IMF Working Paper

Investment Incentives and Effective Tax Rates in the Philippines: A Comparison With Neighboring Countries

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INTERNATIONAL MONETARY FUND

IMF Working Paper

Fiscal Affairs Department and Asia and Pacific Department

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A Comparison With Neighboring Countries

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September 2008

Abstract

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We compare the general tax provisions and investment incentives in the Philippines to six other east-Asian economies—Malaysia, Indonesia, Lao, Vietnam, Cambodia, and Thailand. We calculate effective tax rates and find that general effective tax rates are relatively high in the Philippines, while investment incentives are comparable to those in neighboring countries. Tax holidays are most attractive for very profitable firms, creating redundancy, and for investment in short-lived assets. We also consider recently-proposed tax reforms that would replace tax holidays by a reduced corporate income tax rate or a low tax on gross receipts. The results suggest that this would result in stronger incentives to invest, while government revenue increases. Alternatively, replacing holidays with a general reduction in the corporate tax rate and offering accelerated depreciation will either not provide the same incentives or be very costly.

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I. INTRODUCTION

1. **After the successful VAT reform, reforming tax incentives is the next major tax policy item on the legislative agenda in the Philippines.** Between 2002-05, substantial deficit reduction was achieved as a result of expenditure compression. This changed in 2006 as a result of the successful VAT reform, which netted almost 1½ percent of GDP in additional revenue. The authorities recognize the need to increase revenue in the medium term, through tax administration reform, but also through reforming tax incentives. In particular, they aim to reduce redundancy; i.e. the provision of tax incentives for activities that would have been undertaken anyway, which is estimated to cost about 1 percent of GDP in foregone revenue.

2. **Unilateral reform of tax holidays is often hampered by tax competition.** One consideration for introducing tax holidays in the Philippines, like in neighboring countries, was to remain competitive with neighboring countries for attracting investment. This need is frequently interpreted in the narrow sense of the length of a tax holiday, rather than low effective tax rates to encourage investment and attract firm-specific, internationally mobile capital. The same consideration makes it difficult to reform the incentives regime, despite the recognition in the Philippines and other countries that tax holidays may come at significant fiscal cost.

3. **Rather than just the length of the tax holiday, the effects of the overall taxation regime on investment should be taken into account.** In this context the paper asks the following questions:

- *What are the characteristics of business taxation in the Philippines relative to neighboring countries?* We focus on the overall corporate income tax rate, tax incentives, as well as other provisions that affect incentives to invest such as depreciation methods and allowances, the profitability of an investment project, and whether it is financed through debt or equity.

- *What are the effects of tax holidays on incentives to invest?* We review the theoretical and empirical literature, which suggests limited effectiveness of tax holidays in attracting additional, especially long-term, investment. Instead, a broader view of the tax system is stressed, with a focus on the general corporate income tax rate and depreciation allowances.

- *How do effective tax rates in the Philippines compare to those in neighboring countries?* We extend the methodology by Devereux and Griffith (2003) to accommodate the evaluation of tax incentives and calculate the marginal effective tax rate (METR) and average effective tax rate (AETR) to assess the impact of the tax system including income tax holidays on incentives to invest.

- *What is the likely effect of abolishing the income tax holiday on investment incentives?* We analyze the effect on effective tax rates of recent reform proposals

under consideration in the Philippines, especially the Department of Finance-sponsored legislation to replace tax holidays with a reduced corporate income tax rate for select exporting companies or a 5 percent tax on gross receipts. We also contrast this proposal with offering accelerated depreciation instead.

II. A BIRDS-EYE VIEW OF THE TAXATION REGIME

4.   **The corporate income tax rate in the Philippines is higher than in neighboring countries** (Table 2). The Philippines increased the standard CIT rate as part of the EVAT reform to 35 percent in November 2005 and plans to reduce the rate to 30 percent by 2009. The latter reform would make the rate identical to the ones in Indonesia and Thailand. For domestic corporations, the tax base is net world-wide income while for resident foreign corporations, the tax base is net Philippine-source income. Regarding depreciation allowances, unlike its neighbors, the Philippines does not prescribe the method or allowable rate. Instead, it allows the straight-line, double-declining balance, or the sum-of-the-years-digits methods, while the rates are based "on economic or useful lives of the asset or the ones used for financial reporting". The maximum rate of personal income taxation is comparable to those in other economies, although taxation of the components of personal income that most directly affect saving and investment decisions—dividends, interest, and capital gains—vary widely.

5.   **Incentives in the Philippines appear broadly comparable to those in neighboring countries.** Table 2 compares the coverage, duration of the holiday period, as well as other incentives provided in the Philippines to those provided in Lao P.D.R., Thailand, Vietnam, Malaysia, Cambodia, and Indonesia:

- *Duration of the tax holiday period:* Except for Cambodia and Vietnam, a project's commencement period triggers the start of the holiday. The duration of the holiday period is very similar and usually ranges between 3 and 8 years. The investment incentives broadly target export and technology oriented firms and aim to promote investment in remote or less developed areas. Loss-carry-forward provisions range from 3 years in the Philippines and Lao to 5 years in the other countries except Indonesia (10 years) and Malaysia which offers unlimited loss carry-forward.

- *Reduced corporate income tax (CIT) rate:* Lao P.D.R., Thailand, and Vietnam provide a reduced corporate income tax rate for a number of years after the holiday has ended. This practice ended in Cambodia in September 2005 and is also absent in the Philippines, Malaysia, and Indonesia. However, some firms in the Philippines are subject to a 5 percent tax on gross income, rather than the standard CIT rate, after the holiday expires.

- *Other considerations:* Regarding indirect incentives, most countries provide complete exemption of import duties and VAT for qualifying investment projects whose output is essentially for export only, but also to producers in the supporting industries. Lao P.D.R., Thailand, and Vietnam use exemptions more selectively and

tend to rely more on reduced rates rather than exemptions. The Philippines offers a deduction for infrastructure spending and labor expenses under certain conditions.

III. INTERNATIONAL EXPERIENCE WITH TAX HOLIDAYS

6.   **The experience in other countries indicates that tax holidays have small effects on long-term investment relative to their fiscal cost.** [1] Although there is considerable evidence that differences in international taxation affect the volume, location, and character of FDI in developed economies— see Gordon and Hines (2002)—the evidence on tax holidays in emerging markets is more negative, as detailed in Guin-Siu (2004),

- *Malaysia*: Boadway, Chua and Flatters (1995) find that tax holidays failed to promote investment in desirable activities or assist infant industries and disadvantaged economic and social groups. ***Thailand***: Halvorsen (1995) similarly concludes that corporate tax holidays were ineffective as an investment incentive arguing that the various incentives granted in several projects were unjustified, since their rate of return was so high that the investments would have taken place regardless of the incentives (redundancy).

- ***Transition economies***: An OECD study (OECD, 1995) concludes that on balance, tax incentives are unlikely to affect significantly the decision of investors to undertake FDI. In addition, for ***Central Europe,*** Mintz and Tsipoulos (1995) find that tax allowances and credits, combined with a moderate tax rate, were probably more cost effective than tax holidays in attracting FDI.

- Foreign investment decisions of ***Fortune 500 companies***: a survey of 75 such companies found that nontax factors were the main determinants of their location decisions (Wunder, 2001).

- ***Brazil***: Estache and Gaspar (1995) argue that tax incentives, rather than being a decisive factor in the decision to invest, are in fact better at reducing revenue than at stimulating investment, and have significantly distorted the tax system.

- ***Mexico, Pakistan, and Turkey***: Bernstein and Shah (1995) conclude that selective tax incentives, such as investment credits, investment allowances, and accelerated depreciation, are more cost effective for the fiscal authority in promoting investment than selective CIT rate reductions.

7.   **Tax holidays are generally not well targeted and therefore regarded as the most damaging form of tax incentives, posing significant dangers to the wider tax system.** One advantage of tax holidays—as opposed to other forms of tax subsidies—is that they provide benefits up front. Indeed, Doyle and van Wijnbergen (1984) show that an initial period of tax concessions followed by gradually rising tax rate can be the outcome of a

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[1] The international experience is described in detail in Guin-Siu (2004). See also Zee, Stotsky, and Ley (2002).

sequential bargaining process between firms that incur fixed costs of investment and the government. Nevertheless, although all forms of tax incentives carry some disadvantages (Table 1), tax holidays in particular are generally not recommended for the following reasons:

- **Tax holidays are not cost effective** because profits are exempted regardless of their amount. The most profitable investments, which would have taken place in any event, benefit most. Estimates for the Philippines indicate that the revenue loss from redundant incentives could be as large as 1 percent of GDP, providing a windfall gain to receiving firms (Reside, 2006).[2]

- **Tax holidays are most attractive for footloose industries** that tend to exit the country at the end of the holiday period. These industries are likely to bring the smallest benefit to the overall economy. Instead, firms investing in long-lived assets whose revenues may not fully recover costs during the period of the holiday, benefit least from tax holidays.

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[2] Reside (2006) first analyzes financial indicators of investment project proposals requesting tax incentives. A high ex-ante rate of return—in excess of 15 percent—is considered a necessary, but not a sufficient condition for redundancy. The author next classifies investments according to their sensitivity to incentives: exporters are sensitive, and non-exporting firms are classified as relatively insensitive to investment incentives. As such, incentives received by non-exporting firms with high ex-ante rates of return are considered redundant, which for Board of Investments (BOI) approvals equaled 1 percent of GDP in 2004.

Table 1. Pros and Cons for the Government of Different Types of Tax Incentives	
Advantages	Disadvantages
1. Lower CIT rate	
▪ Simple to administer. ▪ Revenue costs are more transparent.	▪ Largest benefits go to high-return firms that are likely to have invested even without incentive. ▪ Invites tax avoidance through high-tax enterprises shifting profits to low-tax ones via transfer pricing (intracountry and international). ▪ Acts as windfall to existing investments. ▪ Unlike specific benefits, may not be tax spared by home country tax authorities.
2. Tax holidays	
▪ Simple to administer. ▪ Allows taxpayers to avoid contact with tax administration (which may be important if it is complex or corrupt). ▪ Same as lower CIT rates, except might be tax spared.	▪ Attracts short-run projects. ▪ Invites tax avoidance through the indefinite extension of holidays via creative redesignation of existing investment as new investment. ▪ Creates competitive distortions between old and new firms. ▪ Revenue costs are not transparent unless tax filing is required, in which case administrative benefits are foregone.
3. Investment allowances and tax credits	
▪ Can be targeted to certain types of investment with highest positive spillovers. ▪ Revenue costs are more transparent.	▪ Distorts choice of capital assets in favor of short-lived ones, since a further allowance is available each time an asset is replaced. ▪ Qualified enterprises may attempt to abuse the system by selling and purchasing the same assets to claim multiple allowances. ▪ Greater administrative burden. ▪ Discriminates against investments with delayed returns if loss carry-forward provisions are inadequate.
4. Accelerated Depreciation	
▪ All of the benefits of investment allowances and credits. ▪ Does not generally discriminate against long-lived assets. ▪ Moves the CIT closer to a consumption-based tax, reducing the distortion against investment typically produced by the regular CIT.	▪ Some administrative burden. ▪ Discriminates against investments with delayed returns if loss carry-forward provisions are inadequate.
5. Exemptions from Indirect Taxes (VAT, import tariffs, etc.)	
▪ Allows taxpayers to avoid contact with tax administration (which may be important if it is complex or corrupt).	▪ VAT exemptions may be of little benefit—under regular VAT, tax on inputs is already creditable; outputs may still get taxed at later stage. ▪ Prone to abuse—easy to divert exempt purchases to unintended recipients.
6. Export Processing Zones	
▪ Allows taxpayers to avoid contact with tax administration (which may be important if it is complex or corrupt).	▪ Distorts locational decisions. ▪ Typically results in substantial leakage of untaxed goods into domestic market, eroding the tax base.

Sources: Fletcher (2002), "Tax Incentives in Cambodia, Lao PDR, and Vietnam", Paper prepared for the IMF Conference on Foreign Direct Investment: Opportunities and Challenges for Cambodia, Lao P.D.R., and Vietnam, Hanoi, Vietnam, August 16-17.

- **Tax holidays are open to abuse and provide many opportunities for tax avoidance** (for instance by using transfer pricing or other devices to shift earnings into holiday companies). This is especially true for countries with weak revenue administrations and insofar leakage occurs from special economic zones. Thus, tax incentives present a risk to government revenue as their mere existence allows for potential abuse by investors not intended to receive them. To mitigate these risks, as is the practice in the Philippines, it is important that firms receiving holidays still complete tax returns.

- **Tax holidays (or other favorable corporate tax treatment) targeted at export activities could be WTO-inconsistent,** except for the lowest income countries.

- **If the home country of the foreign investor operates a worldwide system of taxation, without tax sparing, then the impact of the holiday may be diluted once profits are repatriated**. This is because the home country ultimately ensures that repatriated earnings pay tax at its own rate, so any reduction in liability in the Philippines is exactly offset by increased liability there. However, in practice concerned firms are quite successful in avoiding such payments by delaying repatriation and/or routing it through third countries and therefore still benefit from tax holidays.

8.   **Some of the difficulties are aggravated by the well-documented complicated system of granting and overseeing the provision of tax incentives in the Philippines.** There are about ten investment promotions agencies (IPAs) and several national government agencies involved in managing investment activities and administering tax incentives. These include the Board of Investments (BOI), the Philippine Economic Zone Authority (PEZA), the Subic Bay Metropolitan Authority (SBMA), the Clark Development Corporation (CDC), and other bodies mandated by various laws to establish, maintain, and manage special economic or free port zones (see Aldaba, 2006).[3] BOI-registered enterprises are allowed income tax holiday up to eight years, tax and duty free importation of spare parts, and tax credit on raw materials (Aldaba, 2006). Under Executive Order 226, the incentives of importing capital equipment duty and tax free and tax credit on purchase of domestic capital equipment expired in 1997. After the lapse of the income tax holiday, the standard corporate tax rate will apply to BOI enterprises. PEZA grants the most generous incentives including income tax holiday, basic income tax rate of 5% of gross income, and tax and duty free importation of capital equipment, spare parts, and raw material inputs. Except for the income tax holiday, Clark and Subic enterprises enjoy the same incentives available to PEZA enterprises.

IV. EFFECTIVE TAX RATES

A. Methodology

9.   **In the end what matters is combined effect of all tax rules, and it is therefore useful to summarize them in a single measure, i.e., an effective tax rate.** The METR matters for incentives for incremental domestic investment and the AETR—compared with that available in other countries—for discrete rent-earning investments of multinationals. Statutory rates matter as incentives for profit shifting (e.g., through manipulation of transfer prices).

10.   **The basic approach to calculate effective tax rates is to construct a forward-looking hypothetical investment project for which the impact of tax on the cost of**

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[3] A recent study estimated that at least 83% of all tax and duty exemptions granted to BOI-registered investments are redundant, and 10% in the case of PEZA, Subic and Clark (see Reside, 2006).

capital can be computed. Along these lines Devereux and Griffith (2003) have developed a forward-looking measure of the "effective average tax rate" (EATR). The measure is based on a simple model that can incorporate discrete investment decisions, based on a value-maximizing firm. The EATR determines the level of the post-tax net present value of an investment project and as such its location. Conditional on the choice of location, the size of investment depends on the "effective marginal tax rate" (EMTR). Typically, countries appear to have the EATR in mind when referring to the need for tax holidays to remain internationally competitive.

11.   **The analysis of the impact of the current tax regime is assessed by the difference in the net present value of income generated with and without taxes.** This difference is scaled by the net present value of income generated in the absence of tax. As such, this measure of the EATR is equal to a weighted average of the EMTR and the statutory tax rate, (adjusted for personal income taxes, if they are included, see below). For a marginal investment project, i.e., an investment whose after-tax rate of return is zero,[4] the measure is equal to the EMTR. As the rate of profit increases, the measure converges to the statutory corporate income tax rate (see Devereux and Griffith (2003) for further details).

12.   **The calculation of effective tax rates takes into account the main characteristics of a country's corporate income taxation.** Besides the statutory tax rate, inclusive of any local rates, the depreciation method and rate have an important bearing on effective tax rates. In this regard, we distinguish between investment in buildings and plant and machinery as these are guided by different depreciation regimes. Moreover, the choice of financing is taking into account, in particular the interest deductibility in the case of debt finance.

13.   **Effective tax rates are sensitive to a number of assumptions, in particular the profitability of a project and the manner in which it is financed.** As a result, we calculate the effective tax rates for different levels of profitability and for debt and equity financed investment projects. Furthermore, we explore the sensitivity to the assumed economic depreciation rate of investment, in contrast to the depreciation allowed under the tax law.

14.   **We extend the Devereux and Griffith (2003) methodology to incorporate the effects on effective tax rates of tax holidays.** The original derivation in the paper by Devereux and Griffith is calculated for a one-period perturbation in the capital stock; i.e., they analyze an investment of one unit of capital that is held for one year and then sold at its remaining value. While this is simple and in many cases appropriate, it is not useful for the study of tax holidays, which typically last longer than one period. We have therefore adapted the framework to study a permanent increase in the capital stock by one unit, which is slowly disinvested over time through depreciation.[5] Returns to capital are tax-free during the tax holiday and taxed thereafter, with carry forward of unused depreciation out of the holiday period.

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[4] "Marginal investment" thus has this specific meaning here and does not refer to any incremental investment (in case of a firm which already has the optimal capital stock, however, any additional investment will be marginal in both senses).

[5] For details see Klemm (2008).

15.   **Although the effective tax rate methodology incorporates the main characteristics of a tax system, it ignores various aspects that potentially affect incentives to invest.** As it is not feasible to include every aspect of tax codes, covering often hundreds of pages, into a single measure, effective tax rates are based on the most important features of the system only. Instead, an alternative approach comprises measures based on actual tax revenues scaled, for example, by macroeconomic data on profits to arrive at an implicit corporate tax rate. While such measure reflect all tax laws, they are backward looking and thus affected by past tax rules and laws, as well as companies' histories of losses. The measures used in this paper, however, are forward looking and take into account the specific situation of an investment project, based on the expected profitability, financing source and potential applicability of tax incentives. Our analysis does not, however, take into account the presence of the minimum corporate income tax (MCIT) in the Philippines equal to 2% of gross income. This is unlikely to cause problems, as corporations that are subject to tax incentives do not fall within the coverage of the MCIT and for other firms, any excess of the MCIT over the normal tax is carried forward and credited against the normal income tax for the three immediately succeeding taxable years.

16.   **The effective tax rate calculations are necessarily based on a number of assumptions.** They assume that firms are not tax-exhausted, and they do not account for reduced corporate income tax rates after the tax holiday has ended, such as in Vietnam. Additional assumptions include: (i) the level of inflation is set equal to 3.5 percent in all countries;[6] (ii) in line with other applications,

Net Present Discounted Value of Depreciation Allowances (in percent of the cit rate)
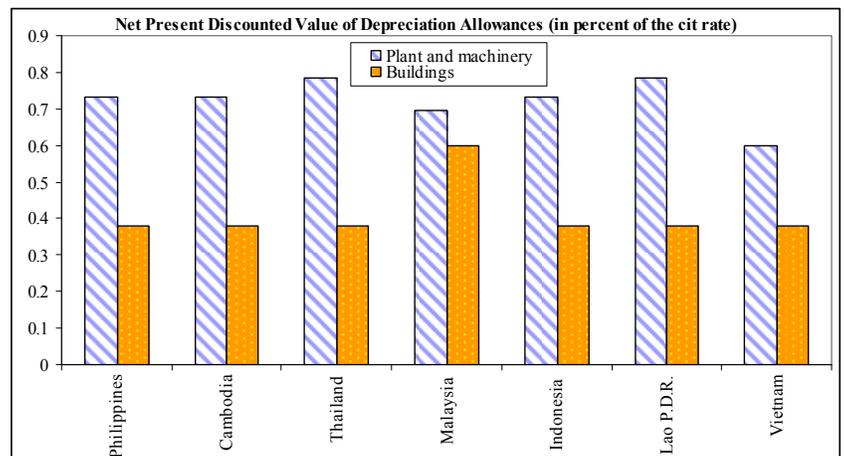
economic depreciation for buildings is set equal to 3.61 percent, and for plant and machinery equal to 12.25 percent; and (iii) since the depreciation method and allowance for the Philippines is not specified, we assume that firms select the straight-line balance method at 5 percent for buildings, and the declining-balance method at 25 percent for plant and machinery, in line with regional practice. The present discounted value of depreciation allowances divided by the statutory tax rates provides a measure of its generosity—with 100 percent being the equivalent of a pure cash-flow tax (text chart).

17.   **As the countries considered have open capital accounts and most have similar taxation of capital gains and dividends we ignore personal income taxation for**

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[6] There are two reasons for using a fixed inflation rate rather than the actual one. First, this allows us to focus on the tax system and abstract from the effects of macroeconomic policy. Second, the current rate is likely to be affected by temporary factors and may not reflect medium-term inflation expectations.

simplicity. In principle, personal income taxation affects incentives to save and invest, especially the taxation of interest, dividends, and capital gains:

- **In the model used here, taxation of interest would lower effective tax rates as the discount rate declines.** It is, however, not entirely clear how relevant it is to include taxation at the individual level: First, shareholders may be able to avoid taxes on their capital income, in many countries as simply as by by saving through a pension fund rather than directly. Moreover, in a small open economy, the marginal providers of funds are likely to be foreign individuals or firms, and their tax treatment may differ from that of domestic investors. If their tax rates are low, for example because they benefit from double tax agreements and/or invest through pension funds, then domestic dividend and interest taxation may not be very important factors in determining the cost of capital".

- **Higher (lower) effective taxation of capital gains than dividends would lower (increase) effective tax rates.** Contrary to the situation without personal income taxation, the magnitude of these effects will depend on whether the project is financed with retained earnings or new equity. For the Philippines, and most other countries included in this paper, capital gains and dividends are taxed at the same rate, the exceptions being Thailand and Indonesia.

B. Estimation Results

18. **For companies that do not receive tax incentives, effective tax rates in the Philippines are higher than in neighboring countries** (Figure 1). The marginal effective tax rate is similar to its neighbors, for both buildings and plant and machinery, but as profitability increases, the average effective rate converges to the statutory CIT rate, which is the highest in the Philippines. This conclusion also applies for debt financed investments, although rates are lower due to interest deductibility. In general, the less generous the depreciation allowance and the higher the CIT rate, the more a firm benefits from interest deductibility, which explains why the Philippines has relatively low effective tax rates for debt financed investments. Marginal effective tax rates are negative under interest deductibility, although a firm will only benefit from this if it has other profits against which these losses can be deducted, for example from profits made in other branches or possibly from foreign sources—although the latter is not allowed in most countries—or in case there is a long loss-carry-forward provision, as for example in Malaysia. Since the difference between tax and economic depreciation is smaller for buildings, effective tax rates are somewhat higher—in the remainder of the paper we focus mostly on plant and machinery.

19. **Effective tax rates on capital usually tend to be higher in large and advanced economies compared to emerging markets, but not in the case of the Philippines.** A small economy that reduces its corporate income tax rate will lose relatively little revenue relative to a larger economy as the additional investment attracted is larger as a share of GDP. Furthermore, advanced economies tend to have a stronger investment climate implying that location decisions of investment are less sensitive to tax rates. Nevertheless, by comparing effective tax rates internationally, it can be observed that the rates in the

Philippines, average rates in particular, tend to be high relative to its stage of economic development.

International Comparison of Effective Tax Rates For Companies Not Receiving Tax Incentives (2005) 1/
**(Equity financed, plant and machinery; in percent)**
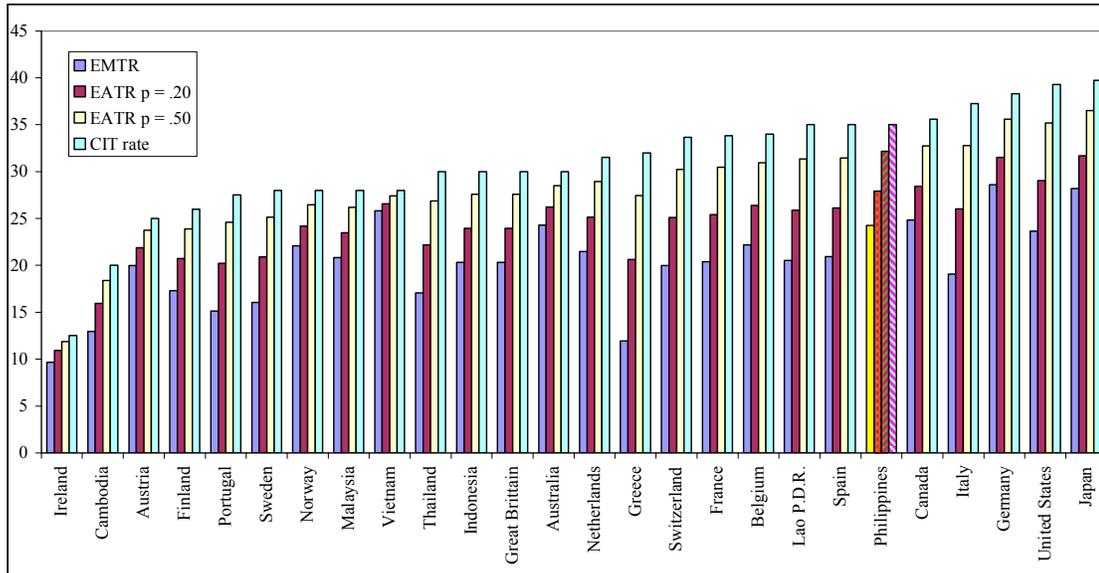
Source: Staff calculations, Authorities' data and updated data from Devereux, Griffith and Klemm (2002).

1/ Even though the effective tax rates for advanced economies are based on one-period perturbations of the capital stock, they are comparable to those calculated in this paper as shown in Klemm (2008).

20.   **Tax incentives are broadly comparable in the Philippines and neighboring countries and reduce effective tax rates significantly** (Figure 2). Figure 2 illustrates effective tax rates for firms receiving the maximum duration of the holiday in each country. It should be noted that the effective tax rate is positive under the holiday, because there is a tax payment to be made after the holiday. As the firm is forward-looking, when deciding whether to invest it takes into account, but discounts, the real payments that need to be made after the holiday expires. Given that most of the asset will be depreciated by then for tax purposes, the proportion of profit subject to tax will in fact be quite high. However, because of the many tax free years and because of discounting, the resulting tax rate is still very low early in the holiday period. The effective tax rates faced by firms on equity-financed investments made in the first year of the holiday is between 7-10 percent in the Philippines for plant and machinery and about 11½ percent for buildings. Vietnam's rates are lower, not because of more generous tax incentives, but because the CIT rate after the holiday is lower. Effective tax rates for debt-financed investments are lower, as not all of the interest deductibility is exhausted during the holiday period.

21.   **The wedge between taxation of companies with and without tax incentives is one of the largest in the Philippines** (Figure 3). This is particularly the case at high levels of profitability. In principle, firms receiving a tax holiday will face a lower effective tax rate if tax depreciation is more backloaded.

22.   **The tax holiday in the Philippines becomes more generous if firms optimally select the depreciation deduction.** Since firms in the Philippines have an option to select the depreciation method and amount, Figure 2 underestimates the generosity of the holiday in the Philippines. Firms have an incentive to choose a method and level of depreciation that maximizes the residual depreciation allowance after the holiday expires. In doing so, for investment in both buildings and in plants and machinery, a firm can significantly lower effective tax rates—aligning them with those in Vietnam (text chart). For plant and machinery, using the declining balance method at 6.2 percent per year, leaves about 60 percent of the asset to be depreciated for tax purposes, rather than 10 percent in our baseline. For buildings, depreciating at a lower rate than the 5 percent assumed in the baseline would not reduce effective tax rates as the higher residual value for depreciating purposes is more than outweighed by the lower depreciation rate itself. Instead, a firm can reduce effective tax rates by choosing depreciation of about 11 percent per year. Thus, accelerated depreciation—depreciation exceeding "true" economic depreciation—may sometimes offer a benefit even when a firm receives a tax holiday.

Philippines: Sensitivity of Effective Tax Rates to Depreciation Decision; Maximum Tax Holiday
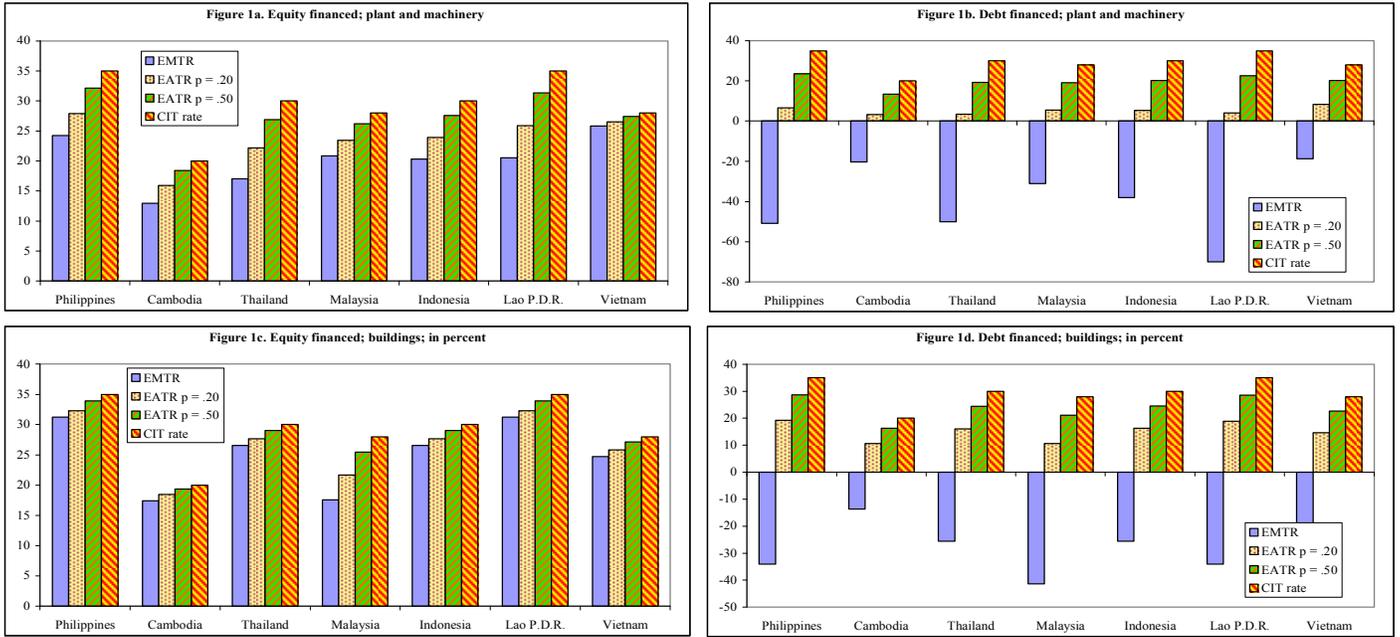**(In percent)**
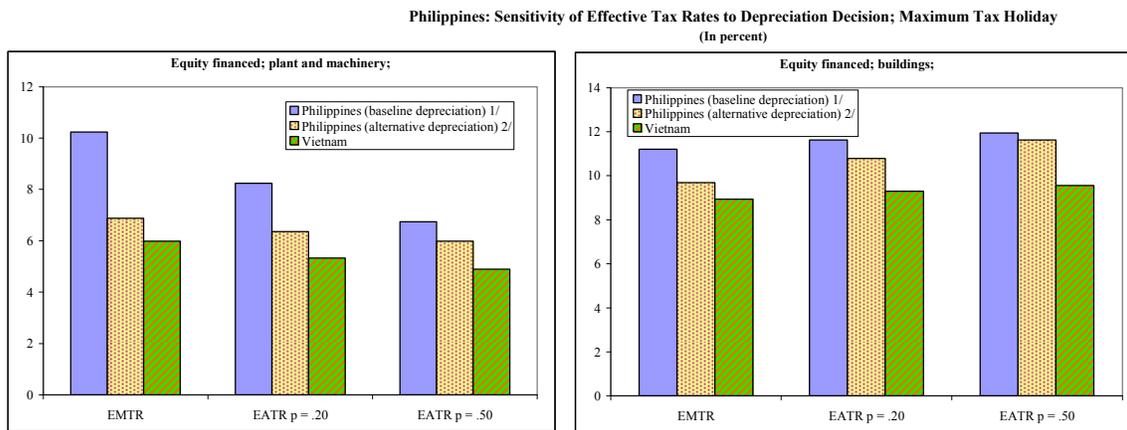
Source: Staff calculations

1/ In the baseline, a firm in the Philippines chooses 5 percent (straight-line) depreciation for buildings and 25 percent (declining balance) for plant and machinery.
2/ Under alternative depreciation, a firm in the Philippines chooses 10.83 percent (straight-line) depreciation for buildings and 6.125 percent (declining-balance) depreciation for plant and machinery.
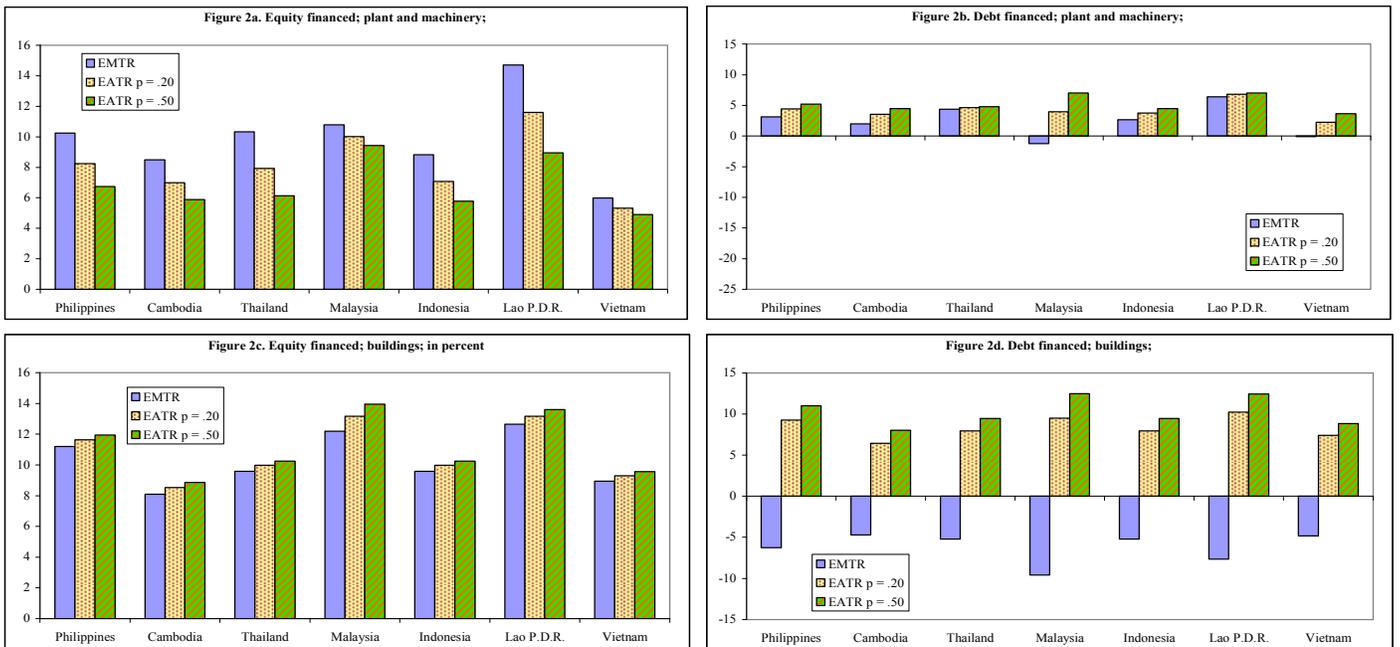
23.   **Tax holidays are most attractive for highly profitable investments, possibly, but by no means necessarily creating redundancy.** As noted in Section III, one disadvantage of tax holidays is that incentives may be offered to firms that would have invested without them as well. We indeed find that incentives are most beneficial at high profit rates, but whether this leads to redundancy depends critically on whether the rents from the investment are firm or location specific and thus whether the holiday is well-targeted. By reducing effective tax rates, holidays increase incentives more for FDI and new investment than for incremental investment. As noted previously, for the former the AETR matters, while for the latter the METR is critical and holidays reduce average more than marginal rates for equity financed investment. Holidays are not attractive for incremental debt financed investments unless negative taxes are offset elsewhere or carried forward.

Figure 1. Effective Tax Rates For Companies Not Receiving Tax Incentives
(In percent)

Figure 1a. Equity financed; plant and machinery

Figure 1b. Debt financed; plant and machinery

Figure 1c. Equity financed; buildings; in percent

Figure 1d. Debt financed; buildings; in percent

Source: Staff calculations.

Figure 2. Effective Tax Rates For Companies Receiving The Maximum Tax Holiday
(In percent)

Figure 2a. Equity financed; plant and machinery;

Figure 2b. Debt financed; plant and machinery;

Figure 2c. Equity financed; buildings; in percent

**Figure 2d. Debt financed; buildings;**

Source: Staff calculations.

24.   **Tax incentives are most attractive for investing in short-lived assets (Figure 4).**
Focusing on equity financed projects, effective tax rates under the maximum tax holiday
increase as economic depreciation declines. This supports one criticism of tax holidays that
they tend to support foot-loose companies. In the extreme, effective tax rates are zero on
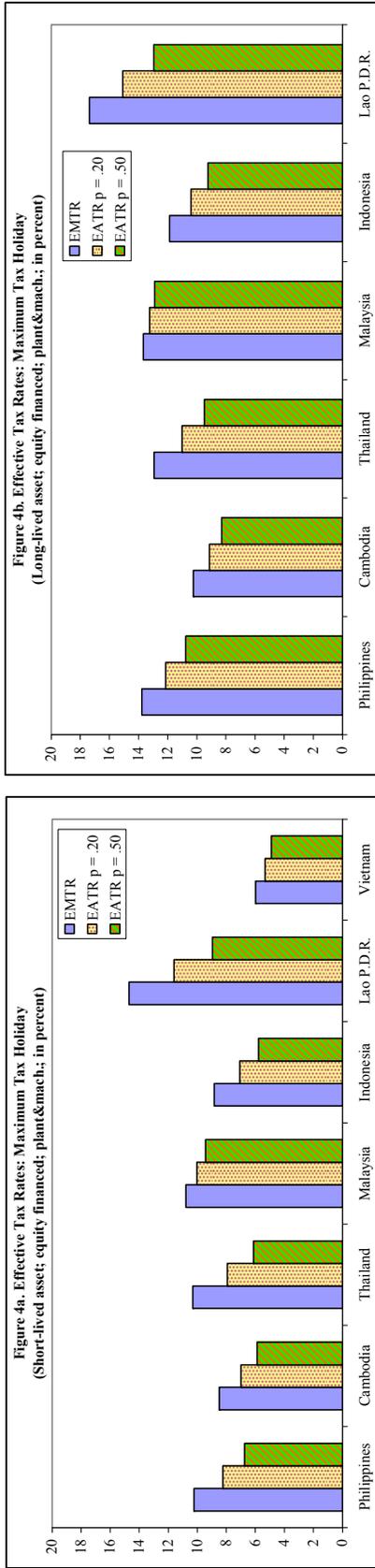investment projects in short-term capital that fully depreciates before the end of the holiday.

25.   **Effective tax rates increase rapidly as the holiday expires, especially for
profitable firms** (Figures 5 and 6). This result is consistent with Mintz (1990) who also
concludes that tax holiday provisions for investment in long-lived assets are not as generous
to the firm as one might initially believe. This characteristic of holidays implies on the one
hand an advantage, in the sense that the benefits are provided upfront, but also has the
undesirable side effect that firms have an incentive to lump all investment together at the
moment the holiday starts. It also highlights the incentives for firms as the holiday progresses
to try to organize new investment by registering a new company or through a joint venture,
or instead to leave the country altogether as the holiday expires. As suggested by the slope of
effective tax rates during the holiday period for different countries in Figure 6, this incentive
is comparable in the Philippines to the other countries, with the exception of Vietnam where
these perverse incentives are stronger. As illustrated, marginal effective tax rates towards the
end of the holiday period can in fact be higher than when the holiday ends. This finding
supports the hypothesis in Mintz (1990) that the difference between the effective tax rate
with and without the holiday at some point becomes smaller than the cost to the firm from
not being able to deduct depreciation.

Figure 3. Reduction in Effective Tax Rates From Receiving the Maximum Tax Holiday
(In percentage points)
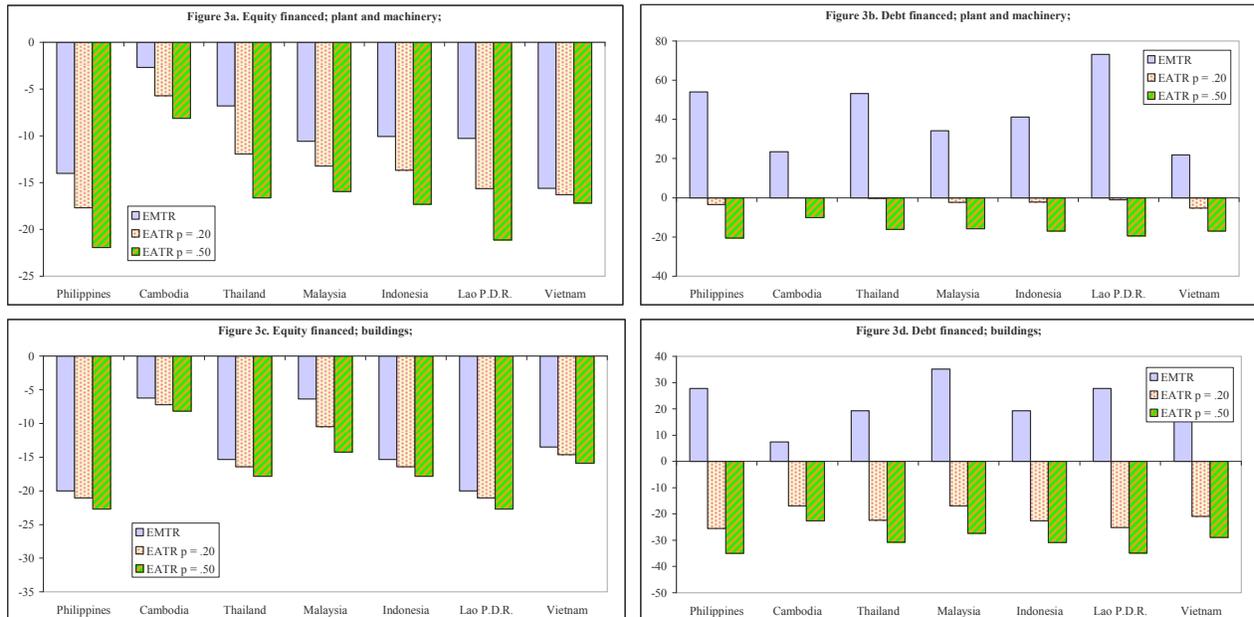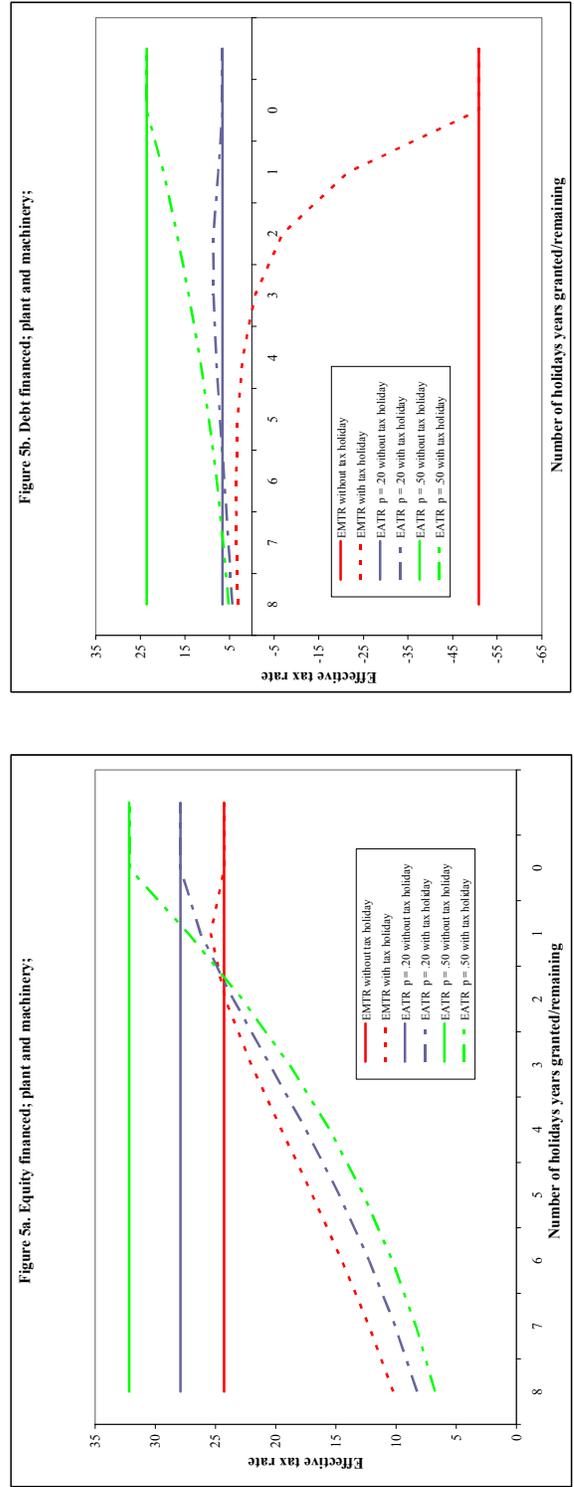
Source: Staff calculations.

Figure 4. Economic Depreciation and Tax Incentives: Do Short- or Long-Lived Assets Benefit More From Tax Holidays? 1/
(In percent)

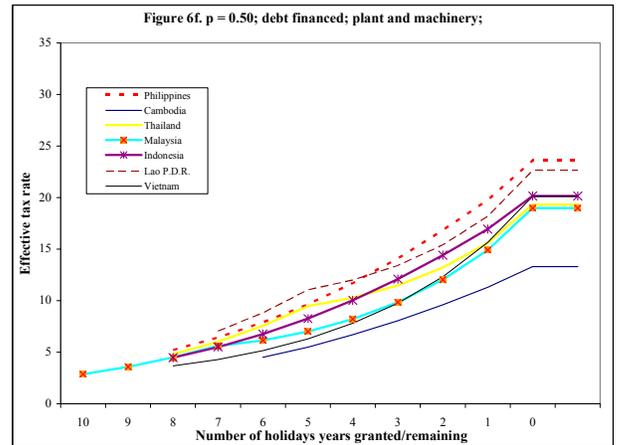**Figure 4a. Effective Tax Rates: Maximum Tax Holiday**
(Short-lived asset; equity financed; plant&mach.; in percent)

Figure 4b. Effective Tax Rates: Maximum Tax Holiday
(Long-lived asset; equity financed; plant&mach.; in percent)

Source: Staff calculations.

1/ Economic depreciation for plant and machinery for short-lived assets is assumed at 12.5 percent (baseline), while long-lived assets have a depreciation rate of 6.25 percent.
Economic depreciation for buildings for short-lived assets is assumed at 3.61 percent (baseline), while long-lived assets have a depreciation rate of 1.81 percent.

Figure 5. Philippines: Effective Tax Rates Under Different Holiday Years Granted/Remaining
(In percent)

Figure 5a. Equity financed; plant and machinery;

Figure 5b. Debt financed; plant and machinery;

Source: Staff calculations.

Figure 6. Effective Tax Rates Under Different Holiday Years Granted/Remaining
(In percent)

Figure 6a. Equity financed; plant and machinery;

Figure 6b. Debt financed; plant and machinery;

Figure 6c. p = 0.20; equity financed; plant and machinery;

Figure 6d. p = 0.20; debt financed; plant and machinery;

Figure 6e. p = 0.50; equity financed; plant and machinery;

Figure 6f. p = 0.50; debt financed; plant and machinery;
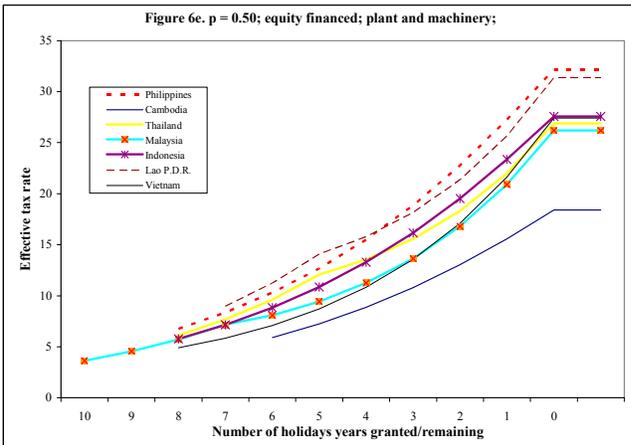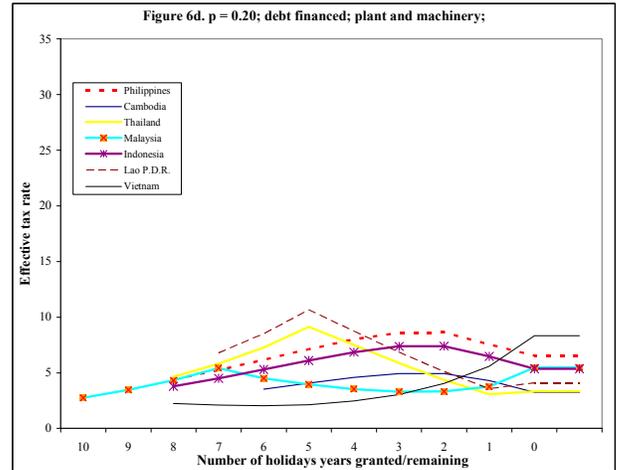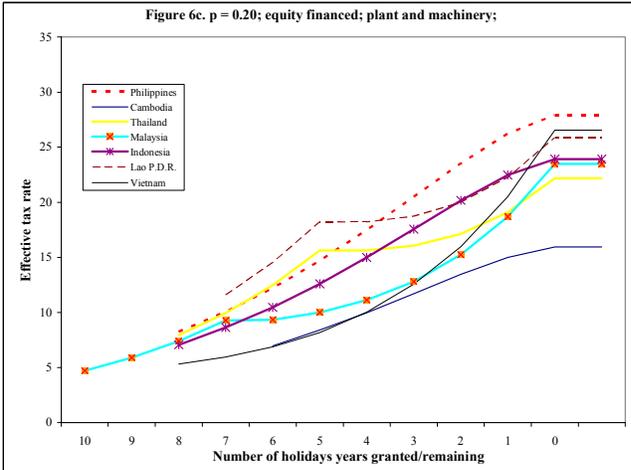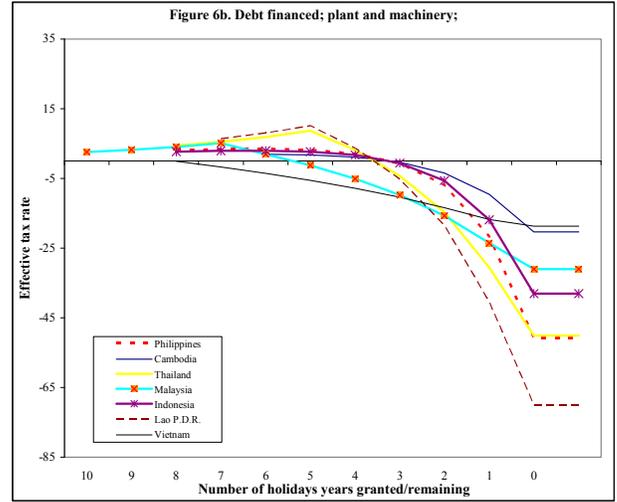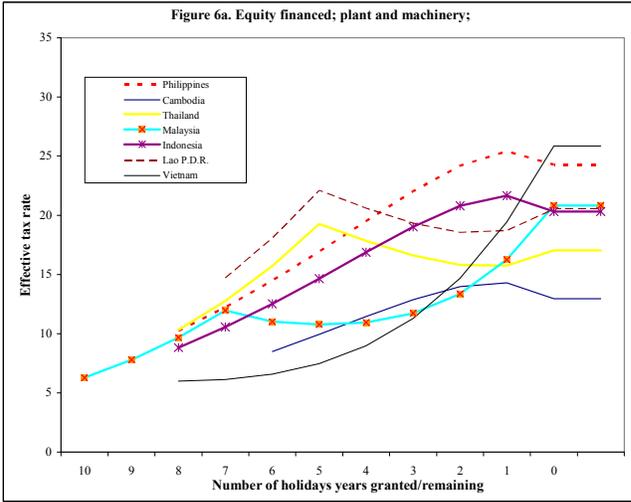
Source: Staff calculations.

V. INCENTIVE REFORM IN THE PHILIPPINES

26.   Several countries have recently started to move away from special incentives systems:

- *Egypt:* a new income tax law was passed in mid-2005 that reduced the top marginal tax rates on income and profits from 32 to 20 percent for individuals and from 40 to 20 percent for corporations and partnerships (rates for petroleum, the Suez Canal authority, and the central bank were left at 40 percent). This reform also increased the exemption threshold, liberalized depreciation, broadened the tax base by eliminating deductions, and provided for the phasing out of tax holidays while grandfathering current beneficiaries. Importantly, these reforms have been accompanied by extensive and continuing reforms of tax administration, including the successful introduction of self-assessment and a reform of the tax treatment of SMEs.

- *Mauritius*: the 2006 budget speech announced a package of reforms including the integration of EPZ (export processing zone companies and others) and non-EPZ sectors, the removal of all existing provisions relating to tax credits and tax holidays. At the same time, the corporate tax rate was reduced from 25 to 22.5 percent with a view to reducing it to 15 percent by 2009 (with the intention of also taxing personal income at the same flat rate). Depreciation is to be shifted from straight line to declining balance for all assets, except for non-hotel buildings, and the ceiling for equipment or machinery to be fully expensed in the first year will be raised from Rs 10,000 to Rs 30,000.

- *The Slovak Republic:* in 2004 a single rate of 19 percent was adopted and applied to both corporate and personal income. The reduction in the corporation tax, previously at 25 percent, was combined with more rapid depreciation, more generous carry forward rules, the elimination of tax holidays for new enterprises and tighter rules in respect of provisioning and reserves.

27.   **There are currently several bills under consideration in the Philippines to reform tax incentives, some abolishing tax holidays and others lengthening the holiday period** (Box 1). Some of the proposed bills in the House would further extend the length of tax holidays to up to 20 years. Instead, the Bill supported by the Department of Finance (DoF) replaces the tax holiday with a reduced corporate income tax rate or a 5 percent tax on gross income. The loss-carry forward duration permitted under the bill is quite long. In theory, losses should be allowed to be carried forward and backward indefinitely with interest to preserve neutrality—in essence, taxing only cumulative gains over the lifetime of a business. In practice, however, many countries place some restriction on carry forward of losses in order to limit revenue cost to the budget and its monitoring cost.

28.   **The DoF sponsored Bill for reforming tax incentives strengthens incentives to invest relative to the current tax holidays by lowering effective tax rates** (Figure 7). The proposed bill abolishes tax holidays and instead proposes to give select exporting firms the option of either a 25 percent CIT rate or a 5 percent tax on gross receipts. The implied METR

for equity-financed investments is found to be lower than under tax holidays and the AETR is lower still. In fact, effective tax rates are lower even for firms making investment in the initial year of an eight-year holiday period, while in practice the average holiday granted in the Philippines is four years. Furthermore, by maintaining a constant rate over the lifetime of investment projects, further investment is not discouraged as under tax holidays. Firms using equity financing will prefer the 5 percent tax on gross receipts, especially if profitability is high. For low and intermediate levels of profitability, firms using debt financing will instead opt for the 25 percent CIT rate on taxable income as interest deductibility will remain. Also, for debt-financed investment projects AETRs would be lower than those at the start of even the maximum holiday period. Since we concluded previously that investment incentives are broadly comparable to those in neighboring countries, the DoF supported Bill would ensure that the Philippines remains an attractive destination for firm-specific, internationally mobile, investment, at least from a taxation perspective.

29.   **Firms that face considerable uncertainty or those that have large non-deductible costs will also have stronger incentives to invest under the DoF sponsored legislation than under the current tax holiday, although to a smaller extent.** As mentioned, one advantage of tax holidays is that they provide benefits upfront. Essentially, holidays are a form of risk sharing between the government and the firm and this may be particularly attractive for firms that face uncertainty about the prospects of their investment, as formalized here by a high discount rate. However, even after doubling the real discount rate to 20 percent, the 5 percent tax on gross receipts still provides stronger incentives than for investments made with four years holiday granted or remaining (text chart). Apart from allowances for depreciation and interest expenses, the definition of gross receipts in the DoF sponsored legislation does also not allow the deduction of marketing, administrative, and selling costs. As illustrated in the chart below, even if these costs amount to 50 percent of pre-tax profits investment incentives are stronger under the DoF sponsored bill than for firms receiving less than seven years tax holiday.[7]

30.   **The reform would also improve short- and especially medium-term revenue collection.** Unlike under tax holidays, the effective tax rates by firms faced under the DoF supported proposal will lead to actual tax payments. As a result, revenue collected under the reform will increase. Furthermore, the reform would reduce redundancies. As firms currently receiving a holiday will be grandfathered, higher revenue from exporting firms is likely to be modest in the very short term.

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[7] For each ten-percent non-deductible costs as a share of pre-tax profits, the effective tax rate under the 5 percent tax on gross receipts option increases by 0.5 percentage point.

Box 1. Incentive Reform Bills Under Consideration in the House of Representatives

Four Bills for reforming tax incentives in the Philippines have been tabled in the House. The Bills differ markedly in terms of reforming the income tax holiday (ITH) and the government agency to take the lead in formulating and monitoring incentives policies. Other incentive policies in the bills are quite similar, such as offering double deduction for training and R&D, accelerated depreciation, and loss-carry forward provisions.

House Bill No. 2278—Introduced by Representative Javier (Department of Finance (DoF) sponsored bill) and House Bill No. 2712—Introduced by Representative Almario.
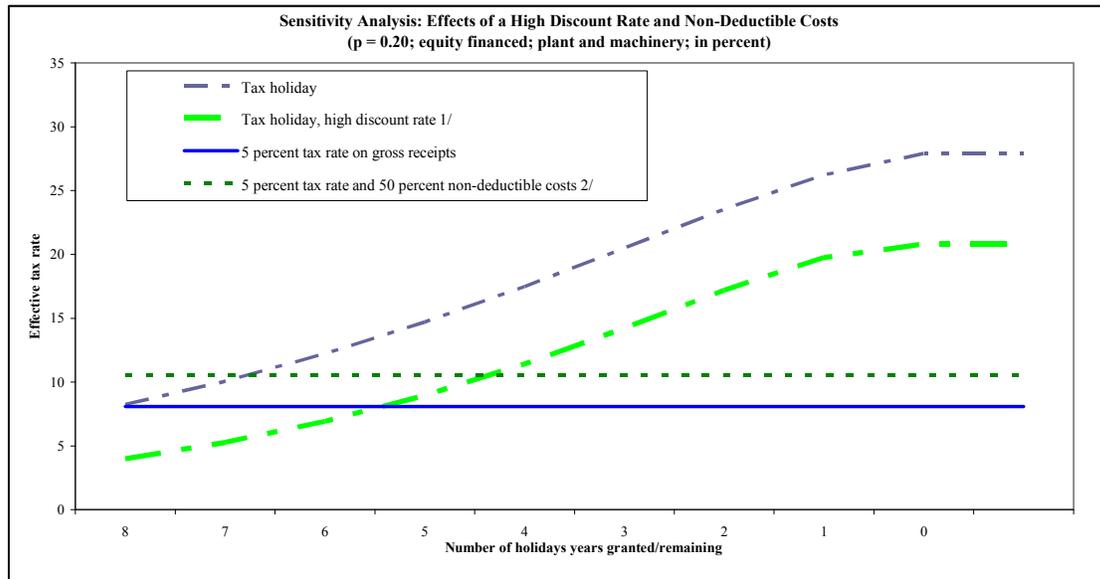
- **Incentives.** Phase out of ITH within three years, offering instead a 25 percent CIT rate on taxable income or a 5 percent tax on gross income earned in lieu of all national and local taxes, except real property tax on land. Applies to registered exporting firms and firms located in the 30 poorest provinces. Gross income is defined as gross revenue net of sale discounts, sales returns, and allowances minus cost of sales or direct costs, but before deductions for administrative, marketing, selling, operating expenses, or incidental losses.

- **Institutional reform.** DoF formulates and monitors tax and nontax incentives policies; Board of Investments (BoI) in charge of investment promotions; Philippine Economic Zone Authorities (PEZA) and other Investment Promotion Agencies (IPAs) implement investment laws.

- **Other considerations.** Evaluate rationale for a tax expenditure budget, possibly as part of the annual General Appropriations Act; export enterprises registered with IPAs and located inside the ecozones or Free Ports are VAT exempt on imports of capital equipment; registered firms with PEZA and located outside ecozones or freeports are subject to VAT and Customs Duty Refund Mechanism through a Trust Liability Account.

House Bill No. 2530—Introduced by Representative Cua.

- **Incentives.** Exporting firms regardless of location entitled to eight years ITH; after ITH, reduced CIT rate of 15 percent for twelve years; after ITH for firms in Special Economic Zones, Free Trade and Freeport Zones, a five percent tax on gross income in lieu of all national and local taxes, except for real property tax on land, and a twelve-year investment tax allowance of thirty percent. Firms in 30 poorest provinces can choose either an eight year ITH or a reduced CIT rate of 15 percent for 20 years. Micro, small, and medium enterprises are entitled to eight years ITH. Fiscal incentives can be extended beyond twenty years for industries deemed indispensable to national development as determined by the Industrial Development Board (IDB).

- **Institutional reform.** BOI will be the national investments promotion agency attached to the Department of Trade and Industry (DTI). Creation of the IDB (consisting of BOI, PEZA, and other IPAs), attached to the DTI, responsible for development programs, including formulating and monitoring incentives policies.

- **Other considerations.** Exemption of taxes and customs duties for import of capital equipment.

House Bill No. 1757—Introduced by Representative Javier (similar to HB 3295 which failed to win Senate approval in the previous Congress).

- **Incentives.** ITH of four years in highly developed areas, six years in less developed areas or producing/rendering new products/services with strong backward or forward linkages, and six years for exporting firms (eight years if located outside Metro Manila). Additional investments in the project, if listed in the initial investment priorities plan, will also receive eight years ITH, with a maximum of twenty years total ITH. Instead of ITH, 5 percent tax rate on gross income earned in lieu of local and national taxes, except real property tax on land (not available to BOI registered companies).

- **Institutional reform.** BOI shall be responsible for the regulation and promotion of investments and granting of incentives to registered companies and monitoring investment promotion of all IPAs.

Other considerations. Zero rating of VAT of inputs from domestic manufacturers for the production of machinery and capital equipment.

Sensitivity Analysis: Effects of a High Discount Rate and Non-Deductible Costs
(p = 0.20; equity financed; plant and machinery; in percent)

- — · — Tax holiday
- ——— Tax holiday, high discount rate 1/
- ——— 5 percent tax rate on gross receipts
- ········ 5 percent tax rate and 50 percent non-deductible costs 2/

(Y-axis: Effective tax rate, 0 to 35)
(X-axis: Number of holidays years granted/remaining, 8 to 0)

1/ Assumes a real discount rate equal to 20 percent, instead of 10 percent in the baseline simulations.
2/ Non-deductible costs are equal to 50 percent of pre-tax profits.

31.   **It is often argued that, just like its neighbors, the Philippines could attract investment more cost effectively if the corporate tax rate were set at a level in line with current international norms and a generalized system of moderate investment incentives were provided.** As a general principle, incentives that are directly conditioned on the undertaking of investments in targeted activities or locations are always more cost-effective than those that confer benefits on the outcome of such investments, such as holidays. As a result, by changing the way incentives are provided towards investment allowances, tax credits, or accelerated depreciation, the Philippines could improve the effectiveness of incentives without expanding their scope and at the same time reduce redundancy. It should be recognized that this is usually a second-best recommendation; i.e. it is optimal to set tax depreciation equal to economic depreciation each year, but if the country strategically would like to attract more investment, it is better to offer accelerated depreciation than a tax holiday. Tax credits in particular have the added advantage that they allow for a systematic analysis of the revenue impact of tax incentives. Indirect tax incentives, such as exemptions from import duties on goods used in the indirect production of exports, are prone to abuse and their usage should be limited. International best practice also suggests that it is best to avoid different tax incentives for firms located in SEZ's/EPZ's.

32.   **However, if the Philippines were to do this unilaterally, even with a maximum enhanced depreciation allowance, investment incentives for especially internationally mobile firms would decline** (Figure 8). In general, it is difficult to determine how much the general CIT rate could decline, while enhancing depreciation allowances, to make such a reform at least revenue neutral. In particular, one would need to know the number of firms receiving incentives as well as the distribution of profits for each firm. Figure 8 shows that at

the current 35 percent CIT rate even a 100 percent depreciation allowance in the first year would not be able to offer the same investment incentives as under the current tax holiday or under the proposed DoF supported Bill, except for marginal investment or those that are debt financed with medium profitability. Accelerated depreciation allowances would therefore have to be complemented with a sizeable reduction in the corporate income tax rate, which could be quite costly, although this would have the added advantage of reducing incentives for transfer pricing and stimulating investment by firms not receiving special incentives.
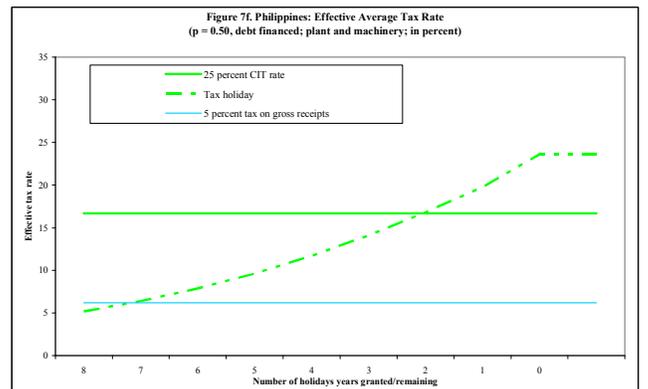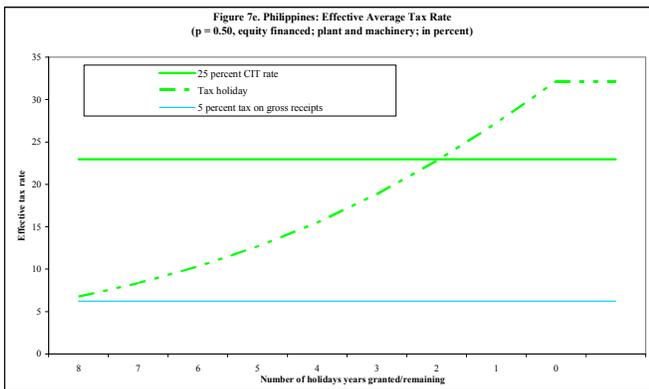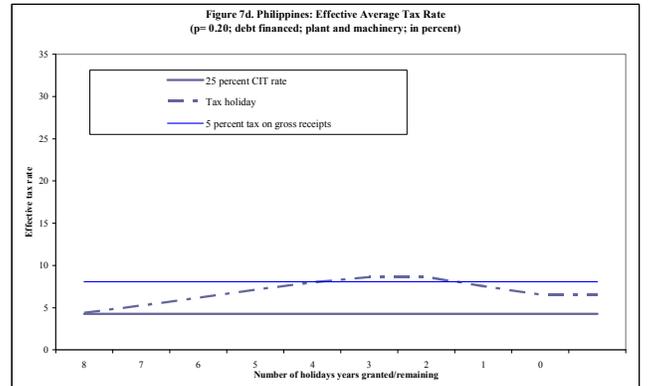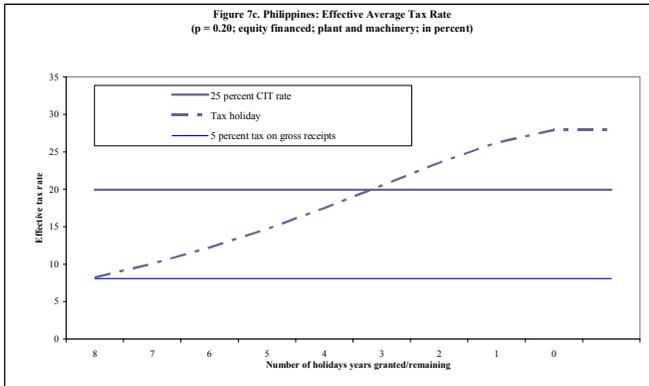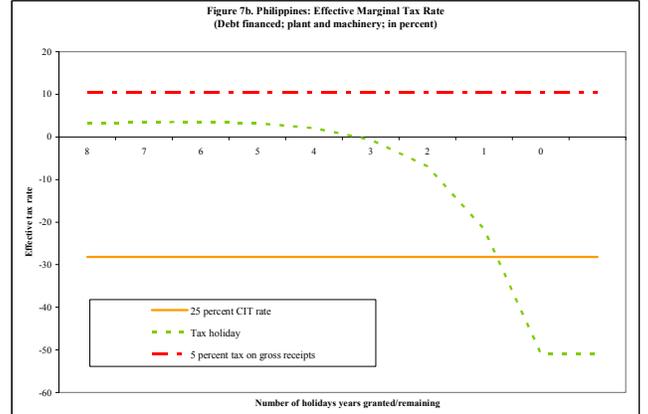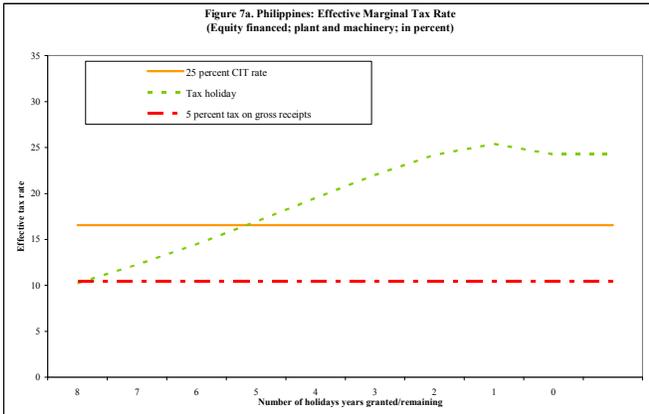
33.   **As such, the DoF supported Bill strikes a good balance by abolishing tax holidays while continuing to provide regionally comparable incentives to attract firm-specific, internationally mobile capital.** Instead, such a balance is unlikely to be attained from the above suggestion to replace holidays with a general reduction in the corporate income tax rate and offering accelerated depreciation.

34.   **By aligning incentives, the DoF supported Bill also offers the opportunity for a significant streamlining of the institutional structure governing the granting and oversight of tax incentives.** Essentially the abolition of the tax holiday would bring incentives provided by the Board of Investments (BOI) and the Philippine Economic Zone Authority (PEZA) more in line with those provided by the Subic Bay Metropolitan Authority (SBMA) and the Clark Development Corporation (CDC), while adding the option for a reduced CIT rate. Indeed, the DoF supported Bill proposes a major restructuring of the regulatory agencies, effectively merging BOI and PEZA into a single organization—the Philippines Investment Promotion Agency. Furthermore, incentives are likely to be focused on exporters—either new exporters or those expanding existing operations. In addition, the bill mandates submission of a tax expenditure budget each year to the Congressional Oversight Committee.

35.   **In this context, FDI to the Philippines would also benefit from agreeing on additional bilateral tax treaties.**[8] The Philippines could particularly benefit from entering so-called "tax sparing" agreements. Under these agreements, even if a foreign investor paid no, or reduced, profit tax in the Philippines due to the presence of tax incentives, the host country calculates what would have been paid in the absence of the holiday, and then applies this amount as a tax credit. Obviously, such an agreement is very attractive to both the developing country and to the firm investing, potentially at a loss to the host treasury if the firm would have repatriated its profits.

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[8] The Philippines has tax treaties with the following countries: Australia, Austria, Belgium, Brazil, Canada, China, Denmark, Finland, France, Germany, Hungary, Indonesia, India, Israel, Italy, Japan, Korea, Malaysia, the Netherlands, New Zealand, Norway, Pakistan, Romania, Russia, Singapore, Spain, Sweden, Switzerland, Thailand, United Kingdom, and the United States (see Aldaba, 2006).

Figure 7. Philippines: Effective Tax Rates Under Current Incentives and Congress' Reform Proposals
(In percent)

Figure 7a. Philippines: Effective Marginal Tax Rate
(Equity financed; plant and machinery; in percent)

Figure 7b. Philippines: Effective Marginal Tax Rate
(Debt financed; plant and machinery; in percent)

Figure 7c. Philippines: Effective Average Tax Rate
(p = 0.20; equity financed; plant and machinery; in percent)

Figure 7d. Philippines: Effective Average Tax Rate
(p= 0.20; debt financed; plant and machinery; in percent)

Figure 7e. Philippines: Effective Average Tax Rate
(p = 0.50, equity financed; plant and machinery; in percent)

Figure 7f. Philippines: Effective Average Tax Rate
(p = 0.50, debt financed; plant and machinery; in percent)

Source: Staff calculations.

Figure 8. Philippines: Comparing Enhanced Depreciation Versus Current Incentives and Congress' Reform Proposals
(In percent)

Figure 8a. Philippines: Effective Marginal Tax Rate
(Equity financed; plant and machinery; in percent)

Figure 8b. Philippines: Effective Marginal Tax Rate
(Debt financed; plant and machinery; in percent)

Figure 8c. Philippines: Effective Average Tax Rate
(p = 0.20; equity financed; plant and machinery; in percent)

Figure 8d. Philippines: Effective Average Tax Rate
(p = 0.20; debt financed; plant and machinery; in percent)

Figure 8e. Philippines: Effective Average Tax Rate
(p = 0.50, equity financed; plant and machinery; in percent)

Figure 8f. Philippines: Effective Average Tax Rate
(p = 0.50, debt financed; plant and machinery; in percent)

Source: Staff calculations.

VI. CONCLUSIONS

We compared the general tax provisions and investment incentives in seven east-Asian economies—the Philippines, Malaysia, Indonesia, Lao, Vietnam, Cambodia, and Thailand—in order to provide input into the ongoing debate in the Philippines about reforming tax holidays. Instead of focusing on one aspect of incentives, such as the length of the tax holiday period, we argued for considering the overall structure of taxation and we estimated the effective marginal and average effective tax rates accordingly. Our conclusions can be summarized as follows:

- *For companies that do not receive tax incentives, effective tax rates in the Philippines are higher than in neighboring countries.*

- *Tax incentives are broadly comparable in the Philippines and neighboring countries and reduce effective tax rates significantly.* The wedge between taxation of companies with and without tax incentives in the Philippines is one of the largest.

- *Tax holidays are most attractive for highly profitable investments, possibly, but by no means necessarily, creating redundancy.* Whether incentives on highly profitable investment cause redundancy depends critically on whether the profits are firm or location specific, and in the former case an average effective tax rate in line with neighboring countries will be essential to attract investment.

- *Holidays are more effective in providing incentives for FDI and new investment, rather than incremental investment.* As noted previously, for the former the AETR matters, while for the latter the METR is critical and holidays reduce average more than marginal rates for equity financed investment.

- *Tax holidays are most attractive for investing in short-lives assets.* Focusing on equity financed projects, effective tax rates under the maximum tax holiday increase as economic depreciation declines. We also found that effective tax rates increase rapidly as the holiday expires, especially for profitable firms. As such, footloose companies benefit more from income tax holidays.

- *The DoF supported Bill compares favorably to other Bills tabled in the House for reforming incentives.*

- *Under most circumstances, introducing the DoF legislation and abolishing tax holidays reduces effective tax rates and improves incentives to invest, while also improving short- and medium-term revenue collection.* Investment incentives would only decline for firms investing in short-term capital that is fully depreciated at the end of their holiday period.

- *Reducing the general CIT rate and offering enhanced depreciation, as frequently advocated, would, if the Philippines were to do this unilaterally, reduce investment*

incentives or be very costly. At the current 35 percent CIT rate, even a 100 percent depreciation allowance in the first year would not be able to offer the same investment incentives as under the current tax holiday or under the DoF supported legislation.

- *The DoF supported Bill also offers the opportunity for a significant streamlining of the institutional structure governing the granting and oversight of tax incentives.*

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Table 2. Investment Incentives in Cambodia, Lao P.D.R., Thailand, and Vietnam

	Cambodia	Lao P.D.R. PDR	Thailand	Vietnam
I. Profit Tax				
1. Standard CIT (for legal persons)	• 20%	• 35%	• Generally 30%, but progressive rate for small businesses (with paid-up capital below 5 million baht) or company registered at the Stock Exchange of Thailand from 20% to 25% to 30%.	• 28%
2. Personal income tax (PIT) rate (and PIT on dividends, interest, and capital gains)	• Progressive; 0-20 percent depending on amount of taxable income. • Interest: 4 percent. • Dividends: 0 percent. • Capital gains: 0 percent.	• Progressive; 0-45 percent depending on amount of taxable income. • Interest: 10 percent. • Dividends: 10 percent. • Capital gains: 10 percent.	• Progressive; 0-37 percent depending on amount of taxable income. • Interest: 15 percent. • Dividends: 10 percent. • Capital gains: 0 percent.	• Progressive; 0-40 percent depending on amount of taxable income. • Interest: 0 percent. • Dividends: 0 percent. • Capital gains: 0 percent.
3. Depreciation (method and allowance; buildings versus plant and machinery)	Buildings: straight-line-basis; 5 percent. Plant and machinery: 25 percent declining balance or 12.5 percent straight line.	Buildings: straight-line-basis; 6 percent. Plant and machinery: straight-line-basis; 5 percent.	Buildings: straight-line-basis; 5 percent. Plant and machinery: straight-line-basis; 20 percent.	Buildings: straight-line-basis; 5 percent. Plant and machinery: straight-line-basis; 10 percent.
II. Tax Incentives				
1. Sectors, geographical areas, and labor qualified for incentives	Pioneer or high-tech, job creation, export, tourism, agro- and processing, infrastructure, energy, rural development, environment, and SEZ's.	Regions 1, 2, and 3 (see below)	Technology, use domestic sources, job creation, basic and support industry; earn foreign exchange; growth outside BKK; infrastructure, energy conservation and environment protection.	Forestation, infrastructure construction, mass-transit, export production and trading, offshore fishing, agricultural processing, research and services of science and technology, plant variety production, and animal breeding.
2. Tax holidays	• Holiday not limited by *commencement of operations* • Either: 6 to 9 years starting in first year of *sales* occurring after 2003 LoI promulgation) and 20% thereafter • Or: 3-6 years from the last day of the tax year immediately preceding the tax year in which *profits* are first derived • 5-year loss carry forward	3 to 7-years from the *commencement of operations*: • 7 years in region 1: inaccessible areas; • 5 years in region 2: partly accessible; • 2 years in region 3: accessible areas; • Up to 3-year loss carry forward	3 to 8-years from the *commencement of operations*: • 3 years in IE of Zone I • 3-5 years in Zone II (5 years in IE) • 8 years in Zone III • 5-year loss carry forward	Holiday not limited by *commencement of operations* or by *sales* taking place 1 - 8 years from the last day of the tax year immediately preceding the tax year in which *profits* are first derived: • IZ providing services: 1 year • EPZ providing services: 2 years • IZ production enterprise: 2 years • IZ exporting 50 percent or more of products: 2 years • All zones – infrastructure construction/provision projects: 2 years • EPZ production enterprise and OEZ (Chu Lai): 4 years • HTZ (high-tech zone): 8 years • 5-year loss carry forward
3. Reduced CIT after tax holiday period, incentives provided instead of a tax holiday, or other incentives	After tax holiday: • 9% (QIP's) for five years (starting from the tax year occurring after 2003 LoI promulgation) and 20% thereafter Instead of tax holiday: • 40% special depreciation for QIP's not using tax holiday period	• 10% (region 1) • 7.5% for 3 years and then 15% (region 2); 10% for 2 years and then 20% (region 3) • 0% if profit is reinvested	• 50% reduction for 5 years in Zone III provided that capital investment is at least 10 million baht; • Exemption of withholding tax;	After tax holiday: • IZ providing services: 10% for 2 years; EPZ providing services: 7.5% for 3 years; IZ production enterprise: 7.5% for 3 years; IZ exporting 50% or more of products: 7.5 percent for 3 years; All zones – infrastructure construction/provision projects: 5% for 4 years; EPZ production enterprise: 5% for 4 years; OEZ (Chu Lai): 5% for 9 years HTZ: no reduction in CIT Instead of tax holiday: reduced CIT (depending on sector/area): 10% (for 15 yrs), 15% (for 12 yrs), or 20% (for 10 yrs); Reduction of withholding tax to 3% (normal rate is 7%)
4. Import duties and VAT exemptions	• 100% duty and VAT exemption on inputs for qualified sectors under II. 1; • Exempt from 1% turnover tax for QIPs; • VAT exemption on both inputs and sales of supporting industries (their contractors receive only VAT exemption on sales) to export-oriented garment and footwear sectors.	Duty and taxes on import of: • Tools, spare parts, vehicles directly used for production; • Raw materials unavailable or insufficient locally; • Semi-processing products for export; Export (at least 70% of the total production).	Exemptions and reduced import duty and VAT rates on inputs on exports and in certain sectors	VAT and import duty exemptions: • Commodities (except materials) imported for export proc. • Machineries, devices, and means of transportation of foreign contractors imported for ODA projects or exported upon completion • Import for export or vice-versa for exhibition • Goods imported to form fixed assets (equip, machineries, specialized means of transport, materials) • Imported raw materials, parts, accessories, and materials for exportation.

Table 2. *cont.* Investment Incentives in Malaysia, the Philippines, and Indonesia

	Malaysia	Philippines	Indonesia
I. Regular business Taxation Regime			
1. Standard CIT rate on dividends and retained earnings (for legal persons)	• 28%	• 35%	• 30%
2. Personal income tax (PIT) rate (and PIT on dividends, interest, and capital gains)	• Progressive rate from 0-28 percent depending on amount of taxable income. • Interest: 28 percent. • Dividends: 0 percent. • Capital gains: 0 percent.	• Progressive rate from 5-32 percent depending on amount of taxable income. • Interest: 20 percent. • Dividends: 10 percent. • Capital gains: 10.5 percent.	• Progressive rate from 5-35 percent depending on amount of taxable income. • Interest: 15 percent. • Dividends: 15 percent. • Capital gains: 35 percent.
3. Depreciation (method and allowance; buildings versus plant and machinery)	Buildings: straight-line-basis; 10 percent first year, 3 percent thereafter. Plant and machinery: straight-line basis; 14 percent for 6 years.	Buildings and plant and machinery: Straight-line, double-declining balance, or the sum-of-the-years-digits methods; Rates not defined; based on economic or useful lifes of the asset or the ones used for financial reporting.	Buildings: straight-line-basis; 5 percent. Plant and machinery: 25 percent declining balance or 12.5 percent straight line.
II. Tax Incentives			
1. Sectors, geographical areas, and labor qualified for incentives	High-technology or resource based industries, R&D, shipping, fund management, hypermarkets, waste recycling, manufacturing, offshore trading, technical and vocational training, agriculture and agro-based industry, communication, utilities, and transportation, hotel, tourism, and service sectors, environmental conservation and in certain areas.	Areas of investment identified annually in the Investment Priorities Plan (IPP), or if at least 50 (70) percent of production is for exports for domestically-owned (majority foreign-owned) firms.	These include investment priority sectors, strategic role in economic development, employment creation, location, and partnership with cooperative.
2. Tax holidays	• Holiday starts at *commencement of production* • 5 years: a contract research and development company or a high technology companies (such as automation, bio-technology, electronics, building material sciences, information technology and renewable energy technology). A high technology company is expected to expend at least 1% of its annual sales turnover on research and development activities and 7% of its workforce should consist of Science graduates. • 10-5 years: exemption of 75%-85% of profits for other companies with a pioneer status concession (10 years available for commercialization of R&D findings). • Unlimited loss carry forward and tax depreciation.	3 to 8-years (BOI, PEZA) from the *scheduled start of commercial operations*: • 6 years: new projects with pioneer status or projects in Less Developed Areas; • 4 years: new non-pioneer projects; • 3 years: expansion and modernization projects (ITH limited to incremental sales in revenue/volume). • Additional (up to 2) years can be granted depending on raw materials content, capital to worker ratio, or net foreign exchange earnings. • Up to 3-year loss carry forward.	3-8 years from the *commencement of commercial operations, or five years after the project is licensed, whichever comes first:* • domestic and foreign investors will be granted a tax holiday for a maximum period of time for 3 years (5 years in location outside of Bali and Java islands) The criteria for such tax incentives is provided in a Presidential Decree No.7/1999 although it is not consistently applied and under revision pending implementing regulation to the new investment law; an additional holiday year is offered for each of the following criteria being met: if the company (i) employs more than 2000 workers; (ii) at least 20% shareholding by cooperatives; and (iii) at least US$200 million investment realization (excl. land and building). • 10-year loss carry forward for companies in economic development zones or in priority sectors (standard loss-carry forward provision is 5 years).
3. Reduced CIT after tax holiday period, incentives provided instead of a tax holiday, or other incentives	• Double deduction incentives for approved training expenditure; • Industrial adjustment allowances may be granted up to 100% of capital expenditure; • Tax exempt dividends out of exempt income; • Accelerated depreciation available for computers, information technology, environment protection, and waste recycling equipment, and agricultural industries.	• Full deduction of infrastructure spending in less-developed areas; • 50% deduction of incremental labor expenses if the prescribed ratio of capital assets to annual labor is met (100% percent if located in a less-developed area; • Tax credit for income taxes paid to a foreign country if no deduction claimed and for duties and taxes paid for export products and breeding stocks and genetic materials. PEZA: after tax holiday, exemption from national and local taxes, but instead 5 percent tax on gross income.	Investment tax allowance: • 6 years maximum, 30 percent reduction in taxable income. • Accelerated depreciation and amortization; • 10% income tax on dividend payments (or lower if tax treaty exists) to nonresidents. • 50 percent reduction in land and building tax in certain regions and sectors.
4. Import duties and VAT exemptions	• Duty free import of raw materials and spare parts for re-exports; • Import duty and sales tax exemption on machinery and equipment not produced domestically; • Sales tax and excise exemption on locally purchased machinery and equipment.	• Exemption from taxes and duties on imported supplies and spare parts.	• Maximum 5 percent import duty on imports of capital goods and raw materials for 2 years from the date of commercial production; • Special duty drawback and VAT exemption for companies with an export ratio above 65 percent; • VAT and sales tax, import duty, and excise exemption in bonded zones.

Sources: KPMG Asia Pacific Taxation, 2003; Fletcher 2002, Tax Incentives in Cambodia, Lao P.D.R. PDR, and Vietnam, IMF (unpublished); Cambodia: Investment Law 1994 and its 2003 Amendment, and Law on Taxation; Lao P.D.R. PDR: Law on the Promotion of Foreign Investment and its draft subdecree, 10/22/2004; Thailand: Board of Investment, Labor Law and Land Law; Vietnam: Law on Foreign Investment, Labor Law and Land Law; Business Issues Bulletin Number 2, IFC/MPDF, 2004; Chalk, 2001, Tax Incentives in the Philippines, IMF Working Paper 01/181, Washington, DC; FIAS, 2007, Transition Issues in Investment Incentives Reform, Draft, April; Various editions of deloitte tax guides.

APPENDIX: DERIVATION OF EFFECTIVE TAX RATES[9]

Devereux and Griffith (2003) developed a measure of the effective average tax (EATR), which is defined as the ratio of the present discounted value of taxes over the present discounted value of the profit of a project in the absence of taxation. This measure includes the previously developed effective marginal tax rate (EMTR) as a special case, when the post-tax economic rent is exactly equal to zero.

The original derivation in the paper by Devereux and Griffith is calculated for a one period perturbation in the capital stock; i.e., they look at an investment of one unit of capital that is held for one year and then sold at its remaining value of $(1-\delta)(1+\pi)$, where δ is true economic depreciation and π is inflation.

While this is simple and in many cases appropriate, it is not useful for the study of tax holidays, which typically last longer than one period. We have therefore adapted the framework to look at a permanent increase in the capital stock by one unit, which is slowly disinvested over time through depreciation. Returns to capital are tax free during the tax holiday and taxed thereafter. To facilitate comparisons, we use exactly the same notation as Devereux and Griffith.

The Devereux-Griffith EATR is defined as $\text{EATR} = \dfrac{R^*-R}{p/(1+r)}$, where R^* is the present discounted value of the economic rent earned in the absence of taxation, R is the same in the presence of taxation, p is the pre-tax net profit and r is the real interest rate. Because we adapt this to an infinite investment horizon, the denominator needs to be changed to take account of profits in all future periods. We assume that the net rate on capital remains constant at p, but that the capital stock declines yearly by the true economic depreciation rate:

$$\text{EATR} = \frac{R^*-R}{p/(r+\delta)} \tag{1}$$

The present discounted value of the economic rent must be equivalent to the change in the value (V) of the firm:

$$R = dV_t = \sum_{s=0}^{\infty} \frac{\gamma dD_{t+s} - dN_{t+s}}{(1+\rho)^s}, \tag{2}$$

where D are dividends, $\gamma = (1-m^d)/(1-z)$ is a factor measuring the difference in treatment of new equity and distributions with m^d the personal tax on dividends and z the tax on capital gains, N stands for new equity issues and $\rho = (1-m^i)i$ is the investor's discount rate, with m^i

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[9] For further details, see Klemm (2008).

the personal tax rate on interest and i the nominal interest rate. Dividends are determined by the usual flow of funds equation:

$$D_t = (p+\delta)(1+\pi)K_{t-1}(1-\tau) - I_t + B_t - (1+i(1-\tau))B_{t-1} + \tau\phi(I_t + K_{t-1}^T) + N_t,$$ (3)

where K it the capital stock, τ is the corporate tax rate, I is the investment undertaken, B is new debt issued, ϕ is the official depreciation allowance, and K^T is the tax-written-down value of capital.

Up to this point the derivation or R is identical to Devereux and Griffith. Now, instead of looking at a one period perturbation (i.e., $dI_t = 1$, $dI_{t+1} = -(1-\delta)(1+\pi)$), we look at a permanent investment (i.e., $dI_t = 1, dI_{t+s} = 0 \forall s \geq 1$). Using this assumption and substituting (3) into (2) the tax-free present discounted value of profits can be easily derived by setting all taxes to zero:

$$R^* = -1 + \frac{(1+\pi)(p+\delta)}{1+i}\left(1 + \frac{(1+\pi)(1-\delta)}{1+i} + \left(\frac{(1+\pi)(1-\delta)}{1+i}\right)^2 + \ldots\right) = \frac{p-r}{r+\delta},$$ (4)

In the presence of taxation the derivation is more complicated. We start by assuming that the investment is financed by retained earnings (i.e., $B = N = 0$), which yields in a first step:

$$R = \gamma\left(\sum_{s=1}^{\infty}\frac{(p+\delta)(1-\tau)(1+\pi)^s(1-\delta)^{s-1}}{(1+\rho)^s} - \sum_{s=0}^{\infty}\frac{dI_{t+s}}{(1+\rho)^s} + \tau\phi\sum_{s=0}^{\infty}\frac{dI_{t+s} + dK_{t-1+s}^T}{(1+\rho)^s}\right)$$ (5)

We now turn to the three sums within equation (5). The second sum is the simplest and is independent of any tax holiday:

$$\sum\frac{dI_{t+s}}{(1+\rho)^s} = 1$$ (6)

In calculating the first sum, we need to take account of any tax holiday of Y years, during which the tax rate is zero.

$$\sum_{s=1}^{Y} \frac{(p+\delta)(1+\pi)^s (1-\delta)^{s-1}}{(1+\rho)^s} + \sum_{s=Y+1}^{\infty} \frac{(p+\delta)(1-\tau)(1+\pi)^s (1-\delta)^{s-1}}{(1+\rho)^s}$$

$$= \sum_{s=1}^{\infty} \frac{(p+\delta)(1+\pi)^s (1-\delta)^{s-1}}{(1+\rho)^s} - \tau \sum_{s=Y+1}^{\infty} \frac{(p+\delta)(1+\pi)^s (1-\delta)^{s-1}}{(1+\rho)^s}$$

$$= \frac{(p+\delta)(1+\pi)}{1+\rho}\left(1 + \frac{(1-\delta)(1+\pi)}{1+\rho} + \left(\frac{(1-\delta)(1+\pi)}{1+\rho}\right)^2 + ...\right) \qquad (7)$$

$$-\tau \frac{(p+\delta)(1+\pi)^{Y+1}(1-\delta)^Y}{(1+\rho)^{Y+1}}\left(1 + \frac{(1-\delta)(1+\pi)}{1+\rho} + \left(\frac{(1-\delta)(1+\pi)}{1+\rho}\right)^2 + ...\right)$$

$$= \frac{(p+\delta)(1+\pi)}{\rho-\pi+\delta(1+\pi)}\left(1 - \tau\left(\frac{(1-\delta)(1+\pi)}{1+\rho}\right)^Y\right)$$

The third sum, represents the present discounted value of depreciation allowances, which we label A. The calculation of this will depend on the depreciation rules.[10] Putting this all together, and allowing for an additional effect F to account for the as yet ignored financial effects we obtain:

$$R = \gamma\left(\frac{(p+\delta)(1+\pi)}{\rho-\pi+\delta(1+\pi)}\left(1 - \tau\left(\frac{(1-\delta)(1+\pi)}{1+\rho}\right)^Y\right) - 1 + A\right) + F \qquad (8)$$

The financial effects are similarly derived from equations (2) and (3). In the absence of a tax holiday, we assume that new equity of the value of $(1-\tau\phi)$ is issued to finance the investment, as there is already a depreciation allowance in the year of investment. The increase in new equity is assumed permanent, while debt is assumed to be repaid equivalent to the amount of nominal depreciation so that the debt-asset ratio is kept stable in the following years. If there is a tax holiday, then in both cases the amount issued needs to match the full expenditure (i.e., 1), as the depreciation allowance will not provide any tax saving. Thus the financing for new equity is:

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[10] Assuming no carry-forward of unused allowances, we have $A = \tau\phi\dfrac{1+\rho}{\rho+\phi}\left(\dfrac{1-\phi}{1+\rho}\right)^Y$ for declining-balance and

$A = \dfrac{\tau\phi(1+\rho)}{\rho}\left(\left(\dfrac{1}{1+\rho}\right)^Y - \left(\dfrac{1}{1+\rho}\right)^{1/\rho}\right)\forall Y \le \dfrac{1}{\rho}$ for straight-line depreciation. If methods are switched or

rates change, the formulae are more complicated. Up to three rate and method changes are taken into account in the program calculating the tax rates.

$$F^{NE} = \sum \frac{\gamma D_{t+s} - dN_{t+s}}{(1+\rho)^s} = (\gamma-1)(1-\tau\phi), \text{ no tax holiday; } = \gamma-1, \text{ otherwise.} \tag{9}$$

For debt they are in the absence of tax holidays:

$$
\begin{aligned}
F^D &= \gamma(1-\tau\phi) + \gamma\frac{(1-\delta)(1+\pi)(1-\tau\phi)-(1+i(1-\tau))(1-\tau\phi)}{1+\rho} \\
&\quad + \gamma\frac{((1-\delta)(1+\pi))^2(1-\tau\phi)-(1+i(1-\tau))(1-\tau\phi)(1-\delta)(1+\pi)}{(1+\rho)^2} + \ldots \\
&= \frac{\gamma(1-\tau\phi)(\rho-i(1-\tau))}{\rho+\delta(1+\pi)-\pi};
\end{aligned}
\tag{10}
$$

and in the presence of tax holidays:

$$
\begin{aligned}
F^D &= \gamma + \gamma\frac{(1-\delta)(1+\pi)-(1+i)}{1+\rho} + \gamma\frac{((1-\delta)(1+\pi))^2-(1+i)(1-\delta)(1+\pi)}{(1+\rho)^2} + \ldots \\
&\quad + \gamma\frac{((1-\delta)(1+\pi))^{Y+1}-(1+i(1-\tau))((1-\delta)(1+\pi))^Y}{(1+\rho)^{Y+1}} + \ldots \\
&= \gamma\frac{\rho-i+\tau i\left(\dfrac{(1-\delta)(1+\pi)}{1+\rho}\right)^Y}{\rho-\pi+\delta(1+\pi)}
\end{aligned}
\tag{11}
$$

To calculate the EMTR, we need to set the post-tax economic rent R (equation (8)) equal to zero and solve for the required level of pre-tax net profit p. This yields:

$$\tilde{p} = \frac{(1-A-F/\gamma)(\rho-\pi+\delta(1+\pi))}{(1+\pi)\left(1-\tau\left((1-\delta)(1+\pi)/(1+\rho)\right)^Y\right)} - \delta \tag{12}$$

The EMTR can then be calculated by obtaining R^* for $\tilde{p}$ and substituting into (1) or equivalently as:

$$\text{EMTR} = \frac{\tilde{p}-r}{\tilde{p}}. \tag{13}$$