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CROSS-BORDER TRADING IN THE CARIBBEAN

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1.0 Introduction

The objective of this paper is to discuss the issue of *Cross-Border Trading (CBT)* in the stock-exchanges or markets in the Caribbean. Currently, there are three active stock markets in the Commonwealth Caribbean; there is the Jamaican Stock Exchange (J); the Trinidad and Tobago Stock Exchange (TT) and the Barbados Stock Exchange (B). Hereafter, we will refer to these three stock markets as JTTB. Our concern in this paper is to discuss the questions of motivations, the risks, and other features of these markets which will cause an investor or trader to invest or trade in the JTTB. This paper is an amplification of an earlier paper *(Jones-Hendrickson, 1993).*

It is important that CBT be on the Regional Monetary Studies agenda because the stock market which is the equity market, the bond market which is the credit market, and the foreign exchange market which is the core relations in terms of regional currencies, are all related to the money market. Policies in the money market impact on, correlate with, and sometimes confuse policies in the equity market. Furthermore, now that the region is moving slowly to establish additional equity markets — note, for example, the talk about an equity market in the Eastern Caribbean Central Bank area — it is imperative that we understand some of the possibilities and the pitfalls of the equity market in terms of cross-border trading.

In the three stock markets in the Commonwealth Caribbean, the line up of stocks are as follows: In Jamaica there are 45 companies issuing ordinary shares; eight companies issuing preferences and four companies issuing corporate bonds. Closing prices for August 12, 1993 in Jamaica, were volume, 534,057 and total value J$5,313,839. The market index was 20,885.24 down 397.19 from the previous month *(The Jamaica Stock Exchange)*. As of that day, 15 of the 45 companies did not do any trading in the ordinary shares markets. *(The Jamaica Stock Exchange)*

As of August 11, 1993, Trinidad and Tobago Stock Exchange had 25 listed stocks and preference shares for five companies. There were 83,913 shares traded at that date in Trinidad, and the market value was TT$179,120 (*Caribbean Week*, 1993: 52).

Barbados had 16 ordinary stocks and four companies listed under the preferred as of August 27, 1993. The number of shares traded that day was 37,869; the market value was B$98,358 *Caribbean Week*, 1993: 52).

Of the three exchanges of the JTTB, Jamaica is the most active and, by far, the largest in terms of capitalisation, activity and valuation. These exchanges are in the process of moving to the tune of what is happening regionally and internationally.

In terms of US dollar amount, the valuations were for Jamaica: US$241,675 (at J$22 to U$1); for Trinidad, US$31,206 (at TT$5.74 to US$1) and for Barbados, US$49,675 (at BDS$1.98 to US$1).

To put these numbers in a qualitative perspective, the Jamaica trading day was equivalent to the salary of a small-scale Wall Street Broker. The Trinidad trading day was equivalent to salary of an average Professor; and the Barbados trading day was equivalent to the salary of an Assistant Professor — all in a typical US University. In another view, a quantitative perspective may be seen as follows: there were 655,839 shares on the JTTB in the given August day, 1993. The US dollar value was US$322,556 or a per unit price of *forty-nine cents.*

1.1 Global Stock Exchanges

Internationally, stock exchanges are mushrooming all over the world. Among the many stock exchanges emerging around the world are the People's Republic of China Shenzhjen Stock Exchange; the stock exchanges in Turkey, in Nepal, and closer to this hemisphere, the Mexican *Bolsa de Valores.*

In the Eastern Caribbean there is serious discussion about an Eastern Caribbean Stock Exchange. It is possible, and has been so for some time, for individuals to purchase stocks in companies in the Eastern Caribbean. For example, in St. Kitts, the Trading and Development Company, TDC, the National Bank, and most recently St. Kitts-Nevis Telephone Company, Skantel, have sold stocks to individuals and to the public sector.

Why are stock exchanges exploding all around the world and why are we concerned about them in the Caribbean? According to Ben Hakham, an analyst with the London-based Carnegie International Ltd., and a person who specializes in emerging stock markets, "...stock exchanges offer short-term financing for firms that need capital as well as for countries that want to privatize state-owned companies." Continued Hakham, "...stock exchanges, particularly in (new areas)... offer individuals a new investment vehicle that often times can be lucrative." (*Sheridan*, 1993: 102).

In many respects, picking stocks in emerging stock markets and particularly in markets where the novelty is high, is like playing Russian roulette. In the Caribbean's three stock markets, JTTB, there are first the questions of ***viability, confidence, and predictability.***

The ***viability*** issue pertains to whether any of the three markets has developed sufficiently, within the context of their respective economies, to function normally. By normally we mean the situation where the markets are not driven by rumors but by information, a point we shall develop later. To date it seems that the workability and survivability of the three stock markets is one of degree. Jamaica, because of its volume, size of economy and larger economic production platform, has greater possibilities of going beyond a pre-maturity stage into a mature equity stage. In Trinidad and Barbados, questions could be posed about long-term viability in the presently conceived and operated markets.

Viability, also, pertains to the situation where an individual who lives in Barbados or Trinidad evaluates the situation in the Jamaican Stock Exchange and then determines what are the possibilities that money could be made either as an investor, that is, to buy and hold, or as a trader, to buy, sell or hold at a perceived *appropriate time.*

In this regard, the second issue is one of ***confidence.*** CBT is useful and has the potential of bringing the equity markets in the Caribbean up to a level where more persons take part in the development process of the region. However, the level of confidence has to be sufficiently high that a Barbadian will want to invest in *Valpark* ordinary shares in Trinidad or in *West Indies Publishing* in Jamaica and have the calm to make the investment knowing full well that these companies are run professionally, and that when dividends are to be paid, they will be paid. It is vital, also, that the Barbadian investor expects that there will be some capital appreciation in the stocks over time.

To date, there is not much traffic across borders. (We will present evidence on this later). The level of confidence that should encourage the cross-border trading is not yet at the height that will ensure a calm and an understanding that investing in the Caribbean stock markets, from one country to another, is investment on an even, level, playing field.

Internal to the domestic markets of Jamaica, Trinidad and Barbados, is some degree of confidence. The degree of confidence seems to be larger in Jamaica than in Trinidad and Barbados.

However, the firm assurance that the confidence that the markets outside of one's home will perform in an ordinary manner is not fully ingrained in those investors who will venture to invest across borders.

The third issue is ***predictability.*** It is difficult to predict the future, and worse, it is extremely difficult to predict the future in stock markets. In established markets predictability is as varied as there are statisticians, market technicians, quacks and other financial charlatans. In the Caribbean, market predictability and timing are not yet at the level of minimising the degrees of freedom of what one believes will happen relative to what one feels will happen in stocks. We will note, later, that the level of risk makes a great difference in terms of the level of predictability.

Thus far, our implicit contention is that the stock markets in the Commonwealth Caribbean have not yet reached a level of high volume cross-border trading because their levels of viability, in terms of size, scope, confidence and predictability, are such that the investor who plans to venture from home base has to be too much of a risk taker to make the move into an Exchange outside of his home base.

If we are correct, what are some of the issues that are in the matrix of mistrust and how can these issues be resolved so that cross-border trading be enhanced? We will now turn to a discussion of four ideas: *(1) market information; (2) noise in the market; (3) error-learning process;* and *(4) cross-border risk.*

After these discussions we will illustrate a typical market day for the three markets. We will follow up this with data for Jamaica from 1984 to 1994 (January). The idea is to show the volatility in the Jamaican market. We will then show the rudiments of cross-border trading data that we were able to obtain from the Jamaica Stock-Exchange. Finally we will conclude on the critical nature of the need for cross-border trading and what are some of the pitfalls and prospects to bear in mind in this age of computer and other technological development.

II. Market Information

The development of an active cross-border trading portfolio in the Caribbean will depend upon, first, the level of market information that exists relative to the 86 stocks traded in the JTTB. Technically, there are two "sides" of a stock market information. Side one is like a casino; if lady luck is with you, you win. If lady luck is not with you, you lose. This is the speculative side of the stock market. People "play" this side of the stock market. On the other side, there is *the theory of efficiency markets:* on this side, the stock market is said to be a keen processor of information. Every bit of information that relates to the price of a stock is given the appropriate weighing and incorporated in the price that an investor pays for a stock. Here, rational thoughts prevail versus speculative actions. This "efficiency markets" view would explain why the stock prices in the Jamaican market have fluctuated so much over the last several years. The kernel of this view is that the fluctuations are the relevant response to the acquisition of market information.

Does the market really matter? It does, both internally and externally, as far as the cross-border trader is concerned. Basically, stocks are claims on the income of the activities of businesses. There is a risk and return mix relative to the income stream of the firm. A firm, such as *Carib Steel,* trading at J$4.50 may be very cyclical and may fluctuate with the economy of Jamaica. Another firm, *Bank of Nova Scotia,* trading at J$25.00 may have undertaken investments when the economy was in bad shape, as BNS did in the 1970s. Such investment would be evaluated differently. These two stocks should be selling for different prices because the stock signals would pass market information to the firms and the investors.

Unfortunately, in the JTTB, there is no clear evidence that market information is factored in all of the pricing decisions. The sudden movements of some prices of stocks in Jamaica in the 1980s and in the 1990s seem more to be a function of the ability of "market analysts" and other financial writers to write favourable articles in the *Money Index* and in the Financial Section of the Jamaica *Sunday Gleaner.*

Such a case may reflect, for instance, why the *Ciboney Group Ltd.,* the Jamaican Hotel Developer had a 26 percent oversubscription of its public shares in 1993. *Ciboney* was at one time trading at J$5.00 a share. It reached a high of J$7.50 a share. The group offered 14 million shares at J$5.50 and the response was overwhelming. This was a second attempt to raise J$77 million. How does one explain this oversubscription following a lukewarm response from the major financial institutions in Jamaica to a private offering of J$396 million that was made before?

After some hesitancy, that initial offering was fully bought. However, 30 percent or nearly J$120 million was taken up by Paul Chen Young Eagle Group. "Chen Young himself is a major player in Ciboney; his (Eagle) Merchant Bank (was) pivotal in financing the first (Ciboney) hotel." (*CanaBusiness*, January, 1993:27). It is to be noted, that Paul Chen Young Group also has one of the leading stock brokerages in Jamaica.

What, therefore, does one make of this situation if one is outside of Jamaica? As a cross-border trader, this information which made the Ciboney stock so suddenly attractive would not be filtered, quickly enough, outside of Jamaica to the non-Jamaican investor.

Another case where information may not have moved to the advantage of the cross-border trader is the case of the Trinidad-based Caribbean Life Insurance Company, CLICO, and its purchase of Plantations Holdings of Barbados. Here there must have been some market information that CLICO had prior to its making its purchase. Once again, the individual cross-border trader was left out of the loop relative to relevant and timely market information.

Our perception of inadequate market information from the JTTB for cross-borders is in keeping with the views of Keynes (1936:154-158). Keynes noted that it is the short-run guess at what a stock will be sold for in a given period that basically determines its price. What the business will produce has little or nothing to do with the price of the stock.

The return on a stock is normally divided between dividends and capital gains. Keynes argued that the capital gains portion is the dominant portion. If this is true, and Keynes was a successful investor, it follows that market information, particularly for the cross-border trader, is critical at the level of understanding what capital gains are possible. But if the information moves with a lag across the borders, the investors in the home country will tend to have the greater advantage to invest. This suggests that the volume of cross-border trading may not be up to what is anticipated, even if the firm is a well-run company like *Neal and Massey* in Trinidad or *D&G* in Jamaica.

III. *Noise* in the Market

By using an episodic situation, we can illustrate how *noise in the market* may block cross-border trading. Suppose a Barbadian investor wants to buy shares of *Kingston Ice*, based on yield versus capital appreciation. Suppose, further, that an article in a leading Caribbean Financial magazine inadvertently left out *Kingston Ice* from a Table showing the top ranked companies based on rate of return. And suppose, also, that the price of *Kingston Ice* falls as people perceive that something may be wrong with *Kingston Ice*—it may be going into receivership, for instance.

This informational flow may be construed as *noise in the market*. It is noise because it is information that may be costly to the Barbadian investor because she/he has information which gives her/him wrong signals relative to investing in *Kingston Ice*. This does not mean that the investor did not look at the prospectus before she/he made an investment. She/He may have invested or not invested based on the wrong information, at the wrong time.

The price that may be paid for *Kingston Ice* after the "noise" is cleared up may be a price that is based on "expectations" of what others will pay. The fundamentals of the stock may not be instrumental in determining the price of the stock. Indeed, the price of *Kingston Ice* may be more a function of a what Kindleberger (1978) termed the "speculative bubble" and not the fundamentals of the stock.

Noise in the market means that informational flow is being distorted. Whenever there is noise in the market there must be some compensatory factor to offset the noise. An investor will want to recover his costs if he were misled with noisy information; he may benefit from the noisy information if he invested short on the stock, that is, if he bet that the price of the stock will fall rather than rise in the long-run.

The nature and size of the three markets in JTTB are such that information does not come cleanly and without noise. This noise in the market must be seen as one of those factors that will deter large cross-border trading.

Paradoxical though it may sound, from a technical point of view, some companies in the three countries of Jamaica, Trinidad and Tobago and Barbados, are stronger than the host economies. This does not mean that the companies can exist independently of the host economies. The paradox stems from the fact that the host economies are, from a tractability point of view, the guarantor of the companies. In other words, it is like a government being the underwriter for a public sector company that plans to float bonds. In the three countries, there is a level of "disjuncture" between some companies and the host economies.

This means that a person outside the host country, a Barbadian, say, who looks at the Jamaican economy and plans to invest, will have to be mindful of the foreign exchange situation of the economy and will, in a biased way, be influenced to stay away from the Jamaican stock market. From perception, if the Jamaican economy is not doing well, the Jamaican stock market and hence the companies in Jamaica may not be doing well. This argument is a non-sequitur. We argue that "the capital markets in nearly all countries are disjointed from the economic structure of the host economies." (*Jones-Hendrickson*, 1993:25).

When there is noise in the market, the price of a stock does not have any relationship to the fundamentals of the company. The cross-border trader is at a disadvantage in this respect. Stock prices follow a "noisy rational expectations" path when there is noise in the market. Here, the price of a stock follows a perception of reality as conditioned by the level of the noise: that is, noise in an *informational bound* of what the "movers" of the stock want to the stock to be on the market.

In the stock market systems where there are strict regulations, the level of noise is minimised. For cross-border traders, therefore, noise in the market creates another barrier to their free movement to engage in CBT.

IV. Error-Learning Process

Cross-border trading involves a certain level of knowledge about the nature of the markets, the nature of the companies, and the nature of the economies in which the companies are operating.

In 1991 the Jamaica Stock Market index grew by 202 per cent. Since 1991 there has been some unusual movement to raise capital. This heightened the level of activity. As a result of this activity and no doubt Jamaica's greater level of stability this year, the International Finance Corporation, the private sector arm of the World Bank, has begun to list Jamaica in its data-base and review of emerging markets. Jamaica is listed among markets like Korea, Brazil, Malaysia, Mexico and Argentina. (*CanaBusiness*, January, 1993:27)

To a person outside of Jamaica, this IFC recognition is like a good-housing keeping seal. There is, however, an error-learning process involved in an investor making investment in Jamaica

based on this action by the IFC. First to the 40,000 stockholders in Jamaica, this IFC recognition may be a factor that they already have factored in their investment decision-making. To the outside cross-border trader, he may be investing on late information. In the stock market, timing is vital.

In 1992, the Barbados Securities Exchange ended the trading year with 1.8 million shares; that was the lowest since 1988. In 1991 there were 7.2 million shares traded. This seventy-five per cent drop in the stock market volume, to an outsider and to some analysts, could be linked to the slow down in the Barbados economy. But, it must be noted that in 1991 CLICO bought four million shares of *Plantations Holdings*. So, here, the narrowness of the Barbados market generated an error in the learning process about what drives the Barbados market. Indeed, the financially "troubled *Plantations*, now under restructuring by CLICO, did not experience a single trade in its stock for the entire 1992." (See *CanaBusiness*, January, 1993:26).

These two examples are two distinctly different issues. In the Jamaican case the euphoria about the IFC recognition could move an investor to invest in Jamaica given its new imprimatur from the IFC. Errors could be made if the advantage of this novelty was already cornered by Jamaican investors. In the second case, the situation with CLICO and *Plantations* could force investors to stay out of Barbados because it may have been guessed that the Barbados economy was at fault, when indeed it was *Plantations Holdings*' problems or CLICO's hostile takeover.

Investors learn from making errors. In terms of blocks of shares to sell in one market versus another, the question is not always clear. Suppose one wants to buy *Courts* across two markets and concentrate on cement companies. The question to be posed is, what portfolio-mix should be put in place? In Barbados, in September 1993, *Courts* was trading at BDS$2.50 (about US$1.26); in Jamaica, *Courts* was trading at J$8.40 (US$.39). In Jamaica, at that time *Carib Cement* was trading at J$8.50 and in Trinidad, *Trinidad Cement Ltd.* was trading at TT$3.23 (US$.56). Much speculative decisions would have to be made to adopt a portfolio-mix across markets and across commodities groups.

Time will have to factored into the decision to enable a person to get the "hang" of the three markets and determine what sectors, industrials, financials, and others are driving the markets. Time in the error-learning process is a determining factor as investors learn the markets. Each of the three markets in the JTTB has its own culture and its own peculiarity. Financials seem to "run" things in Jamaica. In Trinidad and Tobago, the industrials run things. In Barbados, communications and insurance seem to run things. It is important that a cross-border trader understands these differences and invest accordingly. The fundamental of a given industry, namely a telephone company, a utility, presents a different logic in all three markets. This differential logic about market fundamentals in the JTTB makes it easy for a cross-border trader to make errors in learning the market in the JTTB. Hence a cross-border trader will need to understand the culture of the markets before she/he makes his move.

Understanding the culture of the markets is important from a long-run and short-run point of view. There is an informational flow of ideas at any point in time. Associated with the long-run informational flow of ideas is *a short-run corrective mechanism* based on misinformation and the error-learning adjustment process. There is no guarantee that correcting the short-run fluctuations in knowledge will bring about some purity in information. Cross-border investors will have to make some allowance for an error-learning process and take time to adjust their cross-border investment behaviour to allow for the inclusion or exclusion of information that will permit them to make better decisions, in the long run.

V. Cross-Border Risk

Of all of the issues we have discussed thus far, none comes closer to deter investors from CBT and simultaneously to encourage CBT than does the issue of cross-border risk. Cross-border risk is linked to the general concept of risk in investing.

Earlier we discussed efficiency in markets, but as *Bernstein* (1992) notes: "excess stocks returns are unforecastable." This idea is a take-off from the idea of Alfred Cowles who, in the 1930s, contended that the best investment advisor is one who selects stocks which yield only 50 per cent of what the entire market yields. Harry Markowitz, Nobel Laureate in Economics, took this idea a little further and in a simple way, argued that risk in a portfolio may be managed through diversification. Each individual's asset in the portfolio may be risky; however, the risks may be uncorrelated among the stocks in the portfolio. Hence, a diversified portfolio may have less risk than the assets in the portfolio evaluated separately.

In Economics we identify three types of risks associated with the name of James Tobin, Nobel Laureate (see *Bernstein*, 1992). We also link these risk ideas with the *capital asset pricing model (CAPM)* which is normally linked to the name of William Sharpe (see *Cunningham*, 1993).

There are three types of risk takers: *risk-neutral, risk-lovers and risk-averse*. A *risk-neutral investor*, is not concerned with risk. He wants to know only what an investment will pay on the average. He does not care if there is a small possibility of catastrophic ruin or a small chance of a massive pay-off.

The *risk-averse investor* wants better than fair odds to make an investment. The risk lover, on the other hand, seeks investments which are basically stacked against him. He will pay for the privilege of having the odds stacked against him on the grounds that the greater the odds, *the greater the risks, the greater the rewards*. In economics the common assumption is that people are risk-averse. If we follow the risk aversion theory to its logical conclusion, two principles will develop: *First, risk-averse individuals will devote resources to funding ways of reducing risk. Second, individuals who bear risk have to be rewarded for doing so.* (*Fisher and Dornbusch*, 1983:477).

The cross-border trader in the stock markets of the Caribbean, JTTB, seem to be predisposed to be risk-lovers. CBT has not taken off with any zest yet; this may be a function that mirrors one stage in the risk continuum. It may be that many of the investors are now more inclined to be risk averse at this point in time. For there to be any meaningful long-term CBT, the cross-border investors must be risk-lovers.

The risk-lover, in our instance, is an investor who, *ceteris paribus*, subscribes to the idea that there must be diversification. *Diversification is the strategic system of reducing risks by spreading investments over several assets.*

In the Caribbean's JTTB, it is not very easy to diversify. Nevertheless, there is still a possibility that an investor can have banks, newspapers, radio stations, in Jamaica; banks, industrials and newspapers in Trinidad; and power and light, consumer goods and property management in Barbados. Even though the portfolio-mix may be narrow, there is still some scope for diversification.

The cross-border trader and indeed the "in-border" trader is best positioned when diversification is so structured that the variability in the portfolio declines as the diversification increases.

As the number of securities with independent returns increases, risk falls. This idea is the old notion that one should not put all of one's eggs in one basket.

A cross-border trader may also wish to invest based on the notion of *beta. Beta is a measure of the extent to which a stock's returns move with the returns of the stock market as a whole. (Fisher and Dornbusch,* 1983:491). Betas are normally calculated by stock advisory services and brokers. The cross-border trader in the ITTB is again at a disadvantage, because as far as we know, betas are not calculated and given on any reliable basis in the Caribbean stock markets. The Jamaican situation is the closest case as is sometimes hinted in reported in some issues of the (Jamaican) *Money Index.*

By and large, betas are not standard information for investing in the region yet. Suffice to say, as fisher Black, Michael Jensen and Myron Scholes *(BJS)* noted for the USA, expected rates of returns on stocks tend to rise on the stocks with rising betas. (See *BJS* in Jensen, 1972).

VI. In-Border Trading and Cross-Border Trading

In this section we will illustrate what a typical market day looks like in the three markets. The market days are June 24, 1993 for Jamaica, June 21, 1993 for Trinidad and Tobago and June 30, 1993 for Barbados. The data are in Tables One and Two.

We present the data of the three markets, even though the markets are not strictly comparable. There were *Forty-three listed companies* trading on June 24, 1994 on the Jamaica Stock Exchange (See Table One). The current price of the stocks ranged from J$130 for *MOBAY ICE* to J$1.50 for *West Indies Publishing.* At that time the Jamaican dollar was in the range of J$20 to J$25.00 to one US dollar. Of the 43 stocks, 26, or 60%, were in the J$1 to J$20 range; 9, or 21%, were in the J$20 to J$40 range; 3, or 7%, were in the J$40 to J$60 range and the J$100+ range, and 2, or 5%, were in the J$60 to J$80 range. Of the 21 stocks in the J$1 to J$20 range, 11, or 26%, are between J$1 to J$10. We illustrate this information in pie chart, Figure One.

In the case of Trinidad and Tobago, all of *the 25 listed companies* as of June 21, 1993, had a current price of less than TT$10 (See Table Two). The range was from 28 cents in the case of *AXXON, LTD.* to TT$6.60 in the case of *West Indies Tobacco.* To get a perspective on the distribution of the 25 stocks in the Trinidad and Tobago Stock Market we arrayed the current price of the stocks on June 21, 1993 in four brackets. We found that 7, or 28%,

Table One. Jamaica Stock Performance/June 24, 1994

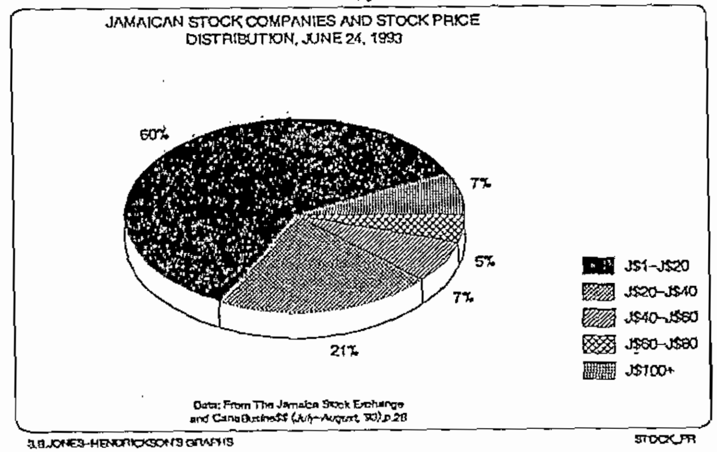
	Historic Eps (c)	Projected Eps (c)	Current Price* ($)	Hist P/E Ratio (times)	Proj. P/E Ratio (times)
B.N.S.	170.00	300.00	29.00	17.1	9.7
Berger	42.00	60.00	4.50	10.7	7.5
Carib Cement	23.30	150.00	13.80	59.2	9.2
Carib Steel	77.56	150.00	5.35	6.9	3.6
Carreras	279.50	300.00	37.50	13.4	12.5
C.I.B.C.	120.15	120.00	21.00	17.5	17.5
Ciboney	(5.00)	40.00	5.60	0.00	14.0
C.M.P.	42.33	106.67	12.50	29.50	11.7
Courts	69.24	110.00	7.80	11.3	7.1
DR&G	17.11	30.00	5.40	31.6	18.0
D&G	394.00	450.00	72.00	18.3	16.0
Dyoll	41.25	90.00	10.00	24.2	11.1
Gleaner	93.33	120.00	18.00	19.3	15.0
Goodyear	123.00	170.00	13.00	10.6	7.6
Grace	210.00	280.00	32.50	15.5	11.6
H&I	28.00	60.00	4.50	16.1	7.5
I.C.D.	97.00	140.00	15.70	16.2	11.2
Is. Life	70.73	160.00	53.80	76.1	33.6
ICA Broilers	70.41	75.00	5.00	7.1	6.7
ICA Producer	213.85	350.00	31.00	14.5	8.9
I.C.B.	108.00	150.00	11.50	10.6	7.7
J.F. Mills	70.00	110.00	13.30	19.0	12.1
Kgn. Ice	345.89	240.00	55.00	15.9	22.9
Lascelles	327.00	500.00	59.00	18.0	11.8
B.O.J.	42.33	120.00	15.10	35.7	12.6
MoBay Freeport	563.63	200.00	125.00	22.2	62.5
MoBay Ice	239.00	250.00	130.00	54.4	52.0
M.S. Bank	71.75	100.00	13.50	18.9	13.5
N.C.B.	49.00	80.00	12.00	24.5	15.0
N.C.C.	14.50	100.00	10.00	69.0	10.0
Palace	(32.70)	100.00	20.00	0.0	0.0
Panjam	145.00	250.00	25.00	17.2	0.0
Pegasus	200.00	400.00	123.00	61.5	30.8
Radio Jamaica	122.90	180.00	17.90	14.6	9.9
Reckitt & Co.	303.00	400.00	65.00	21.5	16.3
Salada Foods	38.74	120.00	23.00	59.4	19.2
Seprod	265.00	370.00	24.80	9.4	6.7
TOJ	21.75	55.00	7.45	34.3	13.5
T.D.B.	89.93	150.00	14.80	16.5	9.9
W. Terminals	33.40	40.00	25.00	74.9	62.5
W.I. Pub	0.00	0.00	1.50	0.0	0.0
W.I.P.P.	(29.00)	150.00	6.50	0.0	0.0
Workers Bank	7.46	50.00	4.60	61.7	9.2
Market Index	24.245.21				

Table Two. Trinidad and Tobago P.E. Ratio/June 21, 1993

	HISTORIC		ESTIMATED			BASED ON HIST.		BASED ON EST.	
	EPS CTS	DIV CTS	EPS CTS	DIV CTS	CURRENT PRICE	YIELD %	P/E RATIO	YIELD %	P/E RATIO
Bank of Commerce	37.0	20.0	37.0	20.0	3.85	5.19	10.41	5.19	10.41
Bank of Nova Scotia	54.0	34.0	54.0	34.0	5.53	6.15	10.24	6.15	10.24
Nat. Commercial Bank	-14.5	8.0	14.5	8.0	1.12	7.14	7.72	7.14	7.72
Republic Bank	55.0	120.0	68.0	24.0	5.34	3.75	9.71	4.49	7.85
Royal Bank	48.4	20.0	60.0	24.0	4.11	4.87	8.49	5.84	6.85
Trinidad Coop Bank	22.0	10.0	32.0	10.0	2.20	4.55	10.00	4.55	6.88
Guardian Life		15.0		20.0	5.03	2.98		3.98	
Ansa. Mcal. Ltd.	17.0	12.0	17.0	12.0	1.85	2.00	10.88	6.49	10.88
Neal & Massy	26.0	18.0	35.0	18.0	2.18	8.26	8.38	8.26	6.23
Agostini's Ltd.	12.0	6.0	15.0	8.0	1.55	3.87	12.92	5.16	10.33
Furness Tdad	2.8	5.0	5.0	6.0	1.30	3.85	46.43	4.62	26.00
L.J. Willliams 'A'	1.3	0.8	1.5	1.0	0.13	6.15	10.00	7.69	8.67
L.J. Williams 'B'	13.0	8.0	15.0	10.0	1.00	8.00	7.69	10.00	6.67
Pt. Lisas Dev.	93.0	0.0	93.0	0.0	2.10		2.26		2.26
Valpark Plaza	12.0	0.0	12.0	0.0	5.00		41.67		41.67
Angostura	33.0	22.0	33.0	22.0	5.40	4.07	16.36	4.07	16.36
Axxon Ltd.	(9.0)	0.0	(9.0)	0.0	0.28		(3.11)		(3.11)
Berger Paints	14.0	6.0	14.0	6.0	0.90	6.67	6.43	6.67	6.43
CCN	5.0	0.0	7.0	3.0	0.83		16.60	3.61	11.86
Favorite	21.0	7.5	21.0	7.5	1.00	7.50	4.76	7.50	4.76
Lever Bros (W.	25.2	22.0	25.2	22.0	2.50	8.80	9.92	8.80	9.92
Readymix (W.b)	12.6	0.0	12.6	0.0	0.90		7.14		7.14
Tdad. Cement	62.0	22.0	67.0	25.0	3.00	7.33	4.84	8.33	4.48
Tdad Publishing	59.6	15.0	59.6	15.0	3.00	5.00	5.03	5.00	5.03
W.I. Tobacco	73.7	66.0	73.7	66.0	6.60	10.00	8.96	10.00	8.96

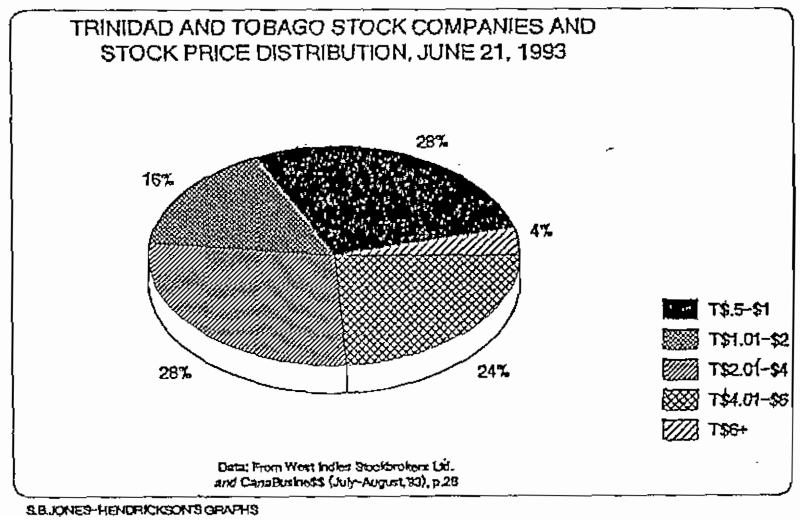
Prepared by West Indies Stockbrokers Limited

Figure One: Jamaican Stock Companies and Stock Price Distribution, June 24, 1993



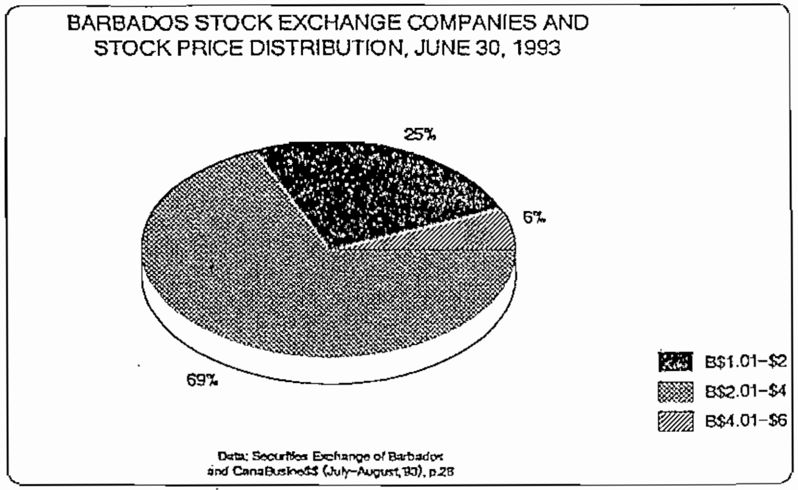
were in the 50 cents to TT$1 bracket; 4 or 16% were in the TT$1.01 to TT$2.00; 7 or 28% were in the TT$2.01 to TT$4.00; 6 or 24% were in the TT$4.00 to $6.00 bracket and 1 (or 4%) was over six dollars. This information is illustrated in the second pie chart, Figure Two. At this time the Trinidad and Tobago dollar was in the neighbourhood of between TT$4.00 to TT$5.00 to the US dollar.

Figure Two: Trinidad and Tobago Stock Companies and Stock Price Distribution, June 21, 1993



Finally we consider the data for the ***16 listed companies for Barbados*** (See Table Three). We note that all of the companies have current prices below BDS$10.00. Four or 25% of the companies had current prices of between BDS$2.01 to BDS$4.00 category. One company was above BDS$4.00; it was BDS$5.50. The Barbados dollar is BDS$1.98 to the US dollar. This information is illustrated in the third pie chart, Figure Three.

Figure Three: Barbados Stock Companies and Stock Price Distribution, June 30, 1993



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All things being equal we note that the three stock markets or stock exchanges are small in terms of the number of listed companies relative to the number of companies in the given countries. Nevertheless there is merit in considering cross-border trading. This merit and optimism are not shared by all. For example, *Maxie Cuffie* (1989:8) writing in the *Sunday Express* of Trinidad and Tobago, slams the idea of the Caricom Stock Market and implicitly cross-border trading. He notes *"Don't put too much stock in the proposed Caribbean Capital Market. Not yet anyway."* A view such as this one while not strictly against cross-border trading and a regional stock market may have also aided in the slow pace of cross-border trading. The regional business leaders are not all fully conversant with the many intricacies of the cross-border trading, even though there have been some excellent reports prepared on a regional

Table Three. Barbados Analytical Summary June 30, 1993

Company	Closing $	Net Change $	Div. Rate c.	Div. Yield %	Earnings Per Share** (interim or fiscal period)		$	P/E Ratio
A.S. Bryden	3.15	—	15.0	4.8	Y/e	30/09/92	.40	7.9
Banks	3.40	—	15.5	4.6	6 mths	28/02/93	.16	10.6
Bds. Dairy Ind.	1.70	-0.10	5.0	2.9	Y/e	31/12/92	.08	—
B.E.T.	2.55	—	10.0*ind	3.9	6mths	30/09/92	.07	—
B.L&P.	5.50	-0.10	36.0*ind	6.5	Y/e	31/12/92	.30	18.3
Bartel	3.25	-0.10	0.0	0.0	Y/e	31/03/93	.17	19.1
B.S.&T	3.00	+0.25	12.0	4.0	6 mths	31/03/93	.21	—
BICO	2.75	—	5.0	1.8	Y/e	31/12/92	.01	275.0
Cave SHD.	2.55	—	12.0	4.7	6 mths	31/10/92	.05	—
Courts	2.50	—	15.0	6.0	Y/e	31/03/93	.31	8.1
Goddard	3.00	-0.10	10	3.3	6 mths	31/03/93	.24	—
Island Prop.	1.10	-0.10	10	9.1	Y/e	31/07/92	.15	7.3
Mcenearney	2.00	—	8	4.0	Y/e	31/12/92	.14	14.43
Plntns.	1.75	—	0	0.0	6 mths	31/10/93	.47	—
WIBISCO	2.40	—	11.0	4.6	Y/e	31/10/92	.18	13.3
W.I. Rum	2.75	—	12.0	4.4	6 mths	31/03/93	.09	—
Preferreds								
B.L.&P. 10%	5.00							
B.L.&P. 5.5%	2.65							
B.S.&T.4.5-6%	2.75							
PL.T. 6%	0.60							

Prepared by the Securities Exchange of Barbados

*ind = Indicates annualised dividend based on announced stock market, see for example, the report prepared by the Trinidad and Tobago Stock Exchange on the *Caribbeanisation of the Stock Exchange.* We will get to this later. Suffice to say from data we received from The Jamaica Stock Exchange we were able to get some idea of some elements of cross-border trading.

The cross-border data refer to the years of 1992 and 1993. We were unable to get data corroborating data from Trinidad and Barbados at the time of the preparation of this document. In 1993 the overall cross-border trading with Trinidad and Tobago and Barbados was down relative to 1992. We illustrate in Table Four a first summary of the sales and purchases in the JTTB 1992 and 1993. We then follow up with some information giving monthly movements.

Table Four: Cross-Border Trading in the JTB

	Volume 1993	(000) 1992	Value 1993	($000) 1992
Jamaica Purchases in Trinidad	785	636	TT$3,776	4,031
Jamaica Sales in Trinidad	218	1,649	680	5,256
Jamaica Purchases in Barbados	nil	nil	nil	nil
Jamaica Sales in Barbados	nil	nil	nil	nil
Trinidad Purchases in Jamaica	31	83	J$150	1,190
Trinidad Sales in Jamaica	11	2	J$354	14
Barbados Purchases in Jamaica	4	15	J$18	213
Barbados Sales in Jamaica	nil	nil	nil	nil

Source: The Jamaic Stock Exchange. Faxed data April 24, 1994.

It is instructive to note that of the five months that were possible for trading, only one substantial cross-border trading took place from Trinidad to Jamaica (See Table Five). As would be expected, more trading flows will move from Jamaica to Trinidad. We now turn to the case of Jamaica's cross-border trades in Trinidad for 1993. We present a 12-month set of data similar in scope and but larger in scale than those data presented in Table Six below. The evidentiary nature of the data in terms of volume is very clear.

Table Five: Trinidad's Cross-Border Trade in Jamaica
1993 Cross-Border Summary

	Volume Purchases	Value Purchases	Volume Sales	Value Sales
Months		J$		J$
1	100	2,850	2,000	-54,750*
2	0	0	1,000	-58,500
3	100	4,300	0	0
6	0	0	7,500	-240,634
12	30,466	146,178	0	0
TOTAL	30,566	150,478	10,500	-353,884

Source: The Jamaica Stock Exchange. Faxed Data April 27, 1994
* This initial month of cross-border trading occurred on November 5, 1992 The figures for the 1993 cross-border trading year are net of the November figures.

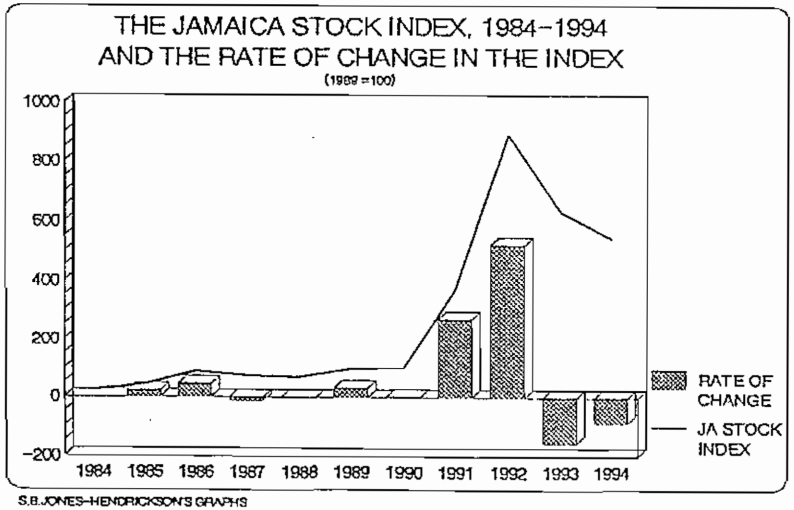
Table Six: Jamaica's Trades in Trinidad 1993 Cross-Border Summary

Months	Volume Purchases	Value Purchases TT$	Volume Sales	Value Sales TT$
1	0	0	2,450	-5,145
2	120,000	270,445	53,471	-116,994
3	95,000	250,339	131,406	-444,506
4	35,800	158,122	15,000	-29,745
5	60,913	283,375	0	0
6	76,362	395,718	0	0
7	26,174	152,907	0	0
8	46,027	140,463	0	0
9	22,044	882,874	6,473	-39,162
10	13,784	25,852	9,000	-41,563
11	2,158	9,260	0	0
12	286,852	2,001,039	500	-2,615
TOTAL	785,114	3,775,794	218,300	-679,730

Source: The Jamaica Stock Exchange. Faxed Data, April 27, 1994

In Figure Four we illustrate the Jamaican Stock Index over the period 1984-1994 and the rate of change in that Index. It will be noted that between 1991 to 1994 the Stock Index took a decided rise, particularly in 1992. Correspondingly the rate of change took a decisive drop in 1993 and 1994. The 1994 data are preliminary. We will have to wait to observe what will eventually happen. If we had used 1984 as the base year the 1994 Index would have been an explosive 2,413.

Figure Four: The Jamaica Stock Index, 1984-1994 and the Rate of Change in the Index (1989=100)



The next figure, Figure Five illustrates the Jamaican stock volume over the same period and the rate of change in the volume. There we note that the stock volume had its highs over the period 1984 to 1988. In 1989 there was a decisive drop. This no doubt, may have been a mirror of the stock market problems of the USA and the resultant perceptions and actions in the Jamaican Stock Market. Between 1989 and 1992 there has been a low or moderate volume. The preliminary data for 1994 may not give a true picture.

Figure Five: The Jamaica Stock Volume, 1984-1994 and the Rate of Change (1989=100)

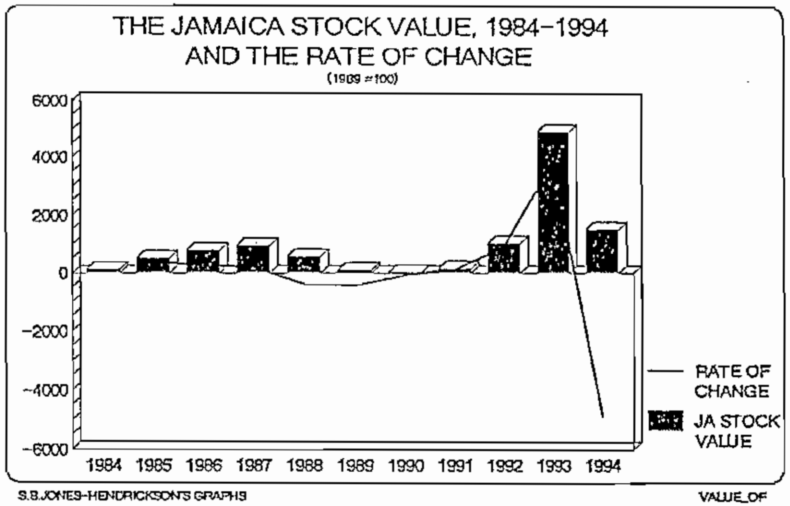
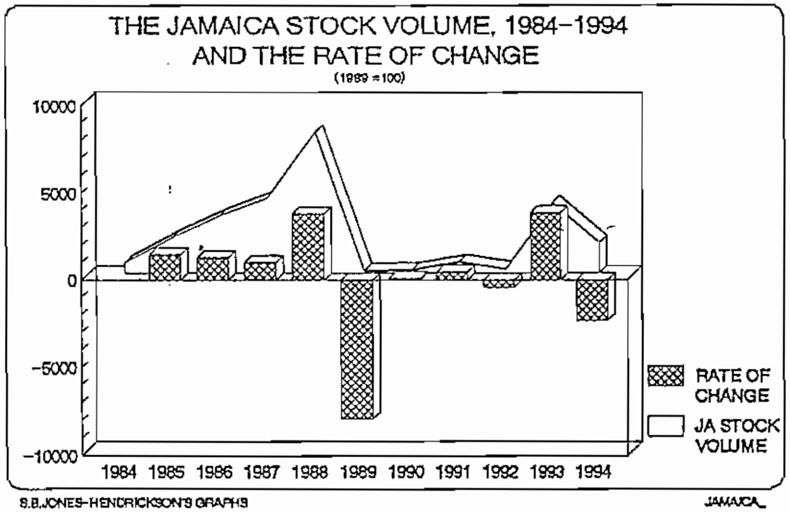


Figure Six: The Jamaica Stock Value, 1984-1994 and the Rate of Change (1989=100)



The rate of change has been positive except for the years 1989, 1992 and a speculative 1994.

Finally on the volatility in the Jamaican Stock market we present the stock value and the rate of change. The stock value index has been low and moderate in growth except in the years 1989 through 1991. The year 1993 was a massive growth and it appears that 1994 will back to the normal growth path. When we consider the rate of change in the stock value we note that it has been fairly flat except for 1993 with a projected precipitous fall for 1994. Here caution is advisable since this the 1994 data are preliminary.

VII. Cross-Border Trading Actual Data

We now turn to data on cross-border trading as presented in Table Four. The thinness of the above trades is evident as we demonstrate the market interaction for the cases of Jamaica and Trinidad. We present data for five months for the case of Trinidad's trades in Jamaica. Then we present data for all twelve months of Jamaica's trades in Trinidad. We will note that the overwhelming cross-border trading activity is Jamaican. This is understandable in light of the nature and value of the currency in Jamaica relative to Trinidad's. The currency argument cannot be used in the context of Barbados. In that instance, it is the extreme thinness of the Barbados market as well as the stock market psychology and ethos in Barbados which is one of own-financing as opposed to equity financing. Hence while the Barbados dollar held at the established rate of BDS$1.98 to the US dollar, and the Jamaican and Trinidad dollar continued on their downward slides, it was important for the latter two countries to engage in active cross-border trading.

VIII. Volatility in Jamaica Market

Volatility in a market may be tagged as one of the factors that may keeps risk-averse traders out of a given market. Conversely this volatility in the home market may encourage home traders to move to those markets where the volatility is seen as not so detrimental to one's portfolio, but where there is enough of a hedge to ensure that the rewards outweigh the risks. In the case of the Jamaican market we now present in Table Seven a series from 1984 to 1994 (January).

The actual data were converted with 1989, the mid-point, as the base year.

Table Seven: Jamaican Stock Market Indices, 1984-1994 (1989=100)*

Year	Volume	Value	Index
1994	1,717	1,510	541**
1993	4,036	4,893	631
1992	192	1,015	890
1991	616	1,015	370
1990	158	140	370
1989	100	100	100
1988	8,031	552	69
1987	4,267	938	73
1986	3,280	773	87
1985	2,030	491	43
1984	566	127	22

Source: Data obtained from The Jamaica Stock Exchange Year Books, 1987 and 1988. Additional data obtained from The Jamaican Stock Exchange Monthly Summary.

* It is to be noted that the original Stock Index was based on June 30, 1969 set equal to 100. This base year was recently reset to June 1, 1994. We converted all of the data to 1989 equals 100 to get a mid-point picture of comparison over the years in observation.

** January data for 1994 were obtained from the monthly summary, STREP 13, dated February.

Note: The 1989 values are Volume =1,682,000; Value J$7,664,000 and the Index based on 1969 was 2076.

IX. Conclusion

The markets in the Caribbean all have rules and regulations which pertain to the governance and operations of the stock markets. The markets are now encouraging investment from outside their home borders. It is our view that this puts a different light on the issue of stock trading in the Caribbean. Cross-Border Trading, CBT, is a positive issue. But CBT must be viewed from a matrix that is *multi-celled* with a variety of information. Some of the information may not always be in the best interest of the cross-border investor. As the markets deepen and the ideas of CBT become more systematised, and as more people become more knowledgeable about CBT, the kinds of misinformation and noise in the system may be minimised, if not eliminated. In this regard, a person in St. Kitts, say, will be able to have a portfolio of *Carreras* and *Gleaner* in Jamaica; *Guardian Life* and *Neal and Massey* in Trinidad; and *Banks, Barbados* and *Cave*

Shepherd in Barbados, and assume that the informational flow will not be biased against him in terms of time or any other factor.

In the final analysis, an investor who plans to engage in CBT in the markets of JTTB will have to do some fundamental research in all three markets. Rumours, melee, intuitions, speculations, political machinations and other factors which can now move the markets, have to be regularised such that they do not play too great a distorting role in the impact on an investor's portfolios. These issues will play some role. We suggest that as the markets become stronger, wider and deeper, that the institutionalisation of more rules of CBT will tend to minimise the negative weights.

On the issue of rules and regulations, the one issue that is of signal salience is the issue of what has been advanced as an "effective framework to regulate and minimise fraud in the market place." There are now many internal guidelines to regulate the individual markets. Cross-Border Trading will require that there be a key institution, something akin to a ***Securities and Exchange Commission*** to regulate and oversee the Cross-Border Trading. Short of this regulatory and supervisory agency, investor confidence will always be at a low and speculative interests will always be high relative to the nature of the risk-reward portfolio.

While research of companies is key, it has to be recognised that research produces a random sequence of informal flow. Sometimes the information about a stock has to be discarded or weighted for what it is worth. Finally, if there is to be active CBT in a regional stock market, that is an equity system paralleling a monetary and fiscal system, investors will have to feel confident about the ***safety, liquidity and profitability*** of their investments.

If people want to invest across borders for safety of principal and or adequate return, they will invest. If they want short-run returns, they will speculate. In the long run, however, there ought to be some necessary and sufficient conditions put in place to ensure that CBT does not remain thin as it is currently. Among these necessary and sufficient conditions are issues which relate to perception of viability, predictability and confidence in the markets, on the one hand. On the other hand, information flow, learning from errors, appreciating risk-taking, will all have to play a pivotal role.

Economic fundamentals of the stocks and the countries are necessary, but they are not sufficient. Information must flow freely across borders at the same level and speed as it moves to internal markets. This is where the regional stocks markets and regional

telecommunications and computer systems can make the quantum leap. With a modem and any of the many market-related programmes, or any of the INTERNET-linked software, one can now invest in stocks on the USE exchanges from one's office in the Virgin Islands or Puerto Rico. Regional stock-market decision makers, the public and private sectors should speed up the time when it is also possible for one to invest from Jamaica in Barbados via computer and for one to invest across borders without undertaking too many *"unfactorable"* risks (risks that may not be factorable in the returns in short-run). When these issues are placed on the cross-border trading agenda, cross-border trading and *in-border trading* may assume a useful role in monetary and fiscal policy.

The jump to enter the cyberspace and to make Cross-Border Trading a reality in the Caribbean has to be fashioned on a reality that there are inherent foreign exchange risks in CBT. This suggests two possibilities. One centers on a synchronisation of monetary markets with a view to move to one common currency and one Central Bank. The other pertains to a systemic development of capital markets and the available hedging instruments such that investors, either for capital appreciation or yield, can minimise the risks associated with foreign exchange instabilities.

Implicit in all of this CBT is the notion that some level of efficiency is in the markets. Efficiency-market theorists contend that stock prices adequately reflect all information relevant to the price of a given stock. To date there is little evidence to suggest that it is possible for an investor to make a great deal of money in a stock market, in a systematic fashion, by using publicly available information. In a recent paper Terence Agbeyegbe (1993:6) concluded that he found ***"evidence in support of the view that stock prices (in the Jamaican Stock Exchange) temporarily drift away from fundamentals. This may be viewed as supporting the position that the market is inefficient, although it need not be the case, since the test (statistic) has low statistical power."***

Roopnarine Oumade Singh (1993:22-23) examined the weak form capital market efficiency hypothesis for common stocks in Trinidad and Tobago Stock Exchange. His tests did not support the efficiency capital market's hypothesis. As Singh (1993:23) notes, the "failure to accept the weakly efficient capital market hypothesis for Trinidad and Tobago Stock Exchange may be due to illiquidity, low and unsteady trading volume, and institutional arrangements." These are issues of prime importance. They ought to be given serious attention in cross-border as well as ***In-Border Trading.***

Finally, the question may be asked if this issue of cross-border trading is putting the cart before the horse. Are we merely hallucinating about possibilities when such possibilities are far down the road from reality and practical implementation? We suggest not.

It is true that the state of the corporate culture in the Caribbean is towards loan-financing, as opposed to equity financing. Many firms are outgrowths of the one-man, family tradition. The tendency is to use own-resources as opposed to raising equity on an equity market. There is some merit in this argument. However, the merit is best cocooned in a static framework. We are in an era where the computer and technological developments have made virtual reality of many issues and many things. Our borders are porous. We are in the global village. Furthermore, we cannot continue to see features in linear dimensions. We have to see issues in a multidimensional cyberspace where critical thinking now forces us to think exponentially, and unconventionally, as opposed to conventionally and linearly.

National markets have to be developed. Currently Jamaica Stock Market is way out front of Trinidad and Barbados. But the wealth of information that is available to stock exchanges does not mean that the local stock exchanges have to be fully developed before they undertake meaningful Cross-Border Trading. Both sets of markets, the domestic and the Cross Border, will have to develop at the same time. The issue here is one of time. We are not in the age when we were following a Rostovian ***"stages of economic growth."*** In a world where the telex died an unnatural death in less than five years, where vinyl records and record players were summarily displaced by digital Compact Disks and CD players, where CD ROMs are the order of the day, we in the Caribbean cannot afford to hold strain while we adjust our thinking caps to see if our cultural ethos will fit in the new thrust in equity financing and equity market developments. There will be problems. Witness the recent problems surrounding ***derivatives in the USA.***[1] As the region moves to a new hyperplane of endeavour, Cross-Border Trading which is now a mere blip on the screen of the regional markets, will assume a more critical role in the transition from loan-financing to equity financing. As more domestic equities are put in place, and more people feel comfortable that their money will not disappear, the Cross-Border Trading criticality will move to a new level of systematisation and operationalisation.

In the last analysis as the Trinidad and Tobago Stock Exchange said in its prepared Report on the Caribbeanisation of the Stock Market, when we consider a stock market and cross-border trading we do so because there will be a:

- ***more rational allocation of financial resources in the region***
- ***growth of more Caribbean-wide enterprises serving the region and owned throughout the region [and there will be an increase] in such firms [which] would more readily compete and co-exist with foreign multi-nationals and have a far better chance of penetrating international markets . . .***
- ***reduction in the flow of local capital out off the regional grouping.*** (See *Cuffie*, 1989:8).

These are points worth more than pondering as we all think about cross-border trading in the Caribbean, the risks and the rewards.

Notes

1. "Derivatives are financial contracts whose values are derived from the values of other underlying assets, such as foreign exchange, bonds, equities, or commodities. Because their values are related to these underlying assets and because they have certain other characteristics, derivatives are useful for hedging, speculating, arbitrating price differentials, and adjusting portfolios at low cost." (*Becketti*, 1993, esp. p. 27).

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