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# **The Virtues of Prudential Regulation in Financial Markets**

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## Section I: INTRODUCTION

The potential of properly regulated financial system to dampen rather than exacerbate shocks to developing economies has too often been overlooked. This chapter explores the potential of prudential regulations to dampen international capital flows, limit certain kinds of risk taking and help guard against systemic failures and international contagion.

Macroeconomics tends to focus on the policy efficiency of government budgets and central bank interventions to respond to economic shocks. This narrow focus has lead the policy debate to focus on such matters as capital controls and transaction taxes.<sup>1[1]</sup>

This chapter analyzes a set of regulatory proposals that are designed for developing countries to remedy financial market short-comings and make financial markets and overall economies more efficient as well as less vulnerable to financial sector disruptions and distortions.<sup>2[2]</sup> In doing so that shape the composition and volume of international capital flows to developing countries so as to better meet the needs of development,<sup>3[3]</sup> and they encourage the use of derivatives for risk management purposes while discouraging their use in unproductive pursuits that might create dangerous levels of exposure to market risk as well as credit risk or lead to reverse capital flows.

These prudential regulatory proposals are of three basic types. The first type relates to reporting and registration requirements and is designed to improve the transparency – and thus the pricing efficiency – in the markets. Reporting requirements also enable the government, and other market surveillance authorities such as exchanges, to better detect and deter fraud and manipulation. Registration requirements are especially useful in preventing fraud.

The second type of prudential regulatory measures involves capital requirements and collateral<sup>4[4]</sup> requirements. Capital requirements function to provide both a buffer against the vicissitudes of the market and a governor on the tendency of market competition to drive participants towards seeking high returns and thus higher risks.<sup>5[5]</sup>

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<sup>1[1]</sup> ) These are best known as the Tobin Tax (1974, 1978), but there are several more recent extensions (see below).

<sup>2[2]</sup> ) These proposals were first prepared for a presentation to the North-South Institute in October of 2001, and was later revised for a presentation to the “New Rules” Conference on the end of neo-liberalism in May of 2002.

<sup>3[3]</sup> ) The composition refers to the proportion of capital in the form bank loans, bonds, equity shares or other financial instruments used to raise capital as well as the currency composition of those instruments.

<sup>4[4]</sup> ) The term collateral is used for these purposes to mean the same thing as margin. And like margin, collateral is presumed to be held in the form of cash or government securities. When collateral is mentioned in the context of lending, then I will specify that real assets are serving as the collateral for the loan.

<sup>5[5]</sup> ) John Eatwell has raised some serious concerns about the ability of capital held to meet capital requirements to successfully function as a buffer against such changes. See Eatwell, John. 2001. “The

Collateral requirements have basically the same effect, although collateral requirements apply to transactions in particular and not institutions.<sup>6[6]</sup> Thus non-financial institutions that would not otherwise be subject to capital requirements would be subject to collateral requirements on their derivatives transactions.

The third type of regulatory measures is Orderly Market Rules designed to address the need to maintain an orderly marketplace. The most important of these is a market making requirements for dealers that helps maintain market liquidity, and another important rule is for the prohibition of bucket shops that reduce trading volume, liquidity and price discovery at central markets.

The policy analysis includes a comparison of these regulatory measures three alternative policy prescriptions. The first is the laissez-faire policy approach of deregulation and capital market liberalization. The second comparison is with a policy of capital controls. Several variations are described and then their potential policy achievements are compared to those of prudential regulations. The third policy comparison is with the Tobin Tax, a global transactions tax on foreign exchange and possibly all financial transactions.

This chapter concludes with a case for the advantages of the use of prudential market regulations – applied to developing countries – that will not only improve financial market efficiency but will improve their safety and soundness. These applied in a developing country will discourage excess short-term foreign bank lending, limit or discourage excessive risk taking in foreign exchange exposure and dampen overall capital flows into and out of a country. They will encourage more long-term investing, especially that by foreign investors, and restrict the ability of resident financial institutions to engage in excessive risk taking and "unproductive" financial activities. Together this protect against the dangers of a boom, fueled by a surge in capital inflows, and bust caused by capital flows out and a currency devaluation. These measures also enhance national independence because they can be established unilaterally through legislation and the promulgation of regulations. Unlike global transactions taxes they do not require an ambitious global consensus to impose a uniform international tax. Nor do these potential solutions need to wait upon the benevolence or enlightenment of rich developed countries, as each sovereign nation can fabricate their own regulatory environment.

## **Section II: Context**

The tremendous growth and innovation in financial markets, as well as the rapid growth in the international movement of capital between advanced and developing economies, has made financial markets more critical than ever for the prospects for

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Challenges Facing International Financial Regulation.” presented to the Western Economic Association in July, 2001.

<sup>6[6]</sup> ) Collateral should be in the form of cash (money deposits) or liquid government securities, and the government securities should be subject to a “haircut” that is proportional to their price convexity.

development. The importance of financial markets raises concerns for policies governing them. The series of financial crises that swept through many parts of the developing world during the 1990s, and more recently the problems plaguing financial markets in the U.S., European Union and Japan, have raised serious questions about whether the deregulatory policies of the 1990s, in a word “*liberalization*”, adopted in developing countries have been the best policy.

IMF Managing Director Stanley Fisher appears to recognize this point in the following statement.

*The crises that have swept emerging market nations in recent years should have left no-one in any doubt about the importance of a strong and well-regulated financial sector, in dealing with capital flows that can be very large and reverse very quickly. June, 2000.*<sup>7[7]</sup>

Fisher's remarks are too little and too late.

The policy debate over the international financial architecture arose following Mexico's financial crisis in December 1994 that spread to other parts of the developing world in what was nicknamed the “tequila effect”. The debate became more important when the success stories for development in East Asia were clobbered by a series of financial crises that swept through the region in 1997. Then Russia defaulted in 1998 and next Brazil experienced a financial crisis in the same year. Turkey suffered a similar fate in early 2001, and then the biggest sovereign default in history occurred in 2002 when Argentina defaulted on \$141 billion of public debt.

The policy debate

The policy debate over the international financial architecture includes ... the broader range of issues that fall under the rubric of “globalization” such as international trade and the governance of international trade laws, the environment and sustainable growth, immigration and rights of movement of working people in comparison to capital and the conditions for the international movement of capital.

While the debate over policy for developing countries includes a broader set of issues than those raised by the problems in developed countries, there are some important intersecting points. These include the prudential regulation of banking, securities, derivatives and insurance activities.

The common issues and the need to improve the regulation of these market is reflected in the joint Financial Sector Assessment Program (FSAP) initiated by the IMF and World Bank in May of 1999, and in their effort to develop and help implement “Standards and Codes” and then report on the progress in ROSCs (Reports on Observance of Standards and Codes. In doing so, these international financial institutions have recognized the need for well regulated financial markets throughout the world.

*“Resilient, well-regulated financial systems are essential for macroeconomic and financial stability in a world of increased capital flows.” (IMF documents explaining their Standards and Codes program.)*

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<sup>7[7]</sup> ) Introductory Remarks by Stanley Fischer First Deputy Managing Director IMF given at the Seminar on Financial Risks, System Stability, and Economic Globalization Washington D.C., June 5, 2000

## **Section III: Prudential Regulatory Provisions**

These prudential regulatory measures, enumerated in Table 1 below, follows three basic categories: requirements for registration and reporting; requirements for capital and collateral; and orderly market rules.

Developing country financial markets are not isolated from their counterparts in the advanced capital markets of developed countries, and this interconnectedness – which often includes derivatives markets – is very important. As one senior IMF official remarked to me in private, “I have never seen one sin in a developing country financial markets that did not have as its counterparty someone from New York or London.”

A qualification is in order at this point. The financial markets in the poorest developing countries, particularly those in the Caribbean and Sub-Saharan Africa, consist solely of banks and even these banking services do not extend throughout the country. So while their banking sector should be prudently managed and supervised, the larger framework discussed in this chapter is not especially relevant at this point in their economic development. However, as these economies become more successful at generating rising living standards for their citizens, and as they begin to develop more sophisticated financial sectors, this framework should prove useful. They should draw a lesson on “sequencing” – i.e. putting a prudential regulatory system in place prior to opening financial markets – that the IMF learned from its errors in liberalizing capital markets in emerging market economies during the 1990s. Similarly, these poorest countries should anticipate the development of their financial markets and lay the groundwork with a proper regulatory foundation. Moreover, a properly designed regulatory system can serve to encourage the development of a financial system by bolstering public confidence, preventing destructive competition, providing deposit insurance and preventing it from being misused for private and public corruption.

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## Table 1

1. 1. Reporting and Registration Requirements
    - a. a. Require all financial institutions to be registered or chartered. Require key personnel, including senior management as well as brokers, agents and sales staff, to be licensed or registered.
    - b. b. Require all financial institutions to report on their financial condition and their financial activities. Key financial institutions, especially banks, should be subject to regular and spot examinations by the regulatory authority. Reporting requirements for financial institutions and publicly traded corporations should make special note of their foreign currency, interest rate and security price exposure on both balance sheet and off-balance sheet activities. Derivatives and special purpose entities should not be used to hide debt or fabricate revenue or income.
    - c. c. Require publicly traded corporations to make regular public financial statements that disclose income and solvency conditions. This should include a breakdown of revenue and costs, and include balance sheet and off-balance positions. The accounting methods should require that financial reports convey the actual, underlying economic properties and business purposes of all holdings and transactions including minority interests, special purpose entities, guarantees and derivatives transactions.
    - d. d. Exchanges and auctions for securities and derivatives should report key market data such as prices, trading volume, open and short interest, and bid-to-cover figures for auctions.
  2. 2. Capital and Collateral Requirements
    - a. a. Require all financial institutions to hold capital in proportion to their credit exposure and their current and potential market risk. Capital requirements must apply to balance sheet as well as off-balance sheet transactions and positions.
    - b. b. Require or set minimum standards for adequate levels of collateral (margin) to be posted for financial transactions, especially securities and derivatives transactions.
    - c. c. Encourage – if not require -- the establishment of clearing houses for trading in securities, securities loans, repurchase agreements, derivatives and foreign exchange. The clearing houses should be well capitalized, well managed and supervised by a public regulatory authority.  
Extra measures
    - d. d. Limit the exposure of all financial institutions to fluctuations in foreign exchange rates, interest rates, securities prices and other market prices. The limitation can be linked to capital or liquid reserves.
    - e. e. Limit the exposure of all financial institutions to liquidity (refunding) risk by limiting their mismatch in maturity on assets and liabilities. The limitation can be linked to capital or liquid reserves.
  3. 3. Orderly Market Rules
    - a. a. Strictly prohibit fraud and manipulation in financial markets. Create market surveillance and enforcement authority, make violations punishable by civil and criminal penalties, and adopt “know they customer” and “truth in lending” rules. Require the reporting of large trader positions in order to detect and deter manipulation.
    - b. b. Enhance market liquidity by requiring securities and OTC derivatives dealers to act as market makers by maintaining binding bid and offer quotes throughout the trading day. Require banks and insurance companies to hold a minimum percentage of liabilities as liquid assets..
    - c. c. Employ debt standstills in order facilitate orderly debt restructuring or bankruptcy procedures and “circuit breakers,” and price limits for trading on exchanges and OTC markets in order to protect financial system from disruptions and short-term volatility.
    - d. d. Provide for deposit insurance for transactions deposits – possibly limited by size – in order to guard against illiquidity.
  4. 4. Exceptions
    - a. a. Allow exceptions to the above for micro-credit institutions and activities in so far that accounts and transactions are below certain thresholds.
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## Registration and Reporting Requirements

1. a. All financial institutions should be registered or chartered.<sup>8[8]</sup> Registration is a means to insure that all financial institutions meet minimum standards, that the regulatory authorities has a census of all relevant financial institutions, and it provides an easy way to identify illegitimate businesses and for the regulatory author to shut down illegal activity. Minimum standards should include a sound business plan, that the firm be well managed, that it meet capital requirements and that its key employees be certified as competent and trustworthy.<sup>9[9]</sup> These standards are well in line for any successful ongoing enterprise, and in addition they are use as perquisite for being listed on some public stock exchanges. These standards are therefore not out of line with business practice and should constitute a burden on efficiency or a restraint of competition. This regulatory practice is more likely to increase competition because its bank charter or registration can serve as a certificate of regulatory approval and give new enterprises an imprimatur of legitimacy.

Key individuals , such as a financial institution's representative agents and "appropriate persons" as well as independent brokers, agents and investment advisors, such be registered or licensed. The registration of individuals sets minimum standards for people that carry fiduciary responsibility for the firm or customer accounts is critical the process of preventing and prosecuting fraud. In many cases, registration should require that applicants pass an examination of competence. For example, securities brokers and insurance agents often usually required to pass an examination that tests their knowledge of finance, their field of finance, and their legal and ethical responsibilities to customers and other market participants. In the U.S., securities brokers must pass a Series 7 exam in order to become a registered broker.

Another standard is fiduciary integrity. Registration allows regulatory authorities to conduct background checks on individuals -- who act as brokers, agents or salespeople -- who have fiduciary responsibility over the firm's or their customers' accounts. The background checks should test for past criminal conduct because individuals convicted of fraud should not be allowed to act as brokers or other responsible persons (front-line representatives of financial institutions). An example drawn from U.S. law is that an individual convicted of securities fraud cannot be a registered broker for securities or exchange traded derivatives (futures or options).<sup>10[10]</sup> Yet another standard requires that financial institutions be well managed, and that the financial institutions identify the "responsible persons" or officers of the firm. A fourth

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<sup>8[8]</sup> ) This section is written for "all" financial institutions, however it would be reasonable to exempt certain micro finance activities and firms providing micro finance services if loans are small and funding does not come from customer deposits.

<sup>9[9]</sup> ) Note that this public requirement is not out of line with business practice. Many stock exchanges, including the NYSE and NASDAQ in the U.S., have minimum capital standards as a perquisite for listing on those exchanges.

<sup>10[10]</sup> ) However, that same individual can act as a derivatives trader for unregistered OTC derivatives dealers.

standard is that a financial firm meet minimum capital standards as a precondition for registration. These regulatory standards are well established in some countries, and while there should be some variation between countries and between financial sectors in applying these standards they should be a precondition for financial sector growth and international integration.

In the case of the U.S., all securities brokers and dealers, insurance agents, banks and other depository institutions, futures and options brokers, exchanges and most managed funds are registered. In contrast, some firms act as financial institutions – derivatives dealers in the OTC market such as Duke Energy and the former Enron Corporation or capital market participants such as GE Capital and General Motors Mortgage Corporation – are not registered as financial institutions. Hedge funds are required to register initially with the SEC but if they satisfy certain size and investor qualifications, they have no further registration or reporting requirements. Long Term Capital Management's only reporting requirement was an annual one to the CFTC on the capital adequacy of its futures trading because it was registered as a Commodity Pool Operator.

Together, these standards help prevent fraud on the market and provide assurance that the marketplace is not unduly disrupted by the failures of undercapitalized and poorly managed financial institutions. Whereas firms should fail when they are badly managed or when they make disastrous investment decisions, but failures do disrupt the productivity and profitability of the entire financial marketplace and so it behooves the public interest to avoid an excess incidence of failure by reckless, under-funded endeavors.

1.b. Require all registered and chartered financial institutions to keep proper records and regularly report their financial condition and their financial market activities.

Financial reports should be made frequently (quarterly is preferred to annually), and they should be certified by outside auditors. The corporation's senior executive management and the board of directors should be liable for the accuracy and integrity of the financial reports. Included in these financial statements should be information on the corporate balance sheet (assets, liabilities and capital), off-balance sheet positions and activities and an income statement. Financial institutions should also report activities such as borrowing, lending, underwriting, issuance of securities, brokering trades, repurchase agreements, funds under management and derivatives and other off-balance sheet transactions such as securities lending, credit lines and guarantees. Reporting requirements for financial institutions and publicly traded corporations should make special note of their foreign currency, interest rate, security price and commodity price exposure on both balance sheet and off-balance sheet activities. Some information should be made public while other should be retained by the regulatory authority because of its proprietary nature.

Consider the U.S. as a test case where the basic reporting requirements were established about 70 years ago. Banks report as corporations and they report as banks to

their respective regulators who in turn make some firm-level information public and with other that aggregate it into data for the banking sector as a whole. Banking supervision provides regulatory discipline in areas where propriety information is too sensitive to disclose. Derivatives and securities transactions, when they are conducted on an exchange, are reported to the exchange and it is then reported to the respective regulator. Insurance companies also report their financial condition, although they do so on the state level. OTC derivatives and transactions in some exempt securities are an exception to this otherwise financial sector wide reporting policy.

The information acquired by the regulatory authority through these reporting requirements – especially large trader reports – should help their efforts in market surveillance. The public interest is best protected when the regulatory authority has sufficient information to police malfeasance and help prevent market disruptions caused by fraud and manipulation. Up to date financial information on firms and markets should also give the government an early warning of firms that were in trouble due to taking a large losses on big market positions.

1.c. Corporations, even non-financial companies, should report their financial condition and income.

Well informed investors are the key to establishing efficient financial markets, and reporting requirements are essential to providing them with the relevant market information they need.<sup>11[11]</sup> Businesses, taken individually, have incentives to hoard information or report it in a selective manner. Reporting requirements assure markets that corporations provide all appropriate under uniform rules so that the public has the potential to make rational, fully informed decisions about the prospects of the firm (including potential negative consequences of corporate policy).

In order to bring off-balance sheet activities into the same light as balance sheets activities, derivatives would be reported by notional value (long and short), maturity, instrument and collateral arrangements. This would enable investors to better determine whether the firm was under- or over-hedged, and whether they were primarily acting as a producer or wholesaler.

Reporting standards can also be designed so as to achieve transparency in areas beyond the narrow concerns of financial market investors. By requiring corporations to report on their environment impact, working conditions and community impact, the full range of corporate activities can be made available to the public and provide information beyond the concern over future earnings.<sup>12[12]</sup>

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<sup>11[11]</sup> ) Additionally, the government should provide – or see it that a private entity provides – aggregated economic and market data such as prices, quantities, inventories and usage.

<sup>12[12]</sup> ) See the Sunshine Standards of the Stakeholders Alliance for good, common sense approach to accounting and reporting rules (<http://www.stakeholderalliance.org>).

Reporting OTC transactions is both feasible nearly costless to enforce. Most OTC derivatives transactions are traded through the ISDA Master Trading Agreement (“Master Agreement”) which requires that the counterparties to the trades exchange confirmation messages (usually email or fax messages) to insure that all the key terms of the contract are in agreement. The reporting requirement would entail that the trading counterparties “CC” the regulatory authority on the confirmation email or fax message.

Information from transaction could be compiled and the non-proprietary data made available to the public, and protect the integrity of market price through better market surveillance. Once aggregated, this data would reflect the character of the market while protecting the details of dealers’ market positions (assuming there are several dealers). The data of a proprietary nature would be retained by the regulator in order to detect and deter fraud, manipulation and potential systemic breaks in the markets. This would go a long way to improve transparency.

1.d. The goal of disclose rules should be to accurately identify and portray the underlying business activities and their profitability. Disclosure is no longer just a matter of underlying manufacturing and commercial enterprise, but now it is also a matter of financial activities that reduce, or expand, the risk inherent in the underlying business.

There is a large and growing amount of securities and loans to which derivatives have been attached or embedded. This has fundamentally altered the usefulness of existing rules for taking capital charges against the risks associated with holding or issuing these securities, for financial reports regarding investments in these securities and even regulations that might otherwise prohibit certain financial institutions, such as pension funds or insurance companies, from investing in these securities. Rules should be updated to reflect the market risk associated with the attached or embedded derivative and not merely the credit risk of the principle of the security.

## **Capital and Collateral Requirements**

2.a. Require all financial institutions to hold capital in proportion to their credit exposure and their current and potential market risk. Capital requirements must apply to balance sheet as well as off-balance sheet transactions and positions. This should include OTC derivatives dealers, such as the former Enron Corporation, that might not otherwise be registered as a financial institution. Capital requirements should be updated that so they apply to balance sheet as well as off-balance sheet activities and positions. The rate of the capital charge should reflect both credit risk and market risk (potential future exposure and value at risk (VAR)).

Capital serves two functions: first, it acts as a buffer so that when a firm suffers from an adverse event it is less likely to go bankrupt or fail to perform on debt or derivatives obligations to others; and second, it serves as a limitation or disincentive to a firm’s risk taking in so far that it is required to hold capital commensurate with risk.

Capital requirements are critical to prevent the problems at one firm from becoming problems at another firm. This is especially important for dealers in financial markets because their failure can lead to market problems such as illiquidity (market freeze-up) or meltdown.

Capital requirements also function as a governor on risk taking. In the context of international capital flows, financial institutions in developing countries would find that the capital requirements would limit their ability to accumulate foreign currency denominated debt in excess of foreign currency denominated assets, and it would similarly limit their ability to finance long-term investments with short-term debt. While it would not prevent these activities, it would require the financial institution to hold capital in proportion to the amount of these activities and thereby limit it for a given amount of capital.

Capital requirements should be based on the assessment of the value of assets, liabilities and positions using current market prices, or assessments based off of current market prices, and not simply the historic or booked value of the assets and positions.

Capital requirements are potentially of several types. Traditionally, the requirement has been calculated as a simple percentage of assets. The amounts to a leverage ratio equal to the amount of assets divided by capital. In the 1990s, the Bank for International Settlements, at the behest of central banks from several industrialized countries, formulated a global standard for capital requirements for banks and in doing so updated the approach by setting capital requirements as a percentage (8%) of risk-weighted assets. The risk-weight standard required no capital charges on government bonds from OECD countries and only a 20% weight on loans from banks from OECD countries. Corporate debt was assigned a 50% weight and most other debts were assigned a 100% weight. This new approach was also important for applying the capital requirements to off-balance sheet transactions, such as derivatives and securities lending, as well as balance sheet assets.

The limitations to these both these approaches is that they focused on assessing capital as a percentage of credit risk, and that the assessment was a static measure of that risk. Credit risk changes with the changes and magnitude of changes in market prices as counterparties experience losses and greater losses. What is more, credit risk is not the only concern. Many firms go bankrupt from trading losses due to market price risk, and the potential for these losses is completely ignored in both the leverage ratio approach and risk-weighted asset approach.

There are several new proposals and actual policies to address these concerns, but there is no single new best approach – or at least one that has widespread agreement. The most widely known is the value-at-risk (VAR) or internal model approach. This method requires financial institutions to develop their own internal model to estimate their portfolio wide losses arising from a one or two standard deviation movement in interest rates and other market prices. The method treats the financial institution as a whole and not asset by asset or instrument by instrument. It also allows for shock tests for changes

outside the normal distribution of returns. However the method leaves a great deal of the policing of capital requirements to the financial institution because regulators cannot feasibly construct deconstruct and identify critical errors in each institution's model.

The internal model approach is beginning to be applied in some spheres of developed countries. In the U.S. the Federal Reserve Board requires such a method for the largest banks who operate extensive securities and derivatives trading operations, and the Securities and Exchange Commission has adopted the VAR approach for derivatives dealers registered under rules known as "Broker-Dealer Lite."

2.b. Require adequate levels of collateral (margin) to be posted for all securities and derivatives transactions and certain lending transactions. Collateral requirements for financial transactions function much like capital requirements for financial institutions: both provide a buffer against financial failure, and both provide incentives to economize on risk-taking by raising the cost of holding open positions.<sup>13[13]</sup> It helps prevent liquidity or solvency problems at one firm from causing performance problems that impact other transactions and other firms. In so doing it reduces the costs of the externalities of risk-taking by reducing the likelihood of default on transactions and thereby reduces the market's vulnerability to a freeze-up or meltdown.

Collateral and margin should be in the form of cash or government securities (or at a minimum liquid, investment grade notes and bonds). The minimum requirements should be reevaluated regularly by the regulatory authority according to changes in the market place so that they are neither excessive nor insufficient. Market participants must be required to frequently (usually daily) to adjust their levels of posted collateral to account for changes in the fair value of open positions.

The practice of rehypothicating collateral should be limited to ability of the clearing house or clearing and payments system to maintain liquidity and promptly transfer collateral between counterparties.

The current market practice for the use of collateral, in so far there is one, is inadequate.<sup>14[14]</sup> One particularly dangerous market practice is to require small initial collateral levels, but then requires a firm to become "super-margined" if its credit rating drops. This initiates a large increase in the need for collateral just at the time the firm is experiencing problems with inadequate capital. This amounts to a *crisis accelerator*.

Modern capital requirements, whether based on risk-based percentages or internal models, should apply to balance sheet as well as off-balance sheet positions.

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<sup>13[13]</sup> ) Reminder: the term collateral is used to mean that same thing as margin because they have the same economic function: a performance bond to protect a derivatives counterparty from performance risk that the other counterparty will fail to perform on schedule (or at all).

<sup>14[14]</sup> ) For good background reading on collateral provision in OTC derivatives markets in the U.S., read Christian A. Johnson. 2002. *Over-The-Counter Derivatives: Documentation*. Bowne Publishing, New York.

The appropriate level of collateral should be sufficiently high to establish safe and sound foundation for market transactions, and yet not so high that the use of risk management tools is discouraged by their lack of affordability. Zero is not the best level of collateral, and the high volume and widespread participation in futures and options exchanges, especially when OTC derivatives markets are in turmoil, shows how safety and soundness practices can enhance the performance of markets.

Collateral requirements for collateral held in local currency assets should be set so as to reflect the covariance between the exchange rate and foreign currency denominated securities and derivatives positions.

Developing countries do have additional reasons to maintain relatively stronger collateral requirements. They have the need to establish a reputation for market safety and soundness. In so far as they suffer more than wealthy countries when financial sector disruptions occur, they have the reason to require a greater “buffer” against such uncertainties. In addition, by raising the cost of risk taking, high collateral standards will shape the incentives in financial markets so as to discourage excessive risk taking.

Collateral limits risk taking, and discourages accumulation of large speculative positions.

2.c. Encourage – if not require -- the establishment of clearing houses for trading in securities, securities loans, repurchase agreements, derivatives and foreign exchange. The clearing houses should be well capitalized, well managed and supervised by a public regulatory authority. A well functioning financial system requires a highly efficient and dependable system for the clearing and settlement of payments (in local and foreign currency), securities transactions and derivatives transactions. The clearing of local currency payments is usually conducted through the central bank, often in conjunction with the major banks, which acts as a clearing house to net payments so that clearing banks need only transfer their net obligations to other banks through the central bank. This process economizes on the amount of liquid assets, i.e. money, that is tied up in the clearing process.<sup>15[15]</sup>

Clearing houses are an effective means of improving the efficiency and dependability of clearing and settlements for derivatives, securities and foreign exchange. As such, they should be encouraged, and in some cases required, as part of the regulatory system.

Clearing houses greatly reduce the trading risk and credit risk inherent in trading and holding positions in securities, derivatives and foreign currency. Clearing houses reducing trading risk by providing trade confirmation services, and they can act as an arbitrator to settle disputes regarding trades or the settlement of trades without the delay and costs of court proceedings. In performing these critical services, clearing houses

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<sup>15[15]</sup> ) As an alternative to netting, very highly efficient payments systems can use electronic payments systems to facilitate the use of real-time gross settlements that allows the near instantaneous transfer of gross amounts of funds between counterparties.

mitigate several problems. One, they reduce the number disputed trades because the trade is confirmed daily, and any dispute can be mediated by the clearing house acting as a third party. Two, they reduce the number of incomplete settlements, known as “fails,” because of the enhanced ability to economize on the payments and securities needed to make delivery. Three, they improve market liquidity by creating a high standard for credit rating on exposure in the market.

Clearing houses facilitate multilateral clearing that allows for the highest possible degree of netting of trades and outstanding positions. Consider the example of party A trading with four counterparties B, C, D and E. Party A buys 100 units from B, sells 180 to C, buys 200 from D and sells 110 to E. After reporting the trades to the clearing house, party A must present the payment for the net purchase of 10 units and then receive delivery of the units. The netting process reduces transactions costs because only the net payment in each currency and security need be transferred to the clearing house. In addition, the clearing house can expand the number of hours during which payments and securities can be made beyond the hours offered by the central bank’s clearing and payment system.<sup>16[16]</sup>

Not only does netting reduce each firm’s or individual’s outstanding credit exposure, but the clearing house further reduces credit exposure by converting positions into obligations against their own high credit rating. In the U.S., clearing houses for securities and derivatives have the highest possible rating, then they also improve the quality of the remaining credit exposure for each investor.

While the role of clearing houses mitigates many public interests concerns about orderly functioning of the financial system, they create one very important public interest concern. A clearing house concentrates a market’s credit risk into a single financial institution. In doing so it internalizes the potential for systemic failure into the clearing house. This concentration of credit exposure gives the public regulatory authority good reason to set high capital standards for the clearing house and to maintain oversight to ensure that it is well managed and is operating successfully.

2.d. Limit the exposure of all financial institutions to fluctuations in foreign exchange rates, interest rates, securities prices and other market prices. The limitation can be linked to capital or liquid reserves. Market volatility or other sudden changes in market prices can lead to financial disruptions and financial crises when the financial institutions take too large and too leveraged positions in the market. Enormous foreign exchange exposures will lead to massive losses following a devaluation, and large scale interest rate exposure (presumably a long position) will lead to further losses if the central bank responds by tightening credit conditions. Together these losses can critically impair a developing country financial sector and potentially lead to a financial crisis.

While exposure to market risk and credit risk is a regular part of financial activities, a prudential regulatory system will shape the incentives of financial institutions so that these risk are prudently and efficiently managed.

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<sup>16[16]</sup> ) See Dodd (1996) for a discussion of the economics of clearing.

The limitations can be calculated as percentage of capital and can be augmented by an absolute limit. The limitation should apply to a consolidated balance sheet and off-balance sheet measure of exposure. The limits can be made tighter for higher degrees of exchange rate management. Examples of position or exposure limits already exist on U.S. derivatives exchanges. These restrictions amount to explicit limitations on risk taking, but not hedging. This measure can be very effective in limiting the amount of short-term foreign currency denominated credit flows that are driven by the carry trade or “hot money” because they result in exchange rate exposure and sometimes interest rate exposure. By limiting these types of flows, it will discourage the building of leveraged positions that expose developing countries to devaluation, and it will encourage the hedging of currency exposure and long-term investment.

2.e. Limit the exposure of all financial institutions to liquidity (refunding) risk by limiting their mismatch in maturity on assets and liabilities. The limitation can be linked to capital or liquid reserves. This is particularly important for developing countries. Limit the mismatch in maturity on assets and liabilities. The limitation should not discourage long-term funding in the domestic credit market but should be designed with the intent of discouraging carry lending.

Another source of financial vulnerability that can plague developing countries more than their wealthier developed neighbors is the risk associated with mismatching the maturity of assets and liabilities. Not only is there an interest rate risk from changes in the level and slope of the yield curve, but moreover there is the liquidity risk, also called refunding risk, from not being able to continue funding assets.

Brazil’s recent credit crisis was due in part to the unwillingness of foreign banks to roll-over their outstanding loans to Brazil. As a result, the IMF came forth with a \$30 billion rescue package to provide emergency liquidity.

## **Orderly Market Rules**

3.a. Strictly prohibit fraud and manipulation in financial markets. Create market surveillance and enforcement authority, make violations punishable by civil and criminal penalties, and adopt “know your customer” and “truth in lending” rules. Require the reporting of large trader positions in order to detect and deter manipulation. In order to protect the integrity of market prices so that they encourage the widest possible market participation and do not signal distorting signals throughout the economy, fraud and manipulation should be strictly prohibited and punishable by civil and criminal penalties.

Require large trader position reports. Derivatives dealers and exchanges would have to report each entity that amasses a certain size of position in the market. This information would be compiled across markets in order to detect and deter market manipulation. This large trader reporting data has proven very useful by the Commodity Futures Trading Commission in the U.S. for the purpose of market surveillance.

Extend “know thy customer” rules to all financial institutions conducting lending, underwriting, repurchase agreement transactions, securities lending transactions, and all derivatives transactions with entities in developing countries.

This provision will discourage financial sharpsters from “blowing-up” their customers. For example, the PERLs served no positive purpose for East Asian investors and were primarily a stealth vehicle for financial institutions in developed countries to acquire long-dated short positions in developing country currencies.<sup>17[17]</sup> This provision also exists in U.S. securities markets and a comparable measure exists for U.S. banking markets. It should be extended to derivatives markets where there is even greater concern with the implications of large differences between market participants in the degree of financial sophistication.

3.b. Necessary levels of liquidity. Foster market liquidity by requiring securities and OTC derivatives dealers to act as market makers by maintaining binding bid and offer quotes throughout the trading day. Require banks and insurance companies to hold a minimum percentage of liabilities as liquid assets. Dealers benefit from the privilege of their role in the market. In addition to earning their bid/ask spread, dealers are also privy to the most current changes in the market. Along with this privilege should come the responsibility to help maintain liquidity and an orderly market. U.S. stock exchanges, such as the NYSE and NASDAQ, already require that “specialists” act as dealers or market makers throughout the trading day. In the OTC cash market for U.S. Treasury securities, the primary dealers are also required to act as market makers throughout the trading day. Those markets have proven to be some of the most efficient and most liquid in the world, and so this supporting market rule has proven its merit.

Securities and derivatives markets are not the only part of financial markets where liquidity is essential for an orderly market. Banks and insurance companies must have a minimum share of their liabilities held in liquid assets. Banks are invariably funded in large part from short-term deposits and other liabilities and therefore should be required to hold liquid assets, usually call reserves, in order to meet the needs of their deposits or other creditors. Insurance companies, particularly property and casualty insurance companies whose liabilities are far less predictable than life insurance companies, should be required to hold a minimum share of their liabilities as liquid assets to ensure their ability to fulfill payments on damage claims. Hurricanes and other large natural disasters can generate enormous damage claims on a property and casualty insurance, and it is imperative that they be able to promptly honor those indemnities.

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<sup>17[17]</sup> ) For descriptions of these structured securities and how they are transacted, see Frank Parnoy’s F.I.A.S.C.O. and Randall Dodd. 2002. “The Role of Derivatives in the East Asian Financial Crisis.” In Lance Taylor and John Eatwell (editors), International Capital Markets: Systems in Transition. Oxford University Press.

3.c. Employ debt standstills, “circuit breakers” and price limits for trading on exchanges and in OTC markets in order to protect financial systems from disruptions and short-term volatility.

Default and lesser debt payment problems are common problems faced by financial markets. In order to better manage the difficulties, many nations have adopted bankruptcy laws to provide for an orderly process for the debt and creditor(s) to work out the best resolution to the process. The bankruptcy law usually contains provisions that protect creditor (lender) rights (such as preventing the borrower from harming or disposing of assets) while also granting the borrower some protections from lawsuits and seizures while negotiations are underway.

This national solution is not available for international borrowing and lending, especially for the case of sovereign borrowers whose creditors might include banks, bond holders and international financial institutions from around the world. A much needed regulatory improvement in this area is the creation of a debt standstill arrangement that would protect international borrowers, especially sovereign borrowers from developing economies, during the negotiations to restructure the debt.

Another problem that plagues financial markets is large, sudden movements in securities and derivatives prices. The large price movements are of public concern because of their potential to ignite explosive momentum trading. Program trading, assisted by computers, and other dynamic hedging strategies are thought to have contributed substantially to the 1987 stock market crash in the U.S. They are additional public concerns that include the threat of sudden bankruptcy of investors caught on the wrong side of the market, the inability of the exchanges of the OTC markets to clear and settle the enormous volume of transaction that usually accompany a large price movement, and the limits of daily margin on stock and derivatives trading to cover losses.

The above points can be summarized by a brief listing of the ways in which this set of prudential regulations would remedy myriad market imperfections in order to accomplish the following goals.

- a. Improve market transparency through disclosure and reporting requirements.
- b. Ensure the integrity of market prices and the reporting and disclosure of financial information by prohibiting and policing against fraud and manipulation.
- c. Increase pricing efficiency by providing greater amounts, and more honest and accurate, information to investors and the general public.
- d. Bolster the stability of the financial system by setting minimum capital and collateral requirements.
- e. Capital and collateral requirements will discourage excess risk taking, excess international capital flows (especially “hot money”), and speculative attack for developing country currencies.
- f. Improve market liquidity, limit large short-term price movements, and protect developing country debtors during a payments crisis.
- g. Shape capital inflows to more closely meet development needs while avoiding broad restrictions.

h. Empower developing countries to act unilaterally to adopt prudential regulations that will help stabilize their financial systems and reduce their vulnerability to external shocks.

This is not to say that regulations are not without their problems. The foremost concern is that the details of the policy will be not properly written and enforced, and this will impose dead-weight losses on the economy and possibly lead to unintended results that are contrary to those intended. Another problem is that the process of developing the regulatory statutes, rules and regulations as well as their implementation and enforcement requires scarce resources, especially in developing countries, to fund regulatory agencies that would develop rules and enforce them. Poorly designed rules, or rules that were not enforced, would not be a good policy. Yet another potential problem is that even well designed and well implemented rules and regulations might not be updated with sufficient frequency to avoid unnecessary conflicts or address previously unforeseen needs of the rapidly innovating financial markets.

Lastly, and the greatest potential problem for an exercise of this kind that attempts to address a broad range of regulatory concerns, is that rules and regulations drawn from general lessons can potentially suffer from failing to be properly adapted to special local conditions. Prudential regulations certainly should not become one-size-fits-all policies that are applied in a Procrustean manner.

These objections to financial market regulation are valid concerns about almost anything that is done by a public authority. It is not at all unique to the subject of regulating financial markets. Moreover, these are concerns and not necessarily condemnations. The popularity of cynical views towards the role of the government in the economy is in many ways like so many other prejudices and beliefs. Much of this cynical views owes much to the policy ignorance of its adherents.

In most cases, the regulatory process is not expensive in comparison to the size of the market and the value of services provided there. And the expense is cheap in comparison to the cost of a financial crisis.

The effectiveness of the process of writing and administering rules and regulations can be improved through democratic process that provide for the input of the regulated entities and market participants as well as the broader public. These efforts can also ensure that the rules and regulations are amended with sufficient frequency to keep them from getting too far apace with developments in the financial markets. Likewise, these inputs into the rule making process will help prevent bone-headed misapplication of policy rules to circumstances that are inconsistent with the premise of the lessons. Lastly, the fear of Procrustean policy making will be mitigated over time by the worldwide integration of financial markets will have the effect of making the market more and more like each other over time.

## Section IV: Policy Comparison

This chapter is designed to assess the relative merits of prudential regulation by a comparison to other policy approaches. The most important, and contrasting, of these is the laissez-faire approach which has supported the drive for financial market deregulation for the past two decades. The other two sets of policies discussed below in this chapter have emerged from the debate over the international financial architecture. This chapter compares the effectiveness of prudential market regulation in also achieving the goal of stabilizing these international capital flows.

### Comparison of Prudential Regulation to Laissez-Faire

It is a widely known tenet of neo-classical economics that completely unregulated and untaxed markets are the *first-best policy* in a world where markets are perfectly competitive, efficient, prices are fully flexible and there are no distortions. I use the terms extreme laissez-faire or free market fundamentalism to describe this policy.

A policy proposal based on the general absence of something, rather than the particular presence of government regulation and taxes, makes it difficult to describe. Perhaps the best that can be done is to state what it would not be. This laissez-faire policy would not include capital requirements, collateral requirements, reporting requirements, registration requirements or orderly market rules.

In developing countries, the IMF adopted this laissez-faire neoclassical economic approach and succeeded in using its stature and authority to implement this policy throughout most of the developing world. This usually entailed the removal of many financial market regulations that previously prevented, restricted, taxed or otherwise hampered the free mobility of capital. This policy became known as “capital market liberalization” or “neo-liberalism”.

The benefits claimed by the proponents the free market policy proposal include greater market efficiency, unfettered innovation and lower costs of government outlays and private sector compliance. They argue that in contrast, government restrictions inherently reduce innovation. To some extent this is an irrefutable truth: any restriction can potentially restrict some desired activity such as innovation. In so far that innovation is a good thing, it would be better to not hinder it.

There is another point regarding the fettering of innovation that should be kept in mind. The process of creating, maintaining and reforming financial market regulations is a political process and that process – even in undemocratic nations – is usually more responsive to the financial institutions than working people or the common consumer. When regulations are not promptly reformed in accordance with the need for markets to adopt some useful innovation, it is sometimes the result of one group of firms or sector of the financial industry trying to prevent the reform in order to prevent another firm or sector from gaining a competitive advantage from the innovation.

The cost of government supervision and enforcement, and the cost of private sector compliance to regulation, is also an irrefutable truth. The point, however, is to properly assess those costs and compare them to the benefit they generate. When poor or harmful regulations fail to generate an economic benefit then their costs are truly onerous.

Along with the intended benefits, they are list below in Table 2. They follow from the absence of requirements for registration, reporting, capital and collateral.

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**Table 2**  
**Laissez-Faire Approach**

**Intended benefits or goals**

- • Efficiency
- • Competition
- • No administrative costs (neither government outlays nor private sector compliance costs)
- • Unfettered innovation

**Likely policy problems**

- • Insufficient capital
  - • Insufficient collateral
  - • Fraud and manipulation
  - • Insufficient transparency
  - • Failures so frequent or large that they disrupt the entire marketplace
  - • Uninformed investors – investment based on rumor and hearsay
- 

## **Comparison of Prudential Regulation and Capital Controls**

Capital controls, briefly stated, are prohibitions or restrictions on capital flows into or out of a country. The controls are administered by such means as taxes or licenses on the transfer of money across borders. They can be placed on inflows or outflows or both, and they can be announced as temporary or permanent. They can also be tailored to apply to (or to exempt) any specific or all types of capital flows, such as trade credits, foreign direct investment, security flows (portfolio investment), bank loans and even foreign currency derivatives. They can apply to residents, foreigners or both. The administration of the capital controls is usually handled by the central bank or minister of the treasury or finance. Capital controls can be enforced by a process of preapproval (essentially a licensing or tax-withholding arrangement), self-enforcement (with oversight) or ex post facto reporting requirements.

There are some recent examples of the use of capital controls. Malaysia employed them in 1994 to reduce the inflow of capital, and again in 1997-98 to reduce

the outflow of capital after they were swept up in the East Asian financial crisis. The latter effort was considered by many to be successful in mitigating the effects of the 1997 crisis. Brazil imposed curbs on capital inflows beginning in October 1994 in order to stem the pressure of capital inflows caused by the tight monetary policy under the “Real Plan.” Brazil’s capital controls took the form of an increase in the interest penalty tax for issuing foreign bonds from 3% to 7% and a 1% tax paid by foreign investors to purchase investments in Brazilian equities.

Chile adopted an innovative approach to controls in the 1990s when they imposed reserve requirements, as a fraction of net new flows, to be held for one year on new capital inflows. The non-interest bearing reserves were deposited at the central bank. This offered Chile both a larger buffer stock of foreign reserves and an interest-free loan. The reserves were returned into the investor if the funds were not withdrawn from Chile within the one-year period. Although this policy has been credited with helping Chile avoid the harsh impact of the financial crisis in 1997 and 1998, Chile has since abandoned the controls.

Another good case study is that of India which gradually relaxed its capital controls over the 1990s. An analysis of this process, the heterogeneous character of this policy and its effect on capital mobility is provided by Nayyar (2002, page 111).

*The forms of capital controls are manifold. There is a complete prohibition of some transactions. Other transactions require prior approval. And yet other transactions are subject to limits specified in terms of either value or time or both. It is also possible that discriminatory taxes may be imposed on some transactions. Similarly, reserve requirements may be stipulated or interest penalties may be imposed to regulate the execution or the conclusion of some transactions.*

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**Table 3**  
**Capital Controls**

**Intended benefits or goals**

- • Preemptive restrictions on inflows of international capital flows to lead to distortion in domestic financial markets of developing countries
- • Thwart destabilizing outflows of international capital flows
- • Encourage long-term investment

**Likely policy problems**

- • Enforcement problems
    - • Leakages through derivatives and other near-credit transactions
    - • Leakages through transfer pricing
    - • Leakages through smuggling
  - • Credibility of government’s commitment to policy
  - • Discrimination and corruption
- 

The goals, or intended benefits, of capital controls include the following.

1. 1. Restrict capital inflows in a preemptive manner in order to prevent a massive surge in short-term foreign bank lending and portfolio investment flows that

- might lead to disruptive escalation in stock markets or real estate markets or that might lead to an over-appreciation in the exchange rate.<sup>18[18]</sup>
2. Thwart massive outflows of capital such as *hot money* in order to protect the central banks foreign reserve holdings, stem a financial crisis or to support a foreign exchange rate target. This approach would presumably be used ex post facto. Outflow restrictions might be used in an attempt to prevent a run on a currency that would collapse a fixed exchange rate regime, or post-crisis to prevent further capital outflows following a devaluation.
  3. Encourage long-term, as opposed to short-term, investment, or alternatively encourage foreign direct investment as opposed to portfolio investment or foreign bank lending. This approach would presumably employ taxes (explicit or implicit as in Chile) that would bias the returns on certain types of capital flows or investments.
  4. Maintain domestic control of publicly traded corporation by limiting the percentage of foreign ownership by any one foreign investor and by an overall limit on foreign ownership.<sup>19[19]</sup>
  5. Preempt inflows or outflows by using “trip wires” that automatically, or at the discretion of the government, would impose restrictions on capital flows.<sup>20[20]</sup>
  6. Serve in a transition role to allow developing countries to build proper regulatory institutions and develop their own sophisticated financial system prior to opening their capital accounts to liberalized capital flows.<sup>21[21]</sup>

There are some problems with capital control policies. Perhaps the largest problem is due to *leakage* from the use of derivatives, securities lending, repurchase agreement and other financial transaction to create loans or other credit like capital flows. Malaysia’s capital control in 1994 were extended to a large array of financial transactions, and this can have the undesirable consequence of preventing domestic investors from employing normal risk management techniques. One more is with the difficulty of *enforcement*. The fungibility of money allows investors to dodge the restriction by using false documents for international trade and or by outright currency smuggling. Another is difficulty in *non-discrimination* in administering the controls, and the likely exemptions to them, in the public interest and not distorted by bribery, corruption, or political considerations. Yet another problem involves the *credibility* with which the government announces the terms of the controls. The following paragraphs will explain each of the above points.

### **Enforcement**

Unless they are explicitly prevented from doing so, investors can use foreign exchange swaps to fabricate a foreign bank loan.

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<sup>18[18]</sup> ) A rapid price escalation is sometimes called a bubble, but that term would be better applied more narrowly to price increases caused by self-fulfilling expectations and fueled by leveraged.

<sup>19[19]</sup> ) See Nayyar, Deepak (2002) for a good description of this policy in India.

<sup>20[20]</sup> ) See Ilene Grabel (2001) for a discussion of the merits to this type of policy.

<sup>21[21]</sup> ) See Eichengreen (1998).

Exchange controls are those applied to transactions in foreign exchange – regardless of the intended use of foreign exchange. Capital controls are those applied to direct investment, security transactions and lending activities. They are not necessarily distinct.

## Comparison of Prudential Regulation and Transactions Taxes

Transactions taxes, briefly stated, are small tax rates applied to transactions in foreign currency and possibly also to transactions in securities, derivatives and other financial instruments.<sup>22[22]</sup>

The argument in support of the transactions tax proposal is as follows. One premise is that a large of transactions, especially in foreign currency markets, are conducted by a “speculator” and the consequence of their activity is to generate greater volatility in exchange rates. Alternatively, foreign exchange markets are used by speculators as a necessary step in their cross-border speculation in developing countries – leading to what is called “hot money” – and this causes greater volatility in developing financial markets.<sup>23[23]</sup>

Based on this premise, the imposition of a transactions tax will raise the cost of speculation and in turn the volume of transactions.<sup>24[24]</sup> In turn, this reduced trading volume will reduce the volatility in prices of the instrument or instruments being traded. Internationally it will reduce the volume and volatility of capital flows – especially those to developing countries – that begin with or otherwise require transactions in foreign currency. Furthermore, the reduced volume of transactions will discourage speculative attacks on fixed exchange rate regimes and enhance the ability of central banks to maintain or defend regimes.

In addition to the reduction in price and flow volatility, another important benefit of the transaction tax would be to raise substantial amounts of revenue that could potentially be directed towards financing additional foreign aid or investment in developing countries. Even with the imposition of a small tax rate and a substantial reduction in trading volume, the remaining volume would potentially raise a large amount of revenue that is estimated in the hundreds of billions of U.S. dollars.

The idea is most closely associated with the late Nobel laureate for economics, James Tobin, and is often referred to as a Tobin Tax.<sup>25[25]</sup> As he described it in Tobin

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<sup>22[22]</sup> ) Some goods summaries of the proposal include: Palley (1999,2001), Baker (2000), Pollin, et al (2002)

<sup>23[23]</sup> ) The premise has been criticized on a theoretical level by Randall Dodd (2001) and Paul Davidson (1997, 1998).

<sup>24[24]</sup> ) There might need to be some experimentation with the tax rate in order to get the desired effect.

<sup>25[25]</sup> ) Tobin, James. 1974. “The New Economics, One Decade Older.” *The Janeway Lectures on Historical Economics*. Princeton, Princeton University Press. An alternative source is Tobin’s Presidential Address to the Eastern Economics Association, see Tobin (1978).

(1978), “my proposal is to throw some sand in the wheels of our excessively efficient international money markets.” His primary motivation for the policy, however, was not to reduce volatility or finance development, but rather to enhance the effectiveness of monetary and fiscal policy. The “efficiency” of capital mobility was otherwise diminishing the effectiveness of those policies, especially monetary policy whose impact occurred largely through its effect on exchange rates and their impact on the trade balance.

However the idea can be traced back to at least 1936 when Keynes wrote in *The General Theory* about his opposition to the distortions of speculators in financial markets.

“The introduction of a substantial Government transfer tax on all transactions might prove the most serviceable reform available, with a view to mitigating the dominance of speculation over enterprise in the United States.”<sup>26[26]</sup>

Keynes’ views towards speculation were formed prior to passage of Securities Acts of 1933 and 1934. That legislation introduced reporting requirements to financial markets in the U.S., which changed market fundamentals by providing for greater market transparency and thereby the basis for informed investing instead of that based on rumor and hearsay. Even though Keynes visited New York City in the summer of 1934, it is most likely that the effect of this new legislation did not attract his attention, and neither the legislation nor its consequences were mentioned in the *General Theory*, the first draft of which was completed in late 1934.<sup>27[27]</sup>

The idea was more recently picked up and pursued by such notable economists as Larry Summers,<sup>28[28]</sup> who was later to become U.S. Treasury Secretary, and Joseph Stiglitz who was to become Chair of the Council of Economics Advisors and Nobel Laureate.<sup>29[29]</sup> Summers has since changed his view. Whereas Keynes had based his argument on a “behavioralist” approach to financial markets, Summers and others based theirs on a “noise trader” model of financial markets.

The transactions tax rates most usually proposed as remedies to volatile international financial transactions range between 0.05% and 0.25% of principal. Although the rate is small, it would amount to a very large increase in current transactions costs since bid/ask spreads in the interdealer market are about four ten-thousands of principal (0.04% or 4 pips).

Transactions taxes already exist to a small and limited extent in the U.S. and are applied to transactions in publicly traded securities, futures and options. The long

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<sup>26[26]</sup> ) Keynes, John Maynard. 1936. *The General Theory of Employment, Interest and Money*. Harvest/Harcourt

Brace Jovanovich. London. p. 160.

<sup>27[27]</sup> ) Sir Harrod states that “By the end of 1934 the first draft of the *The General Theory of Employment, Interest and Money* was complete.” Harrod, R.F. 1951. *The Life of John Maynard Keynes*. Avon for St. Martin’s Press. New York.

<sup>28[28]</sup> ) Summers, Lawrence and Victoria Summers. 1990. “The Case for a Securities Transactions Excise Tax.” *Tax Notes*, August 13, 1990.

<sup>29[29]</sup> ) Stiglitz, Joseph. E. 1989. “Using Tax Policy To Curb Speculative Short-Term Trading”, *Journal of Financial Services*, 3, pp. 101-113.

standing transactions fee for securities<sup>30[30]</sup> of 1/300 of 1% -- 0.0033% -- raised \$476 million in 1998. That fee was reduced by the Investor and Capital Markets Relief Act of 2001, and by December 28, 2001 it became 1/666.67 or 0.0015% or \$15 per \$1,000,000 transaction in securities. The fee is collected by the Self-Regulatory Organizations – namely the New York Stock Exchange and National Association of Securities Dealers – and goes to cover the cost of the Securities and Exchange Commission.

A somewhat similar fee is charged on the public trading of futures and options on behalf of customers (non-exchange members). Such public trading amounts to 23% of the total trading volume on U.S. futures exchanges.<sup>31[31]</sup> The fee is charged by the National Futures Association in order to cover its operating costs. The fee was recently lowered on April 1, 2002 to \$0.10 on round-trip trades in futures and \$0.05 in options (those fees are scheduled to be reduced to \$0.08 and \$0.04, respectively). It is not a tax or a fee required by federal statute, but rather a fee imposed by the NFA based on its authority as a Congressionally authorized Self-Regulatory Organization.

Both the securities and exchange-traded derivatives fees (or taxes) are very, very small – far less than one basis point or 1/10,000 of principal or notional principal. They are in fact so small that their existence does not bear significantly on the debate because they have no apparent effect on impeding transactions volume in U.S. equity and futures markets where volume is the highest in the world. They are mentioned merely to recognize them as a precedent in highly liquid financial markets. And as a precedent, it is worth noting that the derivatives transaction fee is *not* assessed on transactions between exchange members, i.e. on the core, liquidity trades in the market.

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**Table 4**

**Global Transactions Tax**

**Intended benefits or goals**

- • Reduce trading volume and thereby volatility of exchange rates and international capital flows
- • Reduce speculation and speculative attacks on currency regimes
- • Encourage long-term investment
- • Raise revenue for development and other purposes

**Likely policy problems**

- • Political problems
  - • Requires broad coalition of countries to cooperate
  - • Incentives for free-riders to cheat or not join system
  - • Overwhelming opposition in the U.S. alone
  - • Hard to force money-center countries to share revenue with developing countries

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<sup>30[30]</sup> ) The fee was introduced in Section 31 of the 1934 Securities Exchange Act, and they are known as Section 31 fees on transactions.

<sup>31[31]</sup> ) According to the National Futures Association, 2002.

- • Administrative
    - • Leakages – must apply to a broad range of financial instruments
    - • Enforcement across national borders
    - • Record keeping
    - • Redistributing revenue
  - • Effectiveness
    - • Likely to reduce market liquidity and raise volatility
    - • Unlikely to prevent speculation over large price movements and thus not discourage speculative attacks against less liquid markets
    - • Will likely promote the use of the U.S. dollar a single world currency
    - • It will not make foreign debt repayment any easier
- 

The goals, or intended benefits, of transactions taxes include the following:

1. 1. Reduce the volume of foreign exchange (and possibly other) transactions, and thereby reduce the volatility of foreign exchange rates (and possibly other prices).
2. 2. Reduce the volatility of international capital flows or the volatility in other financial markets linked to the foreign exchange market.
3. 3. Reduce the returns to short-term speculation and thus the amount of speculation and the likelihood of a speculative attack on currencies.
4. 4. Reduce the volume of speculative flows of “hot money” and other short-term investments.
5. 5. Encourage long-term relative to short-term investment.
6. 6. Raise substantial revenues for development by discouraging the activities that have thwarted development in the past decades.

These goals are highly laudable, and they help explain why there are so many supporters of this proposal. However, there are also problems with the proposal. They include the tremendous political challenge of raising a uniform tax around the world, the feasibility of administering the collection and distribution of the tax, and more fundamentally whether the premise for the policy is correct and thus whether the policy would in fact be effective in achieving its claims.

Policy problems include:

- a. a. *Many countries must join in order to avoid substantial leakages. The rise and rapid growth of the Eurodollar market is an indication of the volume of transactions that can occur outside a system of central bank members. And size of assets deposited in off-shore tax havens is an indication of the potential to move trading activity outside the Euro-Yen-Dollar realm of regulation.*
- b. b. *Any effort to arrange such a tax treaty will have to overcome the incentives for free riders to refuse participation or to cheat once they agree to join.*

- c. *c. A transactions tax will need to apply to a wide array of financial instruments, especially derivatives, in order to prevent substitution.*
- d. *d. There are powerful vested interests that have not yet begun to oppose transaction taxes of any sort.*
- e. *e. There is a very powerful, if not overwhelming, opposition to any tax increase in the United States, and without the U.S. the proposal could not be successful.*
- f. *f. Most of the revenue will be collected by the wealthy countries in the Euro-Yen-Dollar realm, and it will be difficult to direct those revenues towards developing countries or development purposes.*
- g. *g. It will create incentives to further dollarize the developing world in order to save on transactions costs.*

Administrative and enforcement problems include:

- a. *a. Enforcing the tax across national boundaries.*
- b. *b. Keeping track of all foreign exchange (or other) transactions across national boundaries and thus across national jurisdictions.*
- c. *c. Stopping the leakages through derivatives and other substitute transactions or through non-participating countries.*
- d. *d. Enforcing distribution of tax revenue.*

Problems with uncertain policy outcomes include:

- a. *a. It is likely to reduce liquidity since it is essentially a tax on liquidity.*
- b. *b. Reducing liquidity is likely to raise the volatility of exchange rates or other prices.*
- c. *c. It is unlikely to prevent speculation based on likelihood of large changes in prices, i.e. speculative attacks on fixed exchange rate regimes, because the tax is small in comparison to the expected movements in prices.*
- d. *d. It will further advance the U.S. dollar as the world currency.*
- e. *e. It will not prevent or discourage the carry trade (interest rate arbitrage) or speculation on other instruments.*
- f. *f. It will not make foreign debt repayment any easier, and will likely make it more expensive.*

## **SUMMARY COMPARISON**

In comparison to transactions taxes, prudential market regulations will more accurately address the policy target without generating unwanted collateral problems. Prudential regulations will discourage, and to some extent limit, speculation,

Transactions taxes create disincentives to trade and most of all are a tax on liquidity trading (which accounts for 80% of transactions in many financial markets). In contrast, prudential regulations can create limits and disincentives for holding large open positions – i.e. actually taking on the speculative positions – whereas transactions taxes raise the cost of building a speculative position by no more than trading for liquidity or for trade or long-turn investment.

Transactions taxes do not prevent, or even substantially discourage, speculative attacks or speculation in anticipation of a major currency devaluation. Even transactions tax proponents such as Tom Palley (2001, p. 74) admit to this short-coming. Prudential regulations would directly address this speculation in several ways, and it would do so in a way that would not make markets less liquid. And in so far that financial markets become less liquid, then they are more susceptible to manipulation or more prone to speculative attacks.

An alternative tax policy that would more directly discourage short-term speculation would be the imposition of a capital gains tax – one that might tax gains on short-term investments at a significantly higher rate than long-term investments – that would reduce the returns from both short-term noise trading and the speculative attacks that arise at the moment fixed exchange rate systems come close to crisis. Such a tax already exists in the U.S.. Its application and enforcement mechanism could be strengthened so that it applied to international transactions. A similar tax could be extended to the European Union and Japan and further justified in the name of tax equity or a level playing field.

Whereas transactions taxes would curtail so-called “noise trading,” i.e. trading that might be otherwise described as intra-day speculation and inter-dealer liquidity trading, this is not the source of a major public policy problem. Even if noise trading were the cause of moment-to-moment or day-to-day volatility, it is not this high frequency volatility but instead the greater magnitudes of volatility that occur over a longer horizon (or lower frequency) that is of substantial consequence to the macroeconomy and the public interest. Arguments that noise trading is essential for “trend investing,” which pays-off over the term of the trend, is inconsistent with the assumption of short-term round-trip noise trading. In contrast, prudential regulations would discourage excess speculation on both short-term fluctuations and longer-term trends.

Prudential regulations, in contrast, would not reduce volume and market liquidity, and in addition they would enhance market transparency and that would reduce both short-term and long-term volatility.

“Hot money” or excessive capital flows in the form of short-term bank credits, could better be discouraged by prudential regulation. Transaction taxes, even at the higher end of most proposals of a 25- or 30-basis points,<sup>32[32]</sup> would not prevent developing countries from borrowing in dollars or U.S. banks from lending in dollars because the interest rate differential is often 500 to 1,000 basis points. Consider an example in which a 90-day foreign currency loan is advanced and repaid times in a year. Assume each advance and repayment involved a foreign exchange transaction that is

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<sup>32[32]</sup> ) Foreign exchange is normally quoted in ten-thousandths of a dollar (\$0.0001) or a unit of some other currency. The term “pip” is often used to mean the last digit in the price (expressed in ten-thousandths) or some say a “principle interest point” which is equal to one ten-thousandth. In much of the literature on the transaction tax, the term basis point is used to refer to this ten-thousandth (0.0001 = 0.01%).

taxed at the 25-basis point rate. The eight transactions would add roughly 200-basis points to the cost of the investment. This disincentive may not be decisive if spreads are in the range of 500- to 1,000-basis points. More likely, the act of rolling-over loan would not require a foreign exchange transaction at the start and end of each loan. In this event, the tax would be applied only at the beginning and end of the year, at total of 50-basis points, and this would be a small disincentive in comparison to potential spread from carry lending. Capital requirements that limit currency exposure would more directly discourage such excess borrowing and lending.

**Automatic circuit breakers.** One variant of the transaction tax, designed by Paul Bernd Spahn (1995, 1996), proposes a two-tiered transaction tax that would apply a very low tax rate during period of market normalcy (defined by an exchange rate band) and a very high tax rate that would be triggered by a surge in market volatility (defined by a movement beyond the band). Although Spahn is not supportive of the currency transaction tax as proposed by Tobin, which he states would “impair financial operations and create international liquidity problems,” he thinks the two-tiered tax would solve these problems. He proposes applying a very small transactions tax rate, between zero and one basis point, to currency transactions that occur when the exchange rate is within a band that is set according to acceptable level of volatility. This would avoid impairing liquidity when trading is within the accessible range of volatility (although this means that it would not curtail the “noise trading” that is maligned by most transaction tax proponents). If the exchange rate moves beyond that band, meaning that volatility has increased beyond the acceptable level, then a substantially higher transactions tax would apply to the transaction (the higher tax rate would apply to the amount in excess of the band so that the effective tax cost would rise as the exchange rate moved further beyond the band).

This is an interesting innovation on the transactions tax proposal. It solves one problem by not impairing liquidity but it creates another. Investors are likely to accelerate their reactions to large movements in the exchange rate because they do not want to wait and get hit with a punitive tax. Faced with the threat of a high tax rate, investors will have incentives to sell as the exchange rate depreciates towards the band (or buy as it appreciates towards the band). The consequence of this incentive will be to increase the rate of selling (or buying, respectively) and not discourage it. Thus the Spahn proposal might in fact act as a *crisis accelerator* by inciting an early rush to sell (or buy) prior to the imposition of the higher tax rate.

In contrast, there are a couple of prudential regulations that have proven to be effective in the U.S. at curtailing disruptive or potentially explosive price movements in the market.<sup>33[33]</sup> They vary between futures and securities markets, but they all involve price limits or “circuit breakers” that trigger a temporary or day-long cessation of trading or at least computer program trading. These have long been a feature of futures

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<sup>33[33]</sup> ) It should be kept in mind that price limits are not intended to solve long-term problems or those based on major changes in market fundamentals, but are instead designed to prevent brief or very rapid price changes from creating problems in and of themselves.

exchanges, and they were introduced to U.S. securities markets in the wake of the stock market crash in October of 1987.

Of course, prudential regulations will not raise tax revenue for development or any other purpose. If transactions taxes are viewed as a means of raising tax revenues, then it certainly is a potentially large tax base. Yet alternative tax policies, such as the capital gains tax, would not have the potential to impair the orderly functioning of financial markets.

## Comparing Aqueducts and Sewers to Dams and Trolls

The goals of proposals to reform the international financial architecture were to increase the stability of financial systems around the world and reduce the vulnerability of developing economies to disturbances in those systems. These proposed policy tools include capital controls such as the Chilean style speed bumps for short-term capital inflows or the strict controls by practiced by the Malaysian government. They also include “sand in the gears” policies to slow down cross border transactions by imposing transactions taxes such as the Tobin Tax proposal. These approaches put the government into the position of constructing a **dam** to restrict the volume of capital flows or put it in the role of a **troll** to tax flows over the international bridge or through the lock in the dam.

Prudential market regulation, although it draws some of its lessons from the history of the financial market regulation in advanced capitalist countries, is a substantive break from the *neo-liberalism* advocated by a free market fundamentalism. Prudential regulation will accomplish much the same goals that capital controls and transactions taxes claim to achieve, only without the latter’s litany of problems or the former’s limitations. Instead of quantitative restrictions, it employs a combination of regulations and surveillance to improve the efficiency and stability of financial markets in advanced as well as developing economies. While it is based on the experience of regulating financial markets in advanced economies, these lessons have to be adapted to the particular needs of developing economies.

This goal of this approach is not to directly control the quantity of capital flows, but rather to try and shape the **quality** of these flows. In doing so it will undoubtedly impact the quantity – and that may well be a good thing – but it will do so by discouraging and restricting certain forms of capital flows that have proven destructive in the past. In this way, the approach can be characterized as shunning the construction of dams and in their place erecting **aqueducts** and **sewers** in order to make distinctions between the type of flows and to channel flows towards and alternatively away from the appropriate targets.

## Section V: Conclusion

In recapping the above discussion, the chapter explains that the virtue of prudential regulation is to not only improve market efficiency but also reduce the vulnerability of the overall economy to disruptions in domestic and foreign financial sectors. This was followed by a series of comparisons to alternative policies such as laissez-faire, capital controls and global transactions taxes. The analytical comparison clarified the relative merits of prudential regulations and thus provided a more clear assessment of how these proposals should be ranked as a policy tool for improving the international financial architecture.

Prudential regulations applied to developing countries were shown to have the five following virtues. First, they are powerful tools to accomplish a great range of things. Laissez-faire blindly trusts markets, and cynically distrusts government, and thus foregoes the prospect of making things being better. The other policies were too limited, although capital controls are powerful in dampening inflows during a surge and outflows during a crisis. The second virtue is that they effectively dampen surges of capital inflows. They do so in more subtle but also more durable ways than capital controls. Thirdly, they have the virtue of shaping the composition in favor of long term investment. The fourth virtue is their effectiveness in improving market efficiency. Lastly, the fifth virtue is their political feasibility – they can be enacted through unilaterally efforts by each developing country.

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