## Financial Economics

# Co-integration of Karachi Stock Exchange
# (KSE) With Major Asian Markets

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**Abstract:** The purpose of this research is to study the long run relationships and co movement among the stock markets of Pakistan and other Asian stock markets i.e. India, Malaysia and Indonesia. Over the period of Jan 1, 1998 to October 3, 2011. This paper examines the co-movement among stock markets of Pakistan, India, Malaysia and Indonesia. Descriptive statistics, correlation, co-integration tests are run to check the behavior and co movement of markets. Granger causality test is used to check the lead lag relationship. Impulse response tells about the one standard deviation change in market bring what standard deviation change in other market. Variance decomposition technique is used to decompose the variance in one market due to change in another market and due to its own dynamics i.e. economic and political conditions also affect the market. The results shows that the four markets Pakistan, India, Malaysia and Indonesia are weakly correlated with each other and find no co-integration. Variance decomposition shows that most of the change in above listed countries is due to their own factors. Number of studies has been conducted on developed markets like United States of America, United Kingdom, France, Japan Canada and underdeveloped countries, but this paper focuses on emerging markets of Asia.

**Key words:** Co-integration; augmented dickey fuller test; Phillips perron; granger causality; variance decomposition.

**JEL Classification:** G11

## 1. Introduction

Monetary and financial world is reshaping itself in global perspective. Liberalization in financial affairs is need of the today which eliminates the barrier due to explosion of technology. For the last few decades overseas investment is getting more popularity all around the world. Globalization open ways for

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prospective investor to invest their wealth in different economies, sectors and companies of their own preference so that risk factor can be branch out.

Co-integration technique has become famous approach for researcher and academicians for establishing the causality models and linkages. First co-integration technique was developed 19 years back by the (1981) Granger; (1987) Engle and Granger; and (1991) Hallman and Granger. (1952) Markowitz (1965) lintner and (1964) Sharp gives the portfolio diversification model. As according to modern portfolio theory, prospective investors should invest their wealth in different asset classes i.e. shares, bonds and stock, and make efficient portfolio from these asset classes, rather than to invest in one asset class. Favero and bonfiglioli (2005) examines the linkage among Germany and United States. Urbain and Corhay (1993) examine the links and association among the European stock markets. Number of study focuses on minimizing the risk through international portfolio diversification (Grubel, 1968, Errunza 1982, Sarnat and Levy 1970). This paper aspires to study the long run relationship among the promising stock markets of Asia i.e. Pakistan, India, Malaysia and Indonesia. If in a consequence markets are co-integrated with each other than the prospective investor could not get the advantage of portfolio diversification, and if they are not co-integrated with each other than the investors could get the advantage of portfolio diversification.

## 1.1 Objectives of the study

This research aims to attain the following objectives:

(1) To find out the return methodology in the stock markets of Pakistan, India, Indonesia and Malaysia.

(2) To find the links between the stock exchanges of Pakistan, India, Indonesia and Malaysia.

(3) To find out that whether there exist opportunities for the portfolio diversification among the stock equity markets of Pakistan, India, Indonesia and Malaysia.

## 2. Literature Review

**Roca (1999)** observes the stock markets of United States of America, United Kingdom, Japan, Korea, Hong Kong, Singapore, Taiwan, and Australia. He uses weekly stock prices of these above listed 8countries. He exercises co-integration technique to test out the long run relationship and co-movement among their equity markets. Results disclose that no co-integration exists among these 8 stock markets, but Australian stock market is influenced by the stock markets of US and UK. Iqbal et al (2008) examines the vibrant relationship among the stock markets of Pakistan, India and US by means of daily records of share prices covering the period of Jan 2003 to Dec 2009. Johansen and juselius co integration technique is applied. Results depicts that no co-integration exist between the markets of US, Pakistan and India. Hassan et al (2008) investigates the long run relationship between Karachi stock exchange with the urbanized stock markets of the world, by using multivariate co-integration and results reveals that pair wise Karachi stock exchange is not co-integrated with the urbanized stock markets i.e. US, UK, Germany, Canada, Italy and Australia, and most of the variations in Karachi stock exchange are due to its own dynamics. Fadhlaoui et al (2008) explain the short and long run relationship between the seven urbanized equity markets i.e. US, UK, Canada, Italy Germany France, Japan and the central European emerging markets of Czech-republic, Hungry and Poland Co-integration test is applies, and the results reveals that no long term relationship exist between the stock markets of above listed countries. Subramanian (2008) observes the co-integration among the five most important stock markets of Asia i.e. Osaka stock exchange, Tokyo stock exchange, Shangai stock exchange, Hong Kong stock exchange and Korean stock exchange. By using unit root test and co integration test, Result shows that these markets are integrated with each other so the prospective investors should not invest in these markets Subhani et al (2011) cross-examine the co-movement among the stock markets of Pakistan, Bangladesh, Nepal and India by taking the stock prices from May 1995 to May 2011. Results show that Karachi stock exchange is integrated Dhaka stock exchange, but not Co-integrated with the stock markets of India and Nepal. Sharma and Bodla (2011) observed the interlink ages among the stock markets of India Pakistan and Sri Lanka. By taking the indices from Jan 2003 – Dec 2002, using granger causality test, VAR and variance decomposition. Result depicts that the stock market of India does granger the stock markets of Pakistan and Sri Lanka. Onay (2007) explores the long run financial relationship of the stock markets of Bovespa and Istanbul Stock. By talking a time span of 10years. Weakly data of the stock indices of (IBX) and (ISE100) are used in this research from 1995 to 2005. Cointegration technique is applied in this paper to find out the co movement, and causality test is also used in this research to check the lead lag relationship. The results reveal that there exist no co integration pair wise, and granger shows the unidirectional relationship. Bessler and Yang (2003) investigates the daily stock indices of the world`s popular stock markets i.e. United

States, United Kingdom, Japan, Hong Kong, Germany, Switzerland, Canada, Australia, and France. Co integration, error correction modeling are applied. Results reveal that much of the fluctuations comes in United States markets is because of its own innovations and fluctuations, and it also affect by the stock equity markets of Germany, Hong Kong, France, Switzerland and United Kingdom but with minor percentage. Aksoy et al (2011) explores the stock equity markets of Turkey, Israel and Egypt talking time period from 2002-2010 to check out the short term relationship and long term relationship between these markets. Co- integration and correlation tests are applied to check this relationship. The results show that these above mention markets are co integrated with each other. Kucukkaya (2007) investigates the stock equity markets of United States and Turkey, to find the long run relationship. Unit root analysis, co integration analysis and causality test are used to find out the lead lag relationship. Results show that the United States market and Turkish stock market are not link with each other so; the investors can take benefit by investing their portfolio in these markets.

## 3. Data and Methodology

This study is based on monthly closing stock prices of Pakistan, India, Malaysia and Indonesia. These closing prices have been taken from **yahoo finance.** Time period consist of 14 years from *Jan, 1, 1998 to Oct, 3, 2011*. The continuous compounding is computed by the following technique.

**RT** = ln (PT/PT-1)

**Where:**

**RT** = Return on month `t`

**PT** = Index closing prices on month `t`

**PT-1** = Index closing prices on month `t-1`

**Ln** = Natural log.

Number of analysis can be conducted to check the long run relationship. 1. Descriptive statistics which explains the behavior of the data, 2. correlation technique which explains the strength and direction. 3. Multi-variate co-integration is used to check the co-movement but, before running this we will remove patterns from the data by using augmented Dickey Fuller and Phillip Perron test and make the data stationary. 4. Granger causality technique will use next to check the relationship. 5. Impulse response and variance decomposition technique will describes that whether one market have an effect on other market or not? And the results depicts that one market does not influenced by the other markets in fact it influence by its own dynamics.

## 4. Empirical Results

**Table 1. Descriptive statistics**

|             | KSE       | BSE       | KLSE      | JSE       |
|-------------|-----------|-----------|-----------|-----------|
| Mean        | 1.016772  | 1.013223  | 1.008325  | 1.01608   |
| Median      | 1.019629  | 1.014543  | 1.009742  | 1.022971  |
| Maximum     | 1.272666  | 1.282551  | 1.342349  | 1.28427   |
| Minimum     | 0.638396  | 0.761099  | 0.752291  | 0.685781  |
| Std. Dev.   | 0.096099  | 0.077665  | 0.073733  | 0.085129  |
| Skewness    | -0.50082  | -0.12728  | 0.859607  | -0.38897  |
| Kurtosis    | 5.139809  | 3.567344  | 7.537094  | 4.892945  |
| Jarque-Bera | 38.37669  | 2.658446  | 161.8438  | 28.79545  |
| Probability | 4.64E-09  | 0.264683  | 0         | 5.59E-07  |

Table 1 exhibits the descriptive statistics, and represents the monthly returns of KSE, BSE, KLSE and JSE 1. 0167, 1. 0132, 1. 0083, 1. 016 respectively. Total number of observations is 167 for a time period of 14 years. The results of descriptive statistics show that Karachi stock exchange shows the highest average monthly return which is 1. 016%. The maximum return in Karachi stock exchange market in one month is1. 27%, where as minimum return in one month is 0. 638%. The second highest average monthly return in Jakarta stock exchange is 1. 016% per month. The third highest average monthly return of Bombay stock exchange is 1. 013% and the forth average monthly return of Malaysian stock exchange is 1. 008%

Karachi stock exchange shows the high risk which is 0. 09% per month. The Jakarta stock exchange shows 0. 085% risk per month. Bombay stock exchange shows 0. 077% risk per month and Malaysian stock exchange shows 0. 073% risk per month.

**Table 2. Correlation matrix**

|      | KSE      | BSE      | KLSE     | JSE |
|------|----------|----------|----------|-----|
| KSE  | 1        |          |          |     |
| BSE  | 0.277093 | 1        |          |     |
| KLSE | 0.187223 | 0.35801  | 1        |     |
| JSE  | 0.113957 | 0.473632 | 0.497853 | 1   |

Correlation technique is the statistical means used to evaluate the extent of relationship among different variables. When values of single variable are linked with other variable, Karl Pearson's coefficient of correlation can be used to evaluate the relationship among them. As this research study seeks to find out the

relationship between major Asian stock equity markets therefore we applied correlation technique. Table 2 presents the correlation matrix which explains that weak correlation is observed among Karachi stock exchange, Bombay stock exchange, Jakarta stock exchange and kuala-lampur stock exchange. Bombay stock exchange is weakly correlated with Karachi stock exchange0. 2770. Karachi stock exchange is also weakly correlated with kuala-lumpur stock exchange0. 1872 and Karachi stock exchange is weakly correlated with the Jakarta stock exchange0. 1139. However relationship is significant and weak so, investor should invest in Jakarta stock exchange because of low correlation. Correlation technique is not appropriate technique because it does not deal with the cause and effect relationship so we will move toward co-integration technique.

**Table 3. Unit Root Test**

|  | **ADF Level** | **ADF First Diff.** | **PP Level** | **PP First Diff.** |
|---|---|---|---|---|
| **KSE** | -1.046566 | -4.781220 | -0.85770 | -11.50622 |
| **BSE** | -0.973788 | -4.945540 | -0.734525 | -12.19158 |
| **KLSE** | -1.148914 | -4.945540 | -1.072691 | -10.74196 |
| **JSE** | -0.057129 | -4.937056 | -0.477977 | -10.64870 |
| **Critical Values** | | | | |
| **1 %** | -3.4720 | -3.4720 | -3.4720 | -3.4720 |
| **5 %** | -2.8794 | -2.8794 | -2.8794 | -2.8794 |
| **10 %** | -2.5762 | -2.5762 | -2.5762 | -2.5762 |

Before applying co-integration we do the unit root analysis. Unit root analysis is used to authenticate the stationary of data. Two different analyses to make the data stationary were apply, Augmented Dickey Fuller (1979) and Phillips Peron (1988. Table 3 represents that data was not stationary at level because the Augmented Dickey Fuller values are less than critical values so the data become stationary at 1st difference because the ADF values are greater than critical values (minus sign will ignore). Than the Phillip perron test also shows that the data become stationary at 1st difference because the PP values are greater than the critical values. Now we can run co integration to check the co movement of markets.

**Table 4. Multivariate Co-integration Analysis**

|      | Hypothesis | Eigen value | Likelihood Ratio | Critical value 5% | Remarks |
|------|------------|-------------|------------------|-------------------|---------|
| KSE  | r = 0      | 0.155446    | 44.73363         | 47.21             |         |
| BSE  | r ≤ 1      | 0.058254    | 17.53329         | 29.68             | No co-integration |
| KLSE | r ≤ 2      | 0.044833    | 7.870074         | 15.41             |         |
| JSE  | r ≤ 3      | 0.003009    | 0.485229         | 3.76              |         |

As the data become stationary at $1^{st}$ difference, now we can apply co-integration test. Table 4 represents that there exist no co integration among the 4 stock markets, because the Eigen values and likelihood ratio of all above mentioned stock markets are less than critical values 5%, which mean there is no long term relationship between these markets.

**Table 5. Bi-variate Co-integration Analysis**

|        | Hypothesis    | Eigen Value          | Likelihood Ratio     | Critical Value 5 % | Remarks |
|--------|---------------|----------------------|----------------------|--------------------|---------|
| KSE-BSE  | r = 0 r ≤ 1 | 0.019583 0.012745  | 5.249295 2.065211  | 15.41 3.76       | No Co-integration |
| KSE-KLSE | r = 0 r ≤ 1 | 0.019547 0.101978  | 4.828261 1.650086  | 15.41 3.76       | No Co-integration |
| KSE-JSE  | r = 0 r ≤ 1 | 0.057585 0.000497  | 9.628838 0.080054  | 15.41 3.76       | No Co-integration |
| BSE-KLSE | r = 0 r ≤ 1 | 0.006104 0.006267  | 11.15257 1.012205  | 15.41 3.76       | No Co-integration |
| BSE-JSE  | r = 0 r ≤ 1 | 0.056692 0.000141  | 9.419007 0.225711  | 15.41 3.76       | No Co-integration |

| KLSE-JSE | r = 0<br>r ≤ 1 | 0.067426<br>0.007623 | 11.36171<br>0.122783 | 15.41<br>3.76 | No<br>Co-<br>integration |
|---|---|---|---|---|---|

Table 5 presents the bi-variate analysis. Table 5 represents that there is no co-integration exists between the stock equity markets of KSE, BSE, JSE and KLSE (because the Eigen and likelihood values of the markets are less than critical values 5%). Co-integration tells about the long term relationship between different data series, but it does not show the lead lag relation so, we further run the Causality test.

**Table 6. Granger causality test**

| Null Hypothesis: | Observations | F-Statistic | Probability |
|---|---|---|---|
| **BSE does Granger Cause KSE** | **161** | **4.037377** | **0.003857** |
| KSE does not Granger Cause BSE | | 1.141113 | 0.339396 |
| **KLSE does Granger Cause KSE** | **161** | **3.914567** | **0.004701** |
| KSE does not Granger Cause KLSE | | 6.980768 | 3.47E-05 |
| **JSE does Granger Cause KSE** | **161** | **3.059017** | **0.018541** |
| KSE does not Granger Cause JSE | | 1.782366 | 0.135212 |
| KLSE does not Granger Cause BSE | 161 | 1.696782 | 0.153599 |
| BSE does not Granger Cause KLSE | | 0.942403 | 0.441184 |
| JSE does not Granger Cause BSE | 161 | 2.383824 | 0.053835 |
| **BSE does Granger Cause JSE** | | **2.566142** | **0.040468** |
| JSE does not Granger Cause KLSE | 161 | 0.281784 | 0.889429 |
| **KLSE does Granger Cause JSE** | | **4.723718** | **0.001276** |
| **If it is less than 0. 05% than null is rejected and alternative is selected.** | | | |

To check the lead lag relation we run granger causality test. Table 6 presents the Granger causality test, which shows that there is one sided relation between markets. Bombay Stock Exchange brings change in Karachi Stock Exchange, but the Karachi Stock Exchange does not bring any changes in Bombay Stock Exchange and vice versa.
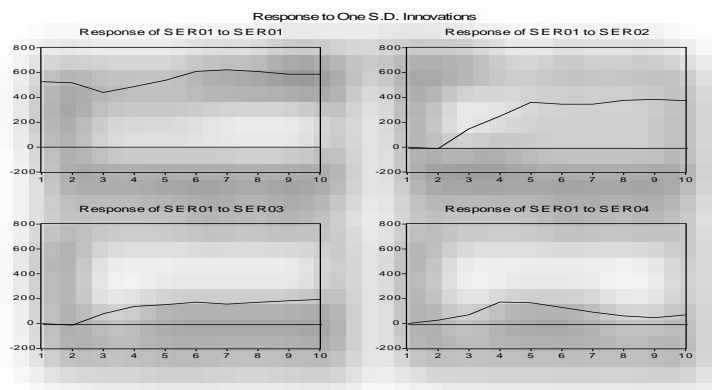
**Figure 1. Impulse response**

Figure 1, exhibits the Impulse response test which provides information about the response of Karachi stock exchange to one standard deviation change in Bombay stock exchange, Malaysia stock exchange and Jakarta stock exchange. It is graphical presentation of relationship in the VAR system.

**Table 7. Variance decomposition of KSE**

| Period | S. E. | KSE | BSE | KLSE | JSE |
|--------|-------|-----|-----|------|-----|
| 1 | 0.085988 | 100.0000 | 0.000000 | 0.000000 | 0.000000 |
| 2 | 0.091562 | 91.09985 | 0.319530 | 1.482501 | 7.098123 |
| 3 | 0.095230 | 86.20488 | 5.234038 | 1.963902 | 6.597178 |
| 4 | 0.099238 | 80.72645 | 5.108231 | 1.808514 | 12.35680 |
| 5 | 0.104067 | 77.19725 | 6.459121 | 2.314091 | 14.02953 |
| 6 | 0.108284 | 77.64291 | 6.597290 | 2.137756 | 13.62204 |
| 7 | 0.110498 | 77.47240 | 6.341062 | 2.754381 | 13.43216 |
| 8 | 0.112984 | 76.04003 | 7.414407 | 2.764061 | 13.78150 |
| 9 | 0.116956 | 75.71611 | 7.235557 | 2.590696 | 14.45764 |
| 10 | 0.120094 | 75.45794 | 6.912691 | 2.485036 | 15.14434 |

The variance decomposition shows that Karachi stock exchange does not change due to change in other markets, the changing are in stock return of KSE is due to its own market fluctuations. As shown in the above table that 100% changes in Karachi stock exchange happens due to its own fluctuation and innovation in one period of time.

**Table 8. Variance decomposition of BSE**

| Period | S. E. | KSE | BSE | KLSE | JSE |
|--------|-------|-----|-----|------|-----|
| 1 | 0.079024 | 8.072262 | 91.92774 | 0.000000 | 0.000000 |
| 2 | 0.081634 | 9.053625 | 89.36731 | 1.526808 | 0.052259 |
| 3 | 0.086675 | 9.472565 | 87.32746 | 1.392370 | 1.807604 |
| 4 | 0.090828 | 9.152728 | 86.99463 | 2.132278 | 1.720366 |
| 5 | 0.096720 | 8.884935 | 87.26482 | 2.085186 | 1.765058 |
| 6 | 0.101436 | 8.777837 | 87.50762 | 2.004300 | 1.710243 |
| 7 | 0.105828 | 8.955960 | 86.99674 | 2.004645 | 2.042660 |
| 8 | 0.109334 | 9.165251 | 86.55051 | 2.321727 | 1.962512 |
| 9 | 0.113354 | 9.071998 | 86.76524 | 2.328563 | 1.834198 |
| 10 | 0.117708 | 9.089809 | 86.97211 | 2.181349 | 1.756735 |

These results show that Bombay stock exchange brings 91. 927%change due to its own market fluctuations, and 8. 072%change due to Karachi stock exchange, rest of two does not have any impact on Bombay stock exchange.

**Table 9. Variance decomposition of KLSE**

| Period | S. E. | KSE | BSE | KLSE | JSE |
|--------|-------|-----|-----|------|-----|
| 1 | 0.064779 | 0.881757 | 7.061467 | 92.05678 | 0.000000 |
| 2 | 0.070335 | 4.901415 | 7.049270 | 87.68835 | 0.360969 |
| 3 | 0.076414 | 4.881980 | 8.974064 | 84.98656 | 1.157399 |
| 4 | 0.078597 | 5.126060 | 8.590483 | 84.44845 | 1.835008 |
| 5 | 0.082670 | 8.723370 | 8.849636 | 80.35213 | 2.074865 |
| 6 | 0.087709 | 7.764861 | 10.01615 | 78.03004 | 4.188947 |
| 7 | 0.091229 | 7.177366 | 9.626931 | 77.79211 | 5.403598 |
| 8 | 0.094267 | 6.800538 | 9.445692 | 78.60833 | 5.145440 |
| 9 | 0.096289 | 6.521457 | 9.256702 | 79.14234 | 5.079500 |
| 10 | 0.099152 | 6.247096 | 10.31932 | 78.20757 | 5.226011 |

The result shows that 92.056% change in the kuala-lumpur stock exchange is due to its own market fluctuations, 7.0614% changes due to Bombay Stock Exchange, 0.881%change due to Karachi stock exchange but not affected by the Jakarta stock exchange in a one period of time.

**Table 10. Variance decomposition of JSE**

| Period | S. E. | KSE | BSE | KLSE | JSE |
|--------|-------|-----|-----|------|-----|
| 1 | 0.075782 | 2.094783 | 27.81560 | 19.11641 | 50.97321 |
| 2 | 0.087733 | 3.995612 | 24.38633 | 31.98141 | 39.63664 |
| 3 | 0.092332 | 4.822541 | 22.97196 | 36.34987 | 35.85563 |
| 4 | 0.094333 | 6.222772 | 24.01324 | 34.83045 | 34.93354 |
| 5 | 0.099074 | 5.643802 | 27.21857 | 34.22306 | 32.91457 |
| 6 | 0.105770 | 7.027904 | 25.19028 | 37.42781 | 30.35401 |
| 7 | 0.111213 | 7.106750 | 24.57430 | 37.94013 | 30.37882 |
| 8 | 0.116347 | 7.730529 | 25.32785 | 38.60795 | 28.33367 |
| 9 | 0.118926 | 7.958040 | 25.49270 | 39.07765 | 27.47161 |
| 10 | 0.121973 | 7.795428 | 26.48920 | 38.66134 | 27.05402 |

This shows that 50.97321% changes in Jakarta stock exchange is due to its own market fluctuations, 27.81% change due to Bombay stock exchange, 19.11% change due to kuala-lumpur stock exchange in one period of time.

## 5. Conclusion

Karachi stock exchange is offering high risk and high return than any other above discussed markets. Markets are positively but weak correlated with each other. Co-integration results shows that there exists no co-integration among the Karachi stock exchange and other above discussed stock markets of Asia. And number of changes in Karachi stock exchange occurs due to its own factors. As the study reveals that no long run linkages and no co-integration are found in these markets so this means that prospective investor can invest their wealth in these markets in different assets classes or can make efficient portfolio by purchasing securities from these stocks markets.

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# Banking Marketing Mix Trends in a Digital Era

## Cătălina Chirica[1]

**Abstract:** We live in a dynamic world, with everything changing more rapidly than perhaps ever before. Changes are simultaneously a cause and an effect in this world, triggered and affecting both companies (including banks) and consumers. Pro-activity and reactivity are key words. Adaptation of strategies, focused consumer targeting, extended usage of new technologies, rapid growth of online environment, breakthrough of social networks and smartphones, all represent factors that converge to one direction: a digital era, when companies/banks should focus on their clients' fidelity and have an in-depth understanding of their market in order to create a real competitive advantage.

**Keywords:** consumer behavior; online platforms; alternative communication channels; client fidelity

**JEL Classification:** G21; M31; M37

## 1. Overview of Marketing Mix in the Banking Sector

The general understanding of the marketing mix is that of a set of instruments and techniques, used by companies to sell products and services in a profitable way. Alike any service field of action, the marketing mix presents, similar to goods, the very same well known 4 components: product, price, distribution/placement and promotion.

Evaluating the best marketing mix is actually reflected in achieving objectives and client satisfaction, meaning the performance attained through the best combinations of products/services, distribution systems, price levels and marketing communication that all together make the product/service more attractive than the competition's.

Still, […] in practice, the presence of all 4 elements is not necessarily required. According to Philip Kotler, the marketing mix is translated by „various levels relevant to marketing decisions at one point. " (Manole & Stoian, 2004, p. 87)

"Without any doubt, the product is the main component of the marketing mix. No matter how competitive the price, or how efficient the distribution or how inspired the promotion, should the product not meet the standards imposed by the market,

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the company will have no success in the long run. Among the main preoccupations of the marketing specialists in relation to the best offer of products and financial services, we include aspects related to the quality and performance of financial service, development and adaptation of products and financial service, finding ways to renew financial products and service by means of adding new features. The actual bond between producer/supplier and his consumer is the product/service offered, that has to satisfy a customer's need beforehand, and also, to provide him satisfaction, perceived satisfaction. " (Meghisan & Nistorescu, 2004, pp. 137-140)

It is extremely important to make the difference between satisfaction as a result of satisfying a need and perceived satisfaction, which, in an optimal scenario, also includes value added by the supplier and perceived by the consumer in relation to how his/her need, was fulfilled. The difference between two products or services identical as range (credit, insurance, mobile phone, detergent etc. ), but different as brand (Unicredit versus Bancpost, Vodafone versus Orange, Ariel versus Bonux etc. ), given constant or at least resembling the other three marketing mix elements policies, represents a pretty good example in this way.

In general, the price policy of a bank defines its attitude towards clients, by means of using various instruments related to the services or products it offers: interest, commission, taxes etc. That is why the paid price must be analyzed with that of the competitions and to clearly reflect a value associated to the utility perceived by a client. Banks elaborate various decision making variables depending the objectives: costs involved by the respective service, risk taken, competition, macroeconomic environment and stipulations etc.

"The distributionhas as main purpose to share products and services for the market, given optimal conditions. Presently, banks in Romania use their territorial network of branches, ATMs, POSs and informatics systems (Internet and mobile banking). When talking about distribution, it is not only logistics that is important, but also additional aspects such as studying buying habits, points of sale preferred by consumers, frequency of purchase, quantities purchased, criteria of selection etc. " (Dedu, 2003, p. 204)

The choice of distribution channels can provide a strong and sustainable competitive advantage, as it is a real element of differentiation between companies in a sector characterized by product trivialization and price competition subject to restrictions.

"Promotion is represented by the process that banks follow to let clients know the features and benefits of the bank financial products using specific communication and boost sales tools. In terms of promotional aspects, the two main research directions are consumer opinions and suggestions on one hand, and comparing consumer perceptions and reactions relative to various media advertising on the

other hand. For promotion we use various communication channels and public relations. ” (Cetina & Odobescu, 2007, p. 143)

The promotional policy is the only variable of banking marketing not subject to in force restrictions. At the same time, bank communication with customers is different from other service companies. For most of the latest, direct contact with the clients is only episodic, while the relationship between the bank and its customers is continuous. The bank's profitability is built on consumer loyalty, both depositors and borrowers. The promotion policy is also the only weapon that can be better handled by the bank and whose implementation faces challenges related to bank complexity in terms of marketing policy.

Because services are intangible goods, buyers are looking for various more tangible criteria to help them better understand the respective service. These particular features result in including some additional variables for effective communication with customers. As a result for the banking sector, the relevant literature (Ennew & Wright, 2000) emphasizes two new elements in the marketing mix:

- The staff providing services, that has the ability to know and understand the customer's needs;
- Physicalevidence, financial aspects related to the activity.

According to Philip Kotler(Kotler & Armstrong, 2003), the starting point in studying consumer's behavior is the stimulus-reaction model, according to which a series of marketing incentives, but not only, enter the consumer's black box and triggers certain reactions.

The marketing incentives are in fact the four Ps of marketing mix: product, price, placement and promotion. Incentives, other than marketing ones, refer to economic, technological, political and cultural aspects. These categories trigger a series of reactions on behalf of the consumer, such as the product chosen, brand, distributor, moment of purchase and quantity.

The process of transforming incentives into reactions is built on two phases: first, consumer features influence the way he or she perceives these incentives and secondly, the decision making process itself influences the consumer's behavior.

## 2. Market Reactions – Effects in Banking Consumer's Behavior

A mirror image of the financial banking market changes and the reaction of individual consumers can be built based on the expressed needs and desires of the consumers themselves. Having an accurate understanding of what affects the banking consumer's behavior is of utmost importance in terms of their retention and fidelity.

On the retail segment, changes in the actual consumers' behavior related to banking products and services have been evident even since 2006, a milestone in terms of aiming at a mature image of our banking market, of course mature in a limited perception, meaning a wide offer and focus on having more flexible procedures.

If in 2005, the in vogue products where salary and car loans, in 2006, the star of the show for the banking system was the personal needs loan, that has gone through several significant changes itself: first, having co-debtors was no longer a condition, providing documents for the usage of the loan was also eliminated, loan periods and amount limits were extended, more income sources were acknowledged by banks, loans could be refinanced, more product options were developed by banks, including a significant personal needs loan with mortgage insurance, that could actually compete with mortgage loans on the market.

2007 was also rich in changes, as a result of banks' strategies to increase the product's life cycle, by means of extending the range of incomes acknowledged for granting a loan, including refinancing from the same bank.

Banking cards were next in line in terms of products in the spot light. 2004-2005 was a period when debit cards were used by Romanians to get their salaries, yet salaries were withdrawn from ATMs, "for safety purposes", as the population had little trust in the system and felt no confidence in using them. There was no habit pattern or education in using cards.

Credit cards, more and more diversified, led to replacing small value personal loans and were requested by clients mostly to cover "unexpected situations" or to have more money for vacations expenses. A niche product was the co-branded card, similar to the loyalty card issued for companies with a high number of employees and serving both as banking card and job access ID.

On the retail market, during the past years, one important change refers to a significant increase of the usage of cards for shopping goods and services. As such, by year end 2011, the number of issued cards, including co-branded ones, reached over 35 million.

Consequently and related to the card activity, the number of owners using the card for Internet transactions also grew significantly. For 2012 alone, the market is estimated to reach 5 million transactions, with 30% more than in 2011. Such an increase is huge in terms of market changes of habits and pattern of usage. No other product in the banking market has ever registered such a push. In terms of Internet buying volumes, the value is estimated at Euro 250 million, with an

average transaction amount close to Euro 50. For comparison, in 2011, the value of transactions was around Euro 200 million[1].

In terms of motivations for online shopping, users respond to special offers, discounts and low prices. The most popular products purchased in online shops are mobile phones and accessories (29%), and in case of biddings, computers (39%) seem to be the most appealing.

The cards market will continue to grow as new technologies are used in everyday life. An example as such is the card with chip, replacing more and more the magnetic cards, so as to ensure higher security levels for data and transactions and therefore to answer consumers' need to feel their funds safe and secured.

Any company, regardless of the field of activity, must focus first on existing clients' fidelity and secondly on getting more clients. Banks make no exception. And along time have proven to be able to develop interesting methods to maintain their clients. It is true they started again from cards, but there's a good explanation for that: cards involve a lower amount of money; therefore the "price" behind the client-bank relation is less burdening on the consumer's decision making process and financial effort, which actually leads to a less discomforting debt idea for the consumer. So, in terms of working on clients' fidelity, for credit cards for instance, banks grant an extended "grace period" of up to 60 days in Romania, a higher credit limit and various benefits when shopping at certain partner stores.

In Europe, the co-branded and affinity cards percentage reached 22% of all credit cards even since 2007, whereas in the USA it was more than double: 45%. The most frequent fields of activity of co-branded cards partners, according to consumers' preferences, supermarkets and gas stations rank first and second, whereas on third place, men point out electronic devices stores and women point out those fashion related[2].

Card owners want their cards to be unique by design and to be different from others. According to a worldwide research performed by MasterCard, individual clients and small entrepreneurs show a significant amount of interest towards services to personalize cards. According to the study, up to 70% of individuals and 85% of small entrepreneurs want a personalized card. And apparently, having a personalized card would also determine up to 33% users to increase their frequency of usage.

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[1] Editorial room, www.evz.ro, retrieved from http://www. evz. ro/detalii/stiri/romanii-fac-tot-mai-multe-tranzactii-online-crestere-cu-30-in-2012-991484.html, date: 11.07.2012.
[2]Editorial room, www.bankwatch.ro, retrieved from http://www. bankwatch. ro/2010/07/cum-pot-fi-fideliza%C8%9Bi-clien%C8%9Bii-bancilor/, date: 02.07.2010.

According to a Global Consumer Banking Survey[1], clients tend to exert a high control over their relation with banks, becoming less loyal to the main bank they work with, and more willing to work with several banks in the same time. According to the results of the study, globally, the number of clients that work with one bank only lowered to 31% in 2012, from 41% in 2011, whereas the number of clients working with two or three banks increased from 21% to 32% in the same time period. The multi-banking trend seems to have been mainly triggered by the clients' desire to obtain better rates (34%) and better banking services (34%).

In other words, they may chose a bank to get a loan based on interest rates, whereas for a credit card or Internet banking services they would chose the bank based on the quality of service. We can try to draft a consumer's decision making around: " when it's money I have to pay involved, it's best I look at costs, when it's quality service and better understanding and attention I get, it's best I chose a bank I like".

Globally, only 44% of clients state that the banks they work with adapt products and services so as to match their needs and requirements. 70% of clients would be willing to provide more personal information if by doing so, they would actually get better service.

In other words, clients are willing to built and invest trust in their relation with a bank, provided the bank responds to their needs and treats them individually, more than a name in the data base.

Given comfort and accessibility regardless of hours, Internet banking is becoming more popular among clients performing simple transactions. And again, this type of service seems to have been favored by banks in terms of applying strategies for their clients' fidelity. 27% of respondents in the study performed by Global Consumer Banking Survey they are already registered for such a mix of services, which is 50% considerably higher than in 2011.

According to the same study, the majority of consumers (71%) rely on references from close friends for information on banking products and services. Banking websites that help consumers with comparisons between products, websites that were almost inexistent five years ago, seem to rank second in this top of information preferences and have an influence over clients' decisions, way more than banking consultants do.

We may assume this may be due to proximity, time and at hand solutions, or with objectivity, transparency and degree of banks' front office quality staff.

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[1] Ada Stefan, www. incomemagazine. ro, retrieved from
http://www.incomemagazine.ro/articol_78548/tot-mai-multi-clienti-vor-sa-si-schimbe-banca-afla-de-ce.html, date: 28.06.2012.

Social networks are also used for interactions with banks. One third of clients use social networks to comment on various services and even to share information with friends.

And again, we may assume this has to do with the daily frequency interaction rate that favors close friends, proximity and lack of rigid language, because on social networks the communication is less corporate and more consumer friendly. This is rather important, because people don't have a high education in terms of banking terms and fear or avoid asking when they don't understand. In addition, the degree of Internet usage rate has grown significantly in the past years, and trends do show a high concentration towards online, for almost everything.

## 3. Technology Trends on the Banking Segment

Like all market segments nowadays, banks are going through an adaptation process, triggered both by changes in the economic environment and technologies. Financial-banking institutions focus their activity on classic banking operations and adopt new business models, based on their relation with the client and focusing on obtaining his fidelity. On the other hand, the development of technologies determines banks to adopt new solutions and to integrate them in the already built architecture of distribution channels for service and products.

Given the present context, some technological trends in banks may be noted, including for Romania: solutions for the new mobile environments such as smartphones, tablets etc., their integration with existent technologies, social media, clients, central point of strategies, and analysis of increased heterogeneous amount of diversified data.[1]

The Internet has changed every day life of consumers and as a result, their behavior towards banks and all industries actually. The rapid spread and usage of new technologies, speed of usage of smartphones, increase of time spent online, all are highlights of these trends.

Present day's consumer has multiple methods to interact with his bank, from Internet, to mobile phones, social media etc. The rate of internet banking breakthrough has doubled in EU countries, from 19% in 2003, up to 40% in 2010.[2] When it comes to internet banking, Scandinavian countries have the highestbreakthrough rate of over 70%, whereas Eastern Europe countries still have lots of room to grow.

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[1] Bogdan Popescu, www.efinance.ro, retrieved from
http://www.efinance.ro/articol.php?id_revista=201202&id_sectiune=epayments&ordine_sectiune=1,
date: 05.04.2012.
[2] Editorial room, www.privatebanker.ro, retrieved from http://privatebanker.ro/archives/4826, date:
23.01.2012.

Norway 83%
Netherlands 77%
Iceland 77%
Finland 76%
Sweden 75%
Denmark 71%
Estonia 65%
Luxembourg 56%
France 53%
Belgium 51%
Latvia 47%
UK 45%
Germany 43%
**EU15** 40%
Austria 38%
Lithuania 37%
Ireland 34%
Slovakia 33%
Slovenia 29%
Spain 27%
Poland 25%
Czech Republic 23%
Croatia 20%
Hungary 19%
Portugal 19%
Italy 18%
Greece 6%
Turkey 6%
Macedonia 4%
Romania 3%
Bulgaria 2%
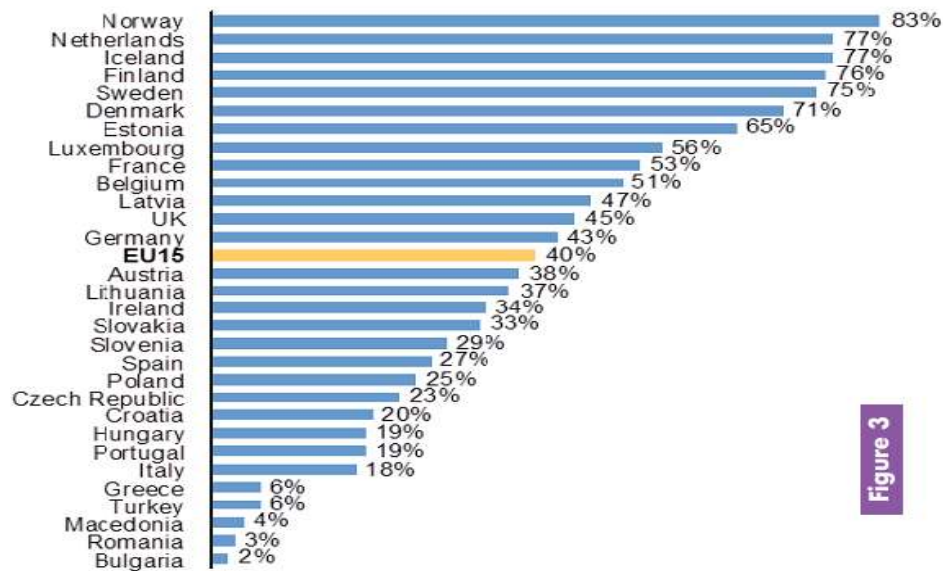
Figure 3

**Figure 1. Internet banking breakthrough rate in various countries**[1]

The evolution of transactions performed by Romanian clients over internet baking shows increasing volumes. On the other hand, the market goes through a polarization process, as up to Euro 2 billion annual transactions are processed by two banks alone (ING Bank, BCR Erste Bank), and other 2-3 banks have volumes close to Euro 1 billion (Unicredit Tiriac Bank, BRD Groupe Societe Generale, Banca Transilvania).

Along with the growing popularity of smartphones, banks have proven interest in implementing mobile banking solutions. The first step was to adapt online banking solutions to mobiles such as iPhone and Android. Even if still a niche business, the mobile banking has a huge potential: it's easy to use, with immediate access, anytime, safe and secured.

The advantage of mobile banking is obvious: first, the comfort, an always welcomed bonus in the fast forward pace of today. Second, the possibility to perform transactions directly from the mobile phone that is a time saving and at hand solution for any client. According to some social research, it seems a user knows he doesn't have his phone with him in the first 15 minutes, as compared to four hours in the case of the wallet.

In Romania, the high breakthrough rate of mobile phones, along with an increasing number of smartphones (estimates are around 2-2.5 million) have started affecting

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[1] Editorial room with Eurostat data, www.privatebanker.ro, retrieved from
http://privatebanker.ro/archives/4826, date: 23.01.2012.

consumers' behavior and guide them toward using smart technologies for a series of activities: online shopping, banking operations, media consumption etc.[1]

Almost all banks in Romania reward their clients with the smartphone internet banking application for iOS and Android. Banking apps for smartphones offered by ING Bank, Raiffeisen Bank, Banca Transilvania, Citibank, Nextebank, Millennium Bank and Garanti Bank are free of charge and work on both platforms. These apps support operations such as balance account check, money transfer, loan simulation, deposit simulation, currency exchange calculator, interactive maps of bank's ATMs, as well as invoice payment by means of bar code scanning with the photo camera.

Tablets are the youngest channel used by banks to address clients' needs. The rapid growth of sales registered by this product forces banks to target clients using tablets, offering tailored services for this gadget as well. A new trend in the banking sector shows clients reducing their degree of interest in emails in favor of message centers such as secured web portals. The switch of communication towards such a platform has greater benefits, including lowering the phishing attacks rate. Several banks use emails as information support for marketing campaigns or account status, having links and text within the email body, which makes it very difficult for clients to make a difference between accurate bank message and fake ones, phishing attacks. It is not only clients that are targeted by such attacks, but also bank employees. It did happen that banks were caught off guard and unprepared for such attacks.

That is somewhat in favor of mobile banking solutions, because they bring value added in terms of service provided to clients that value time, resources, low costs and maximum of efficiency. The biggest challenge for banks is that of educating clients towards using alternative channels for banking service and products in order to make the best of use of them. Another challenge is that of a relatively low number of users as compared to the bank's initial big investment, which actually prevents this field to develop at full capacity. Mostly, despite the usage of smartphones, the extent to which mobile banking is to develop depends on the growth of mobile traffic, speed of transactions via mobile phone and security level provided to clients.

As a conclusion, we can sum up a number of five major trends in terms of banks development towards the digital environment:

1.  Improvement of usage experience by means of implementing interactive interfaces, similar to electronic games, to ease the migration between

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[1] Alexandru Ardelean, www.revistabiz.ro, retrieved from http://www.revistabiz.ro/dam-banca-pe-mobil-597.htm, date: 07.06.2012.

virtual and offline environments, allowing clients to easily access financial information;

2. Development of mobile platforms and connection technologies, to facilitate safe access to banking services regardless of location;
3. Extended use of social networks, allowing both clients and employees to interact, empowering the clients more than the bank's rigid messages;
4. Extensive usage of analysis tools to understand consumers' needs and desires, looking more in depth for consumer behavior patterns and allow specific targeting;
5. Integration of new channels (online, mobile etc.) in order to facilitate a continuous communication between the client and the banking services supplier, on various platforms in the digital environment.

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# Ethical Issues in Insurance Marketing
# The Case of Western India

## Sorab, Sadri[1], Sharukh, N. Tara[2]

**Abstract:** This is a paper based on empirical investigation conducted in Western India between 2002 and 2012 especially at a time when the Indian economy is in a stage of transition from state capitalism to free market capitalism, albeit both of a retarded variety. It takes the 7 Ps of services marketing and cross verifies responses against seven dimensions of ethical conduct. The study is based on questionnaires followed by interviews. The target respondents were life insurance employees of bank assurance involved in marketing life insurance policies to customers in the urban sector. The study brought to the fore the fact that commissions were more important that telling the truth while selling policies. In the process ethical considerations conveniently went out of the window. To protect the interest of the unsuspecting clients a plea is made to have governance machinery in place that will make the insurance marketing personnel accountable for what and how they sell their wares. This need is especially felt in a country where the social security net is virtually non-existent and the erstwhile joint family system is on a fast decline. In such circumstances a lack of ethical norms on the part of the insurer is an unacceptable sociological proposition and borders on gross unethical behaviour. The task of people management experts to address this issue is of the paramount importance and urgency if the Indian life insurance industry is to sustain its social image in a highly competitive market where foreign players are steadily entering the domestic scene.

**Keywords:** empirical investigation; Western India; Indian economy

**JEL Classification:** M31

## 1. Background

It is hard to find an executive who would disagree with what Woody Allen says above. The second name for an insurance salesman is persistence and why not? His/her life depends on the sale made no matter what the cost to the customer may turn out to be. There is an old saying that goes something like this. *An actuary is an accountant without the personality.* If we were to ask a common man in India he will very likely to say that insurance is a necessary evil especially when there is no

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state security cover available. If we were to ask a person working in the insurance industry, most people would tend to confide in saying that insurance is boring. Many B-School graduates in India would rather opt to wait for a while, unemployed than join an insurance company which offers them a job. Far from bringing to the fore any imagination of the intellectual variety it is more likely to bring out the fraud and deceit character in the salesman who tends to hide the fine print and sells a lemon for the price of gold. A typical insurance salesman is a smooth talking silver tongued individual who makes it amply clear that buying the policy would be the best thing one has ever done and except for a minority of such individuals, they become conspicuous by the absence from the scene once the policy has been sold. Interaction with clients who felt they were duped by insurance brokers one is easily reminded of Shakespeare's Julius Caesar and the famous words uttered by Caesar after being stabbed by Brutus: *Et tu, Brute! Then fall, Caesar.* Seeing his trusted confidant Brutus among the assassins caused Caesar more pain than the daggers themselves. Mark Antony eloquently analyses this:

*For Brutus, as you know, was Caesar's angel:*

*Judge, O you gods, how dearly Caesar loved him!*

*This was the unkindest cut of all.*

In real world perception often becomes the reality and so we believe that financial planners who operate even in the light-grey areas of ethics run the risk of playing the role of Brutus. If the utterances of CII and other professional bodies in India are anything to go by, corporate governance and business ethics is high on the agenda of CEOs who head insurance companies. Whether that percolates down the hierarchy is another matter altogether. The balancing act between long term goals and short run imperatives is not easy under the smoothest of conditions.

Any violation of ethics by a financial professional is cause for concern, but we opine that an ethics violation relating to insurance could be especially onerous. The purpose of insurance is to provide protection, and in this sense clients are in a vulnerable position when they place their faith in the financial planner. The planner who sells an insurance policy that is inappropriate or overpriced is analogous to a policeman who burglarizes a house or a minister who steals from the collection plate or a nurse who intentionally administers the wrong medication. Their positions, and perhaps their actual voices, say, "Trust me." Such duplicity, we opine, is not just wrong, but it is traitorous.

How often do we find a financial planner looking forward to the opportunity of attending an ethics seminar? Foe many ethics is an unnecessary hindrance to business, (read profits). For many financial planners, operating according to the Biblical Golden Rule—*do unto others as you would have them do unto you* - seems sufficient. There is an amazing universality of the Biblical Golden Rule. Some

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version of it is embraced by most of the major religions of the world, including Judaism, Buddhism, Hinduism, Islam, Zoroastrianism and Confucianism. However, in an old time move "the Fastest Gun Alive", the hero says *in my line of business, padre, you do it to others before they do it to you*. That seems to be the credo of many insurance salesmen fighting over the finite pie (read customer base).

Let us for the sake of an example consider two hypothetical college roommates. Shrikant comes from a large family and has a share-and-share-alike attitude. Divakar is an only child who has always had everything to himself. Shrikant thinks nothing of smoking the cigars that Divakar purchased, and would be perfectly happy if Divakar ate some of Shrikant's homemade delicacies. Divakar, on the other hand, would never eat someone else's delicacies unless they were offered to him. He (perhaps even) writes his name on his cigar carton to discourage Shrikant from taking any, and practically accuses Shrikant of theft if even if the cigar carton is displaced or has its lid partly open. Shrikant thinks Divakar is miserly and selfish. Each roommate applies his own standard fairly to himself and his roommate, yet each thinks, nay believes that the other is misbehaving. Now let us imagine that Shrikant is a financial planner and Divakar is his client. Could be justifiably suppose that Divakar will be satisfied knowing that Shrikant follows the Biblical Golden Rule?

Since applying the Biblical Golden Rule fails to acknowledge cultural and personal differences, we posit an alternative Universal Diamond Rule thus phrased: *do unto others as they would have you do unto them.* What seem to be more predominant is the (pragmatic) attitudes of *do not expect others to do unto you what you would have them do unto you*. Thereby we are applying the other person's standards to ourselves rather than forcing our standards upon them. Now suppose one were to come across an egotistical professor of ethics, he/she would probably have followed the rule: *I shall, in light of all conditions surrounding those I serve, which I shall make every conscientious effort to ascertain and understand, render that service which they would apply to themselves if they were as knowledgeable and competent as I am.*

If there really were a Universal Diamond Rule and Ethical Rule, they would represent an effort to personalize service and adopt behaviour that is viewed as ethical by each individual client. Unfortunately, this would mean that they must treat each client differently, which may cause more than a few hard feelings among clients and more than desirable interest from regulators. It also would mean that we must obtain unassailable knowledge of our clients' cultural and behavioural expectations. This is indeed a tough call to make.

If the Biblical Golden Rule implies applying standards that vary from planner to planner, and if the Universal Diamond Rule means trying to apply a set of standards that varies from client to client, what would be the likely solution? The

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solution is for all financial planners to maintain the same set of standards - standards that are clear, protective of the client's interests, published, and acknowledged and agreed to by financial planners. This may sound as if it has been taken straight out of a Corporate Governance Handbook, but is it realistic, we ask?

One of the most or in fact the most important element in any insurance deal is the degree of trust. This point was eloquently driven home in an interview by Martin Taylor of Norman A. Baglini, former chairman and chief executive officer of the American Institute for CPCU, the Insurance Institute of America, and the Insurance Institute for Applied Ethics in November 1998 when the following issues were highlighted. (1995-2000) the Institute for Global Ethics, Camden, Maine)

Trust is a fundamental principle of insurance. The insurance agent who writes a policy, and the underwriter who approves it as business for his company, must trust that the information on the application is correct. The agent and the company providing the insurance must trust that the policyholder making a claim will accurately assess the loss. In turn, the applicant must trust that the agent is giving proper advice, untainted by a conflict of self-interest. The applicant must trust that the company underwriter will not discriminate when establishing the premium. Lastly, the policyholder must have faith that the company adjusters will pay a fair amount for a claim, should it become necessary. In the absence of trust, the transactional fees from legal and governmental bodies would make a business like insurance difficult at least, and perhaps impossible. Without trust, insurance cannot perform its proper function as a risk management device for companies and individuals. No industry depends more on trust, and this trust comes from a series of events in which ethical values are demonstrated. For instance, a life insurance policy might provide coverage for decades, although it is only a piece of paper. That piece of paper, however, commands a series of premium payments totalling thousands of dollars over many years. The same piece of paper, in return, promises a large payment sometime in the future.

## 2. Introduction

In a developing country like India which is making a gradual and often spasmodic transition from being a state capitalist economy to a free market economy albeit both of retarded variety, the absence of a social security network is glaring. Rising unemployment rates and the disintegration of the joint family system have made working people even more vulnerable to the ravages of economic exploitation. (Sadri, 2004) The poor quality of living conditions and health support systems prevailing in the lower order of civil society makes insurance a highly desirable option for the well-being of the dependent members of the urban family. The development path spoken of in political circles then remains but an illusion of progress in reality. (Acton, 1955) Mindsets change as does the socio-political and

economic environment. (Aga, 1994) In spite of the fact that we have been registering development-less growth, India is emerging as a global force to be reckoned with. (Sadri, Tara & Patil, 2012)

It is clear that who-so-ever is dealing in insurance sector must realize that people of India have strong fascination for savings. The Savings Function has traditionally been stronger than the Investment Function demonstrating the feudal-mercantilist mindset of people in rural India. (Hegde and Sadri 1999, Sadri, 2004) Without a state security cover, people would like savings to be linked with risk coverage and therefore insurance has a very important and a powerful attraction for the people. This is the point which we would like to emphasize that public sector insurance companies and specially the LIC has proved that doing business in rural India is profitable, and therefore, do not confine their activities to the urban India only.

Under such conditions it is almost vituperative to find that a life insurance policy is being sold on the basis of half truths and the insurer is often at sea about what vicissitudes of nature he can be protected against and what he cannot. (Sadri and Jayashree, 2007a). The absence a proper countervailing tendency that can act as a governance mechanism to prevent the life insurance marketing agents from taking the unsuspecting client up the garden path only to be dumped when the need arises is also visible. (Niebuhr, 1960; Jayashree, 2003a)

However, in this paper we have concentrated only on *bankassurance channels* for life insurance since the executives in this channel are paid staff and not commissioned based operatives (agents). So the need for them to be at least more ethical than the commission based part time agents is accentuated. (Eisenhardt, 1989) From an initial survey prior to this study, we found that it becomes more important for the sales team to get their bonus than it is for them to play fair. In a study involving ethics of medical practitioners a similar finding arose as well. (Sadri and Jayashree, 2007) The brand name of the company can go to blazes for all they care as long as their coffers are well lined. This was the general impression of the two authors who independently worked on this problem from 2004 onwards only to get together in 2007, compare their notes and produce this paper. (Sadri and Jayashree, 2007) A literature survey was undertaken and the principal works are cited at the end of the paper.

## 3. The Survey Framework

Data after pilot study was collected in three stages. Firstly we examined responses from employees at middle management level. Then we validated this through interviews with senior management personnel in the life insurance industry. Finally we administered another questionnaire and sought senior management response regarding attitudes towards ethical dimensions. (Krishnaswamy, Sivakumar &

Mathirajan, 2006) We took the 7 Ps of services marketing and took 7 dimensions of ethical conduct against which data was collected.

The ensuing discussion has focussed on the plight of the not adequately informed client and thereby to highlight some of the more significant ethical issues in financial services marketing. Similar observations, albeit in slightly different contexts, have been made by Donaldson 1982, Goodpaster 1986 and Oakes 1990. In particular, it is generally argued that the combination of certain structural features in the market for savings and investments products and gaps in the regulatory regime suggest that there is potential for ethical abuses in the marketing of savings and investment products (Sadri Jayashree and Sharma, 2012). Public interest is sacrificed at the altar of personal gain (Sadri and Jayashree, 2008). While there is a considerable amount of anecdotal evidence on the nature of this problem from a consumer perspective, little is known about industry views on the extent to which ethical problems arise in marketing of life insurance policies. The life insurance industry, which constitutes one of the major suppliers of savings and investments products, was selected as an appropriate environment for an examination of managerial perceptions of the extent to which ethically questionable practices are employed in marketing. Data for the study was collected by means of a postal questionnaire distributed on strict conditions of anonymity to *middle managementexecutives* in Indian life insurance companies between September and December 2006. The names and addresses of respondents were drawn from the database generated with the help of management students who undertook their summer projects in these companies during the academic year 2004-05. The questionnaire sought to collect factual information on the importance attached to ethics within the respondent's immediate company along with attitudinal data concerning perceptions of the ethical behaviour of insurance companies, (Sadri *et al.,* 1999). In particular, respondents were asked how frequently they thought their company engaged in a series of marketing activities which have significant ethical dimensions. This issue is particularly relevant given the social role played by the insurance industry the world over as was highlighted by Robin and Reibenbach 1987. We followed the example set in the works of Buccholz 1979 and that of Lacznick 1983 for this purpose. However, Diacon and Ennew's 1996 work in UK is particularly relevant since it adopted a similar approach to ours.

## 4. Results and Discussion

A first draft of the questionnaire was pilot tested on 30 insurance industry specialists and the final form of the questionnaire was distributed to 500 named individuals, who are middle management employees of the leading life insurance companies in western India. A similar approach was also been on a wider scale in Jayashree (et al, 2008). Managerial functional categories were those given in the table below. A total of 118 useable responses were received representing a response rate of 23.6%. A breakdown of the personal characteristics of respondents has been provided in Table 1.

**Table 1. Occupation & Characteristic of Respondents**

| Occupation | Number | Characteristic | No of Respondents |
|---|---|---|---|
| 1. Marketing/sales | 40 | Male (n) | 101 |
| 2. Accounting/finance | 16 | Female (n) | 17 |
| 3. Planning/strategy | 8 | Insurance Qualification | 92 |
| 4. Actuarial | 13 | Average Age | 29.7 years |
| 5. Operational Staff | 26 | Average years in Insurance | 4.3 years |
| 6. General management | 15 | Average time with company | 0.8333 years |

Cronbach's α (alpha) has an important use as a measure of the reliability of a psychometric instrument. It was first named as alpha by Cronbach (1951), as he had intended to continue with further instruments. It is the extension of an earlier version, the Kuder-Richardson Formula 20 (often shortened to KR-20), which is the equivalent for dichotomous items, and Guttman (1945) developed the same quantity under the name lambda-2.

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Cronbach's α is defined as

$$\frac{N}{N-1}\left(\frac{\sigma_X^2 - \sum_{i=1}^N \sigma_{Y_i}^2}{\sigma_X^2}\right),$$

where *N* is the number of components (items), $\sigma_X^2$ is the variance of the observed total test scores, and $\sigma_{Y_i}^2$ is the variance of component *i*. Alternatively, the standardized Cronbach's α can also be defined as

$$\alpha = \frac{N \cdot \bar{r}}{(1 + (N-1) \cdot \bar{r})}$$

where N is the number of components (items) and $\bar{r}$ is the average of all (Pearson) *correlation coefficients* between the components.

It has been seen that Cronbach's alpha will generally increase when the correlations between the items increase. For this reason the coefficient is also called the internal consistency or the internal consistency reliability of a test. The questionnaire generated by us needed to be tested for reliability before being administered. This was done using Cronbach's alpha and monitored as shown in the table given below. Accordingly, Table 2 details the descriptive statistics of the responses gathered from 118 respondents. It is generally understood that the value of Cronbach Alpha above 0. 65 makes the questionnaire reliable for such type of surveys. Since, the author was interested in studying the correlation between principal components of items/scale with the occupation of the respondents, the extraction of such principal components has also been presented in the Table 2.

**Table 2. Descriptive Statistics and Extraction of Principal Component**

| Scale/item | Measurement | Principal Component | Mean | Std. Dev. | Alpha |
|---|---|---|---|---|---|
| **PRODUCT RELATED ISSUES** | **Mean of items** | | **2.930** | **3.476** | **0.891** |
| Delay in making payment of valid claims | 1 = Always Do … 5 = Never Do | <u>0.840</u> | 3.008 | 1.146 | n.a. |
| Not complying with codes of practice | 1 … 5 | 0.794 | 2.771 | 0.960 | n.a. |
| Use small print clauses to camouflage the truth | 1 … 5 | 0.666 | 3.127 | 1.005 | n.a. |
| Not inform customers about insurance ombudsman | | 0.732 | 2.813 | 0.873 | n.a. |
| **PRICING RELATED ISSUES** | **Mean of items** | | **2.890** | **1.927** | **0.796** |
| Quote higher premiums than necessary to meet targets | 1 … 5 | 0.836 | 3.008 | 1.146 | n.a. |

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| | | | | | |
|---|---|---|---|---|---|
| Do not interpret commission structures to agents to avoid product bias | 1 … 5 | 0.836 | 2.771 | 0.960 | n. a. |
| **PROMOTION RELATED ISSUES** | **Mean of items** | | **3.486** | **1.382** | **0.702** |
| Promote inappropriate and supplementary products | 1 … 5 | 0.644 | 3.678 | 0.662 | n.a. |
| Not inform public fully about privacy or security problems | 1 … 5 | <u>0.795</u> | 3.551 | 0.497 | n.a. |
| Use misleading information about competitors or make negative publicity about them. | 1 … 5 | 0.493 | 3.229 | 0.574 | n.a. |
| **PLACE RELATED ISSUES** | **Mean of items** | | **2.085** | **0.816** | **0.742** |
| Use deceptive marketing by camouflaging the truth and using ambiguous language. | 1 … 5 | 0.805 | 1.975 | 0.512 | n.a. |
| Offer unauthorized gifts to prospective customers and other people who you feel can influence decisions. | 1 … 5 | 0.805 | 2.195 | 0.396 | n.a. |
| **PEOPLE RELATED ISSUES** | **Mean of items** | | **2.008** | **1.782** | **0.708** |
| The Insurance Company does not take adequate pains to train the field sales executives about the product and the process. | 1 … 5 | 0.872 | 1.992 | 0.529 | n.a |
| The field sales executives are not knowledgeable about the product to be marketed and process involved. | 1 … 5 | 0.738 | 2.220 | 0.414 | n.a |
| Not provide adequate training for sales staff | 1 … 5 | <u>0.880</u> | 1.805 | 0.556 | n.a. |
| Not being transparent in rewards and recognitions | 1 … 5 | 0.872 | 1.992 | 0.529 | n.a. |
| Company policies not clearly communicated to those on the field. | 1 … 5 | 0.463 | 2.034 | 0.581 | n.a. |
| **PHYSICAL PRESENCE ISSUES** | **Mean of items** | | **2.106** | **0.852** | **0.757** |
| Branches are opened not for customer service convenience but for penetrating the market. | 1 … 5 | 0.814 | 1.992 | 0.529 | n.a. |

| | | | | | |
|---|---|---|---|---|---|
| Overlook the serviceable locations criteria for want of high premiums | 1 … 5 | 0.814 | 2.220 | 0.414 | n.a. |
| **PROCESS RELATED ISSUES** | **Mean of items** | | **1.959** | **2.128** | **0.670** |
| You always blame the bureaucracy and/or systems for late deliverables. | 1 … 5 | 0.820 | 1.814 | 0.552 | n.a. |
| The process flow is either not communicated to those operating down the line or there is a lot of ambiguity in it. | 1 … 5 | 0.507 | 2.017 | 0.520 | n.a. |
| Long term policies are sold as short to medium term policies by misinforming potential customers | 1 … 5 | 0.766 | 1.924 | 0.507 | n.a. |
| Customers are kept in the dark about charges related to disclosures when physically selling these policies. | 1 … 5 | 0.839 | 2.008 | 0.529 | n.a. |
| The correct combination of insurance and investment in life insurance policy is never disclosed to customers. | 1 … 5 | 0.377 | 2.076 | 0.435 | n.a. |
| The correct combination of fund allocation with respect to investor's age is not discussed in order to lure customers. | 1 … 5 | <u>0.966</u> | 1.932 | 0.578 | n.a. |
| ULIP regular premium plans are sold as savings account, home loans, single premium plans and mutual funds. | 1 … 5 | <u>0.966</u> | 1.941 | 0.541 | n.a. |

Next we took up principal component analysis against the findings of the 7 Ps of services marketing enumerated in the table above. The descriptive statistics merely reveal that ethical violations are the norm. We then extracted the principal components to study the correlation with respect to occupations of the respondents which are being detailed below. Accordingly, for the study of correlation following components were considered (Table 3)

**Table 3. Principal Components Item Wise**

| A | Delay in making payment of valid claims |
|---|---|
| B | Not inform public fully about privacy or security problems |
| C | Not provide adequate training for sales staff |
| D | The correct combination of fund allocation with respect to investor's age is not discussed in order to lure customers. |
| E | ULIP regular premium plans are sold as savings account, home loans, single premium plans and mutual funds. |

Having taken into consideration the most prevalent ethical violations we correlated them with respect to occupation. We found that the correlation between item D and item E of Table 3 was highly and positively correlated. That means correct combination of fund allocation with respect to investor's age is not discussed in order to lure customers much the same way in which as ULIP regular premium plans are sold as savings account, home loans, single premium plans and mutual funds, simply to fulfil the targets of the company. This essentially highlights the fact that unethical practices are plentifully involved in marketing of life insurance in India (Table 4).

**Table 4. Correlations**

|   |   | A | B | C | D | E | Occupation |
|---|---|---|---|---|---|---|---|
| A | Pearson Correlation | 1 | 0.051 | 0.003 | 0.103 | 0.083 | -0.016 |
|   | Sig. (2-tailed) | . | 0.581 | 0.978 | 0.266 | 0.373 | 0.864 |
|   | N | 118 | 118 | 118 | 118 | 118 | 118 |
| B | Pearson Correlation | 0.051 | 1 | -0.010 | 0.041 | 0.058 | -0.059 |
|   | Sig. (2-tailed) | 0.581 | . | 0.913 | 0.656 | 0.530 | 0.525 |
|   | N | 118 | 118 | 118 | 118 | 118 | 118 |
| C | Pearson Correlation | 0.003 | -0.010 | 1 | -0.173 | -0.123 | -0.053 |
|   | Sig. (2-tailed) | 0.978 | 0.913 | . | 0.061 | 0.185 | 0.567 |
|   | N | 118 | 118 | 118 | 118 | 118 | 118 |
| D | Pearson Correlation | 0.103 | 0.041 | -0.173 | 1 | 0.935(**) | -0.094 |
|   | Sig. (2- | 0.266 | 0.656 | 0.061 | . | 0.000 | 0.313 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | tailed) | | | | | | |
| | N | 118 | 118 | 118 | 118 | 118 | 118 |
| E | Pearson Correlation | 0.083 | 0.058 | -0.123 | 0.935(**) | 1 | -0.084 |
| | Sig. (2-tailed) | 0.373 | 0.530 | 0.185 | 0.000 | . | 0.363 |
| | N | 118 | 118 | 118 | 118 | 118 | 118 |
| Occupation | Pearson Correlation | -0.016 | -.059 | -0.053 | -0.094 | -0.084 | 1 |
| | Sig. (2-tailed) | 0.864 | 0.525 | 0.567 | 0.313 | 0.363 | . |
| | N | 118 | 118 | 118 | 118 | 118 | 118 |

** Correlation is significant at the 0. 01 level (2-tailed).

Also, 89 per cent of respondents indicated that their company had a formal statement of its ethical stance and over half (52 %) indicated that the company's mission statement included reference to ethical practices and behaviour. However, we were surprised that not a single respondent could tell us what the ethical stance was! This goes to indicate that at the point of sale, in the life insurance industry, ethics does not feature high in the individual's preferential calculus. We followed an analysis of the questionnaire with a one-to-one interaction with 20 respondents from senior management cadres, who were *not* the strategic decision makers. This statistic works out to 16. 67% of the total questionnaire responses. Care was taken to chose these 20 respondents (albeit randomly) but from those not included in filing the questionnaire. This was to enable us to reinforce our findings which we did.

In the process, we continued to unravel the reason for such unethical marketing practices prevalent in life insurance segment in western India. When we asked how was it that they could not tell us the ethical stance or policy, we did not get a satisfactorily reply. The following table indicates the means or methods of communicating ethical practices employed by life insurance companies towards their employees who go and sell their products. This data was deduced directly from the administered questionnaire (Table 5).

**Table 5. Percolation of Policies**

| Method of communication | Number citing |
|---|---|
| Short training courses | 39 |
| Company newsletters | 11 |
| Staff briefings | 9 |
| Via line managers | 13 |
| Not at all | 46 |
| Total in Sample | 118 |

Insights gleaned from examining middle management and senior management responses confirmed two things:

(a) The respondents were involved in gross ethical violations in their day to day working and

(b) They were either unaware of or did not bother to remember what the company's stance on ethics was.

Unfortunately this places the Human Resources function in life insurance companies in a poor light since they could not create a culture that would effectively negate the above, (Jayashree, 2003a). Since the Human Resource Managers were at sea when confronted with these issues, there also seemed to be a poor level of HRIS which is necessary for the success of every organisation. (Jayashree 2003b) Coming to the question of nailing down the precise ethical norms set by these companies we interviewed the HR Managers of these companies and in the process the following generalised definitions emerged. These give us some insight on how the strategic decision maker thinks and what (subjective) values he attaches to these norms.

(1) Honesty – Employees must not fabricate, falsify, or misrepresent data, or results of past or expected future performance benchmarks. They should be objective, unbiased, and truthful in passing the information to the stakeholders and customers.

(2) Carefulness – It means avoiding errors, especially while presenting result or projections.

(3) Openness – It means sharing data, results, methods, ideas, techniques, and tools to allow the review of analysis and be ready for criticism and new ideas.

(4) Freedom – Free to conduct the research on any problem or hypothesis so that new ideas may freely flow to criticise the older ones.

(5) Education – Employees orientation must be customer minded so that they may educate the customer and train their subordinates about the science of insurance.

(6) Opportunity – Employees must not unfairly deny to themselves the opportunity to use resources or advances in the profession of insurance.

(7) Respect for Subjects – When in the business of insurance, the employees must respect the concept of insurance in *so far as* the customer should fairly benefit.

The scale of collecting data from the investigation was again kept Likert [1 = Always Do … 5 = Never Do]. High values of standard deviation for Carefulness was undesirable, however, the remarks on account of Honesty, Freedom, and Education were not seen in line with the responses from the middle managers as found to be claimed by the HR Manager representing strategic decision makers (Table 6). Also, the mean on account of Openness was not found to be satisfactory.

**Table 6. Descriptive Statistics of Strategic Decision Makers**

|  | Mean | Std. Deviation | N |
|---|---|---|---|
| 1. Honesty | 1.9746 | 0.51411 | 118 |
| 2. Carefulness | 3.0085 | 1.15096 | 118 |
| 3. Openness | 3.5508 | 0.49953 | 118 |
| 4. Freedom | 1.9915 | 0.53102 | 118 |
| 5. Education | 1.9322 | 0.58073 | 118 |
| 6. Opportunity | 3.2288 | 0.57603 | 118 |
| 7. Respect for Subjects | 2.2203 | 0.41624 | 118 |

## 5. Concluding Remarks

Based on our investigative study we have found that the Indian customer is being short changed by the life insurance executives (paid employees). This is because for them incentives and bonuses have a higher value premium than ethical conduct of business. What is worse is that senior management in the industry seems oblivious of this fact. This paints a bleak picture of the industry and exposes the underbelly of peripheral capitalism of a retarded variety. More specifically the following issues were highlighted:

1. There was a great deal of confusion in the perception of managers who thought they owned the process and wanted to protect the *status quo* even

at the cost of sacrificing their professionalism. They consequently felt that not revealing information to clients was passé. Such an issue is a common problem highlighted by studies on agency distribution

2. There was an absence of governance in reality since misleading information and results were given to clients with very little transparency. In spite of this nobody seemed to feel that it was either unethical or improper.

3. There was a serious lacuna in the induction and training process since the respondents were oblivious about what the company's ethical stance was.

4. The correct combination of fund allocation with respect to investor's age was mostly not discussed in order to lure customers. This clearly indicated that either the life insurance agents were taking the issue too lightly and/or were ignorant about the implications of their ignorance. This casts a pale shadow on ethical practices in the life insurance industry.

5. Unit Linked Insurance Plan (ULIP), regular premium plans were sold as savings account, home loans, single premium plans and mutual funds. This involved fraudulent marketing of product as well as blatant misinformation with the intention of getting commission on products that the customer did not really require. Perhaps good governance norms based on sound ethical practices could have obviated this considerably.

In a country where there is little social security, where the joint family system is fast disintegrating and security of employment is not assured post 1991, life insurance industry is a saving grace for the average citizen. Traditionally the LIC was the sole player and in a democracy the government has a vicarious responsibility to safeguard interest of its citizens especially when other players entered the market. This being absent has exposed the average (uniformed) citizen to deception by agents who wanted their commission and managers who wanted to meet their target - both willing and able would stoop quite low. No doubt with the proposed opening up of the economy to Foreign Direct Investment in both Insurance and Retail sectors a plethora of ethics and governance issues will arise but for now we propose to wait and watch how this market driven economy, albeit of a retarded variety, will respond to the changing scenario.

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# Faire Value - Perspective
# of Chance in Environmental Accounting

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**Abstract:** In the stage there are some important problems concerning the environment which have stimulated the initiative of others regarding the necessity of doing something to remediate them. So, the specialists have to come to the solution to increase the quality of the people's lives and find some strategies which offer the possibility to protect the resources of the natural environment in the process of social and economic development (a sustainable development). This concept has signaled people's concerns about the effort to incorporate environmental benefits and costs into making economic decisions. Regarding the reflection of the green or environmental accounting is still very difficult to do because that can be used in different context and with different meanings (national, financial and managerial accounting). In this paper we intend to present how the ecological accounting can be reflected at the fair value in the annual financial statements and what will the business's environmental impact to the sustainable development be.

**Keywords:** fair value; marketing; accountancy; environmental

**JEL Classification:** M41

## 1. Introduction

The accountancy of the XXIst century requests a unique value. A solution for the amelioration of the accountancy information could be, after some of the specialist, the real value. This instrument was introduced by the accountancy-shapers as answer to degradation of the confidence into the financial measurements and regards a new system of evaluation for the assets and the debts of the entity.

While economic accounts have been established to provide policymakers with key national economic indicators, there are no comparable national environmental accounts. To promote the principle of sustainable development, several international institutions have recommended that countries develop environmental accounts. Such accounts provide a framework for collecting and organizing information on the status, use and value of the nation's natural resources and

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environmental assets, as well as on expenditures on environmental protection and resource management.

In 1992, at The United Nations Conference for Environment and Development, taking place in Rio de Janeiro, concrete directions of action for environmental protection were established, from among which we can mention: the elaboration of a guiding document for the administration of the environment in almost all the world (21st Agenda), the cooperation between the poor countries and the rich ones, the harmonization of the concept of economic increase with sustainable development, the rights and the obligations of the states concerning the environment.

Ecological environment accounting is also a managerial tool, with many goals: the control of environmental costs; the realization of investments in less polluting or even in ecological technologies; the promotion of some production process and the promotion of some less polluting products, improving environment-related performance.

Environmental accounts can also provide the basis answering the following questions:

• How much resource rent is being generated, and would different policies increase rent?

• How much resource rent is recovered through taxes and non-tax instruments?

• How much of the recovered rent is invested in other assets, providing the basis for sustainable long-term growth?

The fair view of the financial position and the fair view of the enterprise performance will be completed if we add the information about the implementation of the environmental policies concerning the impact of the company's activities over the environment and over the population (here we also include the financial statements' users).

The implementation of International Financial Reporting Standards (IFRS) has led to frequent comments that it's presented 'fair value-based standards'. While IFRS have long required the use of fair value to measure the cost of green assets or liabilities (in other words, the consideration paid or assumed), the IASB has begun to require that green assets and liabilities should be measured at initial recognition at fair value even when this amount differs from the cost (i.e. the fair value of the consideration given or received). If we consider the historical evolution and written texts FAS the U. S. has over 140, 000 pages, this fact is not surprising. The reality is different. Some situations created rules, fragile IAS for U. S. GAAP, see Enron, WorldCom, but the essence of international convergence project is closer to U. S. FAS IAS. What was to be done in these circumstances regarding application of the

fair value in green accounting? Although the direction followed in individual countries tends to be influenced by domestic resource endowments and environmental and political concerns, there are common concerns that transcend national borders. This fact points to the need to standardize environmental accounting concepts and practices internationally. So, some specialists bring into question the understanding and application of the existing national GAAP and historical cost accounting.

One of the goals of the Proposed Research Project is to provide an understanding of other countries' experience with developing environmental accounts for the purpose of applying this fair value draw the financial statements. More than that, the primary focus of the paper will be to test the feasibility of constructing environmental accounts to determine which types of value would be most useful for policymakers in the company.

## 2. Research Methodology

Our research is based on the interpretive epistemology, as it is described by Chua (1986). The concepts presented into the body of the paper are the result of attempting to understand phenomena through the meanings that people assign to green issues in a business activity, in order to achieve our objective: the need for a new way to present information at a fair value to both external and internal users.

We bring into discussion general elements of sustainability, ecological footprint and Green Accounting to prove the necessity of a national standard on Green Reporting at the fair value. The hermeneutical mode of analysis helped us to constantly move from the whole to the parts of a reporting process, and to integrate it in the relationship between environment and economic entities. The data coming from accounting literature, European and international requirements reflected at the fair value in the annual financial statements and the countries' experience are gathered, analyzed and interpreted in order to bring to light an underlying coherence and sense for the new perspective regarding the real value of Green Reports/Statements.

## 3. Faire Value in Environmental Accounting: Myth and Reality

A growing number of developing countries are also in the process of establishing environmental accounts. Most, if not all, of the environmental accounting systems are linked to some extent with the national accounts of their respective countries.

We live in a system that relies itself on a finite number of resources and develops a wide range of structural properties. The theory of algebraic fractals, developed by F. Colceag, is a conceptual tool that gives us a boost in the understanding of

complexity to reflect at the fair value in the annual financial statements. (Colceag, 2002)

Incorporating the contributions made by Nicolae Georgescu-Roegen and Herman Dally (they applied the laws of physics in the paradigm of social economic metabolism), the authors of the ecological footprint concept underline the necessity of integrating the functionality of social economic systems from the perspective of total dependence of the economic systems to the biophysical infrastructure in the process of conceptual characterization on the hand (Rees, 2001), but, on the other hand, the necessity of reporting at the fair value.

In recent decades the environmental crisis is not a local problem, in a particular country, but it is a global one, having as a high priority target the environmental protection. The conclusions that have been drawn from the United Nations Conference on Sustainable Development 2012 for the Environmental Protection underpinned the necessity of a global scale program for the protection of the environment, as a common goal and at the unique accounting value.

At the same time, the adoption of IFRS has introduced the use of fair values for the measurement at each balance sheet date of derivatives and some other green financial assets and financial liabilities. It has also introduced the requirement to measure share-based payments to employees at fair value. In both cases, these are changes from existing UK practice but the lack of any accounting standards for such items was a significant deficiency in UK GAAP. The definitions that are attachable to the concept of the real value are not much different from a theorist to another. The first definitions were concentrated on the market value. This adjunction has its origins in the patrimonial element, which demanded in the accountancy the evaluation of another value instead of that from the entrance in the patrimony.

A number of organizations are working to establish international comparability in environmental and resource accounts through the promotion of standard methods and concepts. One such organization is the so-called London Group on Resource and Environmental Accounting. The London Group is an informal group of approximately 30 statisticians representing 14 countries and 5 international organizations.

Researchers in this group stressed the need to trace green accounting methods by which they can determine fair value for bookkeeping. Therefore, this paper focuses on the national accounting framework in the development of environmental and resource accounts, which is explained by a number of factors. First, the national accounting framework is well-established and almost every nation compiles a set of accounts that follow this framework. Second, the national accounts are an influential source of economic information with the most widely quoted and used being the Gross Domestic Product (GDP). Third, the development of

environmental and resource accounts that revolve around the framework of the national accounts allows statistical agencies to address long-standing environmental criticisms that the national accounts neglect to measure the contribution of the environment to national wealth.

Environmental and resource accounts can be defined as any systematic compilation of stock, flow or state statistics relating to the environment or to natural resources. To qualify as accounts, these compilations must adhere to predefined principles that specify: what is and what is not, to be measured; what units of measure are to be used; how often measurement is to be undertaken; the geographic scope for measurement; and the format in which results are presented.

The environmental and resource accounts of most countries comprise three major components:

1. The Natural Resource Stock Accounts measure quantities of natural resource stocks and the annual changes in these stocks due to natural and human processes;

2. The Material and Energy Flow Accounts record in physical terms only the flows of materials and energy - in the form of natural resources and wastes – between the economy and the environment;

3. The Environmental Protection Expenditure Accounts identify current and capital expenditures by business, government and households for the purpose of protecting the environment.

The assurance of the green accountancy information quality, in the context of accountancy convergence, has on base the followings:

1. in the last period, there was manifested more and more less confidence into the financial measurements;

2. the need of the harmonization of the accountancy information, for the capability of answering to the requests of globalization;

3. the accountancy appears much more as a social game, in which the actors could be interpreted by the theory, norms and state- interests or by the tax liability at a given moment;

4. in most of the times the practice can't hold the rhythm with the accountancy rules.

However, the specialty literature doesn't present the evaluation of patrimonial elements in the real value, as sufficient source- information.

In practice, it was observed that the advantages of using the real value are growing up, because of the positive influence for the quality of the accountancy information, as following:

- the superior accuracy for the result and for the cash-flow of the company;

- relevance, transparency and utility of the presented information into the financial measurements.

More and more, the basic representations of the accountancy evaluations, excepting the historical cost, are real values.

But the process doesn't stop here. After getting the accountancy information it must be furnished to the interested one and has to be interpreted in order to take decisions. Look, there is obtained accountancy information, based on the concept of real value, with the destination of evaluating the interest and solvability of a patrimonial entity.

Although many of the authors are presenting the advantages of the real value, there are voices which contest this concept, because of its volatility and the tendency of subjectivism, of the manipulation of used models for the evaluation.

Among the advantages of the real value there can be named: Utility, relevance, transparency and superior accuracy of the results and cash-flow of the company, it brings more clearance to the financial statements, it does a total accounting of the comparable value and it gives more liability to the manager.

The credibility regards a reasonable evaluation, the using of market information in all possible situations for evaluating and justifying the subjective arguments. The neutrality presumes evaluations that were done in an adequate context and without a selective presentation. According to some specialists green accounting represents a process of identification, calculation, control, analysis and reporting of the costs generated by the enterprise-environment relation, resulting from the prevention, the limitation and the elimination of the effects of ecological disasters with a favorable impact over the company and the environment.

An important step forward was the creation of the System of Environmental and Economic Accounting (SEEA) which provides a comprehensive and broadly accepted framework for incorporating the role of the environment and natural capital into the conventional system of national income accounts through a system of satellite accounts for the environment.

The methodology of administering the costs generated by the company-environment relationship, which is facilitated by green accounting, comprises two stages:

1. the former stage, which consists of identifying, collecting, and controlling the costs generated by the company-environment relationship and of elaborating the environmental financial statements (reporting);

2. the latter stage, which consists of analyzing and interpreting the data in the environmental financial statements and, on their basis, decisions are taken regarding the correcting measures to be introduced so that, in the future, it could become possible to reduce at least those costs paid in order to remove the environmental damage, according to the principle saying that 'it is better to prevent rather than to combat'.

It is true to say that IFRS are placing much more emphasis on the use of fair values to record transactions and to allocate the initial amount of transactions among its constituent parts. This process began almost twenty-five years ago and reflects the practice in many national standards. The growth in such requirements also reflects the increasing complexity of many business transactions as well as the IASB's desire (and that of business entities and their auditors) to ensure that IFRS deal with a large proportion of these transactions. Fair values, or some other estimates of value, must be used; otherwise non-cash transactions will be omitted from the financial statements and compound transactions will not be disaggregated. If the use of fair values in such circumstances is new, the previous financial statements lacked relevant information.

But, the definition of fair value in IFRS has remained unchanged for almost twenty-five years. It is therefore surprising that there is some uncertainty about its meaning and some confusion about what amounts are, and what are not, fair values. Another obvious conclusion is that, as explained in more detail below, the primary use of fair value has been for the measurement of transactions or the components of transactions on initial recognition.

So, is likely that the IASB will continue to use fair values as the means of ensuring that transactions are represented faithfully in the financial statements and in impairment testing. Any significant extension of the use of fair values for the subsequent measurement of assets and liabilities is likely to meet strong resistance both in the IASB itself as well as its constituency Those who resist, however, should bear in mind that the current reliance on historical cost-based amounts provides less relevant information and omits some assets and, possibly, liabilities from the financial statements. And those who criticize the limited use of fair values in IFRS should question their application of national GAAP and whether previous financial statements really had the qualities they claimed.

## 4. Conclusions

The national income accounts are crucial because they constitute the primary source of information about the economy and are widely used for assessment of economic performance and policy analysis in all countries. The national accounts, however, fail to adequately factor in the treatment of the environment.

Such accounts provide a framework for collecting and organizing information on the status, use and value of the nation's natural resources and environmental assets, as well as on expenditures on environmental protection and resource management.

Sufficient, compatible and reliable data must be available at a unique value to develop and populate environmental accounts. Many government agencies and entities collect relevant data and it is unclear at this stage of the research whether the data is sufficiently available to construct the Natural Resource Accounts and Water Accounts. So, the data must be presented at the faire value. Moreover, environmental accounting is a long-term investment and developing accounts requires a sustained effort over an extended period.

On 12 May 2011 the IASB and the Financial Accounting Standards Board (FASB) today issued new guidance on fair value measurement and disclosure requirements for International Financial Reporting Standards (IFRSs) and US generally accepted accounting principles (GAAP). The concept in IFRS 13 is that there are many types of factors which are taken into account in fair value.

Despite these challenges, however, the benefits of establishing fair value environmental accounts are significant and can contribute to better policy and resource management at all levels of governance. Moreover, for the countries in the analyzed region, establishing environmental accounts implementing the IFRS 13 could be a significant step forward in improving macroeconomic measures of sustainability.

Among the advantages of the real value there can be named: Utility, relevance, transparency and superior accuracy of the results and cash-flow of the company; it brings more clearance to the financial statements; it does a total accounting of the comparable value and it gives more liability to the manager. The credibility regards a reasonable evaluation, the using of market information in all possible situations for evaluating and justifying the subjective arguments. The neutrality presumes evaluations that were done in an adequate context and without a selective presentation.

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# Do Spot Prices Move towards Futures Prices?
# A Study on Crude Oil Market

**Mihaela Nicolau[1]**

**Abstract:** The importance of studying the futures markets and the relationship between spot and futures prices is given by the possibility that futures contracts offer in order to reduce particular risks. The financial theory presents the relationships between spot and futures prices in the framework of both the non-arbitrage theory and the asset pricing theory, but none of themoffer information about the direction of causality between spot and futures prices. This paper attempts to analyse the dynamic relationship between spot and futures prices of the crude oil, a very important commodity. The empirical analysis is focused to examinethe causal dynamics between spot and futures prices in crude oil market; the results confirm that the prices of one and two maturity futures predict spot prices. Conversely, this is not true for longer maturity futures contracts.

**Keywords:** spot and futures prices relationship; futures markets; WTI; Granger causality

**JEL Classification:** C58; G13

## 1  Introduction

The importance of studying the futures markets and the relationship between spot and futures prices is given, mainly, by the possibility that futures contracts offer to reduce particular risks, but also due to its price discovery role.

The risk transfer role of the futures contract results from the fact that on the futures markets risks are reallocated between hedgers and speculators.

On the other hand, futures contract prices, especially in commodity markets, transmit information to all economic agents. Thus, producers may base their supply decisions on the futures prices, while physical traders might use futures prices as a reference to price their commodities. Considering these, there may be assumed that futures markets dominate spot commodity markets, a problem that has been often analysed during the last decades. To be mentioned here the study of Danthine (1978) who shows that the informative role of futures markets could also have a stabilising effect on spot prices, but also the studies of Turnovsky (1983), Kawai (1983), Chari for example.

The explicit linkage between spot and futures prices is presented in financial theory

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by both the non-arbitrage theory and the asset pricing theory.

According to the former approach, to avoid the arbitrage opportunities the futures price of a commoditymust hold the following condition:

$$F_{t,T} = (1 + r_T)P_t - (c_{t,T} - k_T),$$  (1)

where $F_{t, T}$ denotes the futures price of a commodity at time $t$ for delivery at $t+T$, $r_T$ is the risk-free $T$-period interest rate, $P_t$ represents the spot price at time $t$, $c_{t, T}$ is the capitalized flow of marginal convenience yield, and $k_T$ denotes the per-unit cost of physical storage.

The asset pricing theory establishes a relationship between the futures price and the expected future spot price, $E_t(P_{t+T})$. According to this theory, the futures price is a biased estimate of the future spot price, and is given by the equation (2).

$$F_{t,T} = E_t(P_{t+T}) - (R_T - r_T)P_t$$  (2)

$R_T$ denotes the risk-adjusted discount rate, and $(R_T - r_T)$ represents the risk premium.

The above equations denote there is an explicit relationship between spot, futures and future spot prices, but no information about the direction of causality between spot and futures prices is offered. This lacking is covered by the financial literature (e.g. the studies of Garbade& Silver (1983), Hernandez & Torero (2010) etc.).

This study attempts to analyse the dynamic relationship between spot and futures prices of the crude oil, a very important commodity. The empirical part of the study is focused to examine causal links between spot and futures prices in crude oil market, by using recent price data. The Granger causality tests to determine the direction of information flows between spot and futures oil markets is performed.

A literature review regarding the argument is presenting in the Section 2 of the study; Section 3 illustrates characteristics of the data and the applied methodology, while the results and the conclusions are compressing in Section 4.

## 2. Literature Review

There are a very large number of studies with various approaches regarding the interaction between spot and futures prices of assets as commodities, agricultural products or financial instruments. Researches regarding the interactions between crude oil's spot and futures prices are numerous. Many of them analyse the price of the West Texas Intermediate (WTI), while others study the price of Brent and Dubai crude oil[1].

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[1]The West Texas Intermediate, known also as *Texas Light Sweet*, is a type of crude oil. Its price is often used as benchmark. This type of crude oil represents the underline asset of the futures contracts

Lean et al. (2010) make an analysis regarding the market efficiency of oil spot and futures, by using two approaches, respectively mean-variance and stochastic dominance. Thiscontribution uses WTI crude oil data from 1989 to 2008 and the results show no evidence of any MV and SD relationships between oil spot and futures indices. Thus, the authors prove that there is no arbitrage opportunity between oil spot and oil futures markets, spot and futures do not nominate one another, investors are indifferent to investing spot or futures, and the spot and futures oil markets are efficient and rational.

Bekiros & Diks (2008) made a previous study about the relationship between crude oil spot and futures prices. They investigate the linear and nonlinear causal linkages between daily spot and futures prices for maturities of one, two, three and four months of WTI crude oil over two periods: October 1991 – October 1999 and November 1999 – October 2007. They apply the conventional linear Granger causality test and a new nonparametric test for nonlinear causality after controlling for cointegration. They test for causality while correcting for the effects of the other variables. Bekiros & Diks (2008) also examine the nonlinear causal relationships of VECM filtered residuals in order to check if any of the observed causality is strictly nonlinear in nature. The hypothesis of nonlinear non-causality is investigating after controlling for conditional heteroskedasticity in the data using a GARCH-BEKK model. The results show that the linear causal relationships disappear after VECM cointegration filtering, while nonlinear causal linkages in some cases persist after GARCH filtering in both periods which indicates that spot and futures returns may exhibit asymmetric GARCH effects and statistically significant higher order conditional moments. As the authors underline, the results imply that if nonlinear effects are accounted for, neither markets leads or lags the other consistently. More recent studies regarding oil spot and futures prices that use GARCH models as methodology are those by Arouri et al (2012), Chang et al (2011), Bu (2011). Other significant that must be mentioned are those of Liu & Wan (2011), Wang et al (2011), Lee & Zeng (2011), Lei & Yong (2011), Kaufmann& Ullman (2009).

The literature presents also researches that analyse the behaviour of crude oil spot and futures prices around OPEC and U. S. Strategic Petroleum Reserve (SPR) announcements. An example is the study realized by Demirer and Kutan (2010) that examine the abnormal returns in crude oil spot and futures markets around OPEC conference and SPR announcement dates between 1983 and 2008. Their findings regarding OPEC announcements indicate that only OPEC production cut announcements yield a statistically significant impact, with the impact diminishing for longer maturities. Regarding the SPR announcements, they find that the market

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traded on Chicago Mercantile Exchange. The Brent oil represents the benchmark for the European crude oil, and the Dubai Crude, known also as *Fateh*, is the benchmark for the Asian oil market; the futures contracts of Dubai crude are limited to one or two month maturity.

reacts efficiently to these announcements providing support for the use of the strategic reserves as a tool to stabilize the oil market.

## 3. Data and Methodology

The aim of this section is to empirically verify both the interactions between crude oil spot and futures prices, and if the previous results of financial literature according to which futures price predicts spot price applies. Therefore, the markets involved in the empirical part are crud oil spot market and crude oil futures market.

The analysis is made in terms of daily data representing WTI spot and futures prices from New York Mercantile Exchange. The sample period of the empirical analysis ranges from 01/01/1999 to 24/07/2012 (3534 observations), representing five time series are used, respectivily: the WTI spot price (S_O), the WTI futures contract price with one (F1_O), two (F2_O), three (F3_O) and four month maturity (F4_O). The futures prices are the official daily closing prices at 2:30 p. m. from the trading floor of the New York Mercantile Exchange (NYMEX) for a specific delivery month. For crude oil, each contract expires on the third business day prior to the 25th calendar day of the month preceding the delivery month. The source of the data is Energy Information Administration (EIA).

The method applied in the analysis allows us to examin the dynamic relationships between spot and futures prices by using a battery of VAR and VECM models through which the analysis of Granger causality is realised.

Figures 1-4 show the evolution of spot and futures prices for the crude oil commodity during the entire sample period, in real terms.
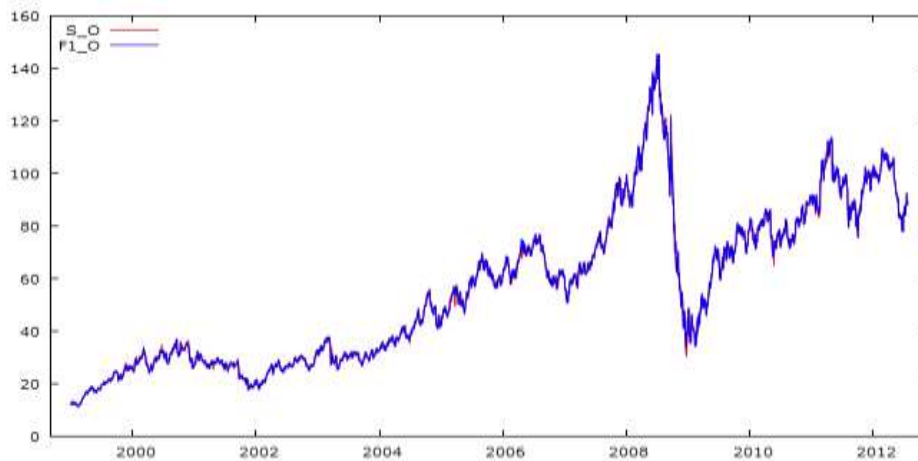


**Figure 1. Crude oil: Daily spot (S_O) and futures with 1 month maturity(F1_O) crude oil prices**

Two patterns emerge from the above nominated graphics. First, all the 4 figures reveal a strong positive correlation between spot and futures prices. More precisely, the time series appear to be cointegrated. The second pattern that emerges is the presence of both contago and backwardation conditions on futures markets, but with differences between the four type of futures contracts.
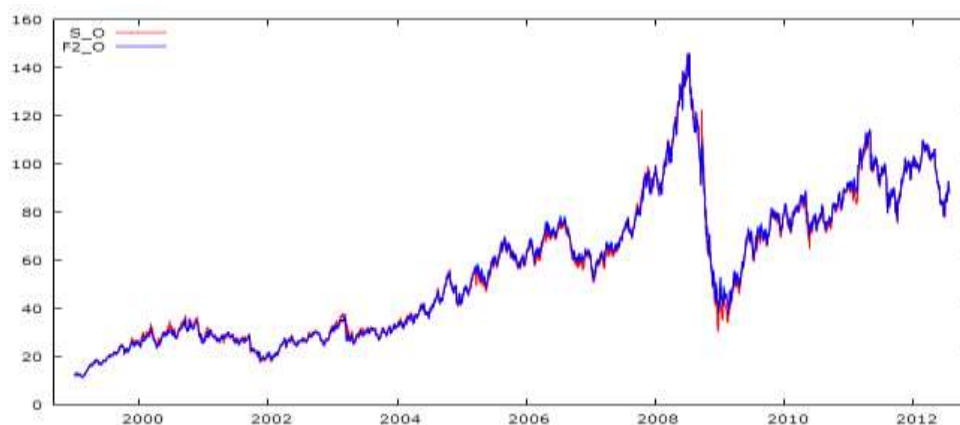


**Figure 2. Crude oil: Daily spot (S_O) and futures with 2 month maturity (F2_O) crude oil prices**
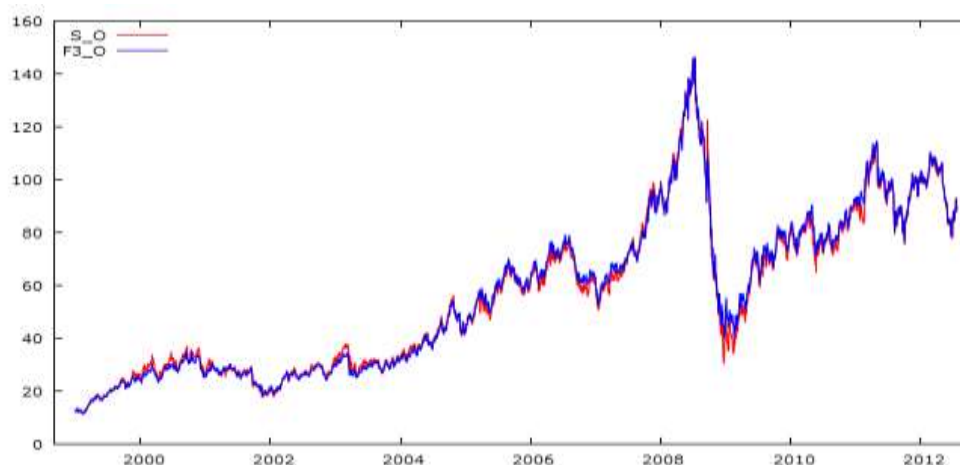


**Figure 3. Crude oil: Daily spot (S_O) and futures with 3 month maturity (F3_O) crude oil prices**

Thus, the market of the futures with 1 month maturity (F1_O), exhibit strong contago condition during the entire sample period, with the exception of the year 2000, when condition of backwardation was met (Figure 1).

The same characteristics result from the Figure 2, where the spot and the futures with 2 month maturity prices are represented, but in this case the condition of backwardation is met also during the end of 2002 and entire 2003 years. Figures 3 and 4, that illustrate evolution of spot and futures with 3 and 4 month maturity prices show a continue backwardation starting the end of 1999 year until the end of 2004 year.
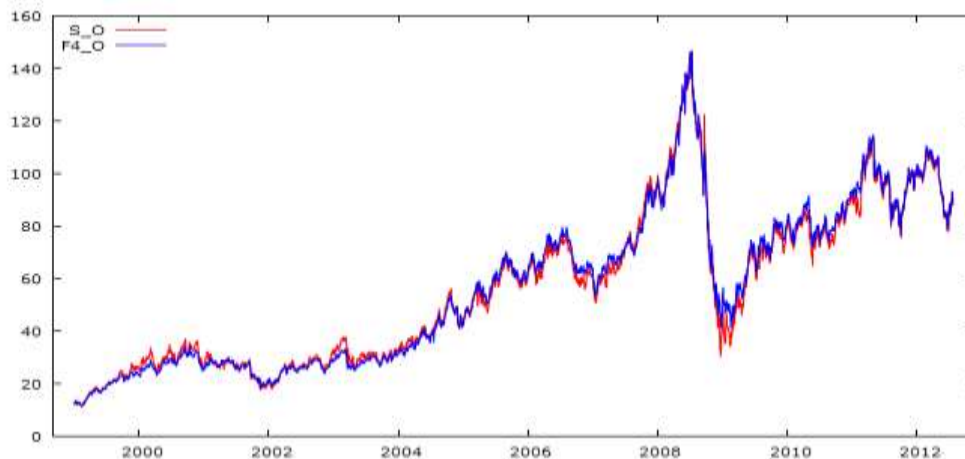


**Figure 4. Crude oil: Daily spot (S_O) and futures with 4 month maturity (F4_O) crude oil prices**

A contago position is normal for the crude oil commodity futures market given the fact that crude oil is a non-perishable commodity and it has a cost-of-carry. In the case of our sample period, the contago is met for all 4 futures contracts included in the analysis starting 2005 year.

### 4.1. Causality Tests

In order to analyse the dynamic relationship between spot and futures prices, Granger causality tests were conducted. These tests allow us to examine if changes in the price of futures lead changes in spot prices, if changes in spot prices lead changes in futures prices, or both. The analysis is conducted on spot and futures prices for different maturities taking into consideration the cointegration relationship among them.

The Granger causality examines if the past values of a variable could explain its current values or the past values of another variable. In this paper, the presence of cointegration leads to the estimation of VECM model for which the standard methods to evaluate the Granger causality does not apply. In this context, the Toda-Yamamoto (1995) technique is used: after evaluating the order of integration of time series, the appropriate lag length ($q$) for a VAR model in levels is determined.

Subsequently, the Johansen (1996) procedure is used to estimate the rank of cointegration: given that all the models of interest are bivariate VARs, if cointegration exists, the rank has to be one.[1] Toda and Yamamoto (1995) claim that the Granger causality test could be carried out by using a standard Wald test applied to a VAR model for prices (nonstationay) with $q+1$ lags. Specifically, the null hypothesis imposes a zero restriction on the first $q$ lags for both the variables involved.

Following the Hannan-Quinn information criterion, the number of lags to be included in the empirical analysis is 4, while the Johansen test with restricted constant suggests that the rank of cointegration is always one, hence a VAR(5) model in levels is estimated for carrying out the Granger causality test.[2] The results of Johansen test are presented in the upper side of Table 1, while the results of related test about the null hypothesis under which the vector of cointegration is (1, -1) and the cointegrated vectors with standard errors are illustrated by thelower part of Table 1.

**Table 1. Tests results**

| Johansen test | | | |
|---|---|---|---|
| Rank | Eigenvalue | Trace test | Lmax test |
| Variables S_O, F1_O | | | |
| 0 | 0.15632 | 607.29 (0.0000) | 600.72 (0.0000) |
| 1 | 0.0018551 | 6.5621 (0.1563) | 6.5621 (0.1561) |
| Variables S_O, F2_O | | | |
| 0 | 0.026046 | 99.917 (0.0000) | 93.265 (0.0000) |
| 1 | 0.0018804 | 6.6517 (0.1505) | 6.6517 (0.1503) |
| Variables S_O, F3_O | | | |
| 0 | 0.015652 | 62.392 (0.0000) | 55.753 (0.0000) |
| 1 | 0.0018769 | 6.6391 (0.1513) | 6.6391 (0.1511) |
| Variables S_O, F4_O | | | |
| 0 | 0.012564 | 51.309 (0.0000) | 44.682 (0.0000) |
| 1 | 0.0018735 | 16.6270 (0.1521) | 6.6270 (0.1519) |

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[1] If the rank of cointegration is zero, the model is a bivariate nonstationary VAR, while a full cointegration rank indicates a bivariate stationary VAR.

[2] All the results are available upon request from the author.

H₀: Vector of cointegration is (1, -1)

| Variables | LR | p-value | $\beta_{S\_O}$ | $\beta_{F\_O}$ |
|---|---|---|---|---|
| S_O, F1_O | 9.57598 | 0.00197139 | 1.0000 | -0.99828 |
| | | | (0.00000) | (0.000549) |
| S_O, F2_O | 8.12347 | 0.00436958 | 1.0000 | -0.98618 |
| | | | (0.00000) | (0.0045559) |
| S_O, F3_O | 8.2783 | 0.00401217 | 1. 0000 | -0. 97150 |
| | | | (0.00000) | (0.0089251) |
| S_O, F4_O | 9.09685 | 0.0025605 | 1. 0000 | -0. 95675 |
| | | | (0.00000) | (0.012480) |

## 5. Results and Conclusions

The Granger causality test results for spot and futures returns, for all four type of futures contracts and for the whole sample period are presented in Table 3. The upper section of the table reports the F-statistic for the null hypothesis that futures returns does not Granger-cause the spot returns; the lower section reports F-statistic for the null hypothesis that the spot returns does not Granger-cause the futures returns.

**Table 3. Granger causality tests of daily returns in crude oil spot and futures markets, 01/01/1999 – 24/07/2012**

| H₀: Futures returns does not Granger-cause spot returns | | |
|---|---|---|
| Variables | F-statistic | p-values |
| S_O, F1_O | 29.5092 | 0.000000 |
| S_O, F2_O | 2.30588 | 0.055965 |
| S_O, F3_O | 0.775356 | 0.541078 |
| S_O, F4_O | 0.532331 | 0.711994 |
| H₀: Spot returns does not Granger-cause futures returns | | |
| Variables | F-statistic | p-values |
| F1_O, S_O | 3.20521 | 0.012289 |
| F2_O, S_O | 5.92799 | 0.000000 |
| F3_O, S_O | 5.08694 | 0.000000 |
| F4_O, S_O | 6.44556 | 0.000000 |

*Note: H₀= null hypothesis, S_O = WTI spot price, F1_O = WTI futures with 1 month maturity price; F2_O = WTI futures with 2 months maturity price; F3_O = WTI futures*

*with 3 months maturity price; F4_O = WTI futures with 4 month maturity price.*

As can be seen, the null hypothesis that the returns in WTI futures markets does not Granger-cause the returns in WTI spot market is fully rejected only in the case of WTI futures with 1 month maturity, while in the case of WTI futures with 2 months maturity, is accepted at the standard critical value of 5%. The same is for the futures with maturity longer than 2 months. In other words, returns of futures contracts with shorter delivery dates influence the returns in WTI spot prices.

On the other hand, the bottom side of the table illustrates that the null hypothesis that the returns in WTI spot markets does not Granger-cause the returns in WTI futures market is rejected for all four types of WTI futures contracts.

In conclusion, the financial literature according to which futures prices predicts spot price does not apply for all types of WTI future contracts. Only the futures with one monthmaturity could be considered as a driverfor the WTI spot markets but, at the same time, the WTI spot market influence the WTI futures with 1 month maturity.

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