	3.21	39.82	8.0612757		
Average	928.80	231.79	96.26	135.53	6.71	36.22	10.41	1	6
S.D	421.96	91.13	48.94	44.81	12.47	86.43	13.23		
C.V	45.43	39.32	50.84	33.06	185.84	238.64	127.16		

Source: Compiled from annual reports of Vaibhav Global Limited

The company generates nearly 25% of revenue from international operation. Revenues of the company grown by 4 times from 343.39Cr to 1293.57Cr at a growth rate of CAGR 21%. Exchange inflow of the company grown at 3 times from 40Cr reached to 127.33Cr at the rate of 20.57%. All the years company has reported favourable exchange exposure in the tune of 135.53Cr. Due to the favourable exchange exposure, the company has earned exchange gain in the tune of 6.71Cr per annum; this is 10.41% of net profit. Favourable exchange exposure accompanied with exchange gain & use of less volatile currencies like USD, GBP, HKD, JPY, THB & EURO for international operations made company to use only forward contract & natural hedging technique to mitigate foreign exchange risk.

Table 4. Foreign Exchange Operations of Asian Star Company Limited

(Rs.in Crs)

Financial Year	Revenue	Inflow of Foreign Currency	Outflow of Foreign Currency	Net Flow	Exchange Difference	Profit (Net)	Margin of exchange difference	Derivatives used	exposure in
2009-10	1468.01	1097.64	665.23	432.41	15.97	30.07	53.109411	Forwards & Option	USD
2010-11	1666.45	1066.01	598.29	467.72	3.03	37.78	8.0201165		
2011-12	1835.51	1182.85	880.74	302.11	-7.93	41.4	-19.15459		
2012-13	2462.21	1392.69	899.23	493.46	113.18	47.77	236.92694		
2013-14	3250.19	1642.03	1146.78	495.25	-96.58	77.97	-123.8682		
2014-15	3222.9	1629.93	1473.65	156.28	-110.97	81.95	-135.4118		
2015-16	3301.08	1736.87	850.56	886.31	-100.74	72.55	-138.856		

average	2458.05	1392.57	930.64	461.93	-26.29	55.64	-17.03	2	1
S.D	808.04	281.28	297.87	224.38	81.74	21.27	135.59		
C.V	32.87	20.20	32.01	48.57	-310.90	38.23	-796.05		

Source : Compiled from annual reports of Asian Star Company Limited

The company is an export oriented unit generates nearly 57% of revenue from international operation. Revenues of the company grown by 3 times at a growth rate of 12.27%. Whereas exchange inflow has grown at the CAGR 7.29%. re exporting of diamond & precious metals was the basic operations of the company due to which favourable exchange exposure reported by the company. For all the years company reported exchange losses, which is 26.29Cr per annum. Exchange losses accounted for 17.03%. Favourable exchange exposure accompanied with exchange loss & use of highly volatile currencies like USD for international operations made company to use forward contract, options contract & natural hedging technique to mitigate foreign exchange risk.

Table 5. Foreign Exchange Operations of Githanjali Gems Ltd

(Rs.in Crs)

Financial Year	Revenue	Inflow of Foreign Currency	Outflow of Foreign Currency	Net Flow	Exchange Difference	Profit (Net)	Margin of exchange difference	Derivatives used	exposure in
2009-10	6530.17	1944.93	1488.67	456.26	35.29	200.17	17.630014	Forward	USD,EURO
2010-11	9472.4	3029.81	1774.17	1255.64	47.21	354.81	13.305713		
2011-12	16428.47	3152.67	4103.14	-950.47	106.39	591.69	17.980699		
2012-13	12445.55	3537.49	1741.05	1796.44	328.33	33.52	979.50477		
2013-14	12445.55	3537.49	1741.05	1796.44	328.33	33.52	979.50477		
2014-15	11579.59	2868.73	3388.93	-520.2	196.67	95.49	-205.9587		
2015-16	14153.27	4377.19	3478.15	899.04	75.57	133.24	56.717202		
average	11865.00	3206.90	2530.74	676.16	159.68	206.06	265.53	1	2
S.D	3188.57	744.91	1081.05	1081.75	126.68	203.28	495.27		
C.V	26.87	23.23	42.72	159.98	79.33	98.65	186.53		

Source : Compiled from annual reports of Githanjali Gems Ltd

The company generates nearly 27% of revenue from international operation. Revenues of the company grown by 3 times from 6530 Cr to 14153 Cr at a growth rate of 11.68%. Whereas exchange inflow & outflow are grown at the rate of 3 folds with CAGR 12.29%. re exporting of diamond & precious metals was the basic operations of the company due to which favourable exchange exposure was reported by the company. For all the years the company has reported exchange gain, which is 159.68Cr per annum. Exchange gain accounted for an average 265.53% of net profit. Favourable exchange exposure accompanied with exchange gain & use of highly volatile currencies like USD & EURO for international operations made company to use forward contract & natural hedging technique to mitigate foreign exchange risk.

Table 6. Foreign Exchange Operations of Thribovandas Bhimji Zaveri Ltd.

(Rs.in Crs)

Financial Year	Revenue	Inflow of Foreign Currency	Outflow of Foreign Currency	Net Flow	Exchange Difference	Profit (Net)	Margin of exchange difference	Derivatives used	exposure in
2009-10	1194.32	3.29	10.29	-7	0.0577	39.18	0.147269	Forward & Option	USD, EURO
2010-11	1194.32	3.29	10.29	-7	0.0577	39.18	0.147269		
2011-12	1386.01	0	5.82	-5.82	0.041	57.25	0.0716157		
2012-13	1662.17	0	6.16	-6.16	0.04	84.46	0.0473597		
2013-14	1829.89	0	40.39	-40.39	0.4133	54.99	0.7515912		
2014-15	1947.66	0	6.03	-6.03	1.02	24.31	4.1958042		
2015-16	1658.84	4.43	2.64	1.79	-0.24	-27.54	-0.87146		
average	1553.32	1.57	11.66	-10.09	0.20	38.83	0.64	2	2
S.D	300.20	2.00	12.95	13.71	0.41	34.88	1.64		
C.V	19.33	127.04	111.08	-135.96	205.93	89.81	255.42		

Source : Compiled from annual reports of Thribovandas Bhimji Zaveri Ltd.

The company's revenue from international operation is insignificant. Revenues of the company grown from 1194 Cr to 1658 Cr at a growth rate of 4.8%.

Whereas exchange inflow & outflow are growth is insignificant. re exporting of diamond & precious metals was the basic operations of the company due to which adverse exchange exposure reported by the company was due to par amount of exchange inflow & outflow. For all the years company reported exchange gain, which is 0.20Cr per annum. Exchange gain accounted for 0.64%. Its International operations were denominated in USD & EURO. To hedge foreign exchange risk Forward, Options contracts & natural hedging technique were used.

Table 7. Showing Foreign Exchange Operations of Renaissance Jewllery Ltd.

(Rs.in Crs)

Financial Year	Revenue	Inflow of Foreign Currency	Outflow of Foreign Currency	Net Flow	Exchange Difference	Profit (Net)	Margin of exchange difference	Derivatives used	exposure in
2009-10	662.45	474.69	224.99	249.7	7.09	24.83	28.554168	Forward, Future	USD, GBP ,EURO, CHF, HKD
2010-11	869.85	604.45	164.92	439.53	5.36	30.62	17.504899		
2011-12	952.78	678.37	250.31	428.06	-28.76	33.53	-85.77393		
2012-13	955.08	688.52	243.97	444.55	1.74	14.78	11.772666		
2013-14	1223.62	964.83	427.38	537.45	-32.74	29.49	-111.0207		
2014-15	1294.63	1028.86	520.39	508.47	16.74	40.16	41.683267		
2015-16	1323.76	1124.21	593.61	530.6	1.35	47.45	2.8451001		
average	1040.31	794.85	346.51	448.34	-4.17	31.55	-13.49	2	5
S.D	246.77	243.50	166.00	98.56	18.89	10.51	59.74		
C.V	23.72	30.64	47.91	21.98	-452.55	33.30	-442.84		

Source : Compiled from annual reports of Renaissance Jewelry Ltd

The company is an export oriented unit generates nearly 80% of revenue from international operation. Revenues of the company grown by 2 times from 662.45 Cr to 1323Cr at a CAGR rate of 10.4%. Whereas exchange inflow & outflow are grown at the rate of 2 folds with CAGR 13%. re exporting of diamond & precious metals was the basic operations of the company due to which favourable exchange exposure reported by the company was due to par amount of exchange inflow & outflow. For all the years company reported exchange losses, which is

4.17Cr per annum. Exchange losses accounted for 13.49% of net profit. Company has used Forward & Future contracts & natural hedging techniques to minimise the exchange risk confronted by the company. Its international operations were denominated in USD, GBP, EURO, CHF & HKD.

Table 8. Foreign Exchange Operations of Goldiam International Ltd.

(Rs.in Crs)

Financial Year	Revenue	Inflow of Foreign Currency	Outflow of Foreign Currency	Net Flow	Exchange Difference	Profit (Net)	Margin of exchange difference	Derivatives used	exposure in
2010-11	244.21	71.87	28.18	43.69	0.0916	18.67	0.4906267	Forwards & Options	USD, EURO
2011-12	253.24	85.73	34.25	51.48	1.04	15.23	6.8286277		
2012-13	270.87	92.27	37.36	54.91	0.4575	18.65	2.4530831		
2013-14	319.75	117.66	36.04	81.62	0.296	17.08	1.7330211		
2014-15	333.97	118.57	36.49	82.08	6.35	21.25	29.882353		
2015-16	345.28	130.79	46.67	84.12	4.01	32.45	12.357473		
average	294.55	102.82	36.50	66.32	2.04	20.56	8.96	2	2
S.D	43.74	22.86	5.98	18.23	2.56	6.16	11.14		
C.V	14.85	22.23	16.38	27.49	125.50	29.96	124.33		

Source : Compiled from annual reports of Goldiam International Ltd

The company is an export oriented unit generates nearly 35% of revenue from international operation. re exporting of diamond & precious metals was the basic operations of the company due to which favourable exchange exposure reported by the company. For all the years company reported exchange gain, which is 2.04Cr per annum. Exchange gain accounted for 8.96% of net profit. Company has used Forward, Option contracts & natural hedging techniques to minimise the exchange risk confronted by the company. Its international operations were denominated in USD & EURO.

Table 9. showing Descriptive Statistics of foreign exchange operations of selected companies in Diamond Exporting & Jewllery Making Industry

Descriptive statistics	***Total revenue***	***Exchange inflow***	***Exchange Outflow***	***Net exposure***	***Net exchange (loss) /Gain***	***Net Profit***	***% of exchange difference on Net Profit***
Mean	9345.07	3873.95	4206.50	-332.55	7.97	146.16	35.22
Standard Deviation	23925.28	7806.53	9397.29	2396.82	100.36	208.60	198.74
Range	164976.25	36852.21	37462.29	16985.38	522.06	1155.53	1185.46
Minimum	244.21	0.00	2.64	-15188.94	-193.73	-85.61	-205.96
Maximum	165220.46	36852.21	37464.93	1796.44	328.33	1069.92	979.50
C.V	256.02	201.51	223.40	-720.74	1258.58	142.72	564.28
Sum	495288.55	205319.57	222944.70	-17625.13	422.61	7746.59	1866.69

Sources: Compiled from table 1 to 8

Table 9. exhibits the descriptive statistics of chosen companies about foreign exchange operations of selected companies in Diamond Exporting & Jewllery Making Industry per annum & per company. Mean revenue reported by the industry is Rs.9345.07Cr, foreign exchange inflow contribution to it is about 41.45%, this amount is Rs.3873.95Cr. Exchange out flow of the industry is Rs.4206.50Cr; this has contributed adverse exchange exposure of 332.55 Cr, which is 3.55% of total revenue. Though the industry underwent average adverse exchange exposure, it contributed towards average exchange gain of Rs.7.97Cr. exchange gain as a % on net profit is 5.48%. Co-efficient of variation indicates consistency in terms of revenue, exchange inflow, net exposure & exchange gain found maximum. Average net profit of chosen companies in the industry 146.16 Cr.

H_{01}: There is no significant impact of Foreign exchange exposure on exchange difference

Table10. Showing Hypothesis testing results of Diamond & Precious metal exporting Industry to ascertain the impact of exchange exposure on exchange differences

.Regression Statistics	
Multiple R	0.364646
R Square	0.132967
Adjusted R Square	0.078285
Standard Error	95.29813
Observations	53

	Coefficients	*Standard Error*	*t Stat*	*P-value*
Intercept	19.2944	14.83591	1.30052	0.199385

Exchange inflow	0.008463	0.008132	1.040651	0.303043
Exchange Outflow	-0.01048	0.006756	-1.55204	0.012696
Net exposure	0	0	65535	0

Hypothesis testing table exhibits the following facts relate to reliance of exchange loss on exchange inflow, outflow & net exposure. These variables have an impact to the extent of 36.46%, therefore the test considered to be significant. F test suggest rejecting the null hypothesis. Foreign exchange difference in this industry is not only influenced by exchange exposure but also the other variables like translation & premium or discount written off on forward contract. Interest payable on foreign currency borrowing is the other factors influences on the exchange difference undergone by the industry. From the Co-efficient derived following model can be suggested for the estimation of exchange difference

Exchange Differences in Diamond & Precious Metal Industry = 19.29+Exchange Outflow(-0.01408) + Net Exposure (0)

Exchange Differences in Diamond & Precious Metal industry remains constant to the extent of 19.29Cr, Exchange outflows lessens it at the co-efficient rate of -0.01408, whereas net exposure has no impact

H_{02}: There is no significant impact of factors on the choice of currency derivatives

Table11. showing Hypothesis testing result of Diamond & Precious metal exporting Industry to ascertain the impact of exchange exposure & exchange difference on the choice of derivatives

Regression Statistics	
Multiple R	0.358801
R Square	0.128738
Adjusted R Square	0.093888
Standard Error	0.480419
Observations	53

	Coefficients	*Standard Error*	*t Stat*	*P-value*
Intercept	1.544461	0.067238	22.96997	3.18E-28
Net exposure	7.22E-05	2.96E-05	2.442087	0.018182
Net exchange (loss) /Gain	-0.00138	0.000706	-1.95524	0.056156

Hypothesis testing table advocates the following facts pertain to the impact of net exposure & Exchange difference on choice of derivative. The test deliberated to be moderately significant to the extent of 36%. F test suggest rejecting the null hypothesis.

In Diamond & Precious metal exporting Industry Choice of Derivative instrument is not completely influenced by exchange exposure & exchange difference but also forex market conditions, currency invoiced place pivotal role. From the Co-efficient derived following model can be suggested for the choice of

derivative.

Choice of derivative in Diamond & Precious metal exporting Industry influenced by = 1.54+Net exposure (0.00072) + Net exchange Difference (-0.00138)

In Diamond & Precious metal exporting Industry companies are invariably using one derivative, which is forward contract irrespective exchange exposure and exchange losses. Co-efficient 1.54 indicates the same, whereas net exchange exposure lessens the use of derivative to the extent of -0.00072 & exchange difference lessens to the extent of 0.00138.

H_{03}: There is no significant impact of currency derivatives and multiple currencies invoicing on abating foreign exchange difference.

Table 12 showing Hypothesis testing results of Diamond & Precious metal exporting Industry to ascertain the impact of using the derivatives for minimizing the exchange difference

Regression Statistics	
Multiple R	0.157931
R Square	0.024942
Adjusted R Square	-0.01406
Standard Error	101.0606
Observations	53

	Coefficients	*Standard Error*	*t Stat*	*P-value*
Intercept	57.33515	51.25062	1.118721	0.268605
No.of. Derivatives	-31.5597	27.92262	-1.13026	0.0263761
No. of. Currencies	-0.63894	8.004697	-0.07982	0.0936698

Table 13 shows the hypothesis testing results of Diamond & Precious metal exporting Industry to ascertain the impact of using the derivatives for minimizing the exchange difference. The result of which is as follows. Usage of derivative & multiple currency invoicing minimizes exchange losses has an impact to the extent of 16%.

F test discloses the fact of rejecting the null hypothesis that is foreign exchange losses cannot be completely minimised with the used derivative & multiple currency invoicing. Based on P & Coefficient values following model has been developed that is

Exchange Differences in Diamond & Precious metal exporting Industry can be minimized = 57.34+No.of derivatives used (-31.56) + No.of currencies (-0.63)

Exchange Differences in Diamond & Precious metal exporting Industry can be minimized at the rate, which is constant at the rate of 57.34, which can be minimized at the co-efficient rate of no. of derivatives used (-31.56) & No. of currencies used can also reduce at the rate of (0.63)

Table 14. Showing Derivatives Used in Diamond & Precious metal exporting

Derivatives	Rajesh Exports Limited	Pc Jewllers Limited	Vaibhav Global Limited	Asian Star Company Limited	Githanjali Gems Ltd	Thribovandas Bhimji Zaveri Ltd.	Renaissance Jewllery Ltd.	Goldiam International Ltd.
FORWARDS	YES	YES	YES	YES	YES	YES	YES	YES
FUTURES	NO	NO	NO	NO	NO	NO	YES	NO
OPTIONS	NO	NO	NO	YES	NO	YES	NO	YES
SWAPS	NO	NO	NO	NO	NO	NO	NO	NO
UNHEDGED	YES	YES	YES	YES	YES	YES	YES	YES
TOTAL	1	1	1	2	1	2	2	2

Sources: Compiled from the annual reports of respective company

Table 14 exhibits derivatives used in Diamond & Precious metal exporting industry, all the companies chosen for the study have used natural hedging techniques. External foreign exchange risk management techniques like usage of derivative have been used by the companies is as follows. Entire sample size in the industry have used Forward contract to minimize foreign exchange risk, Whereas options were used by 3 companies, Futures were used by one company. None of the companies have swap contract due to no external commercial borrowings.

Table 15 currencies used in international operations of selected companies in Diamond Exporting & Jewllery Making Industry

	Rajesh Exports Limited	Pc Jewllers Limited	Vaibhav Global Limited	Asian Star Company Limited	Githanjali Gems Ltd	Thribovandas Bhimji Zaveri Ltd.	Renaissance Jewllery Ltd.	Goldiam International Ltd.
Currencies used In international operations of Diamond Exporting & Jewllery Making Industry	USD, SGD	USD	USD, GBP, HKD, JPY, THB, EU	USD	USD, EURO	USD, EURO	USD, GBP ,EURO CHF, HKD	USD, EURO

			RO					

Sources: Compiled from the annual reports of respective company

Table 15 exhibits currencies used in Diamond Exporting & Jewellery Making Industry for their international operation. Out of 8 companies chosen for the study all the companies are having exposure in USD; there is 100% usage of USD found in the industry. Other prominent currencies used were EURO is used by 5 companies, GBP by 2 companies, HKD by 2 companies, other currencies like JPY, THB, CHF, SGD, were also used by the companies in Infrastructure Development Industry. It is evident from the above analysis that USD, EURO, HKD & GBP were the prominent currencies used in the international operations of Infrastructure Development Industry.

Findings & Suggestions

1) In this industry revenue has grown at the rate of 22.26% per annum. Foreign exchange inflow contribution to the revenue is about 38%, which has grown at the rate of 16.67% per annum. Exchange out flow of the industry has declined by 15.42% per annum; this has contributed adverse exchange exposure which has inclined at the rate of 48.19%. These companies needs hedging against depreciation in home currency to minimize the exchange losses.

2) Based on Result of hypothesis testing carried out to ascertain the impact exchange difference on exchange losses infers that the study is significant to the extent of 36.46%. which means 36.46% of exchange difference is contributed by transaction exposure. The model built for the same is

Exchange Differences in Gems & Jewllery Industry = 19.29+Exchange Outflow(-0.01408) + Net Exposure (0)

Implication of the model: foreign exchange difference in this Industry largely constant to the extent of 19.29Cr. Whereas exchange outflow decreases it at the rate of -0.01408.

3) In this industry choice of derivative instrument is significant to the extent of 36% & not only influenced by exchange exposure & exchange difference but also forex market conditions, currency invoiced place pivotal role.

4)

Choice of derivative in Gems & Jewllery Industry influenced by = 1.54+Net exposure (0.00072) + Net exchange Difference (-0.00138)

Implication of the model : From the Co-efficient derived it is possible to infer that in this industry irrespective of influence of above specified variables diamond & jewelry exporting companies are using forward contract, intercept 1.54 denote the same. whereas net exchange exposure lessens the use of derivative to the extent of -0.00072 & exchange difference contributes to the extent of 0.00138.

5) Hypothesis testing results of **Gems & Jewllery Industry** to ascertain the impact of using the derivatives for minimizing the exchange difference infers that,

Exchange Differences in Gems & Jewllery Industry can be minimized = 57.34+No.of derivatives used (-31.56) + No.of currencies (-0.63)

Implication of the model: the exchange losses in this industry is constant to the magnitude of 57.34Cr, number of derivatives used & multiple currency invoicing would reduce exchange difference by co-efficient -31.56 & -0.63respectively.

CONCLUSION

USD lingers to hold command in the forex markets of the world as the universal standby currency. A substitute for it is likely to emerge in the form of GBP, EURO, CHF, SGD, AUD, AED and CAD at a minimal phase going by past experience. Businesses that have gone international therefore have to come to terms with this ground reality and be always in a state of preparedness to handle any threat their financials may face on account of the fluctuations in the USD-INR parity. This should be at the core of all their hedging strategies against currency exposure, particularly the manufacturing sector which has witnessed adverse exchange exposure. Businesses should necessarily hedge against currency risk as a matter of policy, whatever the provocation to the contrary. Not all businesses can afford to put in place a dedicated department / in-house arrangement to handle currency exposure owing to the affordability factor. However, in the Indian context this need not worry those who face currency exposure. After all, to help them hedge against currency exposure, all the leading scheduled banks provide currency derivative products in the form of forwards, options and currency futures. These products are sold at competitive prices to the businesses. Such other hedging-related services / advice they might need are also provided by the said banks. However, those who can afford a dedicated department / in-house arrangement will do well to put in place such a department / arrangement since it makes financial and business sense. They need to learn the nitty-gritty concerning currency hedging and build up the requisite expertise at least over a period of time. It will stand them in good stead in the days to come. This will also help them in achieving cost savings. There is nothing wrong if a majority of the respondents just book a forward contract and leave it at that. Forward is also an effective hedging tool and easier to understand from the point of view of the business concerned. Most of the commercial banks in the private sector too provide only forwards for hedging. They do not provide other derivatives like options. While assessing currency exposure, businesses should not go by the invoice value unless the invoice value is insignificant relative to the operations of the business. By default, businesses should hedge against currency exposure.

SCOPE FOR FURTHER RESEARCH

The study was aimed at developing the appropriate model for estimating the exchange losses based on exchange exposure, the type of derivative needs to be based on exchange exposure, exchange losses undergone in the past. Post usage of the derivative there is an impact on exchange loss minimization. The data is the secondary data and collected from annual reports. The cumulative value for a year is being considered.

The same analysis would be done based on the ongoing data, like a daily

turnover in foreign exchange operations, derivatives used to mitigate the exchange losses, with or without the usage of derivative impact on exchange difference that can be regressed through linear and nonlinear regression model. This would provide a real time decision making tool in the hands of the forex manager.

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