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**TAXATION OF INTERNATIONAL PRIVATE CAPITAL FLOWS AND
SECURITIES TRANSACTIONS IN DEVELOPING COUNTRIES:
DO PUBLIC FINANCE CONSIDERATIONS AUGMENT THE
MACROECONOMIC DIVIDENDS?**

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Ilene Grabel

Associate Professor of International Finance

Permanent address:

Graduate School of International Studies

University of Denver; Denver, CO 80208, USA

Office: 303/871-2546; FAX: 303/871-2456

Internet: igrabel@du.edu

Note mailing address, 1 June-5 September 2005: 5614 Montview Blvd.

Denver, CO 80207, USA. Internet: igrabel@du.edu

Abstract

This paper examines policies to tax international private capital flows and securities transactions in developing countries. Many recent studies focus on the macroeconomic dividends associated with these policies (namely, their contribution to macroeconomic and financial stability and lengthened investor time horizons). In this paper I explore whether the potential of these policies to raise much-needed tax revenues in developing countries augments their well-known macroeconomic benefits. To my knowledge, there has been no effort to examine systematically the public finance issues related to the taxation of international private capital flows or securities transactions in the developing country context. I conclude that the public finance implications of these policies in middle-income developing countries offers additional support to the macroeconomic case for them. To different degrees, taxation of international private capital flows and securities transactions has the potential to raise modest revenues in middle-income countries. However, far more important is the potential of these policies to offer valuable macroeconomic dividends on the national level. These national macroeconomic dividends have the potential to bear fruit globally. This is because experiences with financial contagion over the last decade suggest that global financial stability can be enhanced via the promotion of domestic financial stability in developing countries.

JEL classifications: E62, F33, F42, O16

Key words: tax revenue in developing countries; stock markets; securities transactions taxes; taxation of international private capital flows; development policy; macroeconomic stability

1. Introduction

This paper examines policies to tax international private capital flows and securities transactions in developing countries.¹ Many recent studies--including some that I have authored--focus on the macroeconomic dividends associated with these policies (e.g., Grabel, 2003b, 2003c; Epstein, Grabel & Jomo KS, 2003; Arellis & Sawyer, 1999; papers in Weaver, Dodd & Baker, 2003). In this paper I explore whether the potential of these policies to raise much-needed tax revenues in developing countries augments their well-known macroeconomic benefits (namely, their contribution to macroeconomic and financial stability and lengthened investor time horizons). To my knowledge, there has been no effort to examine systematically the public finance issues related to the taxation of international private capital flows or securities transactions in the developing country context.²

I conclude that the public finance implications of these policies in middle-income developing countries offers additional support to the macroeconomic case for them. To different degrees, taxation of international private capital flows and securities transactions has the potential to raise modest revenues in middle-income countries. However, far more important is the potential of these policies to offer valuable macroeconomic dividends³ in the form of enhanced macroeconomic and financial stability and lengthened investor time horizons. These national macroeconomic dividends have the potential to bear fruit globally. This is because experiences with financial contagion over the last decade suggest that global financial stability can be enhanced via the promotion of domestic financial stability in developing countries (Grabel 2003b; see also Eatwell & Taylor, 2000).

2. The Taxation of International Private Capital flows: Lessons from Chilean (1990-1998) and Colombian Experiences (1993-1999)

The most successful and widely studied experiences with policies to tax international private capital flows are offered by Chile and Colombia. During the 1990s, these two countries implemented financial policies that have come to be known as the “Chilean model,” a term that has been used to refer to a multi-faceted financial policy regime that Chilean and Colombian authorities began to implement in mid-1990 and September 1993, respectively.⁴ Though there were national differences in policy design, financial policies in Chile and Colombia shared the same principal objectives. These were to balance the challenges and opportunities of global financial integration, to stabilize and lengthen the maturity structure of capital inflows, to mitigate the effect of large volumes of inflows on the currency and exports, to protect the economy from the instability associated with speculative excess and the sudden withdrawal of external finance, and to enhance the autonomy of monetary policy.

The objectives of the Chilean model obviously are consistent with a (post-) Keynesian theoretical approach to macroeconomics. They also very much reflect the experience of policymakers in Chile and Colombia in the preceding two decades with problems of severe currency and banking instability, financial crises, high levels of external debt and capital flight, and low levels of investor confidence.

In mid-1990, the existing stamp tax on domestic loans in Chile was extended to foreign loans. Beginning in June 1991, Chilean authorities imposed a non-interest bearing reserve requirement of 20% on new foreign borrowing (this is commonly referred to as the unremunerated reserve requirement or URR). Over time, the level of the URR was raised and its scope extended. The URR functioned like a tax on international capital inflows since the funds were held at the Central Bank for one year in a non-interest bearing account. Colombia’s inflows management policies were similar to those in Chile. Beginning on June 27, 1991, Chilean authorities announced

an alternative means of satisfying the URR. This alternative allowed borrowers and later investors to pay an up-front fee equal to what the Central Bank determined was an amount equal to the financial cost of the URR. The fee could be paid in the form of a promissory note with a repurchase obligation at a discounted rate priced at LIBOR plus 2.5% in 1991 and LIBOR plus 4.0% on October 30, 1992. Changes in the level, scope and method of payment of the URR during the lifespan of this policy regime were made in response to changes in the economic environment (particularly, changes in the volume and composition of inflows) and to identified channels of evasion.⁵

Colombia's inflows management policies relating to foreign borrowing were similar to (though more complex than) those in Chile. As in Chile, the level and scope of inflows management was adjusted numerous times during the lifetime of the policy regime (LeFort & Budenvich, 1997). Beginning in September 1993, the Colombian Central Bank required that non-interest bearing reserves of 47 per cent be held (at the Bank) for one year against foreign loans with maturities of eighteen months or less (this was extended to loans with a maturity of up to five years in August 1994). As in Chile, the option existed of paying the URR up-front through the repurchase (at a discount) of certificates issued by the Central Bank. As with Chile, regulations on international capital flows were gradually eliminated following the reduction in flows after the Asian crisis.

2.1. Revenues

To date, there is almost no attention paid in the literature to the revenue raised by the taxes associated with the Chilean model. To the extent that there are any data available on this issue, it relates to Chile and not Colombia. Indeed, Agosin and Ffrench-Davis, leading analysts of the Chilean model, write that these policies should "be judged by their prudential and regulatory value rather than by their revenue-

earning value" (1996, p.175). This is clearly the consensus view among analysts of the Chilean model, and may therefore explain the lack of attention to revenue concerns.

Gallego et al. (1999) is the only study that provides fairly detailed information on the revenues that stemmed from financial controls in Chile.⁶ They report that between September 1992 and September 1996, the URR (including the up-front payment thereof) in Chile raised sums ranging from \$US 1500 million to \$2000 million annually (see figure 1 for details). They report that the largest revenue harvest associated with these same policy instruments occurred in 1997 when these measures raised US\$2237 million, an amount equal to 2.9% of Chile's 1997 GDP and 30% of that year's net capital inflow (p. 5).⁷

<<FIGURE 1 HERE>>

Other studies mention in passing the revenues associated with various parts of the Chilean model. Agosin and Ffrench-Davis (1996, p.175) claim that from the time that they were imposed through the end of 1994, Chile's URR, the up-front payment of the URR, and the stamp tax raised revenues estimated at \$US 356 million or about 0.7% of Chile's 1994 GDP. These instruments raised funds of \$US 6.9 million in 1991, \$64.8 million in 1992, \$111.6 million in 1993, and \$172.2 million in 1994. Forbes (2002, p. 6) reports that between June 1991 and September 1998, collection of the URR in Chile (including the money in reserves and payment of the up-front fee) increased central bank reserves by an average of 2.0% of GDP or 40% of the capital account surplus.

The revenues raised by Chile's taxes on capital flows are not of an insignificant magnitude. Therefore taxes of this kind can be a potential source of revenue *for those countries that are successful in attracting private international*

capital flows. In practice, this excludes most low-income countries, since private capital flows to the developing world are highly concentrated in a small number of middle-income countries. Indeed, over the last 13 years, eight middle-income countries have accounted for 84% of total net flows of portfolio investment to the developing world; and ten countries received 70% of the FDI flows that went to the developing world in 2002 (World Bank, 2003). In 2003 this level of concentration remained (nearly) unchanged--for instance, in that year ten countries received 69% of the total FDI flows that went to the developing world (World Bank, 2004, p. 79).⁸ Even in the case of middle-income countries, the potential revenues from Chilean-style taxes are modest with respect to development needs. Such taxes must therefore be complemented by other measures that can yield greater pools of revenue.

2.2. *Macroeconomic Dividends*

It is important to acknowledge that the modest revenue benefits of the Chilean model augment the highly significant macroeconomic dividends associated with this policy. A large volume of empirical studies demonstrates the scope and significance of these macroeconomic dividends (e.g., Ffrench-Davis & Reisen, 1998; LeFort & Budenvich, 1997; Ocampo, 2002; Palma, 2000). The significance of these dividends has particular force for (post-)Keynesian economists in light of the value that they traditionally place on macroeconomic and financial stability, policy autonomy, and the time horizon and composition of investment. In the post-Asian crisis environment, these concerns are very much in the minds of many neo-classical economists as well.

In particular, studies of the Chilean model find that following implementation of regulations in both countries, the maturity structure of foreign debt lengthened and external financing moved from debt to FDI (e.g., LeFort & Budenvich, 1997; Gallego et al.; 1999).⁹ The model enabled policymakers to maintain relatively autonomous

monetary policies and some growth-oriented fiscal policies because of the protection from capital flight afforded by their financial controls (LeFort & Budenvich, 1997). The insulation afforded to both countries by their financial controls also meant that monetary authorities were able to navigate the transition to a floating exchange rate rather smoothly. Perhaps the most significant macroeconomic dividend is the protection it affords developing countries from international financial crisis (see Grabel, 2003b). Both Chile and Columbia remained stable during the Mexican and East Asian financial crises of the 1990s, even while other developing countries in these regions suffered severe contagion.¹⁰

Were this model widely adopted, such as through policy coordination under the auspices of a new multilateral agreement, there is good reason to expect greater international financial stability. Hence, the model entails a substantial incentive for policy coordination across developing countries, as countries seek the global macroeconomic dividend that this policy regime promises. Whether this policy coordination is undertaken in practice is a matter of political will (see section 4 for further discussion of policy coordination.)

2.3. Public finance and political economy considerations

I consider here the issues of tax incidence and possible constraints on the use of the Chilean model in middle-income developing countries. The taxes associated with the Chilean model are progressive, both internationally and domestically. On the national level, they are directly borne in the first instance by the firms that have access to international private capital flows. In developing countries, these are typically the largest firms, since smaller firms are largely excluded from foreign capital markets.

The precise final incidence of the tax is more difficult to predict, of course. But the incidence of the tax would be measurably more progressive today than several

decades ago. This is because of the trade liberalization of the latter half of the 20th century, which has substantially increased price competition for goods and services in developing country economies, and thereby reduced the ability of firms to pass taxes onto consumers. As trade liberalization deepens in the future, the incidence of the tax would continue to shift from consumers to firms' shareholders. Moreover, to the degree that large firms can and do raise prices to shift the tax burden onto consumers, small domestic firms (without access to foreign capital markets) benefit. On the international level, the burden of the tax falls on foreign investors—typically large, wealthy private investors and mutual fund shareholders.

In recent decades, the national and international political climate has certainly not been conducive to the widespread adoption of the Chilean model in developing countries. Moreover, recent research by Forbes (2002) suggests that the implicit costs of the URR in Chile were rather high.¹¹ The implicit cost of the URR for a three-month loan ranged from a low of 1.1% from January-April 1992 to a high of 10.3% in 1995 (with an average rate of 6.9% from 1991-1997), and the implicit cost of the URR for a six-month loan ranged from a low of 1.1% from January-April 1992 to a high of 5.1% in 1995 (with an average rate of 3.6% from 1991-1997) (Forbes, 2002: Table 1). Ocampo (2002:5) reports that from 1994-98, the implicit cost of the URR in Colombia was 6.4% for three-year loans and 13.6% for one-year loans. Given these implicit costs, we can expect that those sectors of the national business community most likely to be affected by the URR (namely, large firms with access to international markets) would oppose the imposition of such a tax.

However, national policymakers would do well to weigh any concerns about the microeconomic costs of the URR to some firms against the macroeconomic

dividends to the national economy as a whole. The URR performs quite well when assessed against this standard.

Externally, the IMF, World Bank and many neo-classical development economists have resisted national initiatives along these lines. But the success of Chile and Colombia in attracting foreign investment despite their controls, and in navigating the financial turbulence of the 1990s has won converts among many policymakers to the Chilean model. Empirical support for this model is also provided by recent economic research by both the IMF staff (e.g., Fischer, 2002; Prasad, Rogoff, Wei & Kose, 2003) and a rather large body of independent academics (e.g., Eichengreen, 1999; Kuczynski & Williamson 2003; see Grabel 2003b for additional references). In short, replication of the Chilean model across middle-income developing countries now seems much more achievable than just a few years ago.

It is clear that the success of the policies in Colombia and especially Chile were predicated on the ability of their central banks to close channels of evasion and respond to changes in the international economic environment. This level of institutional capacity is not without cost (as substantial staff attention must be devoted to monitoring) and, in any case, does not characterize the current capacities of central banks in all middle-income countries. However, central bank capacity can be enhanced through critical investments in education and training programs for bank staff, an investment that may offer valuable dividends in regards to the performance of the domestic financial system.¹²

3. The Taxation of Securities Transactions by National Governments

A securities transactions tax (or STT) is a levy imposed by national governments on the purchase and/or sale of securities. STTs can be assigned to the seller, to the buyer, or to both (a “two-way” tax). Keynes (1936), of course, was the

first to advance a case for a STT. Recently, the case has been revived, particularly among economists focusing on the US. Pollin, Baker and Schaberg (2002) is by far the most comprehensive such study of STTs in the US context (but see also Baker, 2001; Palley, 2001; Stiglitz, 1989; Summers & Summers, 1993).¹³ STTs can raise tax revenues at the national level and, more importantly (from a post-Keynesian perspective), can enhance the stability of financial markets by penalizing disruptive, speculative short-term trading.¹⁴

To date, economists have largely failed to make a case for STTs in developing countries, though such taxes are now or have recently been in place in 38 countries (see Table 1).¹⁵ One notable exception is India, where proponents of STTs recently criticized the Finance Minister's announcement on 21 July 2004 that he was radically reducing both the rate and coverage of the STT that he had presented to Parliament on 8 July of that year (Pal, 2004; Singh, 2004a, 2004b). Most major financial markets in the world, most smaller OECD countries, and several developing countries have also used STTs (see Pollin et al., 2002; Campbell & Froot, 1995). The most recent global survey of STTs appears in Pollin et al. (2002), and its summary table is reproduced below as Table 1. For example, as shown on Table 1, Argentina imposes a STT of .60% on all transactions in stocks, corporate and government bonds, and futures; Korea imposes a STT of .30% on stocks; and India imposed a STT of .50% on stocks and government bonds. (Note: as just noted, the rate and coverage of the tax in India have since been reduced).

<<TABLE 1 HERE>>

3.1. Revenue Forecasts

Unfortunately, no data are available regarding the revenue raised by STTs in the developing countries that presently have such policies. I therefore prepare

estimates of the revenue potential of STTs in all developing countries for which appropriate data exist (see Table 2).¹⁶

<<TABLE 2 HERE>>

I provide revenue estimates for two possible STT rates—.1% and .5%. The former represents the lower bound on securities taxes adopted in developing economies, while the latter has been frequently adopted by developing and developed economies. Many economists who have explored the rationale for a STT in the USA and beyond have most frequently identified .5% as an appropriate level of taxation (see Pollin et al., 2002; Stiglitz, 1989; Summers & Summers, 1993).¹⁷

In establishing the revenue projections for the various STTs offered here, I presume that a .1% tax will yield no reduction in transaction volume. In practice, the degree to which a transactions tax of this magnitude will actually diminish volume will vary from context to context, and over time.¹⁸ To be prudent, I follow the lead of Pollin et al. (2002) work on the US in providing three revenue projections for the larger tax—one assuming no volume reduction, and two others that assume volume reductions of 25% and 50%, respectively.

Under these assumptions, the estimated aggregate revenues for all developing countries in 2003 (which is the most recent year for which the most complete data set exists) range from about US \$2.8 billion (under the .1% tax) to US \$14 billion (under the .5% tax, no volume reduction). This is not an inconsiderable sum (especially at the upper end of the range), to be sure. But the estimated revenues fall far short of the needs for large pools of development finance, even in middle-income countries, when one considers these needs in light of the challenges identified in the Millennium Development Goals.

The data in Table 2 demonstrate the dramatic differences in the level of transactions across developing countries. With the exception of India, low-income countries are characterized by very low levels of transactions. Sub-Saharan Africa stands out in this respect, as would be expected, but many Central, South American, and Caribbean countries likewise fare poorly. As a consequence, STTs of any magnitude will not raise significant amounts of revenue there. Indeed, for many countries, the revenues promised even by the higher tax rate can hardly be expected to offset the likely administrative and collection costs of the tax. For these countries, other new forms of revenue are necessary. For the middle-income countries, the prospects are far better. Based on 2003 transactions, Korea stands to raise between US\$.68 and \$3.4 billion; Taiwan, between \$.59 and \$2.9 billion.

Even among middle-income countries, the disparity in transactions activity and STT revenue potential is dramatic. Indeed, the top five countries (China, India, Korea, Saudi Arabia and Taiwan) account for 75.8% of total transactions, while the top ten countries (adding Pakistan, Russia, South Africa, Thailand and Turkey) account for just over 91% of the total.

Table 2 presents total transactions (and revenue predictions at the .1% tax rate) for 1995, a time when foreign investors eagerly sought investment opportunities in the developing economies; 1998, which marked the height of the Asian financial crisis; 2001; and 2003, the most recent year for which a full set of data are available. These data demonstrate the significant variability in securities transactions over time within developing economies. This variability implies that though the STT might provide a valuable source of revenue in some middle-income countries, it is prone to substantial instability. Total transactions for all developing economies are much more stable, however, since national level fluctuations tend to cancel in the aggregate. Indeed,

combined securities transactions for all developing countries fell in only two years from 1992 to 2001 (Standard & Poor's, 2002: 23). This implies the desirability of some sort of multilateral pooling arrangement, which collects the STT revenues and distributes them on the basis of negotiated development criteria. (We return to the issue of multilateral pooling below.)

The revenue estimates that I prepare are modest in comparison with total tax revenues, even in the countries with the highest levels of securities transactions. Table 3 places these magnitudes in context for those countries with highest securities transactions for which total tax revenue data are available (only through 2001). Here we find that at the .5% STT level and assuming no volume reduction, STT revenue would be equal to just .37% of TTR in Israel, and range up to 2.63% of total tax revenue in India. In contrast, at the .1% level, India would manage to raise just .53% of total tax revenue through the STT, while the other four countries listed here would earn less than one-quarter of a percent of total tax revenue.

<<TABLE 3 HERE>>

3.2. Public Finance, Political Economy and Macroeconomic Dividends

The STT is a progressive revenue source, since its incidence falls mainly on the relatively wealthy (both domestic and foreign investors).¹⁹ The burden falls most heavily on speculators who churn their portfolios rather than on long-term investors.

In my view, the STT has much to recommend it for those developing countries where the level of transactions is sufficient to justify it. First, evasion is more difficult with this tax than with many alternatives, such as income taxes, since the STT is collected at the point of sale.²⁰ This implies reduced collection costs. Moreover, unlike the Chilean model, the introduction of a STT does not require a new (or

enhanced) administrative apparatus since it works through the existing mechanisms by which securities transfers already take place.

Second, like the Chilean model, the STT can be implemented unilaterally, without multilateral agreement. This implies that the policy tool can be implemented quickly in any country with the desire to do so. While the ideal arrangement would entail a regional or broader agreement through which countries coordinate STT levels, unilateral country initiatives in this area might be all that is politically feasible in the very short run. It might be hoped that success at the national level might serve as an impetus toward eventual multilateralism in this area (particularly were governments to become more receptive to multilateral tax initiatives in the future).

Third, and also like the Chilean model, the STT entails a powerful macroeconomic dividend in the form of national financial stability, as the penalty that this tax places on speculation reduces churning of equities while lengthening investors' time horizons. Since financial instability in the developing world is internationally contagious, the reduction in instability in any one country might yield a valuable global macroeconomic dividend of greater global financial stability as well. This global macroeconomic dividend implies a powerful economic incentive for countries to seek multilateral agreement on STTs, in order to improve the economic environment that they collectively inhabit. Once installed, the tax could be easily adjusted upward or downward as the priority placed on the goals of revenue generation and financial stability (or other circumstances) changed over time. Finally, as noted above, the tax is broadly progressive.

As Palley notes in his treatment of currency transaction taxes, a tax of this sort is justifiable despite its impact on speculation and in light of the theory of optimal public finance. The same can be said of STTs. As Palley (2001, p. 8) argues,

If the impact (of a STT) is small, it implies that the demand for currency (securities) transactions is relatively inelastic, and the theory of optimal public finance tells us that governments should tax exactly this type of activity. Conversely, if the impact is large, then speculation will have been reduced, thereby reducing the negative externality imposed by speculators on other investors in accordance with Pigouvian tax theory.

One obstacle facing those advocating the STT is the fact that in recent years developed and developing countries have been reducing and/or eliminating the tax. In keeping with the neo-liberal tenor of the times and the growing political influence of the global and national financial community vis-à-vis governments, governments have been urged to dismantle restrictions on and taxes of private economic flows.

Achieving widespread adoption of the STT, then, would require reversing this trend toward neo-liberalism and challenging the political power of the financial community. Recent challenges to the Washington Consensus (by new social movements and in academic and popular literature) suggest that in fact neo-liberalism might finally be challenged by alternative policy regimes that entail a good bit greater government control over economic flows, including STTs (on challenges and alternatives to neo-liberal policy, see Chang & Grabel, 2004; Stiglitz, 2001). More specifically, recent research suggests that there is far more support today for market-based measures that promote financial stability in developing countries than could be found as recently as a few years ago (e.g., Eichengreen, 1999; Fischer, 2002; Kuczynski & Williamson 2003; Prasad et al., 2003).

In the interest of a balanced assessment it must be acknowledged that critics (of STTs in wealthy countries) are not persuaded by the arguments advanced in favor

of STTs. Critics claim that any potential benefits (if any) are overwhelmed by the explicit and implicit costs associated with these measures. First, STTs reduce trading and thereby reduce the potential revenues of the tax (Hubbard, 1995). Second, STTs increase the cost of capital and thereby decrease investment and growth (Hubbard, 1995). In our view, this argument bears on the magnitude of the tax rate, and suggests moderation rather than abstinence. Third, a country that pursues STTs unilaterally will find it more difficult to attract and retain private capital, as investors engage in international tax arbitrage (Campbell & Froot 1995). Sweden is often cited as evidence of this danger. In 1984 Sweden adopted a STT of 1.0%; in July 1986 the tax was raised to 2.0%. Umlauf (1993, p. 229) finds that following the increase, 60% of the trading volume of the eleven most actively traded Swedish share classes moved to London. This reduction was so severe that the loss of capital gains tax revenues fully offset the increase in STT revenues.²¹

The Swedish case suggests, however, that the risk of market migration arises only at relatively high levels of STTs. Indeed, as this case indicates, a country that acts unilaterally might therefore face substantial penalties only when it raises STTs beyond a level that investors find tolerable. This rate would vary (perhaps dramatically) across countries, depending on the attractiveness of the broader investment climate. Moreover, market migration in response to STT implementation could be minimized through the adoption of various other policy tools, such as the non-tax components of the Chilean model (for details, see Grabel, 2003b). Indeed, Britain did not face market migration during the tenure of its STT because it took the form of a stamp tax that was required upon registration of all trades, including those that took place offshore.²²

Fourth, critics allege that STTs induce asset substitution, as investors shift funds from securities to bonds and other financial instruments to avoid the tax. This danger increases with the magnitude of the tax, of course. Critics cite the experience of the UK with a STT as evidence of this problem. The UK tax did not apply across all financial asset markets. It did not apply, for instance, to futures markets, and applied only to options when they were exercised. As a consequence, investors shifted funds from the spot to the derivatives market. The obvious solution is to implement the STT alongside other transactions taxes, covering other financial instruments.²³ For example, Pollin et al. (2002) propose a STT for the USA of 0.5%, combined with transactions taxes on bonds equal to 0.01% of bond value multiplied times the number of years until the bond's maturity; on futures at 0.02% of the notional value of the underlying asset; on options at 0.5% of the premium paid for the option; on interest rate swaps at 0.02% of value times the number of years until maturity.²⁴

This is not to say that all these measures must be introduced in all contexts, and all at once. Obviously, the need for these complimentary measures depends on the depth and extent of a nation's financial markets, the range of the instruments traded, and on the magnitude of the intended STT. A small STT might induce very few problems of market migration or asset substitution, and so require few to no supplementary tax measures. A country might therefore be well advised to begin with a relatively modest STT that does not cause these disturbances, raising the STT level only gradually as the institutional capacity to manage and tax the full range of financial flows emerges.

4. The Potential and the Limitations of These Measures

In sum, I have argued that the Chilean model and STTs provide a viable mechanism to raise modest revenues in *some* developing countries. This benefit

stands to augment the valuable macroeconomic dividends that manifest in greater domestic and international financial stability. Both types of taxes are progressive in their incidence, and in the case of the STT, represent an administratively manageable form of revenue collection. Both of these initiatives can also be adopted unilaterally. This is a virtue since the immediate prospects for conventions that introduce and harmonize taxes are slim.

This is not to say that unilateral action in this domain is ideal, however—indeed, a country acting on its own to tax international private capital flows or securities transactions might face obstacles (such as international tax arbitrage) that interfere with policy success. And fortunately, these measures are an area where nations have a strong incentive to coordinate eventually, since they stand to reap substantial global macroeconomic dividends in the form of increased financial stability from cooperation. Hence, this is a case where Atkinson's (2004) concept of "flexible geometry" applies—that is, where isolated national experiences with these initiatives might lead over time to regional or multilateral coordination as countries pursue the greater benefits from cooperation. The success of coordinated initiatives to tax financial flows might also ease future agreement on more far-reaching multilateral tax initiatives.

However, I've also argued that the revenue-creation potential of both of these policy tools is limited for most developing countries and that this revenue is unstable, owing to the dramatic fluctuations that occur in securities trading volume in developing countries. These findings suggest the need to augment the national policy tools that I consider with other national and global strategies to raise tax revenues to be used for the purposes identified in the Millennium Development Goals. Indeed, Chang and Grabel (2004, ch. 11) discuss several strategies to raise tax revenues in

developing countries (see also Atkinson, 2004 for a discussion of global strategies to harvest new pools of development finance).

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Notes

¹ This paper draws on Grabel (2003a), extends its arguments substantially, and examines the macroeconomic benefits of the policies under consideration.

² Note that Nissanke (2004) and especially Palley (2001) examine the public finance considerations involved in a currency transactions tax.

³ See Atkinson's discussion of "double dividends" (2004, ch.2), a concept that he uses to describe the secondary (though not necessarily trivial) benefits associated with a policy regime.

⁴ The discussion in section 2 (aside from the discussion of revenue considerations) draws on Grabel (2003b). See also Grabel (2003c) and Epstein et al. (2003).

⁵ See Gallego et al. (1999, App. 2) for a detailed description of the measures employed in Chile and a chronology of policy adjustments. Details on Chilean policy (including aspects of the financial model that are not discussed in this paper) are also provided in Forbes (2002), Laurens & Cardoso (1998), and Nadal-De Simone & Sorsa (1999). Chilean and Colombian policies are discussed in Grabel (2003b), Ocampo (2002), and Palma (2000).

⁶ Valdés-Prieto & Soto (1998, pp. 151-52) present some information on revenues raised as well.

⁷ The data reported underestimate the amount of revenue harvested because they do not include the revenues associated with the stamp tax on foreign loans.

⁸ The top ten developing-country recipients of FDI in 2003 were (in descending order) China, Brazil, Mexico, Argentina, Poland, the Czech Republic, Chile, Venezuela, Thailand, and India (World Bank, 2004, p.79).

⁹ Though it is important to acknowledge that FDI is not without problems (Chang & Grabel, 2004, ch. 9).

¹⁰ Note that a minority of analysts challenge the consensus view on the macroeconomic dividends achieved in Chile. Edwards (1999) is the best known such work (but see also skeptical comments in Laurens & Cardoso (1998) and Nadal-De Simone & Sorsa (1999)). Forbes (2002) presents evidence on the microeconomic costs of the taxes in Chile, but the paper does not challenge the macroeconomic dividend argument. See Grabel (2003b) and Epstein et al. (2003) for a response to Edwards and Forbes. Note also that with the exception of Gallego et al. (1999), the majority of studies of the Chilean model also find that leakages from these regulations had no macroeconomic significance.

¹¹ The implicit cost increased over the lifetime of the Chilean model as a consequence of two factors: increases in the URR from 20% to 30% after May 1992; and of a simultaneous rise in international interest rates (Ariyoshi et al., 2000, II, p.4).

¹² Laurens & Cardoso (1998) take the view that problems of central bank capacity are a more important obstacle than most proponents of the Chilean model suggest.

¹³ There has also been a good bit of scholarship on the experiences of Sweden (e.g., Umlauf, 1993) and the UK (Campbell & Froot, 1995) with STTs.

¹⁴ Crotty and Epstein (1996) have made a case for joint implementation of a currency transaction tax and STTs. They argue correctly that joint implementation of these taxes would enhance their effectiveness in curbing instability. Joint implementation would of course also introduce the possibility of raising more revenue than could either tax alone. Alternatively, joint implementation would allow governments to achieve desired levels of revenue through lower STTs, which would correspondingly reduce any negative effects associated with the tax (see below).

¹⁵ Note that Argentina, Brazil, Colombia, Ecuador and Peru recently experimented with various types of taxes on banking transactions as a means of raising revenues (generally in the context of fiscal crises). Brazil's tax is particularly interesting: unlike similar taxes in the other three countries mentioned it was earmarked to fund the public health system. See Corrêa (2002) for details on these taxes.

¹⁶ The revenue estimates presented rely on Standard and Poor's (2004) data on the gross dollar value of the equities traded in individual markets. Data on bonds and other financial instruments traded in developing economies are not available.

¹⁷ Pollin et al. (2002, 22) notes that .5% "has been the benchmark figure for other studies as well (e.g., Hakkio, 1994)." But we note that the .5% level is a conventional rather than an optimal target—indeed, the literature provides no compelling or generalizable case for this or any other particular level of the STT. We therefore provide a range of estimates for STTs from .1% to .5%.

¹⁸ Unfortunately, the literature on STTs yield no firm conclusions about the volume effects of STTs of various magnitudes.

¹⁹ Kennedy (1955) argues that the tax should fall on the seller rather than on the buyer in order to penalize dissaving rather than saving.

²⁰ See below for a related discussion as to how problems of market migration and asset substitution can be addressed through the design of STTs.

²¹ For a negative assessment of the Swedish STT, see Umlauf (1993). For a negative assessment of the British and other STTs, see Campbell and Froot (1995). The criticisms of STTs presented in the text above also appear in Hakkio (1993) and Habermeier and Kirilenko (2001). For detailed rejoinders to these critiques that complement the arguments that I present here, see Baker (2001), Palley (2001), Stiglitz (1989) and Summers and Summers (1993).

²² In this spirit, Pollin et al. (2002) propose reducing the problem of market migration by imposing the STT on foreign as well as domestic trading of a country's shares. Had it been in place, this measure would have staunched the shift in trading of Swedish shares to the London market.

²³ The absence of comprehensive data on these other financial assets in developing countries precludes estimates of the revenue potential of other forms of transactions taxes.

²⁴ Furthermore, in a departure from the British model, Pollin et al. (2002) propose that the STT apply to all traders in US financial markets of both domestic and foreign residents; to foreign transactions of US nationals and corporations; and to trades of US securities by foreigners in non-US markets. These modifications to the British model are aimed at addressing the problems of evasion, market migration, and other distortions that might attend the implementation of a narrowly focused STT.