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International Bond Portfolio Diversification

In traditional business operations, one would desire the increase of profit and the maximum amount of return on investments in the market, at the same time. The adage that one should not put eggs in one basket is a well-known and universally accepted proverb and in this light, the discussion on diversification will commence. Simply put, if one of the investments loses money, the investments in other bonds and instrumentalities will be unaffected, which will thus ensure minimal loss to the investors. In assigning the context to the business market, the company that properly spreads investments and capital will be assured that even though one of the areas of investment will all of a sudden register a negative income for the company, it is still assured that, since investments are spread in many markets and instrumentalities, minimal loss will be incurred and the company can reduce or pull out its investments in the negative income area (Lipsey, Chrystal, 1991).

The practice of institutional managers investing in as many markets as possible is founded on the presumption that business synchronism around the global markets are not perfectly mellifluous with each other, and the act of allocating capital for international investments affords the investors with opportunities for increased levels of returns and to reap international diversification benefits. Various studies conducted by Lerman and Levy (1988), and Jorion (1989) affirm that the addition of foreign bonds to local bonds will aid in the reduction of portfolio risks without the decrease of returns during the period of 1960 to 1990. Recent studies by Solnik, Boucrelle and Le Fur (1996) and Hunter and Simon in 2003 have

been conducted to determine whether the gains from global diversification have slowed over time and may have disappeared in phases of high stress in the equity markets, as this is commonly found in the following instances: Hunter and Simon (2004) state that the returns of the bonds in the United States, United Kingdom and Germany are correlated, but this fact is not seen with regards to bonds in the United States and in Japan.

Calculation for acquisition of bond consideration

Lipsey and Chrystal (2007) state that in the choices of the company or individuals in calculating the risk involved in bond acquisition, the concepts of expected value and degree of risk must first be determined. The former can be defined as the most probable result if a specific action is repeated for a certain number of times; the latter is gauged by the spread of probable outcomes when the same operation is repeated a number of times. If the factors are constant with a degree of certainty, then there is only one outcome to be expected. The expected value is the product and the spread of results is zero, implying that there is no risk accompanying the bond. If there is no degree of certainty, the possibility is that more than one outcome will be displayed, where the most possible outcome is the expected value and the dispersion of potential outcomes is the degree of risk involved (Lipsey, Chrystal, 2007).

Discussion

In Lipsey and Chrystal (2007), the act of diversification does not always produce the desired reduction of risk in a portfolio, so it is imperative that the conditions latent with the bonds are discussed. For example, if two assets are expected to generate at least 20 percent (for the sake of assignment and discussion, assets will be assigned as Asset 1 and Asset 2), and Asset 2 has more calculated risk than Asset 1 and the returns are positively associated

with the returns expected from Asset 1, the risk of the portfolio is not reduced in these instances. If the investors are concerned over the risk of the portfolio, then they would only be interested in investing in Asset 1, while those who do not overly concern themselves with risk would consider investing in Asset 2. A combination of investments on Asset 1 and 2 would be considerably laden with a greater amount of risk than in investing in Asset 1 alone (Lipsey, Chrystal 2007).

The global capital markets become increasingly linked with the operation of globalization, which provides enhanced portfolio management. The concept of global portfolio management pioneered by Markowitz (1952) and Torbin (1958) was enhanced by Grubel (1968) to global markets of prevailing portfolio analysis. Eun and Resnick (1991) stated that investors can significantly gain from international diversification when the appropriate foreign exchange mechanisms and parameter boundaries are correctly harnessed and used. If these controls are not reined in, then the investors may expect insufficient gains to justify the act of international investments. In this regard, the investor may choose to invest in the local market rather than place money in the global financial market (Sun, Resnik).

Clacher, Faff, Hillier and Mohamed (2004) state that in the last twenty years, they have seen the rise of new currency risk management protocols which have significantly changed institutional investments. Currency risk management is made up of two classifications: *passive strategies*, which take a position regardless of the conditions prevailing in the market or the movements of the market, and *active strategies*, that take into consideration the forecasts of the market and then make investments that correspond to the forecasts. The work of Levich and Thomas (1993) state that conducting technical evaluation not only benefits international bond investment plans due to an increased risk diversification; its application will also result to higher returns. But Clacher, Hillier, et al (2004) claim that

the findings of Levich and Thomas may no longer be applicable to the current market environment, as the current market allows for more options for investment than in the time of Levich.

Clacher, Faff, et al (2004) simulate the operation of two passive protocols for international bond diversification - an “active” hedging strategy and a “no hedging” practice, and two active protocols, the “tactical” currency hedge and “currency over lay” hedge. In the discussion of the first set of strategies, passive protocols can be seen as the primary methods of controlling currency risk. A company or institution that does not practice hedging basically accepts the volatility which is innate in foreign exchange markets. Apart from the existence of risk, the transaction expenditures that are involved in the undertaking of any type of hedge are costly, and the volatility of the foreign currencies are considered to be low; thus, there is very little to gain from the practice of currency risk management. If the portfolio is unprotected, then the investor is prone to interest rate risks and currency risks (Clacher, Faff, et al 2005).

At the other end of the protocol, there is also the practice of continuously using a hedge against any currency risk. The protocol offers maximum benefits while the costs of the transactions to enter into hedges are considered to be very low. This will result in the maintenance of a consistent hedge that would have minimal effect on the investment itself. On the other hand, active protocols are based on the assumption that the investor can predict the future movements of the currency. In this context, active hedging policies can be built in a way where foreign currencies are protected when they are construed to move against the dollar and are left prone to move in favor of the dollar (Clacher, Faff, et al 2005).

Many of the past literature works that have been conducted in this field have been done in the area of global diversification of stock portfolios. Though the statement that the

global bond market is considered to be as large as the global stock market with regards to market capitalization value and is considered as more concatenated, the international variegation of bond portfolios is considered to have received a lesser amount of focus than other financial research areas. In this context, it can be stated that a considerable amount of empirical endeavor has been employed in the application of the extant portfolio theory to the equities agora, in comparison to the fixed income market. But the research analysis of global bond variegation is still in its preliminary stages, which would mean that it still has digressing elements (Eun, Resnick).

In the work of Levy and Lerman (1988) in an exit study, evidence is shown that an American investor who variegated across global bond markets could have gained at least twice the mean rate of return on a local bond portfolio at the same level of risk. The work of Jorion (1987) also showed that in a span of ten years ending in May of 1987, a global value weighted index of government bonds resulted in the production of premium risk-return performance compared to a local American bond issue. Jorion (1987) also showed that a hedged equal weighted index would have estimated the mean return as the American public bond index, but the issue would bear with half the volatility rate. In comparison with the assertions of Jorion (1987), Burnik and Eunis (1990) have stated that the risk and return elements of non-dollar bonds give rise to questions with regard to their participation in diversified portfolios of American investors. Burnik and Eunis (1990) also state that American investors are afforded no reliable compensation for carrying the currency risk innate in foreign bonds (Eun, Resnik).

In the work of Hunter and Simon (2004), they did not discover any evidence that the gains of global bond diversification on a currency hedged factor are reduced in times of high stress for the markets. In expressing the data collated by Hunter and Simon (2004) it is seen

that bond returns from Germany and the United Kingdom bond issues are lower by an average of three to four basis points; Japanese bond returns usually reflect the same returns. In weekly currency returns on the Standard and Poor's 500, the German DAX, and the FTSE, the weekly returns average on a range of 6.9 to 12.5 basis points, with increased prevailing deviations approximately twice the returns of the bonds. The Nikkei average shows negative fifteen basis points with increased prevalent deviations compared to other equity markets. In this context, it can be said that all bond markets in local currency expressions outperformed their respective equity markets on a risk adjusted elements (Eun, Resnick).

Clacher, Faff, et al (2004) cite the work of Levi and Zvi (1988), which stated that American investors would have accumulated significant gains from global investments without hedging their money risks. Perold and Schuman (1998) demonstrated that a passive currency prevarication plan could enhance the returns that a global investor receives, relative to a local portfolio and an unprotected global portfolio. Hedging costs, in the work of Perold and Schuman (1988), are considered negligible enough to have any significant effect on the performance of the international portfolio, and that has been affirmed in the research of Jorion (1989), Thomas (1989) and others. In a more recent research conducted by Vander Linden, Jiang and Hiu (2002), they applied a conditional hedging protocol that is a combination of the “real interest rate rule” created by Hazuka and Huberts and a “forward hedge rule” that resulted in the creation of the “real forward hedge rule”. Their results show that the new protocol was helpful for global American investors and on the whole, the rule outpaced all methods of hedging (Clacher, Faff, 2005).

It is said that investment grade international currency bonds afford attractive variegation benefits to a portfolio, but the most significant difference between this class of assets and a local investment grade is the inclusion of currency risk. In the calculation of the

sum of the received foreign currency certificates, the gains from the interest rate and the changes of prices in the market of the bond are not the only factors that are needed; it should also include the increase or decrease in the currency exchange rate with regards to the exchange rate of the investor's local currency and the currency denomination of the bond. The main advantage of an investor in possession of a range of bonds denominated in a host of currencies is that the spread of the currencies will reduce the inherent risks for the investor. The factor of time also aids in the reduction of the risk. As with extended periods of time, the profits and losses tend to net, resulting in similar losses and gains in a host of global markets. As shown in the chart below, the above mentioned points are buttressed (Index Investor).

Real Foreign Bond Results, 1971 - 2002

	Average Annual Return	Standard Deviation	Skewness	Kurtosis	Correl. With Domestic Equity Market	Correl. With Domestic Bond Market
A\$	7.1%	16.7%	(.03%)	.56	(.17)	.14
C\$	9.9%	8.7%	.28	.54	(.05)	.35
DM/Euro	6.3%	9.1%	.17	2.21	.36	.21
Yen	5.7%	9.8%	(.37)	1.47	(0.1)	.05
GB£	9.2%	9.2%	.47	1.91	.13	.05
US\$	9.5%	11.2%	.51	.72	.09	.19

In this light, it is seen with a range of currencies that, as a class of assets, foreign financial certificates have extremely enticing statistical characteristics. The low correlation of returns on foreign bonds with the local equities and bonds is of specific note, with studies showing that the correlation between local and foreign equity markets tend to change over a period of time, increasing when they are in decline and decreasing when the bonds are going

up. This fact has led to a number of scholars to arrive at the conclusion that the relevant amount of variegation benefits companies receive from investing in foreign equities are actually lower than what can be seen; the question thus posed is this action that same for foreign bonds. Capiello, Engle, Sheppart, in their research paper *Asymmetric Dynamics in the Correlations of Global Equity and Bond Returns* (2006), show that bonds will behave quite differently from equities in this context. Capiello, Engle and Sheppart (2006) state that linkages across global bond markets were very much debilitated compared to the connections of equities markets, and the lowest interactions in their research endeavor were in comparison to one region, such as Asia, Europe and North America, and the returns of the bonds in the other (Index Investor).

Lastly, they have noted that the “flight to quality” phenomenon has resulted in the optimization of the benefits of variegation as needed, as bond to equity links tend to be lower in periods of financial morass. To verify this position, the performance of these bonds (foreign) must be seen for the evaluation of investment rated bonds.

Real Foreign Currency Bond Returns Under Different Conditions

Geometric Annual Returns for Decades, Quarterly Returns for Quarters

	<u>1970s</u>	<u>1980s</u>	<u>1990s</u>	<u>4Q 1987</u>	<u>3Q 1998</u>
A\$	2.0%	10.9%	9.6%	12.8%	12.8%
C\$	4.5%	5.2%	8.5%	13.4%	13.4%
DM/Euro	(2.5%)	7.5%	11.8%	(2.0%)	.01%
Yen	(4.1%)	5.6%	4.7%	4.3%	6.5%
GB £	2.7%	8.6%	8.8%	(0.6%)	5.6%
US \$	4.3%	6.6%	4.0%	23.5%	9.2%

As is shown in the chart, foreign currency certificates, as a class of assets, have particularly been performing well across a range of variables such as local currencies, time phases, and conditions of the market. Of particular note is the real returns for this class of

assets that show a slightly negative interaction with the rates of inflation during the period of 1971 to 2002. Despite the display of these advantages in the contemporary study of Berger and Warnock for the United States Federal Reserve entitled *Diversification, Original Sin, and Bond Portfolios* (2003), it has shown the inclination of local investors towards bond portfolios, which was noted to be quite severe. To assess this bias in the Global Market Portfolio, it is examined in the scope of a host of countries' viewpoints (Index Investor).

<i>Countries</i>	<i>Share of Foreign Bonds in Global Market Portfolio</i>
Australia 56%	56.00%
Canada 56%	56.00%
Eurozone 45%	45.00%
Japan 47%	47.00%
United Kingdom 55%	55.00%
United States 28%	28.00%

Though many positions have been offered on attempting to explain the table, the traditional position is that the misinformation in hedging foreign currencies is one of the more significant factors in the reluctant stance taken by investors to acquire foreign currency bonds. In this regard, there are three leading positions in favor of including foreign currency bonds in one's portfolio. The first position states that since foreign currency bonds have a low interaction with local currency returns on local bonds, there is a possible variegation and risk reduction gain from the possession of foreign currency bonds. In the study conducted by Simone Varotto entitled *Credit Risk Diversification: Evidence from the Eurobond Market* (2003), global variegation of bonds has resulted in a larger amount in the credit risk of portfolios than when the investors conducted local currency diversification in a host of industries, financial instruments or credit ratings (Index Investor).

The second favorable argument for international bond diversification states that with the correlation of the bonds with other types of assets, they tend to change over a period of

time. The correlation of local equities and foreign currency bonds tend to be at their lowest in periods of high stress in the equity markets, mainly due to the “flight to quality” instance. As compared to the above mentioned statement, this circumstance is the contradiction of the interaction of local and foreign equities during the same period. Simply put, foreign currency bonds provide benefits while equities will generate losses for the investors in periods of high stress (Index Investor).

Lastly, foreign currency bonds afford the investor with a natural protection against inflation. Since an increase in the local rate of inflation in relation to global rates will result in the decrease of the value of the home currency of the investor and as a result of this event, the foreign currency value of the investor will increase. But according to Kenneth Froot in *Current Hedging Over Long Horizons* (1993), the practice of hedging to reduce currency risk is only beneficial for short term exposures and not for long term practice. In this vein, Campbell, Viciera and White, in their paper, *Foreign Currency and Long Term Investors* (2003), note that the traditional wisdom will maintain that investors should abstain from engaging in long term exposure of hedging, stating that in what they construe as accepted practice, investors should at the very least be wary of engaging in long term hedging activities (Index Investor).

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