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**Financial taxation and equity market development: optimal  
financial market tax policies for developing countries\***

*Summary*

Mobilizing domestic resource is a prerequisite for the achievement of national economic objectives. Developing domestic financial markets is the principal way in which this may be achieved. The present paper will highlight the role of tax in constraining or encouraging financial market development from both the demand and the supply side based on the experiences of several countries.

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\* The present paper was prepared by Mr. David Sugarman. The views and opinions expressed are those of the author and do not necessarily represent those of the United Nations. Tables and bibliography for this paper are found in the annex, provided separately by the Secretariat.

## Contents

	<i>Paragraphs</i>	<i>Page</i>
Introduction .....	1–4	3
I. Economic growth and financial market development.....	5–9	4
II. Macroeconomic fundamentals .....	10	5
III. The role of tax policy in financial market development.....	12–27	6
IV. Country experiences .....	28–61	9
V. Taxation of mature financial markets.....	62–64	17
VI. Conclusion and other considerations.....	65–66	18

## Introduction

1. One of the principal tasks now facing many Governments is ensuring that the domestic private sector has a sufficient amount of capital to facilitate rapid and continued economic development. For most of the nations of the world, a large percentage of such funds have come, to date, from abroad in the form of foreign direct investment (FDI) or official development assistance (ODA). However, the continued decline of global ODA levels and the increasing competition for global capital raise questions about the sustainability of such an approach. Consequently, mobilizing domestic resources has become a virtual prerequisite for the achievement of national economic objectives.

2. Developing domestic financial markets is the principal way in which this may be achieved. Financial market development both precludes outflows of domestic savings and enables the private sector to decrease its reliance upon borrowing as a source of investment financing. Furthermore, by mitigating the moral hazard and adverse selection problems implicit in lending operations, well-developed financial markets increase the efficiency of capital allocation.

3. Unfortunately, however, most of the recent experiences in attempting to develop financial markets have been unsuccessful owing to inefficient macroeconomic parameters and improperly targeted tax policies. Governments have often attempted to develop domestic financial markets prematurely, prior to such time as they may function efficiently and independently. Even where this is not the case and the necessary macroeconomic parameters are in place, many developing-country Governments, faced with a limited domestic tax base and the need to balance the public budget, often tax equities too heavily. This necessarily creates a disincentive with respect to the purchase of such investments, decreasing demand and reducing market turnover. Furthermore, by taxing these assets improperly, Governments often inadvertently create a systemic shift away from equity financing, thereby constraining the supply of available equities and minimizing domestic market liquidity.

4. The present paper will identify the necessary macroeconomic environment that must pre-date financial market development, noting the necessary reforms and reform timing that should be undertaken where such an environment is lacking (sect. II). Paying attention to the inherent conflict between the need to responsibly manage the public budget and the need to encourage financial market growth, the third section will then address the role of fiscal policy in facilitating the growth of financial markets in developing countries. Drawing upon the experiences of the United States of America, Malaysia and Brazil, it will highlight the role that taxes and tax incentives play in constraining or encouraging financial market development from both the demand (investor) and the supply (company) side (sect. IV). Section V will provide a brief discussion on how tax policies may be used to efficiently reconcile budgetary conflicts once nascent financial markets have reached a level of maturity.

## I. Economic growth and financial market development

5. Mobilizing domestic resources is the most effective means by which developing nations may overcome the unique challenges that they face. The level of investment in a nation is the primary determinant of its economic performance and long-term growth prospects because it defines bounds for the rate of physical capital accumulation, technological progress and, to a large degree, rate of human capital improvement. These factors, in turn, determine a nation's total factor productivity as well as its potential for improvements therein over time.

6. Despite the recent tendency of Governments to rely upon attracting foreign capital as a means to increase investment, the most effective means to achieve sustainable economic development is through the mobilization of domestic resources. Although it may be possible to finance productive investments through reliance on FDI, foreign portfolio investment or ODA, such a stance effectively binds domestic policy options to the demands of foreign capital owners and thus minimizes the flexibility of Governments with respect to pursuing independent development objectives. Moreover, the increasing competition for global capital threatens to increase the requisite rates of return that economies must provide. Maintaining high interest rates can threaten the viability of the banking system — a result that would further increase external reliance and exacerbate the difficulty of achieving economic self-sufficiency. Consequently, developing efficient financial markets must be viewed as a vital part of the economic development process.

7. Financial markets contribute to the growth process in several fundamental ways:

(a) Effects on efficiency: the primary channels through which this occurs are improvements in the efficiency of domestic investment and capital allocation. By enhancing the liquidity of domestic investments and pooling risk, financial markets limit the duration of any individual's required commitment or exposure;

(b) Effects on the rate of investment: by strengthening the option of savers to diversify their portfolios and to "opt out" of investments, well-developed financial markets should attract those savers previously subjected to a liquidity constraint as well as those who, merely fearing this, may otherwise choose not to invest;

(c) Decreased reliance upon bank lending: equity financing decreases the cost of funds relative to borrowing by eliminating the cost of refinancing associated with bank loans for long-term projects;

(d) Decreased reliance upon global capital: by developing a degree of self-sufficiency in investment financing, developing economies can insulate themselves from the destructive effects of massive capital inflows or reversals;

(e) Decreased domestic risk premiums: by providing a stable, liquid destination for international investors, mature financial markets may decrease the risk premiums that a nation may be required to pay in order to attract global capital.

8. Empirically, the link between financial market development and economic growth is a strong one. The clearest linkage is between gross national product (GNP) growth and the liquidity of the domestic market, as demonstrated by numerous studies.<sup>1</sup> Those financial markets that allow investors to reliably invest and withdraw funds enable capital to flow to the most profitable projects, regardless

of concerns such as maturity or risk profiles. Additionally, there is a further empirical linkage between the aggregate level of capital received by the private sector and the rate of economic growth. Insofar as financial markets mobilize domestic resources, or at least channel them towards the private sector at relatively low cost, another clear linkage is provided between financial markets and economic development. Such facts have led authors such as Gregory Mankiw to conclude that “the evidence linking financial depth to long-term economic growth, both through the incrementation in resource mobilization and through the enhancement of (efficiency), appears to be fairly strong”.<sup>2</sup>

9. Despite this, financial market development is quite limited and the assets available to savers are generally restricted to cash, deposit instruments or, in some cases, government securities acquired on a primary market. As a result, financial markets in developing nations suffer from a lack of asset substitutability and low liquidity. Both of these factors tend to limit the amount of savings channelled into the system, thereby decreasing its ability to serve as a consistent source of investment capital. Consequently, given the important role financial markets play in the development process and the limited success that nations have had in creating these markets, it is imperative that the factors be examined that have typically precluded their growth. This will be done in the succeeding two sections.

## **II. Macroeconomic fundamentals**

10. Market failures pose a serious threat to the development and sustainability of financial markets. Prior to attempting to create financial markets, it is thus necessary to have a sound macroeconomic environment capable of supporting the nascent exchanges. The reforms potentially necessary to achieve this end can be grouped into four major categories: governmental, financial market, legal/statutory and regulatory. They may be characterized as follows:

(a) Governmental reforms: fiscal deficit reduction, stable inflation and exchange rates, and adherence to credible and stable economic policy agendas;

(b) Financial market reforms: elimination of interest-rate and exchange-rate control and deregulation of transaction restriction;

(c) Legal/statutory reforms: disclosure of timely and accurate corporate information to potential investors so as to avoid information asymmetries. Clear and transparent bankruptcy and foreclosure laws, legal rights of shareholders, and bail-out principles;

(d) Regulatory reforms: enforcement of penalties for infractions against established rules to increase market efficiency and to reduce the risk premiums attached to domestic investments.

11. Where more than one of the above reforms have yet to be implemented, it is important for Governments to proceed in the appropriate order, as improper timing of reforms can seriously impair development efforts. In general, reforms should proceed in the following order: (a) fiscal adjustment/macro-economic stabilization; (b) improved financial market regulation; (c) financial market liberalization (that is to say, elimination of interest rate controls); and, lastly, (d) capital-account liberalization. Such an ordering is necessary to forestall potential inflationary, overheating or capital flight consequences of the process by ensuring that, at all

stages where it may be necessary, Governments possess sufficient tools to defend currency values and sterilize international capital flows.<sup>3</sup> In general, these reforms alone are insufficient to ensure the development of such financial markets. Rather, Governments must use efficient fiscal policies towards this end. Appropriate tax policies are the crucial element in such attempts.

### **III. The role of tax policy in financial market development**

#### **Budgetary considerations**

12. Governments in developing countries face a central dilemma in defining fiscal agendas. Specifically, they must weigh the relative benefits of balancing the public budget against those of using fiscal measures to spur economic growth and guide development. Whereas the former approach prescribes austerity, the latter may at times imply a more liberal, accommodative policy which tolerates occasional budgetary deficits. This disconnect is typically most pronounced in developing countries given both their relatively limited tax bases and high marginal private sector benefits of public development assistance. Owing to their relatively underdeveloped situation, public infrastructure spending in these nations can have large external benefits and result in large private sector output gains relative to similar projects in developed nations. However, these nations also suffer from limited tax bases, poor tax administration and, consequently, low tax revenues.

13. Developing nations require economic policies alternative to those appropriate for their more industrialized counterparts. Part of this difference encompasses budgeting decisions. Specifically, although balanced budgets are held to be intrinsically valuable for developed nations, it may be more appropriate for developing nations to run a counter-cyclical fiscal policy by permitting a certain level of deficit spending to guide development efforts. This would obviously be conducted under the implicit assumption that improved economic growth will yield increased tax revenues in subsequent periods to make up the current shortfall.

14. Consequently, less developed nations become more able to build up the infrastructure and capital stocks necessary to achieve stable and continued growth; this would result in more immediate economic benefits as well as subsequent increases in the domestic tax base. Additionally, it is by definition necessary to base such analyses on present and anticipated domestic macroeconomic conditions as well as considerations of domestic infrastructure needs. Therefore, unlike the orthodox approach, such agendas have the benefit of being specific to the needs and realities of individual nations. In some cases, fiscal austerity may yield the significant benefits that reveal a balanced budget to be the appropriate policy choice; however, as stated above, it would be unwise to assume *prima facie* that this is universally the case.

15. Recent evidence indicates that this approach may be beneficial. Specifically, appropriately targeted public investment, rather than crowding out, appears to increase private sector investment. Though confirmed by several studies, the positive effect of public on private investment is most strongly demonstrated by Bleijer and Khan. Using data from 24 developing countries between 1971 and 1979, they note that a 1 per cent increase in real public infrastructure investment increases real private investment by 0.25 per cent; in contrast, equivalent increases in public

investment for other purposes decreases private investment by 0.30 per cent. These results are consistent with the hypothesis presented above, namely, that running short-term budgetary deficits may be not only sustainable, but also desirable, in the long run.

16. This type of agenda may have the external benefit of directly facilitating the development of a domestic bond market as well. If the government floats public bonds to support its fiscal deficits, making these available to the public may assist the development of primary debenture markets. This has occurred in nations as varied as the Philippines and Brazil, though the failure of the former to rapidly develop a secondary market indicates that simply making bonds available is alone not sufficient to achieve high levels of both capitalization and liquidity.

## **Capital gains taxation and financial market development**

### **General theory of optimal taxation**

17. Within the context of equity market development, the fiscal agenda suggested above suggests that, in order to facilitate equity market development, Governments should provide short-term tax incentives for transactions for equities. Such assets should be tax-exempt in the short run; this exemption should be removed only after the primary and secondary markets have reached a level of maturity. The following two subsections will elaborate on the appropriate design of such incentives. In general, though, it is important for any tax programme to adhere to a policy of (a) minimizing the loss of allocational efficiency and (b) not exacerbating vertical inequality.

18. The former is especially relevant in the context of this paper; it encompasses the rather commonplace idea that any form of taxation distorts incentives. Consequently, prior to implementing a tax on financial assets, a Government must determine whether it will significantly affect savers' or investors' preferences.

### **The demand for financial assets**

19. The primary attraction of equity investments is their liquidity — the ease with which owners can liquidate their assets and eliminate their exposure and commitment. The liquidity of an asset is, to some extent, an inverse measure of the relative level of risk that it carries for individual investors. Being able to quickly obtain cash for investments mitigates the consequences of potential individual liquidity crises or corporate downturns.

20. Additionally, by attracting numerous investors for any one firm or project, equities pool risk. Thus, in economies that develop liquid equity markets, profitability becomes the primary determinant of those projects that will receive funding. Savers tend to shift their portfolios away from those assets whose principal benefit is security and short duration towards those that represent more inherently productive activities. Consequently, this increases the efficiency of capital allocation and thereby the overall rate of economic growth.

21. In this way, equity market development can create a virtuous cycle for improvements in the efficiency of capital allocation within an economy. The more mature a stock market becomes, the more investors will be attracted, thus causing a further rebalancing of portfolios generating more equity demand, and greater

turnover. The logical end of such a cycle will be a market in which the single most dominant consideration for investors will be the real after-tax return on investments, implying that capital is allocated with near-optimal efficiency.

22. In the same way, however, capital gains taxation can result in a vicious cycle for equity markets. Capital gains taxes decrease the attractiveness of all equities by reducing their after-tax return on investment, which results in the fall of both equity demand and market turnover. Lower liquidity causes equity demand to fall yet further. Investors will then shift their portfolios back towards shorter-term or more secure assets, decreasing market capitalization and allocational efficiency. Chamley (2000) demonstrates this clearly. By analysing the majority of the sub-Saharan African nations, he demonstrates that financial deepening and taxation are inversely related and that the effects of taxation increase with its level. This implies that low tax rates may have minimal effects on financial markets; however, once tax rates reach a certain level, increases in them may decrease equity demand sufficiently to yield negative marginal tax revenues.

23. Therefore, although taxes on financial assets have the potential to mobilize large amounts of revenue for the government, they carry with them potentially large negative consequences for macroeconomic efficiency. Consequently, Governments of nations with immature equity markets need to balance their immediate internal demands for such revenues with the long-term economy-wide needs of efficient capital markets by setting present capital gains taxes as low as possible in order to maintain a significant demand for equity investments and minimize distortions in investment choices and capital allocation.

### **The supply of financial assets**

24. Joseph Stiglitz demonstrated that, in order to determine the effect that taxation will have upon a firm's financing choices, it is necessary to take into account all tax rates rather than merely those levied on the equity and bond investment. In short, a firm will utilize the financing option that results in the greatest after-tax benefit to its owners. Consequently, corporate financial decisions are affected by the corporate profits tax, the personal income tax, and the tax rate on bonds and equities. More simply, he concluded, the optimal financial policy will be determined by the tax advantages of corporate versus personal borrowing.<sup>4</sup> In cases where the former dominates (in other words, when corporate tax rates are higher than personal tax rates), the tax savings from corporate borrowing are high, and thus it makes the most "tax sense" to finance corporate activity through debt. Alternatively, when the personal tax rate is higher than the corporate tax rate, this will tend to incentivize financing via retained earnings (equity). Consequently, the supply of equity will be related to taxes levied not only on equity investments, but also on corporate profits, personal income, and the deductibility of interest payments.

25. Andrew Lyon models this interrelationship between firm financing choices and the tax rates on these in a manner that is even more beneficial for our purposes. Like Stiglitz, he models a situation in which interest payments are deductible from corporate tax liability. Specifically, he notes that the after-tax rate of return on bond issues for investors in a firm is  $r_b(1-t_b)$  where  $r_b$  is the pre-tax real return on the bond and  $t_b$  is the tax rate to which it is subject. This is because, if interest payments are fully deductible from corporate income, no corporate income will be assessed for this project. Similarly, the after-tax return on equity issues will be equal to



$r_e(1-t_c)(1-t_e)$  where  $r_e$  is the pre-tax return on the equity asset,  $t_e$  is the tax rate on equities,<sup>5</sup> and  $t_c$  is the corporate profits tax rate. Consistent with the Stiglitz hypothesis, he correctly assumes that owners of the firm will choose the financing option that yields the highest after-tax rate of return. Assuming that the rate of return on the investment is independent of its financing source ( $r_b=r_e$ ), equity issues will be used only in cases where  $(1-t_c)(1-t_e)>(1-t_b)$ . Solving for  $t_e$  yields  $t_e<[(t_b-t_c)/(1-t_c)]$ . This inequality will govern the decision whether to finance a project with debt or equity. Where the inequality holds, equity financing will be used; where it fails to hold, debt financing will be preferred.

26. This, if empirically true, points to several important policy conclusions for Governments seeking to facilitate the development of mature equity markets. Specifically, it implies that low capital gains taxation alone is insufficient to ensure adequate capitalization and liquidity. While such taxation may be necessary to generate a high level of equity demand, it will not necessarily affect the supply of equities offered on the primary market. For nations with low market caps, it is obviously imperative to increase the amount of equities offered on this market because, by definition, this will directly affect the capitalization potential of secondary markets. Consequently, Governments should ensure that equities are taxed not only lightly, but preferentially. Furthermore, as with Stiglitz, it is important to note that the supply of equities is determined not by the absolute levels of  $t_e$  and  $t_b$ , but rather by their relative levels. This implies a degree of policy flexibility for developing-country Governments.

27. Unfortunately, however, basing policy decisions solely on the above would be insufficient, as it encompasses only two vague propositions: (a) that Governments should tax equities lightly relative to bonds and (b) that corporate profits should be taxed lightly. This implies that Governments have myriad policy choices that would generate the desired equity market development. Thus, this analysis does little to explain the numerous failures with respect to this end that developing countries have experienced in recent decades. Consequently, such a framework is most useful in providing a base from which to understand the determinants of past successes and failures in this area. In order to define more concretely a tax programme that should be expected to successfully facilitate equity market development, it is useful to examine the experiences of nations in this area, keeping in mind the general conclusions outlined above. This is the focus of the succeeding section.

#### IV. Country experiences

28. Unfortunately, econometric analyses have been of little help in identifying a general framework for optimal taxation based on the above theoretical argument. This is because the effect of capital gains taxation depends on many exogenous factors, including differences between administrative capacities between nations, the stage of a nation's development, and the number of available assets that may serve as substitutes for equities. Consequently, several case studies are presented below of nations that have been either successful or unsuccessful in developing equity markets. As indicated above, the general conclusions that should be drawn from those case studies are the following:

(a) Demand (individual/saver side): taxes on equity income should be set as low as is politically and economically possible. Ideally, both capital gains and

dividend income should be wholly exempt. This may include allowing full deductibility of capital losses;

(b) Supply (corporate side):

(i) Although the absolute level of capital gains taxation is important in determining the financing choice of the firm, the relative rate of taxation on equities and debt issues tends to be the primary determinant of the supply of equities on primary markets;

(ii) Preferential tax treatment of corporate profits does appear to play a large role in facilitating the development of primary equity markets. By providing tax breaks to corporate profits, the effective tax rate on equities decreases, thereby increasing both the number of firms that rely on new issues for financing and the supply of equities on primary markets.

## **The United States, 1790-1840 and 1913-1938: early tax treatment of a developing market**

### **Background and data**

29. The roots of United States stock markets date back to the famous New York Buttonwood Agreement of 1792. Almost from the outset, taxes and tax incentives played a large role in facilitating the development of what has become the world's largest equity exchange market. In 2000, the total capitalization of United States stock markets exceeded 16,600 trillion dollars, representing 181.8 per cent of gross domestic product (GDP).

30. In 1817, 25 years after its inception, the New York Stock Exchange — the first American equity market — listed only 16 stocks. However, in the early 1800s, the United States Government began to provide tax exemptions more liberally — in the form of charters — to corporations that were “found to pursue both public service and private gain”.<sup>6</sup> By 1830, virtually all those who had applied received charters.<sup>7</sup> As shown in table 1, the number of available equities increased by 300 per cent between 1821 and 1840; and the number of new issues more than doubled during the decade of the 1830s, paralleling the increased ease with which corporations could receive tax advantages during these years. Finally, all of these trends paralleled a continued decrease of available bonds, which clearly reflects an increased reliance upon equity financing at the expense of bonds. Thus, given that neither equity nor interest income was taxed during these years, it is likely that the progressive extension of corporate tax incentives played a large role in increasing the supply of available equities in the nascent United States equity markets.

### **The taxation of capital gains**

31. Only in 1913, with the passage of the 1913 Revenue Act, did capital gains become subject to tax. The initial Act taxed short-term capital gains as regular income. Consequently, realized gains on assets held less than six months were taxed between 26 and 91 per cent, depending on the income level of the investor. In contrast, long-term gains were taxed at a 50 per cent rate, with half of all gains being exempt, resulting in an effective rate of 25 per cent. These two tax changes, most notably the former, served to significantly decrease the after-tax return from equity investments, which reduced investors' demand for equities (see table 2). The

discriminatory treatment of short-term gains also generated significant disincentives against speculative dealing which decreased the liquidity of the market, as illustrated by the decline in New York Stock Exchange turnover ratios. Thus, the overall results of the 1913 tax revisions were a decrease in both the capitalization and the liquidity of United States equity markets.

32. This conclusion is further supported by the results of the 1921 tax law revisions, which gave investors the option to have long-term gains taxed at a rate of only 12.5 per cent. Immediately, this freed the market, causing equity demand to rise considerably. The share volume of the New York Stock Exchange rose from \$172.8 million in 1921 to \$260.9 million in 1922, reaching \$1,124 million by the 1929 market peak. The portfolio structure of investors further reflects this increase in demand. In 1920, prior to the revisions, the fact that the ratio of capital gains to other assets had been inversely related to the income level of individuals meant that the higher a person's tax bracket, the less income he or she derived from capital gains. Here it is plain to see the disincentive effect of the 1913 progressive tax structure for capital gains income: the higher the rate of tax applied to capital gains, the less a person would invest in equities. However, immediately following the 1921 revisions, the ratio of capital gains to other assets began to rise in all income groups. Consequently, those individuals for whom the 1913 law had created the largest disincentives increased their holdings of equities the most.

33. Within this context, it should be noted that the 1921 revisions had only a limited effect on market liquidity and speculative dealings. As a result, although market turnover had increased somewhat in 1922 (from 59 to 77 per cent), it immediately fell back to its earlier level by 1923. This may be interpreted as reflecting the liquidation immediately after the revision of long-term assets held by investors.

34. The United States tax code revised in 1923, which allowed capital gains losses to be used to offset gains from taxable income, did contribute to increases in liquidity. Consequently, despite the seemingly relatively high tax disincentive against doing so, the New York Stock Exchange witnessed an extremely high rate of realizations of both short- and long-term capital gains and losses. Market turnover increased significantly, reaching 132 per cent in 1928.

35. Tax laws were again changed in 1934. This time, a "percentage inclusion" plan was introduced, whereby all capital gains were taxed as ordinary income. Assets held for less than 1 year were fully liable to taxation at ordinary rates, and this liability progressively declined to a 30 per cent inclusion of capital gains for assets held longer than 10 years. This plan, as might be expected, had a strong deterrent effect on both share volume and turnover ratio. As in the early nineteenth century, tax treatment of equities was also a major factor in maintaining a consistently high supply. Throughout the entire period, interest receipts were taxed as ordinary income. Consequently, since 1913, the United States tax system has at the very least treated bond issues and equity issues neutrally.<sup>8</sup> In most years, however, the latter were treated more favourably. Therefore, notwithstanding fluctuations in demand, equities remained the primary financing choice for American corporations. As a result, the primary supply of equities remained high, and investors were provided with a consistent stable of available shares.

## **Summary**

36. In short, the United States experience with the development of and taxation of relatively nascent financial markets lends support to the theoretical argument outlined in section III. Specifically, the experience of the early nineteenth century outlines how low corporate taxation may incentivize not only the creation of a large private sector, but also a relatively high rate of equity issuance. This outcome was then reinforced by a tax programme that provided differential tax treatment to bonds and equities, to the latter's advantage. On the demand side, it is clear that capital gains taxation played a major role in determining both market capitalization and liquidity. Tax rates above 25 per cent appear to have significantly constrained both variables; furthermore, tax rates that discriminated against short-term gains had the strongest effect upon liquidity and only a minor effect upon capitalization. This suggests that tax programmes designed to discourage speculative dealing, although they may not affect the overall size of a market, are likely to constrain its ability to satisfy investors' liquidity preferences. As a result, such taxes will be detrimental to a market's ability to grow and increase the efficiency of a nation's capital allocation.

## **Malaysia, 1980-2000**

### **Background and data**

37. Before 1988, the Malaysian stock market had been relatively underdeveloped. The 1990s witnessed an explosion of both the size and the liquidity of the Malaysian markets. Between 1988 and 1989, the capitalization of the market increased from 67 to 102 per cent of GDP and continued to increase throughout the decade, reaching 309 per cent in 1996, prior to the onset of the Asian crisis. In addition, the number of companies listed on Malaysian markets shot up as well, reaching a peak of 736 listed companies in 1998 (see table 3). Finally, reflecting the increase in liquidity, the turnover ratio of Malaysian markets also rose markedly during the 1990s, averaging 50.4 per cent during the seven-year period from 1989 to 1996. Thus, in this period of less than seven years, Malaysia was able to transform its relatively underdeveloped predecessor, whose growth had been largely stagnant throughout the preceding decade, into a large liquid market.

38. No doubt FDI was the principal source of funds behind the domestic market's increased capitalization. However, the Malaysian Government's tax treatment of equities was largely responsible for the channelling of this capital into the stock exchange rather than towards other financial assets. Moreover, although it did not create an incentive towards the use of equity financing, the Malaysian tax structure treated equity and bond financing effectively neutrally.<sup>9</sup> This allowed companies to issue equity as a means to draw upon the massive capital inflows without incurring heavy tax penalties in the process.

### **The Malaysian tax structure: individuals**

39. The Malaysian personal tax structure during these two decades was fairly stable, with the exception of two subtle changes. Personal incomes were taxed progressively throughout — from 5 to 40 per cent, with 20 per cent being the mean — with capital gains income being exempt each year. The first alteration in the tax code concerned dividend income which became exempt only in 1990 — after having been taxed at 40 per cent until 1988 and at 35 per cent in 1989 — and has

remained exempt since then. The second change was much more subtle: the rate on interest income, which had been taxed as ordinary income at 20 per cent until 1995, was reduced to 15 per cent.

40. As outlined in the framework presented in section III, the increase in capitalization and liquidity almost perfectly parallels the alterations in the Malaysian tax structure. The first major increase in the size of the market which occurred in 1989 was concurrent with the first decrease in dividend taxation. The following year, when dividends became fully exempt, capitalization increased further to 113.6 per cent of GDP. The only reversal in this trend parallels the second change in Malaysian tax policy. In 1995, concurrent with the decrease in the tax rate applied to bonds, both the relative capitalization and liquidity of the market fell, the former from 275 to 255 per cent of GDP, and the latter from 60.1 to 35.9 per cent. This backsliding was short-lived, however, as both measures of market performance began increasing again the following year.

41. Given that equity taxation is a combination of capital gains taxation and dividend taxation, these trends in the Malaysian equity market should be interpreted as reflecting an increase in demand owing to more preferential tax treatment of equities. The 1989 and 1990 revisions made equities a more attractive investment than bonds.

#### **The Malaysian tax structure: corporations**

42. The primary recent change in the Malaysian tax system occurred in 1989 when the corporate income tax was reduced from 40 to 35 per cent and the 5 per cent development tax began to be phased out at 1 point per year. Consequently, decreases in corporate taxes should have increased the percentage of firms that relied upon equities as opposed to bonds. This appears to have been precisely what occurred in the Malaysian case.

43. The nine-year period following the 1989 revisions witnessed a 193 per cent increase in the number of companies listed on the Kuala Lumpur stock exchange. This was in contrast to the mere 38.4 per cent increase from the preceding nine-year period. Further highlighting the effects of this change in tax policy, between 1989 and 1990 — the first year following the passage of the budget — the number of corporations listed increased by 12.3 per cent, from 251 to 282. This was almost double the highest rate of increase for any one year in the 1980s (6.3 per cent, in 1984). The years 1991 and 1992 witnessed even larger increases in the number of listed firms — of 13.8 and 14.5 per cent, respectively.

44. These facts underscore the important role that the Malaysian tax system played in increasing the supply of equities available on primary markets. The reduction in corporate tax rates increased the after-tax return to equity-financed projects relative to bond-financed projects, and thereby allowed firms to increase their reliance upon the former method.<sup>10</sup> In fact, estimates of marginal effective tax rates, summarized in table 4, highlight the decreasing spread between bond-financed projects and equity-financed projects. Thus, the reduction in corporate taxation provided equities with more preferential treatment and freed the supply of equity issues. In the face of inflows of foreign capital, this was essential for the increase in the Malaysian market's capitalization

### **Summary**

45. In general, the Malaysian case highlights the need for a tax structure to encourage both supply and demand for equities. Although demand was encouraged somewhat during the 1980s, this alone was insufficient to generate an effect upon the overall size and performance of the market. Rather, it took a revision in the corporate tax code to increase the supply of available equities needed to accomplish these ends. However, it is not necessary to have corporate tax rates below the average personal rate. In this case, although the revised corporate rate of 35 per cent is below the maximum personal rate, it is nonetheless above the average personal rate. Notwithstanding, this change was sufficient to incentivize equity issues and increase the capitalization of the domestic market. Finally, the effects of the reduction in dividend taxation and the resultant effects on market turnover indicate that, in order to stimulate equity demand, low capital gains taxation alone (as opposed to low equity taxation) may be insufficient.

### **Brazil, 1980-2000**

#### **Background and data**

46. Brazil is an interesting country to study owing to the protracted difficulties that it has encountered in developing its domestic equity markets. In 1980, the capitalization of the São Paulo stock market — by far the largest Brazilian exchange — was only \$16,354 million, representing a paltry 3.5 per cent of GDP.

47. Beginning in 1991, the Brazilian market underwent a slow, steady development, reaching a record 34.6 per cent of GDP by 1994. After a brief slump, the gross capitalization of Brazil's market rebounded to \$226,152 million in 2000, which resulted in Brazil's market being ranked first among Latin American nations and fourteenth worldwide, ahead of Singapore and the Republic of Korea.

48. However, in relative terms, the Brazilian market capitalization still represented only 30.3 per cent of GDP. Though this was nearly a tenfold increase from 1980, it was nonetheless only 0.6 per cent above the Latin American capitalization/GDP average, and 10.8 per cent below the average for all middle-income countries combined. Consequently, despite all its growth in the past two decades, the Brazilian market continues to remain rather underdeveloped.

49. Much of this may be plausibly attributed to a low and inconsistent supply of equities offered on the primary market. Between 1980 and 1990, there was only a 16.3 per cent increase in the number of stocks listed on Brazilian exchanges.<sup>11</sup> Furthermore, in three of the years within this period (1984, 1989 and 1990), there was a net decline in the number of listings. In the 1990s, supply contracted yet further, as the number of listed companies declined by 11.0 per cent.<sup>12</sup> These facts clearly underscore the low reliance upon equity financing in Brazil which has caused the depressed supply of available equities.

50. Throughout this period, equity demand was fairly high, though perhaps not stable. During the 1980s, the turnover ratio of the São Paulo exchange fluctuated between 34.3 and 74.4 per cent, with the exception of 1989, when a collapse in demand caused it to fall to only 17.9 per cent. Even including this outlier, the average turnover ratio for the entire period was 43.9 per cent. Equity demand increased yet further during the 1990s, evidenced by the continued increases in the

turnover ratio from its 1989 low. Although the effects of the international debt crisis constrained this somewhat during the late 1990s, the turnover ratio averaged 50.2 per cent over the period, reaching a high of 85.8 per cent in 1997.

51. Thus, it appears that the low supply of equities, rather than demand-side factors, has been responsible for the slow development of Brazilian equity markets. Much of this stems from poor tax structure which has discriminated against equity financing. The mechanics thereof are highlighted below.

#### **Taxation of financial assets: demand side**

52. Although demand for equities was consistently high, it was markedly more so during the 1990s, as evidenced by the turnover ratios cited above. This disconnect stemmed from the revisions to the tax code that had been effected in 1989. From 1965 to 1989, only equities held longer than five years were exempted from taxation; all other capital assets were taxed as ordinary income. Similarly, there was no exemption for dividend income. Furthermore, because dividends were not exempt from corporate income, this created double taxation of dividend receipts, further increasing their effective rate. However, the 1989 revisions significantly decreased the tax burden on capital gains, reducing dividend income and capital gains tax rates to only 8 per cent and eliminating double taxation of dividends. The effects of this on demand are clearly seen through the turnover ratio, the dynamics of which have been summarized above and in table 5.

53. It is likely that the international investors, subject to differential taxation from residents, were responsible for a large percentage of the increased equity demand during the 1990s. The only exceptions to the general increase in turnover ratios occurred in 1991 and 1995, and both episodes corresponded to changes in the tax treatment of gains by foreigners.<sup>13</sup> Capital gains income for foreign investors taxes was taxed only during 1990 and 1991, at rates of 25 and 15 per cent, respectively. Furthermore, in 1991, the tax rate on interest income by foreigners was reduced from 25 to 15 per cent. These changes correlate with the first reversal in the trend of the turnover ratio. The second reversal correlates with changes in interest income and dividend taxation. Following the slump of 1995 when both capitalization and liquidity fell, dividend income accrued by foreigners, previously taxed at 15 per cent, was made exempt. Immediately, the turnover ratio increased by 13.3 per cent, and again by 24.7 per cent the following year.

54. While this presents a plausible case for the fluctuations in equity demand, it does nothing to explain the limited growth of the Brazilian market. Looking solely at these demand-side numbers, there is little evidence with which to understand this dynamic. Capital gains taxation was consistently low, and was never taxed at rates above interest income. Furthermore, dividend taxation was progressively liberalized for foreign non-residents. Thus, it is clear that taxation did not unduly constrain equity demand in Brazil but, rather, may have been a major factor in stimulating it. Though one might argue that capital gains should have been exempted, such an argument seems specious given the consistently high and increasing turnover ratios. Thus, in order to explain why capital gains exemption alone was insufficient to facilitate significant increases in capitalization, it is necessary to turn to supply-side factors.

**Taxation of financial assets: supply side**

55. Throughout the 1980s, the Brazilian tax system levied taxes on corporate income at an effective rate of 46 per cent.<sup>14</sup> Though high, these taxes alone do not seem sufficient to explain the limited equity market development, given the high demand outlined above and the fact that Malaysia, for example, had witnessed heavy issuance in conjunction with corporate taxes of 39 per cent. However, Malaysia benefited from a tax structure that treated bonds and equities effectively neutrally — a system that was notably absent in Brazil.

56. As noted above, the tax system in place up to 1989 tended to favour debt financing.<sup>15</sup> Personal interest income was withheld at the source and was then exempted from personal income taxation. The fact that this was not true of most equity or dividend income drove a wedge between the after-tax rates of return on projects financed by each of these methods. The results of this are shown both by the low rate of new listings in Brazil and by the data in table 6, reflecting the low reliance upon equity financing as a source of corporate capital.

57. The tax system underwent a revision in 1989, which introduced a tax rate of 25 per cent on interest income and a reduction of tax rates on capital gains and dividends to 8 per cent. Following this change, the capitalization of the market increased as equities became a more attractive asset. However, somewhat surprisingly, the number of equities actually declined after 1989. This development is at odds with the theoretical predictions outlined above. Thus, at first glance, the case appears to be something of an enigma. Equities seem to have been treated more favourably than bonds, yet the overall size of the Brazilian market has declined in terms of available shares. The answer to this seeming paradox lies in the distortionary nature of Brazilian tax incentives.

58. Estache and Gaspar (2000) analysed the effect of the three major tax incentives — accelerated depreciation, export subsidies and regional development programmes — on the effective marginal tax rates for equity and debt financing in Brazil. Because these tax incentives are not applied evenly, they alter the nature of the tax structure in Brazil, causing taxation of equity-financed projects to be higher than that of debt-financed projects. Specifically, for machinery investments, the marginal tax rate for equity-financed projects exceeds that for debt (68.1 per cent compared with 55.0 per cent); for all other projects, the difference is even greater, with equity projects taxed at 60.4 per cent, and debt-financed projects taxed at 39.8 per cent. Only in the case of export incentives is this not the case; the structure of this programme provides greater tax incentives to exporters using equity than those using debt. Furthermore, the nature of this advantage increases with the percentage of exports in total sales. Thus, only for firms that sell more than half of their products in export markets is equity taxed at a lower rate. For all other firms, debt is effectively subsidized. This is summarized in table 7.

59. These findings are corroborated by a survey of firms conducted by the authors. They found that the larger the percentage of sales exports represented in a firm, the more likely the firm's reliance upon equity as opposed to debt financing. This finding, along with the tax rate calculations, indicates that the Brazilian tax system is, in fact, distortionary in a way contrary to what the nominal tax rates would suggest. Debt financing is provided with greater tax incentives than is equity financing, and this explains the low supply of securities on primary markets. This assertion is clearly corroborated by the fact that only for those firms for which



Brazilian tax incentives do not reverse the nature of the tax advantages (that is to say, those exporting greater than 50 per cent of sales) is there a heavy reliance on equity financing.

### **Summary**

60. The Brazilian example highlights the fact that supply-side and demand-side taxation may work in isolation in affecting equity market development. Specifically, low absolute equity taxation may increase demand for, but not supply of, equities. Consequently, low capital gains and dividend taxation may increase market liquidity and capitalization, but may not increase the number of shares available. In order to accomplish this latter task, it is necessary to provide equity financing with preferential treatment relative to debt. This implies low relative as well as absolute capital gains taxation. Finally, it is imperative that any tax incentives used to this end do not alter the fundamental nature of the incentive structure. Failing to take this into account may eliminate any benefits that the nominal tax structure may potentially provide.

### **Summary: taxation and equity market development experiences**

61. The above examples have highlighted the powerful role that taxes play in equity market development. In all of the countries studied, both investors and firms have shown a strong propensity to alter investment and financing behaviour in response to fluctuations in after-tax returns. Consequently, it is clear that, while absolute levels of taxation may be important, relative rates thereof will play a far more determinant role in the creation of large liquid equity markets. Up to a point, nominal tax distortions will be ignored, so long as the fundamental incentive structure of tax policies is not affected. Therefore, when creating or amending any existing tax programme, developing-country Governments must be careful to tax equities and corporate profits not only lightly, but also preferentially, relative to bonds and personal incomes, respectively. Equity taxation should remain low until such time as markets have developed a significant level of maturity. At this point, capital gains taxation may be able to generate significant revenues for the government without seriously affecting the efficiency of equity markets or capital allocation. Again, however, Governments must exercise extreme caution with respect to creating disincentives large enough to either create preferential treatment for other assets or diminish equity demand.

## **V. Taxation of mature financial markets**

62. In theory, any level of capital gains taxation should decrease equity demand and therefore reduce both market capitalization and liquidity. This effect may become even more acute as nations experience more financial deepening. Availability of substitutes for equities will encourage investors to easily move their capital to other assets subject to lower tax rates, in response to any increase in taxation. As a result, Governments may worry that, even once equity markets are developed, their ability to generate revenue through the use of capital gains taxation will be severely limited.

63. Equity demand, however, is generated by both investors' desire for high after-tax real returns and liquidity preferences. Mature equity markets are perfectly suited to servicing this latter demand. Because mature equity markets are able to provide investors with the liquid gains they seek, investors are willing to tolerate a limited reduction in their after-tax return in exchange for the implicit security that high liquidity provides. Consequently, mature equity markets are able to withstand a degree of capital gains taxation without experiencing a significant loss of capitalization, liquidity or efficiency. However, even for mature equity markets, unduly high capital gains taxation threatens to trigger the "vicious cycle" outlined above: facing a large reduction in returns, those investors for whom liquidity is not a primary driver of demand will begin shifting their portfolios away from equity. As a result, both market capitalization and financial market tax receipts will be diminished. Therefore, Governments must find a tax rate that strikes an appropriate balance between its revenue demands and the liquidity and return requirements of investors.

64. Empirical evidence indicates that this rate may be approximately 20 per cent. Authors such as Rudiger Dornbusch and Christophe Chamley (2000) have noted that, as the rate of financial taxation increases, the marginal revenue for the government decreases. Using a survey of developing markets in Africa and Asia, these authors noted that, at rates of 20 per cent, tax rates begin to have very large effects on asset distribution and the marginal return to taxation turns negative. This implies that tax rates above 20 per cent both create relatively large efficiency losses and become counter-productive for government revenues. Although this level will obviously vary with the degree of financial deepening in a nation, the message is clear: equity markets will tolerate limited infringements upon after-tax rates of return in exchange for high liquidity. However, once rates exceed "minimal" levels, liquidity will no longer be sufficient to compensate investors for decreased returns, and efficiency will be affected. Governments seeking to tax equities must therefore determine the degree of financial substitutability in their economy and whether this 20 per cent threshold will thus under- or overstate investor willingness to tolerate decreases in returns.

## **VI. Conclusion and other considerations**

**65. It is important to note that the policy framework suggested above should be sustainable in both short- and long-run contexts. Because revenue from the taxation of capital traditionally contributes only a small percentage of developing-country government revenues, exempting capital gains should not impose significant short-term budgetary constraints upon these nations.<sup>16</sup> Furthermore, if Governments exercise appropriate restraint and tax equities only once markets are able to support such taxation, equity market development could generate significant revenue in later periods at only limited efficiency costs — as it does currently in all Organisation for Economic Cooperation and Development (OECD) nations. As a result, forgoing revenue today may help to forestall future revenue problems at limited or no current real cost.**

**66. As a final aside, it important to stress that an analysis of securities transaction taxes is outside the scope of the present analysis and has therefore not been included. Although the mechanics of these taxes are different, they**

may encounter the same theoretical problems as those outlined above for the more “traditional” forms of capital gains taxation. Like withholding taxes, securities transaction taxes impose a cost on investors and thus decrease after-tax rates of return on equity investments. This generates the same set of problems and carries a risk of creating the same vicious cycle as is associated with the taxes analysed here. Thus, Governments should be cautious about viewing securities transaction taxes as a panacea for the revenue-development trade-off currently being faced. No matter the form, taxes create disincentives and Governments are thus well advised to avoid applying these to immature equity markets whose health may be affected in the process.

### Notes

- <sup>1</sup> See, for example, Ross Levine, “Stock markets, growth, and tax policy”, *Journal of Finance*, vol. 46, No. 4 (September 1991), pp. 1445-1465.
- <sup>2</sup> See Agenor, p. 692.
- <sup>3</sup> A complete discussion of this issue is unfortunately outside the scope of this analysis. For a more detailed treatment of reform timing, please refer to *Development Macroeconomics*, pp. 762-765, for example.
- <sup>4</sup> Note that this analysis assumes the deductibility of interest payments — an assumption that largely holds today.
- <sup>5</sup> Taxes on equities are a weighted average of taxes on dividend and retained earnings. For a full discussion, see Lyon, p. 198.
- <sup>6</sup> Werner and Smith, p. 104.
- <sup>7</sup> *Ibid.*, p. 107.
- <sup>8</sup> Bonds were taxed as ordinary income. Consequently, both types of assets were treated neutrally for short-term gains throughout the period (assuming no available losses for use as deductions after 1923). For long-term gains, the two were treated neutrally for the highest income groups during the operation of the percentage inclusion plan.
- <sup>9</sup> See, for example, Broadway, Chua and Flatters (2000), p. 365.
- <sup>10</sup> Interest payments were deductible from corporate taxes throughout the entire period.
- <sup>11</sup> Data for São Paulo and Rio de Janeiro exchanges.
- <sup>12</sup> São Paulo only.
- <sup>13</sup> Referring to United States-based institutional investors.
- <sup>14</sup> Thirty per cent, corporate income tax; 10 per cent, federal tax; and 5 per cent, State tax, plus social contribution taxes, less export subsidies. See Estache and Gaspar, p. 321.
- <sup>15</sup> See Welch, p. 107.
- <sup>16</sup> Thirsk, p. 60.

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