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The Market for Financial Derivatives: Removing Impediments to Growth

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Abstract

This paper begins with an evaluation of the performance of the Malaysian market for financial derivatives. Despite a headstart, Malaysia appears to be lagging substantially when compared to the performance of other Asian derivative markets. While the other Asian markets though newer, have seen explosive growth in volume, trading volume in Malaysia appears to have shrunk. We examine why this has been the case and identify several macro and micro level impediments. Among macro level impediments have been the imposition of Capital controls, reduced equity market volatility, falling interest rates and a fragmented regulatory/operational structure. The lack of market makers, regulation and settlement rules were identified as impediments at the market micro structure level.

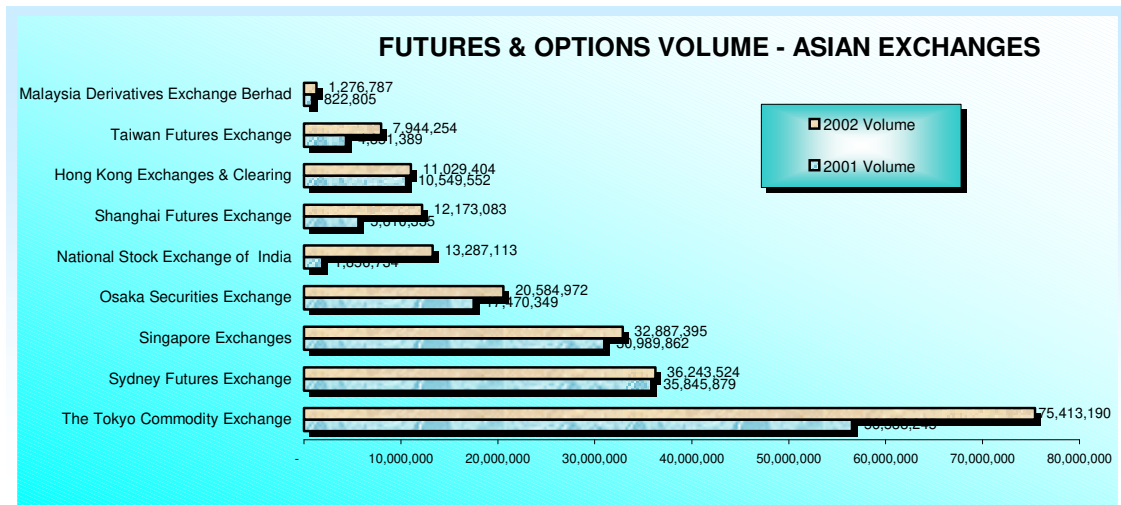
We propose several measures to develop the local derivatives market. This includes, privatizing and deregulating risk management, facilitating market making, liberalization of unit trust guidelines with regard to their use of derivatives and the initiation of derivative funds. We also recommend the reactivation of securities borrowing and lending, introduction of new derivative products and streamlining of licensing / regulations.

1.0: Introduction

In 1986 a year after the Pan Electric fiasco, there was a conference in which the theme was “Bringing Back the Investors”. Today, more than 15 years later, that theme may be applicable once again. In the mid-1990s there were conferences to raise issues about how to develop market liquidity in existing and new derivative exchanges. Almost 10 years later, we are again challenging ourselves to improve liquidity in derivative products.

The market for Financial derivatives has seen phenomenal growth over recent years. Aggregate trading volume world wide has been setting new records the last few years. It appears that 2003 is likely to be another such year. Some of the most spectacular of this growth has been in Asia’s markets. Exchanges in Korea, Hong Kong, Singapore and Taiwan have seen blowout growth rates. So much so that today, an Asian exchange holds pole position as the world’s leading derivatives exchange by number of contracts written. The KSE (Korea Stock Exchange) KOSPI 200, option contract is the highest traded derivative contract in the world. This rapid growth in trading volume on Asian Exchanges has been a largely post crisis phenomenon. The record growth in traded volumes have not been temporary. They have remained high for at least the last 2 years and are likely to be repeated in 2003. The graph below shows the volumes on several Asian derivatives exchanges.

Figure 1



(*The Korea Stock Exchange is not shown due to scaling)

Sadly, these impressive growth appears to have by passed Malaysia. It is notable that Malaysia has had the experience of not only having had one of Asia’s oldest derivatives exchanges but of having three different derivatives exchanges – for commodities, fixed income and equity products. In the case of financial derivatives, Malaysia introduced the KLCI futures ahead of India, Taiwan and Korea. Yet trading volume in these three countries is today much higher than Malaysia. If one bears in mind that SGX is active in several products which do not naturally originate from Singapore, the Malaysian experience is one of an opportunity lost. In this paper we try to examine why this has been the case, what have been the impediments that have retarded growth and what can be done.

Section 2: Derivatives In Malaysia

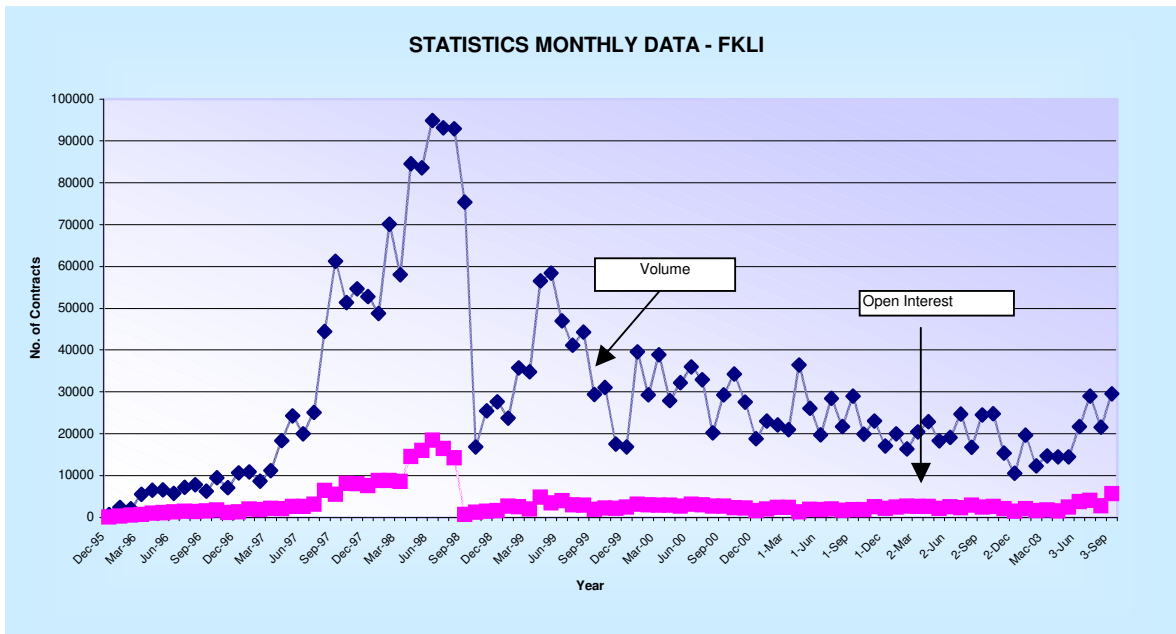
The first Malaysian derivative exchange was the KLCE, established in 1980. The exchange’s maiden derivative product was the Crude Palm Oil (CPO) contract which was introduced that same year. The CPO futures contract was then the only one of its kind in the world. Despite introducing several other commodity derivatives - on Rubber, Tin, Cocoa etc. - the CPO contract has remained the main product. Other commodity

derivatives never 'took off', perhaps because there were already good substitute contracts traded on other exchanges such as in London.

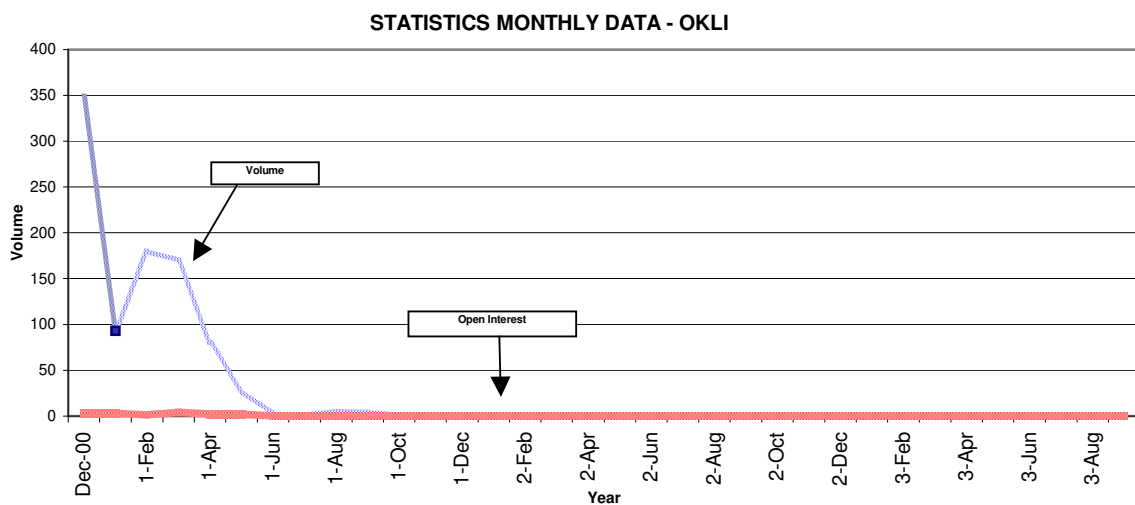
Undeterred, Malaysia introduced financial derivatives in 1995 with the introduction of the KLSE CI Stock Index Futures contracts on what was then the Kuala Lumpur Options and Financial Futures Exchange (KLOFFE). In 1997, yet another new exchange, the Malaysian Monetary Exchange (MME) was launched to introduce and trade the 3 month KLIBOR contract. Thus, we had three exchanges trading three derivative products. CPO futures on the KLCE, Stock Index Futures on KLOFFE and 3 month KLIBOR futures on MME.

In the case of the main financial derivative the KLSE CI contract, it made what looked like a very promising start. Volume and Open Interest rose steadily over the first 30 months to peak at 4,600 and 18,400 contracts per day respectively in 1998. This was certainly impressive. Nearly half the users of the KLSE CI futures contracts were foreign institutions and investors. However, that growth came crashing down (as did turnover in the underlying equity market) with the imposition of capital controls (see Graph 2). For the subsequent 30 months until approximately mid 2001, volume and open interest averaged barely 1,000 and 2,000 contracts respectively.

Graph 2



The KLIBOR futures contract shows a similar trend. Monthly trading volume which averaged 4,820 contracts in the 2 years prior to capital controls fell 60% to 1,900 contracts in the subsequent year. The contract that has been the worst off have been the equity options. Despite having been introduced almost 3 years ago, (Dec. 2000) index options have hardly seen any activity. These contracts have been characterized by long stretches of zero trading volume. (See Graph 3).



The three exchanges, KLCE, KLOFFE and MME have now been consolidated into a single exchange, the Malaysian Derivatives Exchange (MDEX). Thus, we now have commodity, equity and interest rate derivatives available on MDEX. However the comparative performance between this exchange and other Asian derivative exchanges leaves much to be desired. Thus far, none of Malaysia's financial derivatives have been successful in terms of meeting a rule of thumb for success, which is that turnover value should equal the value of turnover in the underlying market.

So what has gone wrong? Why has Malaysia lagged despite having introduced derivatives earlier? There are several reasons why it should have succeeded, first, there are no substitutes to Malaysian equity derivatives traded elsewhere (unlike Nikkei). Second, one cannot fault availability of trading infrastructure nor high transaction costs. Third, it is notable that the last twenty years has seen significant off-exchange traded derivatives activity in forward contracts and OTC equity options. We believe there are several obstacles that have impeded the growth of exchange traded derivative products. We see these impediments at both the Macro-Level and at the market micro-structure level.

Macroeconomic policy and Impediments

In the run up to the Asian currency crisis, Malaysia had embarked on a process of market liberalization. What that did was to increase the risk exposure of leveraged corporations and entrepreneurs. These leveraged corporations and entrepreneurs had borrowed in local and foreign currency against equity assets. These were the very assets that currency traders and investors disposed of during 1997 and 1998. The policy reaction to the financial crisis had major implications to exchange traded derivatives.

(i) Capital Controls

The first macro-level impediment is the imposition of currency controls. This marked Malaysia as the one Asian economy that reacted to free market volatility by imposing controls. As we saw in Figure 1, much of Asia's growth in trading volume had come from foreign participation. This foreign participation has been either for purpose of hedging existing exposures in the country or to gain new exposure (long as well as short). As a result of the moratorium on capital movements, major foreign financial institutions and investors stopped trading in Malaysia.

This has had a major impact on the asset and derivative markets. That Malaysia has not seen the same level of foreign participation, despite offering the same types of products at similar if not lower costs probably has to do with perceived regulatory risk.

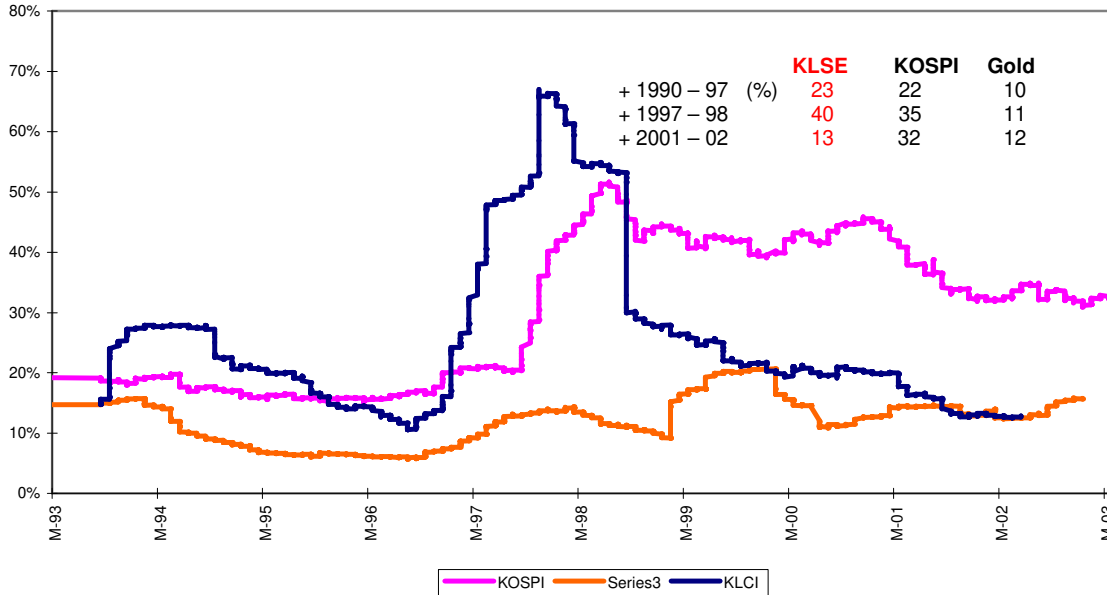
In addition, following the imposition of currency and investment controls, the Malaysian authorities embarked on a policy of market intervention to provide a safety net for affected corporations and entrepreneurs. This had other implications.

(ii) Falling Equity Market Volatility

The Second impediment was that equity market volatility fell significantly following Capital Controls. Government and government related investment agencies became the major investors in the equity market. The government became the buyer of last resort including the taking over of major corporations. This had the effect of reducing the downside volatility of the market. From levels comparable with the Korean equity market during the period 1993 till 1998, volatility of the KLCI has fallen steadily in the period 1998 to 2003. The reduction has been so substantial that KLCI volatility has been equal

if not lower than the volatility of gold, for much 2002 and 2003. Figure 4 below shows the situation.

Figure 4: Trends In Equity Market Volatility



As a rule, low volatility is anathema to derivatives. There are two ways by which low underlying market volatility hurts derivatives - volume impact and value impact. First, reduced volatility simply means reduced pre cautionary demand – the need to hedge, and therefore reduced demand for derivatives for purpose of hedging. Low volatility also reduces the speculative demand for derivatives. Secondly, reduced volatility reduces the value of derivatives – especially options. The value of an option is directly related to expected volatility.

(iii) Falling Interest Rate Regime

If the falling equity market volatility hurt equity derivatives, the falling interest rate environment post crisis has dampened growth of the interest rate derivatives. This has to do with the fact that for financial institutions, which are potentially the key users of interest derivatives, rising, not falling interest rates, are what they worry about. Rising

interest rates can play havoc with asset-liability side durations, gaps and net worth and squeeze interest spreads. Falling interest rates on the other hand can have the opposite impact. Thus, banks have far less exposure to rate risk when rates are falling. In such a 'favorable' environment, there is little need for a financial institution to hedge.

(iv) Regulatory / Structural Fragmentation

Malaysia's derivative exchanges may be victims to an unchanged pattern of "fragmentation" in Malaysia's financial market development. Policy makers appear to have a bias towards micro managing markets. The result has been a fragmented regulatory and structural framework.

For example, during the 1980s, the impact of a fragmented regulatory market mechanism made it extremely difficult for new products to be introduced to the market. Initiators of new products would have to contend with nearly half a dozen government agencies and departments. The result was regulatory inefficiency. Thus, the 1980s model was one where there were several external bodies overseeing one market.

There was recognition of this issue in the 1990s. The creation of the SC was a major step forward towards the concept of one regulator for the overall market. The SC consolidated the regulatory fragmentation. Financial liberalization and new product innovation were also encouraged. However, the regulatory fragmentation that had frustrated the development of an efficient securities market was replaced by operational fragmentation at the level of markets. While there was now one regulator, the KLSE was now complemented by the KLCE, KLOFFE, MME and a securities borrowing/leading market not to mention MESDAQ. The vision of one regulator, and one market became in reality, one regulator, two Acts and many markets. This had the

impact of repeating the inefficiencies of bureaucratic fragmentation into inefficiencies caused by market fragmentation. The result was improved regulatory efficiency but increased operational inefficiency. The tables below provide a simplified representation of the underlying market realities.

1980s model

Ministry	PMD	MOF	MITI	MITI
Regulator	FIC	CIC	ROC	Takeover Panel
Market	KLSE			

1990s model

Policy Maker	PMD	MOF		
Regulator	FIC	SC		
Market	KLSE	KLOFFE	MME	KLCE

Micro management of the market appears to be the thrust of policy. This has been by way of direct policies such as freezing new listings, prohibiting forward contracts or freezing securities borrowing and lending and new derivative products as well as indirect policies such as requiring option contracts to be permitted on a case by case basis. That such intervention is always has a cost – increased price distortion; appears to have been lost.

In summarizing this point; one should be aware that one of the inherent market development features of Asian economies has been a history of developing *‘Fish Trap’* markets. A fish trap market is one in which national savings are directed as investment into mandated sectors. This feature is prevalent in more than one Asian economy and Malaysia has not been immune from this trend. In the case of the derivative industry, the historical repetition is that the development of “fragmentation” in the form of a fragmented market structure has “directed” investment away from the derivative market and sustained low efficiency in the derivatives industry.

Impediments at the Market Microstructure Level

Aside from the above macro level impediments, there exist several impediments at the market microstructure level. Of these, the important ones are (i) The lack of market makers, (ii) Trading settlement rules which bias against derivatives and (iii) Regulation.

Lack of Market Makers

In developed derivative and securities exchanges, market makers exist to facilitate market liquidity. The rationale is that market makers smoothen and provide continuity of trades and therefore play a key role in preventing trading seizures. Korea, Singapore and the other Asian markets have market makers. The lack of market makers and the attendant problems of liquidity, appears to be the main stumbling block to participation of institutional players. The current situation is therefore akin to a catch 22 situation. Without sufficiently deep markets, institutional players cannot participate and without institutional participation one cannot have liquid markets.

Comparative Lack of Leverage

The Leverage inherent in derivatives is a key attraction for their use. However this attraction is comparatively muted in the case of Malaysian Equity derivatives. The T + 3 settlement enables the purchase of shares for no immediate cash outflow. Payment only needs to be made 3 working days later. The current practice of T + 3 day settlement for stocks not only neutralizes the leverage attraction of equity derivatives but works against it. By comparison, players in the derivative markets are required to deposit immediate margin payment. Furthermore, with margin financing available for stocks, leveraged plays are more favorable with stocks than equity derivatives. In comparison, the T + 1 settlement in other developed markets effectively reduces this distortion.

Regulation

Overall, the regulatory policy stance is one of ambivalence and suspicion towards derivatives. This is visible from the :

(i) *Ban on Short Selling*

The prohibition of short selling has a direct impact on trading volume of equity derivatives. Arbitrage, a key use of financial derivatives, is made impossible when short-selling is prohibited. In addition, the prohibition also prevents the hedging of long positions in derivatives for passively hedged 'long volatility' positions.

(ii) *Limitation of use by local Investment Institutions*

There are limits on investment in derivatives by professionally managed Unit Trust / Mutual Funds. Unit Trusts are not allowed to buy derivatives as substitutes for market exposure in their portfolios. Unit trusts may only use futures to hedge their portfolios. Though they are now allowed to take hedging positions, their total exposure to derivatives is capped at 10% of total NAV. This restriction has effectively meant that with the exit of foreign institutional users after the imposition of capital controls, there was no replacement for their activity.

(iii) *Segregation of Licensing and Trading*

MDEX is part of the KLSE. But the existence of the SIA (Securities Industry Act) and FIA (Futures Industry Act) means that while a single license is sufficient for all other KLSE products, Derivatives require an additional special license. This special license however, only allows them to trade on a specific set of derivative instruments. Licensed futures dealers may deal in futures and warrants on

MDEX but not in warrants or call warrants on the KLSE (even though their expertise makes them eminently qualified to do so). Until recently, dealing representatives had to take different futures exam modules for commodities and index futures.

Licensed dealers typically require two sets of infrastructure to deal in equity and derivatives. In addition, dealers representatives and investment managers have to incur high costs in dealing in derivatives. Apart from taking an additional exam (the MFORR exam), they need to purchase a separate dealing machine (the KATS machine), manage separate clearing (though MDCH and SCANS have merged, clearing remains separate) and bear the costs of an inefficient non-cross marginable mark to market and mark to book system. Thus, as things now stand, the net impact of all this segregation is that, for brokers, derivatives are a low volume, low margin but high cost product. As a result, an additional five, big name futures operations were closed down in 2002 and 2003 (Maybank, Hong Leong, Amanah, Affin, Profutures).

The above micro market regulations and inconsistencies have the net effect of providing impediments which are inimical to the long term goal of Capital Market development. There are obvious benefits to be derived from a well functioning market in derivatives. While it is not our purpose here to argue the case of the benefits of derivatives, The following is a summary of their key benefits:

(i) Lower Cost of Hedging

- Lowers funding costs.
- Globalizes costs of capital.
- Promotes/enhances competitiveness.
- Provides incentive to produce more since price risk is reduced.

- (ii) Efficient Allocation of Risk
 - Redistributes /diffuses risk
 - Enables the different risk components of a product to be separated and traded/managed
 - Enables improved management of risk
- (iii) Improves pricing efficiency / eliminates distortions.
 - Possibility of arbitrage eliminates mispricing.
 - Also increases risk for market/price manipulators.
- (iv) Key Source of Information about Market Expectations for:
 - Policy makers
 - Producers / consumers

Section 4: Overcoming the Impediments

Of late, some of the macro level impediments cited earlier, appear to be turning favourable. The stock market has seen a return of volume, volatility and a generally bullish undertone. Interest rates appear to have stopped falling and look likely to reverse trend. Both these factors should favour increased use of equity and interest rate derivatives. However the lack of liquidity remains a key impediment, any attempt to ameliorate the situation must therefore work to enhance liquidity. Thus, the main initiatives should be:

(i) Deregulate/Privatize Risk Management

A more positive overall policy stance towards deregulation and liberalization would go a long way in enhancing necessary growth in the use of derivatives. To paraphrase Milton Friedman, the role of the regulator is to ensure that when the markets are exuberant that there are increased controls and to ensure that when the market is pessimistic, that there is liquidity. In the current global environment, a policy of centralization and managed markets is misplaced. Regulators should

be looking at curbing potential market excesses and unusual bouts of over exuberance. However in order to achieve this, it would mean reducing the substantial advantages enjoyed in the previous “fish-trap” system.

There are two key issues that we propose here. First, is the decentralization of savings/deposits. Liberalizing central savings with the EPF and increasing the amount investable with private mutual funds would go a long way in developing the fund management industry. Currently EPF savings can only be managed by the EPF or directed to bank backed fund managers. While this may seem an efficient way to centralize the pool of savings, the long term liability of guaranteeing the savings is borne by the government. Aside from concentrating risk and accentuating Moral Hazard, as guarantor, the government, in the parlance of derivatives, is the issuer of a substantial amount of put options. Such a short position in puts, implies potentially unlimited downside risks.

Our second proposal is the decentralization of risk management. The management of risk, in particular key risks such as currency and interest rate risk have been in the domain of the Central Bank. In essence, these risks were being managed by BNM on behalf of the nation. As a result, both public and private sector entities have been lulled into not paying enough attention to these risks. Furthermore, such paternalistic policies have stunted the possible growth of a risk-management industry. The advent of the Asian currency crisis has shown the fallacy of this arrangement. In the long term there is a clear need to “privatize” risk management by making economic entities responsible for managing their own risks. This prevents the government and ultimately the citizens as the last provider of insurance.

(ii) Facilitate More Market Making

The presence of market makers will smoothen and certainly enhance liquidity. As a starting point, institutions such as PNB, through a subsidiary could take on this task with minimum risk. The risk is minimised since PNB is invested in the underlying stocks. Any hedging activity undertaken would have the effect of taking active positions in quasi or synthetic fixed income positions (which is also part of their investment mandate). From a risk profile sense, this proposal is based on the same principal as Khazanah issuing covered warrants.

(iii) Liberalize restrictions on unit trust/mutual funds

As long as mutual funds use derivatives for hedging purposes, the 10% cap is unnecessary. Aside from removing an unnecessary handicap, such liberalization helps improve liquidity in derivatives and enables local mutual funds to better manage their risk.

(iv) Initiate Derivative Funds

The establishment of investment funds specializing in derivatives is overdue. There is no reason why those willing to take on the risk should be denied. Especially when such an initiative can contribute substantially to liquidity and thereby benefit other mutual funds that would want to hedge.

(v) Reactivate Securities Borrowing And Lending

The reactivation of securities borrowing and lending can have several positive effects. First, it can rekindle interest in derivatives since many derivative strategies would be possible. Additionally, it would enhance arbitrage activity and thereby enhance pricing efficiency.

(vi) Broaden Product Range – Introduce New Products

A key catalyst fuelling growth in the other Asian Markets have been Single Stock Futures (SSF). Though announced, its introduction has been long delayed here.

(vii) Streamline Licensing Requirements

That an FBR has to spend time, "intense" effort and money to meet licensing requirements has been a long standing complaint. Streamlining the fragmented operational framework should also help.

(viii) Enhance Investor Education

Despite good effort by the exchanges and the SC, awareness of derivatives is still low. Investing more in investor education should be prioritized.

Conclusion

The first section of this paper compared the performance of the Malaysian derivative exchange to other Asian derivative exchanges. The indications are that the local exchange is a laggard compared to other exchanges. Some of the regional exchanges have achieved outstanding success notably the Korean derivatives exchange. That Malaysia has lagged despite having had a headstart is worrying.

In the second section, we have attempted to identify and understand the issues that may be impeding the development of derivative products. At the macro level we suggest that currency controls, policies of managing market volatility and interest rates and the continuance of market fragmentation have each played a role in reducing the growth of the local derivatives market. At the micro level the absence of market makers, leverage and ambivalent regulation have not encouraged their use.

In part three we have suggested seven measures to improve the local derivatives market. This includes privatizing and deregulating risk management, facilitating market making, liberalization of unit trust guidelines with regard to the use of derivatives and the initiation of derivative funds. We also recommend the reactivation of securities

borrowing and lending, the introduction of new derivative products, stream-lining of licensing and continued investor education.

Looking back at policy evolution, it may once have appeared possible to guarantee a 2020 result by adopting the tried and tested Korean and Japanese models of a managed economy. However, the Japanese meltdown and the Asian Currency crisis demonstrated that there is no guarantee to a continuously rising market. Risks are a reality and need to be managed. Reacting to the crisis, Korean authorities have taken the lessons to heart and have vigorously implemented a market structure to enable more risk management freedom to individuals, corporations and foreign investors. The result has been a more vigorous and thriving capital market.

A thriving derivatives market is no guarantee that there will not be another financial crisis. However, the existence of such markets with a good measure of the features proposed above will provide players who are aware of the risks, the means to mitigating them. This is the way by which markets allow for the survival of strong entities and the end of weaker ones.

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