Risk Exposure and Management in Cross-Border Banking

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I. Introduction

In the last fifteen years or so, many financial regulators have been developing 'Risk-Based' approaches to regulations and supervision. This is an outcome of the second wave of crises arising from failures of financial institutions in the mid-1990s and because of the increasingly competitive environment within which financial institutions operate or transact their businesses. The operating environment is becoming risky and needs serious monitoring to avoid catastrophe to the economy. The operational risk may arise from fraud, error, inability to deliver services, maintaining a competitive position or management of information. These operational risks may affect other risks such as credit, interest rates, compliance with regulations, liquidity, price, strategic or reputation.

The need for Risk-Based supervision is anchored on some inadequacies noticed in existing supervision framework to tackle new challenges within the context of globalization or internationalization of finance. Thus, the risk-based framework is usually based on emerging international standards and good practices in developed countries.

Another development in economic management among monetary authorities, which started in developed countries and now being adopted by some developing

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countries is inflation targeting framework. Inflation targeting is a framework for keeping inflation at low level in an economy. It is akin to maintaining price stability in macroeconomic parlance.

Whether there is a policy to adopt inflation targeting framework or not, all economic managers propose to achieve macroeconomic objectives of full employment of resources, economic growth, price stability, balance of payments equilibrium and income redistribution.

Price stability or maintenance of low and stable sustainable inflation levels is central to achieving some of the other objectives.

The title of this paper connotes the fact that risk-based supervision and inflation targeting are mutually inclusive policies that have to be carried out simultaneously. This is not true. The two frameworks can be adopted at the same time but they do not need to go *pari passu*. To that extent the paper can be regarded as two-in-one. In this connection, the two frameworks are treated separately but within the context of a single paper. We looked at their challenges and prospects in monetary policy formulation and implementation in the Nigerian economy.

The rest of this paper is divided into four major sub-sections. The next section deals with issues in Risk-Based Supervision framework and this is followed in Section 3 by issues in Inflation Targeting Framework. In Section 4, we look at the challenges and prospects of adopting the two frameworks in monetary policy while the summary and conclusion are contained in Section 5.

II. Risk-Based Supervision Framework[1]

II.1. Motivation and Rationale

The word 'Risk' is usually used to describe a form of uncertainty. Where the actual outcome of an action is not known, it is expected that it will be determined as a result of random drawing from a set of possible actions whose distribution is known. The variance of possible outcomes is frequently used as a measure of risk (Black, 2002). Risk-based supervision, therefore, connotes a situation whereby the regulator of a system is expected to be in a state of anticipation and proactively take steps to eliminate or at least, minimize the cost of an anticipated event or occurrence.

The Risk-Based Supervision framework (RBSF) for the financial system is all embracing. That is, it is not limited to the banking sub-sector but extends to non-bank financial institutions and even the technology used in the system. Thus, we have such titles as 'Risk-Based Capital Framework for Insurance Business', 'Risk-Based Supervision of Pension Funds', 'Risk-Based supervision of Technology Service Providers', and, 'Risk-Based Regulation in Financial Services'[2] which is related more to the banking sector than any other areas of the financial system. Each of these has its own peculiarities but we concentrate on the Risk-Based Regulation in Financial Services.

A number of reasons were adduced as the basis for developing risk-based supervision and these include the need to:

- bring supervisory practices in line with developments in financial institutions' operations and risk management practices;
- create new organizational culture within the recently formed regulatory body;

[1] *The Research Report on "The Development of Risk-Based Regulation in Financial Services: Canada, the UK and Australia " by Black (2004) assisted a lot in providing some background information in this Section.*

[2] *See, for example, Graeme Thomson (2008), Black, (2004), Monetary Authority of Singapore (2003).*

- deliver 'integrated' financial regulation;
- improve internal managerial control, to prioritize resources and shift regulation onto a more proactive footing (Black, 2004).

In addition to the above, Black (2004) posits that political pressure following financial collapses, and concern to manage the expectations of politicians and the wider public on what regulation could and should achieve, are part of the motivations for the risk-based supervision.

The RBSF is geared towards giving the monetary authority powers to be more interventionist and proactive in safeguarding the financial institutions. This will sustain public confidence in the financial system, protect deposits and policy holders, as well as ensure that financial institutions generally are in sound conditions. The framework will, therefore, require additional legal framework to empower the monetary authority to take necessary actions within the context of the risk-based supervision. The legal framework could be in the form of a guide to intervention. The framework makes the operations of the financial institutions to be more transparent and accountable.

The general adoption of information communication technology (ICT) in financial institutions further makes the adoption of risk-based supervision framework more imperative. This is because there are underlying risk issues that are common to all ICT activities. Such risk issues include:

- Management of Technology the planning and overseeing of technological resources and services so as to ensure that they support the strategic goals and objectives of the financial institution;
- Integrity of data the accuracy and reliability of automated information provided and associated information system;
- Confidentiality of information the protection of information from both

intentional and unintended disclosure to unauthorized persons;
- Availability of services the effectiveness of business continuity programmes and adherence to service-level agreements.

II.2. Approaches and Central Elements of RBSF

Comparing the risk-based frameworks for Canada, the United Kingdom and Australia, Black (2004) affirms that the frameworks share the same basic approach and central elements. The approaches are to identify and assess the risks to the regulator's objectives that are posed by the financial firms being regulated, and, to address those using the various regulatory tools that they possess. The central elements are:

- The identification of two main categories of firm-specific risks i.e. inherent risk arising in the business itself and the risks arising in the management and control of those inherent risks by the financial institution itself;
- Risk assessment and ranking;
- Communication of final result, but not the details of the assessment, directly to the chief executive and/or board members;
- Duties on firms not to disclose the risk ranking; and
- Linking of supervisory response to the risk ranking.

The criteria for assessing risks have to be developed, by the regulator, as part of the package of the framework and these can take different forms. So also is the formula and methods used for arriving at a final risk score for an institution. Supervisory assessment techniques used in the banking industry include universal licensing, 'fitness and propriety' assessment and risk management requirements.

Universal licensing implies that all banks must be licensed, registered and

regulated by the regulatory authority with respect to all aspects of supervision based on a legal framework. Financial institutions need to satisfy both fitness and propriety at licensing as well as meet these requirements on an on-going basis. On the basis of fitness, the regulator can mandate minimum requirement for skill, education or experience, basic understanding of key regulatory requirements, including their duties and responsibilities. The institutions must also develop their own policies in line with acceptable standards of fitness and propriety, taking account of the size and complexity of their operations.

The Risk Management Standard implies that the financial institutions must have policies and procedures to identify, measure and manage all material risks. These policies and procedures, which must be submitted to the regulatory authority, must be supported by a formal methodology and be clearly documented. Albeit, the regulator is expected to provide guidelines on risk management so that the institutions could present well-structured process to identify and assess risks.

III. Inflation Targeting Framework (ITF)[3]

III.1 ITF: What it is and What it is not?

The case for inflation targeting as a monetary framework is hinged on the premise that the main goal of monetary policy is the achievement and preservation of low and stable rate of inflation. Inflation targeting started with New Zealand in early 1990s and was later adopted by Canada, United Kingdom, Sweden, Finland, Australia and Spain before the end of the decade. Some of the developing countries that have since adopted the framework are Indonesia, Isreal, Korea, Mexico, Thailand and South Africa.

Economists were initially skeptical about the inflation targeting framework but

[3] *This section benefits greatly from Masson, et. Al., 1998*

over time and based on some principles, some of them have come to accept the framework as improving the performance of monetary policy in terms of its design and implementation. Even though there is no strong theoretical justification that the framework possesses superior welfare properties to any other framework, a growing number of central banks seem to be adopting it. Inflation targeting calls for the explicit acknowledgement that low and stable inflation is the overriding goal of monetary policy, implying that a low inflation target should have supremacy over other development objectives. However, Mishkin (2000)[4] who is an advocate of inflation targeting, acknowledges that price stability is "a means to an end, a healthy economy and should not be treated as an end in itself" and that "central bankers should not be obsessed with inflation control".

Inflation targeting is not accepted by all as an indispensable framework for achieving macroeconomic goals. Those who criticise it do argue that it is a straight-jacket framework which induces pro-cyclical monetary policy particularly in the presence of supply-side shocks, but, supply side shocks always pose difficulties for monetary policy generally. There exists strict and flexible inflation targeting. Strict inflation targeting or what Governor Mervyn King of the Bank of England referred to as "inflation nutters", is when the central bank does not give any consideration to short-term output fluctuaion in the conduct of monetary policy. In the case of flexible inflation targeting, output costs of monetary policy actions is factored into the decision making process (Mboweni, 2008).

The advantage of an inflation targeting framework is that it provides an anchor for inflation expectations, as it makes monetary policy goal very clear before the public. The public must be informed of the target and this is very significant

[4] *Cited in Packard, 2007.*

because it also binds the politician in terms of consideration and approval of spending or expenditure in the national budgets. The more anchored expectations are, the more flexible the conduct of monetary policy to respond to exogenous shocks.

III.2 Basic Premises and Prerequisites

The following four basic propositions form the basic premises upon which inflation targeting rests:

- An increase in money supply is neutral in the medium-to-long run. That is, money supply increases by the monetary authority will have no effect on output or employment but only on prices.
- High and variable inflation is costly, in terms of resource allocation and long run growth in output.
- Money is not neutral in the short run such that monetary policy has important transitory effects on a number of real variables, including output and employment. However, there is still no consensus on the nature and size of the effects, the time frame and the means by which monetary impulses are communicated to the rest of the economy.
- Monetary policy affects the rate of inflation with lags of uncertain duration and varying strength. These lags make it difficult and probably impossible for the central bank to control inflation on a period-by-period basis (Masson, et. al. 1998).

If a country is to be successful with inflation targeting framework, the central bank must first, as a precondition, have considerable degree of freedom even though it may not have full legal independence. The Bank must have the freedom to use the instruments of monetary policy to effect some nominal objectives. In

this circumstance, monetary policy should not be fiscal policy driven or constrained. That is, government borrowing from the central bank must be very low or non-existent.

Other conditions to be fulfilled within this context are that government should have a broad revenue base and place less reliance on seigniorage generated by excessive currency issuance; domestic financial markets should be developed with enough depth to absorb the placement of private and public debt instruments, and the accumulation of public debt should be sustainable. Large or protracted fiscal imbalances will result in inflationary pressure that will undermine the efficacy of monetary policy in achieving any nominal target and force the monetary authorities to follow accommodative monetary policy at high rate of inflation.

The second precondition is that the central bank should refrain from targeting the level or path of any other nominal variable such as wages and nominal exchange rate. This implies that the country is exchange rate regime should allow for flexibility. Either the country runs flexible exchange rate regime or crawling peg that allows the market to play its role. In this case, the central bank is not bothered about such variables but concentrates on inflation targeting and gives it priority whenever conflict arises.

When a country is able to satisfy these two basic requirements, it would be able to conduct its monetary policy in such a way that inflation targeting framework should work for the economy. However, the monetary authorities would need to set up a monetary policy framework with the following essential elements:

- Explicit inflation targets for some period or periods ahead;
- Clear and unambiguous indications that attaining those inflation

targets is the overriding objective of monetary policy;

- A model for forecasting inflation that uses relevant variables and information indicators; and
- A forward-looking operating procedures in which the setting of policy instruments depends on assessing inflationary pressures and where inflation forecasts are used as the main intermediate target of monetary policy (Masson et. al., 1998).

It is imperative for the monetary authorities to have technical and institutional ability, and the will to model and forecast domestic inflation. The use of the monetary instruments should be flexible enough to impact on variables affecting inflation now and in future, and the central bank should have a view on the way monetary impulses affect the main macroeconomic variables.

III.3. Inflation Targeting: Conditions in Developed and Developing Countries

Masson et.al. (1998) noted that the industrial countries that adopted ITF share a number of features which make the framework to work for them. These features are:

- ITF has always been associated with a high degree of exchange rate flexibility.
- All the countries that have adopted the framework have a measure of central bank independence with considerable freedom in setting monetary policy instruments and a minimal burden of financing government budgets.
- They all use short-term interest rates as their main operating instrument and rely on well-developed financial markets to alter longer-term rates and transmit the effects of those changes to aggregate demand and inflation.

- The inflation targets set are all forward looking as they represent a promise to offset the foreseeable deviations of future inflation from the pre-specified targets over a period of one to two years.
- All the countries use ITF as a tool to build the credibility of the general framework of macroeconomic policy. In this circumstance, there would have been some agreement between monetary and fiscal authorities on the inflation targets to avoid conflicting policy stance.
- Most important, ITF has been introduced only when the rate of inflation was already less than 10 percent such that announcing a lower inflation target would not be perceived by the public as superfluous.

The conditions in developing countries are regarded as markedly different from those stated above. Studies of central bank independence in developing countries showed that their monetary authorities face environments radically different from their counterparts in the developed countries. The scope for central banks in developing countries to conduct an independent monetary policy is hampered by (i) heavy reliance on seigniorage; (ii) shallow financial markets characterized by interest rates repression, high reserve requirements, sectoral credit policies and compulsory placements of public debt; and (iii) fragile banking system (Masson et. al., 1997).

In addition to the above, monetary policy efficacy in developing countries is constrained by a number of other factors. These include dominance of currency in money holding by the non-bank public for transactionary purpose, which results in high level of liquidity outside the banking system; limited array of financial instruments to be traded in the money market; underdeveloped capital market; and the long lag in the effect of monetary policy as a result of some structural difficulties.

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IV. Challenges and Prospects of Risk-Based Supervision and Inflation Targeting In Nigeria

IV.1. Challenges and Prospects of Risk-Based Supervision

The challenges of risk-based supervision can be gleaned from the motivations for developing the framework as identified in section 2.1 above and developing some criteria for assessing risks as well as choosing the right formula and methods for arriving at a final risk scores for an institution. As a recapitulation, the motivations include political pressure following financial collapse, the need to bring supervisory practices in line with developments in financial institutions' operation and risk management practices, the need to deliver 'integrated' financial regulation, and the need to shift regulation to a more proactive status.

It is important to determine whether these motivations for the adoption of the RBSF exist presently in the Nigerian environment. More than any other time, the current global financial crisis in developed countries and its attendant bandwagon effects on some of the financial markets in developing countries, serves as enough justification to adopt RBS framework in countries that have not done so.

However, we may want to ask whether the countries that are hard hit by the global financial crisis, such as the United States, United Kingdom, Germany and other European countries, have not adopted the framework? If they have[5] and we believe the framework makes financial operations transparent, then what went wrong? And does the framework worth the efforts put into it? The alternative question would be: what would have been the extent and depth of the crisis if they have not adopted risk-based supervision framework? The implication is that the framework is not foolproof.

[5] *We note that United Kingdom is one of the countries' RBSF was assessed by Black (2004).*

Sequel to the recent banking consolidation exercise of the Central Bank of Nigeria and eventual implementation of the directive, the number of deposit money banks in Nigeria reduced from 89 to only 25 universal banks and later to 24 banks with the merger of Stanbic and IBTC Chattered Banks. This action, theoretically, should reduce competition relative to when there were many banks serving the same market. The reality has shown that competition became more profound after the banking consolidation than before. Banks now have to take more risks in order to control sizeable part of the market.

For the first time, more banks are engaged in off-shore banking. Internationalization or globalization of finance is growing at the unexpected speed of Information and Communication Technology (ICT), resulting in greater risks, particularly for financial institutions that are just facing the challenges of the complexity of global finance! Such situations do not require business-as-usual supervision; rather, risk-based supervision becomes the only alternative as it helps deliver 'integrated' financial regulations and best practices in operations and risk management.

Another challenge, which is part of the motivation, is the political pressure arising from the current global financial crisis. Both operators in the financial markets and the non-bank public, in particular the business class and the politicians, are apprehensive that the financial collapse in many developed countries could reverberate, sooner than later, in our fragile financial system. The monetary authorities and financial regulators must, therefore, be seen to be proactive in dealing with financial institutions. This is one of the primary objectives of RBSF.

Additional challenge for the financial regulators is whether there is availability of skilled manpower to formulate and implement risk-based supervision for the financial system. There is the need to set up criteria for assessment, develop

formula, techniques and methods for assessing the institutions. The financial institutions staff too must be trained in the art and science of RBSF requirements and the legal framework must be developed. The framework, if adopted, will be a new foray in the history of banking in Nigeria and as such will require special training for all that will be involved.

Given the above operating environment for the financial system and the local as well as the international economies, the prospect for adopting RBS framework in Nigeria cannot be underestimated. Fortunately, there is a reservoir of experienced and highly skilled manpower in the regulatory sector of the financial industry. These personnel will require little training period to catch up with the requirements of RBSF. They can then serve, along with Department of Banking and Finance in some higher institutions, as the nucleus of teachers and trainers for the entire financial industry.

There are a crop of legal personnel, locally and internationally, who specialize in commercial law and who can be used to provide the legal framework for executing the project. These will then be scrutinized by the appropriate committees of the House of Representative and Senate to give legal backing for the new procedure for supervising the financial system.

IV.2. Challenges and Prospects of Inflation Targeting Framework

The challenges facing successful execution of ITF within the context of the preconditions and other constraints require critical examination. First, since the enthronement of democratic governance, the Central Bank of Nigeria (CBN) has been enjoying relatively higher degree of freedom than hitherto in its conduct of monetary policy and has also strengthened the use of market instruments, since after the introduction of structural adjustment programme (SAP) in 1986. That is, the CBN has overcome the challenge of the first precondition as well as reliance

on use of direct monetary tool to achieve its monetary policy goals. On the second precondition, Nigeria operates flexible exchange rate and does not require serious intervention by the Central Bank while the issues of wages is kept within the purview of the fiscal policy.

The depth of the financial market is often measured by the difference between the nominal lending and saving rates or ratio of broad money (M2) or domestic credit to the gross domestic product (GDP). We can also use the ratio of bank reserve to bank assets to determine the level of development of the financial market. Whichever of this ratios is used, the financial depth in Nigeria is still shallow. When coupled with the high level of liquidity in the economy, arising partly from dominance of cash in transactions, it becomes clear the CBN faces a major challenge.

Since the banking sector consolidation implemented by the CBN, the banking industry has witnessed keener competition than before and this has led to introduction of a wide array of financial market instruments. Among the new instruments are different types of deposit accounts with variable interest rates, internet banking, the use of automated teller machine (ATM), Master and Visa Cards of the different banks and, of course, the increase in the number of branches of the universal banks and microfinance banks. All these are not only to improve saving, deepen the financial market and reduce transaction time in banks but also to reduce the incidence of carrying and keeping currency in the pockets for transactionary purposes. Notwithstanding, shifting away from cash transactions to reduce currency outside banks remains a major challenge for regulators in the industry.

The increasing level of poverty has not made private saving to grow; the low level of awareness of the benefits of the various financial instruments arising from low

literacy level has not helped to popularize the use of these instruments. Moreover, the skepticism about the security of deposit withdrawal through the ATM has constrained the widespread use of card-based instrument; and the recent experience of people who lost their deposits in failed banks and unrecognized finance houses (wonder banks) have all combined to repress the growth of the financial markets.

Another challenge for the monetary authorities is that the banks are also not helping matters in the area of lending. They still behave like commercial banks whose philosophy remain liquidity and profitability and, thus, have to function in the short end of the market. In this context, most of the banks prefer to promote consumption rather than production. They advertise loans and advances for purchase of imported finished products like computers, air conditioners, television and other household facilities. Only few of them engage in loan syndication to provide long-term funds for production and fewer are involved in promoting the small and medium scale enterprises. There is, thus, little interaction between the real and monetary sectors of the economy. The challenge here is the promotion of consumption over production which should be expected to aid inflationary pressure on the economy and make inflation targeting difficult to achieve. More importantly, the promotion of consumption of imported durable goods results in imported inflation. Therefore, the monetary authorities should encourage the banks through moral suasion to support production in the real sector of the economy.

Since the beginning of this decade, the capital market seemed to be growing and providing alternative source of development finance for the economy until recently when the bears took over. The market capitalization reached the peak of ₦12.6 trillion in March 2008 and has since plummeted to the depth of N8.8 trillion in August 2008. This drawback has implications for the financial depth and by the

same token will serve as a challenge to successful implementation of inflation targeting framework for monetary policy.

An important challenge currently faced by some of the developing countries that have adopted ITF, particularly South Africa, is the supply-side shocks arising from international oil price increases since 2004 and the current food price inflation, both of which require continuous revision of assumptions and forecasts (Mboweni, 2008). These events and the emerging great depression in the world's largest economies would have negative implications for successful implementation of inflation targeting framework in developing countries within the context of the global village.

Some of the above challenges are not insurmountable, more so when the two major preconditions for successful inflation targeting framework viz considerable degree of freedom and refrain from targeting the level or path of any other nominal variable have been met. As stated earlier, the CBN enjoys some high level of freedom in its operation and had long adopted flexible exchange rate and market determined interest rates regimes.

The current global financial crisis might stem the outflow of funds by corrupt politicians who might be afraid of losing their looted funds. They should, therefore, be encouraged to invest their funds in both money and capital market in Nigeria with multiplier effects on the economy and, probably, deepening of the financial market. The CBN and the Stock Exchange, in conjunction with the Economic and Financial Crimes Commission (EFCC) and Independent Corrupt Practices Commission (ICPC) may have to pursue their policies that would make looters to invest in the capital market at home.

It is noteworthy that pursing low inflation objective successfully is not restricted

to central banks with formal inflation targeting framework. This is the case with the Federal Reserve Bank of the United States and the European Central Bank, both of which have not formally adopted ITF but accepted low inflation as part of the ultimate goal of monetary policy (see Table 1). The imperative of low inflation for long-run growth in output make it worthwhile to keep inflation low. A low inflation rate over time promotes credibility of the monetary authorities, attracts

Table 1: Three Types of Monetary Policy framework

	Monetary Targeting	**Inflation Targeting**	**Multiple Targeting Or US Framework**
Country	Germany	Canada	US
Ultimate Goal	Inflation	Inflation	Inflation, Employment, Growth
Intermediate Target	Money Supply	Inflation Forecast	Money Supply
Operational Target	OMO, Government Securities	OMO, Government Securities	OMO, Government Securities
Monetary Instrument	Repo rate, O/N	Bank Rate, O/N	Feds Funds Rate, O/N

Note: Repo = Repurchase market rate, O/N = Interbank overnight rate,
OMO = Open market operation.
Source: Adapted from IMF(1999) "Transparency and Good Practices for Monetary Policy".

The prospect of successful implementation of ITF in Nigeria is further enhanced with the low level of inflation that is recorded in recent years, the growing external reserve and fiscal discipline. However, sustaining and maintaining these trends, particularly in the area of fiscal discipline, is very important for the project. As a stop gap to moving into inflation targeting, the country can first sustain the monetary targeting and when the trend is assured, the CBN can then adopt inflation targeting as the framework of monetary policy. This was the model adopted by Thailand.

The development of monetary policy in Thailand has come a long way. Like many developing countries, Thailand's exchange rate regime, for the large part of four decades, was the fixed exchange rate. With the economic reforms of the 1980s, the country adopted monetary targeting regime in July 1997 and by May 2000, the country moved to inflation targeting.

Under the monetary targeting framework, the ultimate goals of monetary policy were price stability and economic growth. The intermediate targets through which the ultimate goal are achieved are exchange rate, long-term interest rate, domestic credit and assets prices via the use of official interest rate, reserve requirement, open market operations and direct control as the monetary instruments (see Figure 1). The model was modified on the adoption of ITF (Fig. 2). The strategy is to achieve price stability at low rate and this is done by ex-ante forecast of the inflation rate for the period or year. The major instrument is open market operation.

V. Summary and Conclusion

This paper deals with two current issues of interests to the monetary authority namely Risk-Based Supervision and Inflation Targeting Framework of monetary policy. The necessary requirements for the introduction and adoption of the two frameworks were highlighted. Subsequently, the challenges the monetary authority would have to grapple with if it is to adopt any or both frameworks was evaluated.

For the risk-based supervision framework, it was advised that the current competitive environment, the rapid development of information technology and globalization of finance make it imperative for the central bank and other financial sector regulators to take steps to adopt and implement the framework. This will require some training for some categories of staff of both the regulatory

authorities and the financial institutions. Fortunately, Nigeria is not the first country to adopt the framework, thus, the staff to be trained can be sent abroad to acquaint themselves with the demands of the project.

The inflation targeting framework is a desirable goal for monetary policy but the regulators will have to overcome a number of challenges. These include stability of macroeconomic policy over time, reduction in the quantum of currency in the money supply portfolio through education and encouragement of the public to use near-monies or non-cash financial instruments for transactions, and, improving the depth of the financial market through, among other issues, growing of the real sector by the banks. In the interim, the monetary authority might take the route or model of Thailand.

References

Black Julia (2004) "The Development of Risk Based Regulation in Financial Services: Canada, the UK and Australia: A Research Report" Centre for the Analysis of Risk and Regulation, London School of Economics and Political Science, United Kingdom. September.

Black, John (2002) *Oxford Dictionary of Economics*, 2nd Edition, New York: Oxford University Press.

IMF (1999), "Transparency and Good Practices for Monetary Policy", International Monetary Funds

Masson, Paul R., Miguel A. Savastano and Sunil Sharma (1997) "The Scope for Inflation Targeting in Developing Countries", *IMF Working Paper 97/130*. Washington DC.

Masson, Paul R., Miguel A. Savastano and Sunil Sharma (1998) "Can Inflation Targeting Be a Framework for Monetary Policy in Developing Countries?" *Finance and Development*, March.

Mboweni, T.T. (2008) "Monetary Policy, Inflation Targeting and Inflation Pressures", Governor of the South African Reserve Bank address presented to the Bureau for Economic Research Annual Conference, Johannesburg, 22 May.

Mishkin, F (2000), "Inflation Targeting in Emerging Market Countries," NBER Working Papers 7618.

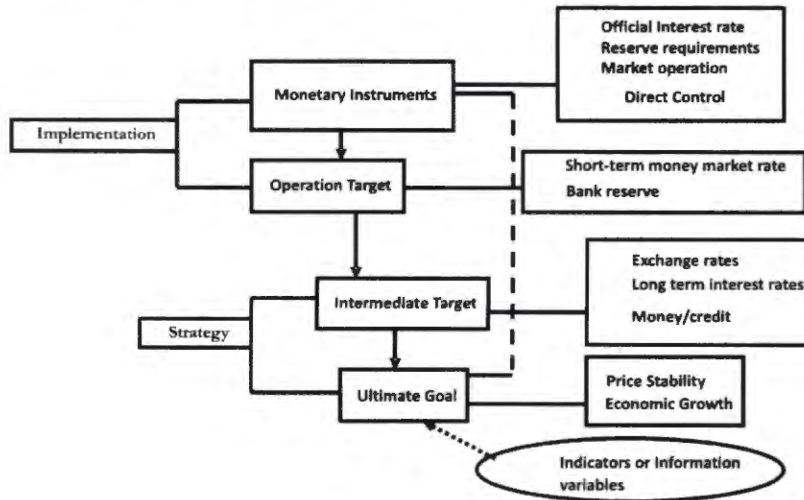
Monetary Authority of Singapore (2003) *Consultation Paper on the Proposed Risk-based Capital Framework for Insurance Business, Singapore*. November.

Packard, Le Anh Tu (2007) "Monetary Policy in Vietnam: Alternatives to Inflation Targeting", Paper prepared for the Political Economy Research Institute, University of Massachusetts, Amherst.

Thompson, Graeme (2008) "Risk-Based Supervision of Pension Funds in Australia", Policy Research Working Paper 4539. Financial Policy Division, The World Bank. February. www.bot.or.thy/Thai

Appendix

Figure1: Framework for Conduct of Monetary Policy



Source: Adapted from Bank of Thailand, Document for Inflation Targeting Seminar, 2000

Fig. 2: Inflation Targeting Framework in Thailand