"Investment from the Islamic Perspective and Mitigating Currency Risk with the Implementation of Gold Dinar"[1]

Nuradli Ridzwan Shah Bin Mej (B) Hj. Mohd Dali
Universiti Tenaga Nasional
Kampus Sultan Haji Ahmad Shah
26700 Pahang
Tel: 09-4552028 Email: nuradli@kms.uniten.edu.my
Hanifah Bte Abdul Hamid
Universiti Tenaga Nasional
Kampus Sultan Haji Ahmad Shah
26700 Pahang
Tel: 09-4552037 Email: hanifah@kms.uniten.edu.my

Abstract

Currency risk is one of the major factors contributing to the recent 1997 crisis, which affected the South East Asian countries. Malaysia opted for the capital control while Indonesia and Thailand went for the IMF programs. Mahathir Mohamad, the former Malaysian Prime Minister suggested in Doha, Qatar 2000 during the 9th OIC summit to use Gold Dinar as an international payment settlement in order to avoid the currency risk. This paper is done to analyze the gold prices and exchange rate fluctuations. Besides, the research would determine the relationship between selected currencies and the gold prices to identify if gold could be the optimal currency if it is used as an international payment settlement.

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A. INTRODUCTION

Investment is sometimes referred to financial stability of individuals but placing your investment without prior knowledge would jeopardize your investment. The 1997 crisis has proven that investments in the stock market have severe effects to individual and institutional investors. Investors were having the worst of time during 1997 but they forgot that they have also enjoyed the best of time during the boom time.

Stocks are not the only investment vehicles that we could place our money. There are other types of investments vehicles that could be used. If we place our money in a savings account, bond or derivatives would also be considered as a placement in investments. In the context of Muslims investors, there are several guidelines that must be adhered in order to achieve profit and also falah maximization. A Muslim must not only consider profit as the main objective because falah maximization also must be achieved for the days of hereafter. The basic guidelines set out by the Shariah of any investments would be discussed in the following section.

Islamic Investments must be free from interest accumulation, maisir[2], gharar and operations based on selling prohibited products. In addition, the Shariah also promote the giving of zakat and sadaqah for the well being of the society (Please refer At-Taubah: verse 60).

I. Operations based on *riba* (interest) such as activities of commercial and merchant banks, finance companies.

"Allah will deprive usury of all blessing, but will give increase for deeds of charity: For He loveth not creatures ungrateful and wicked" (Al-Baqarah, 276)".

II. Operations involving Maisir (gambling)

"They ask thee concerning wine and gambling. Say: "In them is great sin, and some profit, for men; but the sin is greater than the profit." They ask thee how much they are to spend; Say: "What is beyond your needs." Thus doth Allah Make clear to you His Signs: In order that ye may conside" (Al Baqarah:219).

Speculative investments are examples of gambling. Many writers have noted that Islam does not permit it. Maulana Muhammah Taqi Amini, Qureshi, Naseer A. Sheikh, Mannan, Kahf and Akram agree that speculation is not permitted in Islam and should be avoided (Muhammad Nejatullah Siddiqi, 1981, pg51). Speculation

[2] Maysir has also been described as involving two parties in a combative game played for the sole purpose of winning at the expense of one's opponent. The gain accruing from such a game is unlawful, as is the act of playing it, for it diverts one's attention from productive occupation and virtuous conduct.

is prohibited because it involves the element of maisir[3] and thus one does not have the full right on the properties being traded.

III. Activities involving the manufacture and/or sale of *haram* (forbidden) products such as liquor[4], non-halal meats and pork.

The Prophet (pbuh) said "Allah has prescribed certain obligations for you, so do not neglect them; He has defined certain limits, so do not transgress them; He has prohibited certain things, so do not do them; and He has kept silent concerning other things out of mercy for you and not because of forgetfulness, so do not ask questions concerning them". *(Reported by aI-Darqutni and classified as hasan (good) by al-Nawawi.)*

IV. Operations containing element of *Gharar*[5] (uncertainty) such as conventional insurance business.

'Ibn Majah on the authority of 'Abu Hurayra (r.a)[6] (translation of the version in Muslim) that "*The Prophet (pbuh*[7]*) prohibited the pebble sale and the Gharar sale*".

All these four factors differentiate the Islamic investments and the conventional investments. Therefore many scholars from the Islamic society have formulated investments vehicles, which are beneficial for the Muslims society well being according to the Shariah guidelines.

Islamic and Conventional Investment Vehicles

These are some of the examples of the conventional and Islamic vehicles that are available in the market.

Conventional Investments Vehicles	**Islamic Investments Vehicles**
Savings Account- Income derived from fixed interest	Mudharaba Savings Account – Income derived from undetermined profit
Stocks – Income derived from dividends and capital gains	Shariah Compliance Stocks - Income derived from dividends and capital gains but with the exceptions that the company must be Shariah compliance whereby its operations are free

[3] Gambling

[4] The Prophet (peace be on him) did not stop at prohibiting the drinking of alcohol, whether much or little, but he also forbade any trading in it, even with non-Muslims. It is not permissible for a Muslim to import or export alcoholic beverages, or to own or work in a place which sells them. In connection with alcohol, the *Prophet (peace be on him) cursed ten categories of people saying: Truly, Allah has cursed khamr and has cursed the one who produces it, the one for whom it is produced, the one who drinks it, the one who serves it, the one who carries it, the one for whom it is carried, the one who sells it, the one who earns from the sale of it, the one who buys it, and the one for whom it is bought. (Reported by al-Tirmidhi and Ibn Majah, on reliable authority.)*

[5] G*harar* could be described as the lack of transparency in a given transaction.

[6] Radiy'allahu anhu (Blessed upon him)

[7] (pbuh) Peace Be Upon Him

	from riba, maisir, gharar and selling prohibited products.
Mutual funds	Shariah compliance mutual funds
Bonds – Income derived from interest	Sukuk Bond – Income derived from buying and selling process
Options	N/A
Futures	N/A

Now if we look at the vehicles offered by the conventional and Islamic investment, the risk associated with the investments vary. Therefore the Islamic investors must also diversify their pool of funds to minimize risk. Or in other word "do not put all your eggs in a basket". A portfolio of investment should be maintained by the investors combining different investment vehicles in order to minimize risk.

However there is another area in Islamic investment is the area of gold Dinar which has been suggested for usage in the international payment settlement between OIC countries in 2003.

1. 1 RESEARCH OBJECTIVES

The research objective of this paper is to determine the relationship of gold prices and major currencies

1.2 RESEARCH SCOPE

In this research, daily gold price data was collected from 4th January 2000 to 15th October 2004 for 8 respective currencies, which are USD, Euro, Yen, UK Pound, South Africa Rand, Australian Dollar, Canadian Dollar, Indian Rupee and G5 Index[8]. Data was downloaded from World Gold Council website. The data is National currency unit per ounces.

[8] The G5 index is a weighted average of the gold price in US$, euro, yen, sterling and Canadian $. It is weighted by the average GDP of the relevant countries over the 1998-2002 period.

B. RESEARCH BACKROUND

Malaysia in finding the solution to 1997 currency crisis has promulgated the idea of using gold as an international payment settlement. The idea was hold up by the former Malaysian Prime Minister, Mahathir Mohamad during the OIC summit at Doha Qatar, in 2002.

The idea of using gold as the international payment settlement is not alien with the history of money as it has been used as a medium of exchange before fiat money or paper money was introduced. It has been used by the Islamic caliphate empire and also used by the Sasanian and Persian before the Islamic era.

Several Islamic scholars promulgate the usage of gold and silver as medium of currencies because it does not promote the interest capitalism system. This is true because the nature of the gold and silver is different from the fiat money. Gold and silver have intrinsic value as compared to fiat money which does not have value.

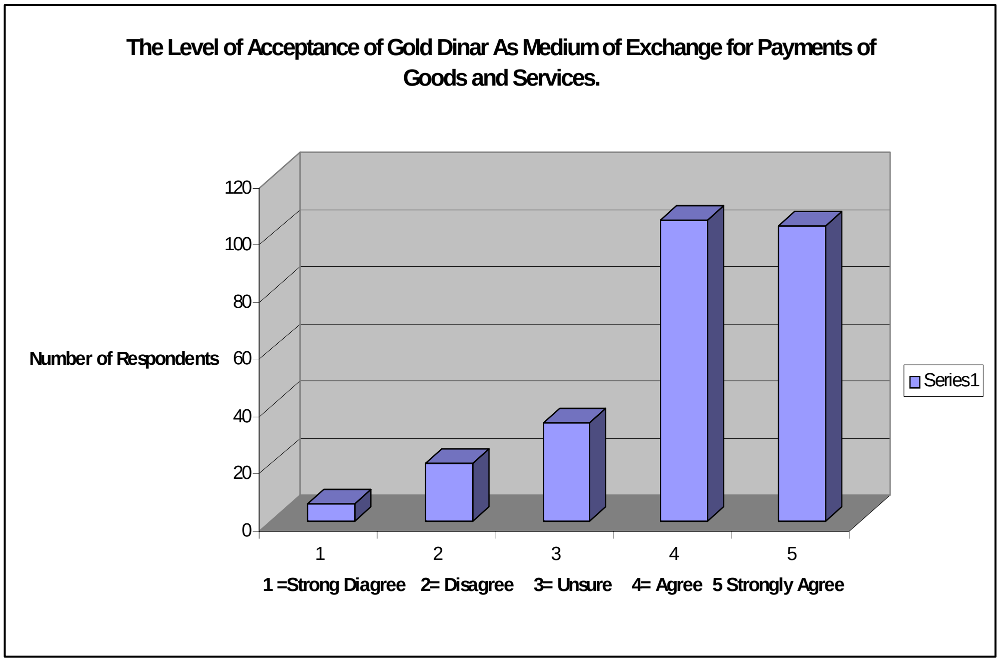
The value of gold and silver would depend on its weight and quality whereas fiat money would depend on token value. All of the characteristics mentioned above for gold and silver would deter for any addition or increase to the original principal in any loan contract or in exchanging.

Therefore, the gold mechanism system will be promoting one of the Islamic economics systems, which is interest free since gold could not be compounded or created from thin air. The creation of gold could only be done from the exploration and discovery of new gold mines. In other word, physical gold has to be in existence and accessible. Inflation is said to be at its minimum or zero level in the dinar system.

In addition, many of the Islamic laws from hadith relating muamalat (business dealings) or business transactions use the dinar and dirham as the medium of exchange. The law on blood money also use dinar as the blood money.

In respond many are looking forward to the comeback of the dinar system. An ongoing survey conducted by Nuradli Mohd Dali (2004) at http://www.my3q.com/home2/46/nuradli/dinar.phtml shows that the public acceptance in the usage of the gold dinar as an international currency is positive as revealed in Chart 1[9].

[9] Survey as at 20th October 2004

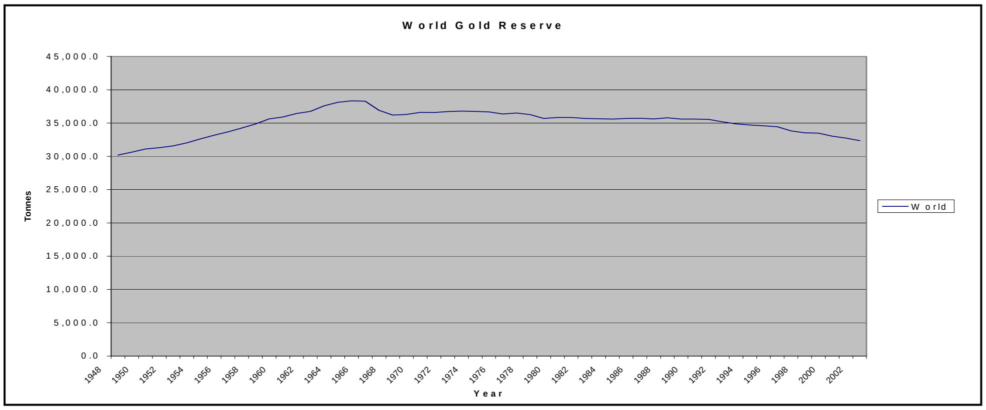


38 percent of the respondents of 268 respondents answered strongly agreed and 39 percent answered agreed. Only 2 percent strongly disagreed and 7 percent disagreed where the remaining is unsure whether gold is acceptable as medium of exchange for payments of goods and services.

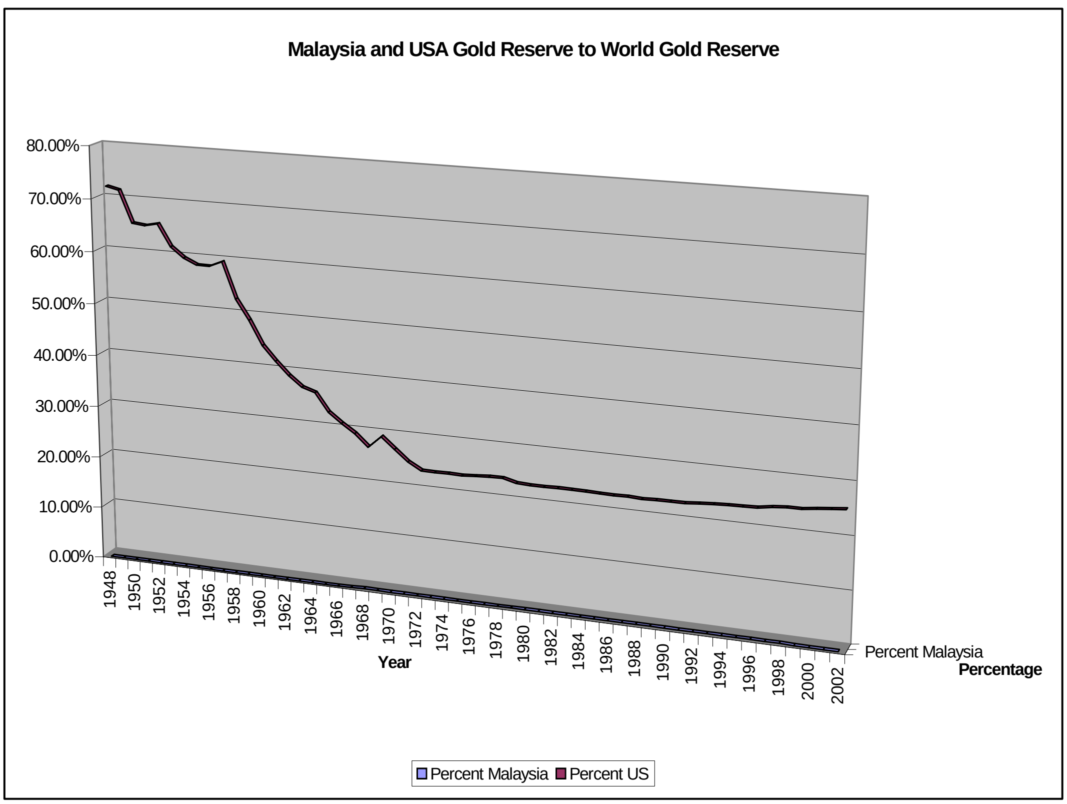
The above is a good indicator that the public does accept gold as a stable monetary system[10].

The demand for gold comes from the demand from jewelry and currency. If we look at the world gold reserve from 1948 until 2002, the yearly average is about 35,041 tones. If we distribute the gold in reserve to the total population in 2002, each people will get 0.56 grams of gold. But this estimate does not include the total gold, which are already in the market for jewelry.

[10] For greater detals please see the "Survey on Public Acceptance on the Implementation of Gold Dinar" conducted by Nuradli Ridzwan Shah Bin Mohd Dali available at http://www.my3q.com/home2/46/nuradli/dinar.phtml



The United States of America hold the largest gold reserve holding as compared to other countries since 1948 until 2002. The proportion of gold holding reserve to the world holding reserve from the highest 71.83 percent in 1948 to the lowest of 22.76 percent in 1988. On the other hand, Malaysia has a low gold reserve compared to the United States. Malaysia has a lowest of 0 percent to the total world reserve holding and the highest of 0.22 percent.



The above basically shows that the United States of America do hold a large amount of gold in reserve, and the question is, why do they have to keep a large amount of gold if the fiat money could perform as the storage of value?

If we look at the nature of currencies or fiat money and its fluctuation, comparing with 16 other major currencies rate in relation to Ringgit (equivalent to 1 unit of foreign currency using daily exchange rate data from July 2003 to July 2004) we could see that the currencies are fluctuating and are not stable except for USD because the Ringgit is pegged to USD. That is why there is no positive or negative fluctuations for USD against Ringgit. However there are several disadvantages for the case of pegging, which has no monetary independence, interest rate taker, and fiscal and monetary constraints (Rodney, 2004).

The boxes in yellow (lighter grey shade if printed in black and white) show the highest negative fluctuation for the respective months. For example in July 2003, Canadian Dollar has the highest negative fluctuation of -3.91 percent as compared to other currencies. Whereas the blue (darker grey shade if printed in black and white) boxes indicate the highest positive fluctuation for the currencies in the respective month. Taking July 2003 as our example again, Korean Won 100 has the highest positive fluctuation of 0.88 percent.

Table 1: Monthly Currency Fluctuation from July 2003 to July 2004

Month:	EUR	AUD	PHP100	SGD	HKD 100	THB100	TWD100	KRW100	IDR100	SAR100	SDR	USD	GBP	JPY100	CHF	CAD
Jul-04	-2%	-3%	-2%	0%	0%	0%	1%	1%	-3%	0%	0%	0%	-2%	0%	-1%	-4%
Aug-04	-3%	-1%	0%	0%	0%	2%	1%	0%	-1%	0%	-2%	0%	-2%	3%	-3%	0%
Sep-04	6%	6%	0%	1%	1%	3%	1%	2%	1%	0%	3%	0%	6%	5%	6%	2%
Oct-04	0%	3%	-1%	0%	0%	0%	-1%	-3%	-1%	0%	1%	0%	2%	2%	-1%	3%
Nov-04	3%	2%	-1%	1%	0%	0%	-1%	-1%	0%	0%	1%	0%	1%	1%	3%	1%
Dec-04	5%	3%	0%	1%	0%	1%	1%	1%	0%	0%	3%	0%	3%	3%	4%	0%
Jan-05	-1%	2%	-1%	0%	0%	1%	2%	2%	0%	0%	0%	0%	2%	1%	-1%	-3%
Feb-05	-1%	1%	0%	-1%	0%	-1%	0%	-1%	0%	0%	0%	0%	2%	-4%	-1%	-1%
Mar-05	-2%	-2%	0%	1%	0%	-1%	1%	3%	-2%	0%	0%	0%	-2%	5%	-1%	2%
Apr-05	-3%	-5%	0%	-2%	0%	-2%	-1%	-3%	-1%	0%	-3%	0%	-4%	-5%	-2%	-4%
May-05	1%	-2%	-1%	0%	0%	-2%	-1%	0%	-6%	0%	1%	0%	2%	0%	2%	1%
Jun-05	-1%	-3%	-1%	-1%	0%	-1%	-1%	1%	0%	0%	0%	0%	-1%	1%	-1%	1%
Jul-05	0%	2%	0%	0%	0%	-1%	-1%	-1%	3%	0%	0%	0%	2%	-2%	-1%	0%

Analyzing the currency risk, it is noted that the Hong Kong Dollar and Great Britain Pound has the highest risk during the period. The ranking of the riskier currency to the lowest risk currencies are as follows:

Table 2: Currencies Standard Deviations

:

HKD100	0.3927
GBP	0.3657
THB100	0.2103
EURO	0.1871
AUD	0.1553
TWD100	0.1425
SDR	0.1381
JPY100	0.1317
CHF	0.1172
PHP100	0.0892
CAD	0.0684
SGD	0.0317
KRW 100	0.0040
SAR100	0.0029
IDR100	0.0016
USD	0.0000

Madura and Nosari (1984) stated that the optimal currency portfolio depends on two factors which are the low co movement and low fluctuations. These two factors could mitigate risk because when using the low co-movement currencies, the effect will be diversification. As for the standard deviations, the USD, Indonesian Rupiah, Saudi Riyal, Korean Won are among the lowest risk.

Table 3 below shows that all of the currency pair wise correlations are below than one which diversification can serve as a useful method to reduce exchange rate risk (Madura & Nosari, 1984). For example, Philippines Peso was noted as the best or optimal currencies for diversification because it has the lowest co-movement during the period. The following table shows the correlation coefficients among currencies. The boxes in yellow indicate that these currencies have the highest negative correlation as compared to all other currencies.

Table 3: Correlation of Exchange Rate Movement

Correlations of Exchange Rate Movements Over July 2003 - July 2004 Period																
	EUR	AUD	PHP100	SGD	HKD 100	THB100	TWD100	KRW100	IDR100	SAR100	SDR	USD	GBP	JPY100	CHF	CAD
EUR	*1.0000*	0.8939	-0.6444	0.8489	0.1940	0.6574	0.6003	0.1090	-0.2282	-0.0560	0.9739	0.0000	0.9209	0.8168	0.9630	0.6684
AUD	0.8939	*1.0000*	-0.6245	0.8843	0.1921	0.8424	0.6984	0.0934	0.0695	0.0713	0.9026	0.0000	0.8218	0.8626	0.7680	0.7522
PHP100	-0.6444	-0.6245	*1.0000*	-0.7377	-0.0248	-0.5260	-0.7202	-0.3357	0.5236	-0.1143	-0.7091	0.0000	-0.7722	-0.6729	-0.6548	-0.3187
SGD	0.8489	0.8843	-0.7377	*1.0000*	0.1118	0.7500	0.8680	0.4007	-0.2077	0.0732	0.8919	0.0000	0.8841	0.8560	0.8026	0.5484
HKD100	0.1940	0.1921	-0.0248	0.1118	*1.0000*	0.2175	0.0369	-0.0322	0.1070	-0.0559	0.1816	0.0000	0.0928	0.2145	0.1552	0.2444
THB100	0.6574	0.8424	-0.5260	0.7500	0.2175	*1.0000*	0.7044	0.1612	0.2445	0.0964	0.6961	0.0000	0.5601	0.8428	0.5034	0.7221
TWD100	0.6003	0.6984	-0.7202	0.8680	0.0369	0.7044	*1.0000*	0.5954	-0.2231	0.1823	0.6862	0.0000	0.7476	0.6894	0.5471	0.2907
KRW100	0.1090	0.0934	-0.3357	0.4007	-0.0322	0.1612	0.5954	*1.0000*	-0.3278	0.1298	0.2091	0.0000	0.3331	0.2806	0.1820	-0.0234
IDR100	-0.2282	0.0695	0.5236	-0.2077	0.1070	0.2445	-0.2231	-0.3278	*1.0000*	0.0896	-0.2760	0.0000	-0.4494	-0.1364	-0.4323	0.1889
SAR100	-0.0560	0.0713	-0.1143	0.0732	-0.0559	0.0964	0.1823	0.1298	0.0896	*1.0000*	-0.0207	0.0000	0.0132	-0.0067	-0.1140	-0.0259
SDR	0.9739	0.9026	-0.7091	0.8919	0.1816	0.6961	0.6862	0.2091	-0.2760	-0.0207	*1.0000*	0.0000	0.9509	0.8752	0.9433	0.6656
USD	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	*1.0000*	0.0000	0.0000	0.0000	0.0000
GBP	0.9209	0.8218	-0.7722	0.8841	0.0928	0.5601	0.7476	0.3331	-0.4494	0.0132	0.9509	0.0000	*1.0000*	0.7814	0.9282	0.5123
JPY100	0.8168	0.8626	-0.6729	0.8560	0.2145	0.8428	0.6894	0.2806	-0.1364	-0.0067	0.8752	0.0000	0.7814	*1.0000*	0.7680	0.7930
CHF	0.9630	0.7680	-0.6548	0.8026	0.1552	0.5034	0.5471	0.1820	-0.4323	-0.1140	0.9433	0.0000	0.9282	0.7680	*1.0000*	0.5745
CAD	0.6684	0.7522	-0.3187	0.5484	0.2444	0.7221	0.2907	-0.0234	0.1889	-0.0259	0.6656	0.0000	0.5123	0.7930	0.5745	*1.0000*

Choosing the optimal currency portfolio, which has the lowest fluctuations or standard deviations and the lowest co-movement, could mitigate the currency risk. However in this paper, it is also important to see whether gold is a good diversification.

C. RESEARCH METODOLOGY

The research methodology will be using standard deviations, variance and correlation of coefficients.

Using standard deviation and variance could identify risk associated with currency. The formulas are as follows:

$$\text{Variance} = \frac{\Sigma(x - \bar{x})^2}{n - 1}$$

$$\mathbf{SD} = \sqrt{\frac{\Sigma(x - \bar{x})^2}{n - 1}}$$

The strength of the linear association between two variables is quantified by the ***correlation coefficient***. Given a set of observations (x_1, y_1), (x_2,y_2),...(x_n,y_n), the formula for computing the correlation coefficient is given by

$$r = \frac{1}{n-1} \Sigma \left(\frac{x - \bar{x}}{s_x}\right)\left(\frac{y - \bar{y}}{s_y}\right)$$

D. RESULTS AND IMPLICATIONS

Based on the result shown in table 4, the highest positive and negative fluctuations are concentrated in several months, which could be explained by an event. The boxes highlighted with yellow colors indicate that the maximum positive fluctuation for the respective currencies for the period.

Table 4: National Currency Gold Prices Fluctuation per Tonnes from 2000 until October 2004

	US$	Euro	Yen	GBP	Rand	AUD	CD	IDR	G5 Index
Jan-00	1%	6%	4%	2%	4%	4%	1%	1%	3%
Feb-00	4%	4%	6%	6%	5%	7%	4%	4%	4%
Mar-00	-6%	-5%	-10%	-6%	-3%	-5%	-5%	-5%	-6%
Apr-00	-1%	4%	2%	1%	3%	3%	1%	-1%	1%
May-00	-1%	-4%	-3%	3%	1%	1%	0%	1%	-2%
Jun-00	6%	3%	3%	4%	3%	2%	5%	6%	4%
Jul-00	-4%	-1%	0%	-3%	-2%	0%	-3%	-3%	-2%
Aug-00	0%	4%	-3%	3%	0%	0%	-1%	1%	1%
Sep-00	-1%	1%	1%	-2%	3%	5%	1%	-1%	0%
Oct-00	-3%	1%	-3%	-2%	1%	2%	-2%	-1%	-2%
Nov-00	1%	0%	4%	4%	4%	1%	2%	2%	1%
Dec-00	2%	-4%	5%	-2%	0%	-2%	0%	2%	0%
Jan-01	-1%	1%	1%	2%	2%	2%	-1%	-2%	0%
Feb-01	0%	2%	1%	2%	-1%	5%	2%	0%	1%
Mar-01	-3%	2%	3%	-1%	0%	4%	-1%	-3%	0%
Apr-01	3%	2%	0%	2%	2%	-2%	0%	3%	2%
May-01	1%	7%	-2%	2%	1%	3%	2%	2%	3%
Jun-01	-1%	-1%	3%	-1%	2%	2%	-2%	2%	-1%
Jul-01	-1%	-4%	-1%	-2%	2%	0%	0%	-1%	-2%
Aug-01	2%	-1%	-3%	1%	4%	0%	3%	2%	0%
Sep-01	7%	5%	7%	6%	14%	13%	9%	9%	7%
Oct-01	-4%	-3%	-2%	-2%	0%	-6%	-4%	-4%	-3%
Nov-01	-2%	0%	0%	1%	6%	-3%	-3%	-2%	-1%
Dec-01	0%	1%	6%	-2%	15%	2%	1%	1%	1%
Jan-02	1%	6%	3%	4%	-5%	2%	1%	2%	3%
Feb-02	5%	4%	4%	5%	3%	3%	6%	5%	5%
Mar-02	2%	1%	1%	2%	2%	-1%	2%	2%	2%
Apr-02	1%	-1%	-3%	0%	-4%	0%	-1%	2%	0%
May-02	6%	2%	2%	5%	-2%	0%	4%	6%	4%
Jun-02	-1%	-6%	-5%	-6%	2%	0%	-3%	-1%	-4%
Jul-02	-2%	-1%	-2%	-4%	-1%	0%	1%	-3%	-2%
Aug-02	3%	2%	2%	3%	5%	1%	2%	3%	3%
Sep-02	4%	3%	6%	2%	3%	5%	5%	4%	4%
Oct-02	-2%	-2%	-2%	-1%	-6%	-4%	-3%	-2%	-2%
Nov-02	0%	0%	0%	0%	-7%	-1%	0%	0%	0%
Dec-02	10%	4%	4%	6%	2%	8%	11%	9%	7%
Jan-03	7%	4%	8%	4%	8%	3%	4%	6%	6%
Feb-03	-6%	-6%	-8%	-2%	-10%	-10%	-8%	-6%	-6%
Mar-03	-3%	-4%	-2%	-3%	-5%	-2%	-4%	-3%	-3%
Apr-03	1%	-2%	2%	-1%	-7%	-3%	-1%	1%	0%
May-03	6%	1%	7%	4%	18%	2%	2%	5%	4%
Jun-03	-5%	-3%	-4%	-6%	-11%	-7%	-6%	-7%	-5%
Jul-03	1%	4%	2%	5%	1%	6%	6%	1%	3%
Aug-03	7%	9%	3%	9%	6%	8%	6%	6%	7%
Sep-03	3%	-4%	-2%	-3%	-3%	-3%	0%	3%	0%
Oct-03	1%	1%	0%	-1%	0%	-3%	-1%	0%	1%
Nov-03	4%	0%	3%	2%	-3%	2%	2%	5%	3%
Dec-03	4%	0%	2%	1%	8%	1%	5%	4%	2%
Jan-04	-4%	-2%	-5%	-5%	3%	-4%	0%	-4%	-3%
Feb-04	-1%	-1%	3%	-3%	-7%	-2%	0%	-1%	0%
Mar-04	6%	8%	1%	8%	1%	7%	4%	2%	6%
Apr-04	-9%	-6%	-3%	-5%	0%	-3%	-5%	-7%	-7%
May-04	1%	-1%	1%	-2%	-5%	3%	0%	2%	0%
Jun-04	0%	0%	-1%	1%	-3%	2%	-2%	1%	0%
Jul-04	-1%	0%	2%	-1%	0%	0%	-1%	0%	0%
Aug-04	4%	3%	3%	6%	10%	4%	3%	4%	4%
Sep-04	2%	0%	3%	1%	0%	-1%	-1%	1%	1%
Oct-04	1%	0%	-1%	0%	0%	-1%	0%	0%	0%
Max	10%	9%	8%	9%	18%	13%	11%	9%	7%
Min	-9%	-6%	-10%	-6%	-11%	-10%	-8%	-7%	-7%
STD	0.04	0.04	0.04	0.04	0.05	0.04	0.04	0.04	0.03
VAR	0.0013	0.0012	0.0013	0.0013	0.0030	0.0016	0.0013	0.0013	0.0010

Boxes highlighted in orange (darkest grey shade if printed in black and white) indicate that the maximum negative fluctuation for the respective currencies for the period analyzed. For example during September 2001 the gold price was unstable which probably due to the September 11, 2001 World Trade Center bombing.

Another concentration of area is from December 2002 until August 2003 whereby the most of the maximum positive or negative fluctuations were in these periods. This probably due to speculative profiting from the Malaysian intention to use gold Dinar as an international payment settlement currency among OIC country.

However the overall risk is low because the standard deviation is 0.04 for all the currencies except 0.05 for South African Rand. Even though gold could be speculated because of the changes in prices but the risk is low for all of the selected currencies.

Table 5: Correlation of Gold Price Exhange Movement

	US$	*Euro*	*Yen*	*UK Pound*	*South African Rand*	*Australian $*	*Canadian $*	*Indian Rupee*
US$	1.00	0.60	0.91	0.90	0.37	0.50	0.92	0.98
Euro	0.60	1.00	0.72	0.79	0.70	0.77	0.74	0.68
Yen	0.91	0.72	1.00	0.95	0.66	0.74	0.95	0.96
UK Pound	0.90	0.79	0.95	1.00	0.60	0.72	0.92	0.94
South African Rand	0.37	0.70	0.66	0.60	1.00	0.83	0.65	0.53
Australian $	0.50	0.77	0.74	0.72	0.83	1.00	0.75	0.65
Canadian $	0.92	0.74	0.95	0.92	0.65	0.75	1.00	0.96
Indian Rupee	0.98	0.68	0.96	0.94	0.53	0.65	0.96	1.00

Table 5 shows that all correlations are below than 1, which diversification can serve as a useful method to reduce exchange rate risk. The highlighted boxes indicate the lowest correlation for the vertical currencies. It is found out that the South African Rand is the most suitable or optimal currency with the lowest correlation except for Australian Dollar and South African Rand to be low with USD.

E. CONCLUSION

Investment is an important aspect in our daily life therefore it is important for us to safeguard our investment especially when dealing with foreign investment. Islam promotes investment especially through Mudharabah and Musyarakah mechanism, however this investment would be futile if money could not fulfill in its function as storage of value.

The 1997 currency crisis has halted many countries from continuous economic growth due to the slow down economy after effects. In respond gold has been suggested for usage as an international payment settlement. Countries wanting to implement gold Dinar along with domestic currency will still be exposed to speculative measures due to the change of the gold prices.

This is not because the change of the gold value but the currencies itself have depreciated or appreciated. However, the risk is actually lower for all currencies and the most optimal currency for diversification would be South African Rand.

While it is not an easy task forecasting currency standard deviations and correlations with perfect accuracy, this analysis could become an alternative tool to identify the currency risk variability.

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