

INVESTMENT INCENTIVES, MARGINAL EFFECTIVE TAX RATES AND THE COST OF CAPITAL IN EGYPT*

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Abstract

Although taxation is not the most important determinant of investment, it has a major impact on its competitiveness and its net profitability through its effects on the cost of capital and on the expected net profitability from a given investment. This paper attempts to assess the overall tax burden on capital by analyzing the impact of different aspects of the Egyptian tax system (corporate and non-corporate) on the cost of capital and hence on investment efficiency. The effects of the statutory tax rates, related tax incentives and tax administration are also considered along with various activity-specific and economy-wide factors that interact with taxes. A computerized model developed by Dunn and Pellechio (1990) is used to calculate Marginal Effective Tax Rates (METRs) on capital. The study shows that METRs in Egypt are relatively high as compared to statutory income tax rates and to the level of METRs in some MENA countries. Tax rates are further non-uniform, with the actual tax burden on firms varying according to legal form, economic activity, market orientation (domestic versus export), means of financing, types of assets and location. Therefore, if Egypt is to simultaneously promote investment and growth, it cannot avoid a reform of its tax system with respect to the treatment of capital. The reform will have to involve the reduction of tax rates, the unification of tax treatment of various investments, rationalization and targeting of tax incentives, and reforming tax administration.

1. Introduction

Although capital income taxation is only one of several determinants of investment decisions, economists and policy makers agree that taxation of profits often has an important impact on marginal investment. When a country's tax rate is high to the extent that it reduces profitability, investment is discouraged and competitiveness is eroded. When a country's tax system fails to treat alternative investment opportunities in a neutral way, distortions are introduced in investment decisions. Moreover, in a globalized world characterized by increased capital mobility, a well designed and neutral taxation system has a strong bearing on attracting foreign direct investment. In fact, the internationalization of business activity has created significant pressures on national corporate tax systems.

This paper will investigate the extent to which Egypt's current tax system imposes significant economic costs on business operations, and to assess whether this tax system has distortionary effects on private investment. The study will first attempt to measure the real tax burden on capital investment by using the marginal effective tax rate (METR) as a quantitative indicator. The paper also examines whether tax incentives or exemptions change these results. The paper will also investigate the extent to which the estimation of the METRs calculated on the basis of the formal tax system are likely to differ when administrative practices are taken into account. In order to evaluate the impact of the tax system on the cost of capital and hence on competitiveness, the study will address the following questions:

- Does the prevailing tax system increase the cost of capital?
- Does this tax system favor any economic activity at the expense of the others?
- Does the tax system favor debt finance over reliance on retained earnings and equity, investment in machinery in relation to buildings and inventories, corporate versus non-corporate firms, and does it favor some locations at the expense of others?
- Do the existing tax arrangements place an unfair tax burden on international investors in comparison to domestic investment?

The statutory tax rates are not accurate indicators of the burden and impact of the tax system on investment decisions or allocation¹. Therefore, we will rely on the marginal

¹ Usually the statutory tax rate differs substantially from the effective tax rate for several reasons, of which: the method used in calculating taxable income, the frequent use of credits and other taxes on investment, and the inflation rate. Besides the statutory tax rate, countries offer various tax exemptions to encourage domestic investment and to attract foreign direct investment. In addition, administrative practices and institutional weaknesses impose transaction costs on investors.

effective tax rate, which captures the impact of the different aspects of the tax system (rates, incentives and administration) on the cost of capital and hence on investment efficiency and competitiveness. It incorporates the effects of both the statutory tax rates and related tax incentives (tax depreciation, tax credit, tax deductibility, tax holidays, etc.), as well as various industry-specific and economy-wide factors interacting with these taxes (financial costs, capital structure, etc.). Due to this comprehensive nature, the effective tax rate can vary by industry or tax jurisdiction under the same tax regime. The difference in the METR across various investors or sectors quantifies the tax bias at the margin and indicates, other things being equal, how tax policy is likely to affect investment decisions. More importantly, when tax administration tends to be weak, a key issue is to determine how METR calculated on the basis of the statutory tax level is likely to differ when administrative practices are taken into account.

The paper is organized as follows. Section 2 reviews corporate taxation in Egypt and tax-related incentives and assesses the statutory tax level. Section 3 quantifies the METR on cost of capital differentiating between tax effects on various organizational forms, sources of finance, assets and activities. Section 4 studies the impact of tax incentives and considers differences in tax treatment of domestic versus foreign investment and investment in various locations. Section 5 investigates tax compliance in terms of tax administration and evasion and considers whether administrative practices are likely to affect the METRs estimates. Section 6 explores the implications of different findings for investment allocation and efficiency followed by policy recommendations and the conclusion.

2. Capital Income Taxation and Related Incentives

This section analyzes the tax system applied in Egypt and the prevailing incentive schemes. It further assesses the height of the statutory corporate tax level and evaluates its burden on investors.

2.1 The Tax System

Egypt imposes a number of direct and indirect taxes. The direct taxes include corporate income taxes, individual income taxes, inheritance taxes, property and payroll taxes. The indirect taxes include sales and excise taxes, stamp taxes and customs duties. Although there is only one law that governs taxation of business and individual income, income taxation in Egypt is complex due to its numerous tax rates, special provisions and exemptions.

Under the Income Tax Law No. 187 issued in 1993 - which is an amendment of the Egyptian Tax Code under Law 157 of 1981 - various sources of income are

aggregated and then taxed according to a schedule of rates. This law distinguishes between individual income and corporation income.

The individual income tax

This tax applies to Egyptian residents and to foreigners, only on income earned in Egypt. For taxation of individual income three classifications are used: wages and salaries, unified income (which comprises: commercial and industrial profits, professional income, immovable property income) and movable capital revenue. Each of these three components are subject to different tax schedules.

The tax on wages and salaries is withheld at the source. A 20 percent rate of tax is applied to the first LE 50,000, any excess is taxed at the rate of 32 percent. An additional 2 percent (the development duty) applies on taxable income in excess of LE18,000. Certain allowances that do not exceed in total LE4,000 per year are deductible from this income.

The unified income tax applies to income from commercial and industrial activities, professional and real estate activities. Egyptian firms subject to this tax include: sole proprietorships, general partnerships and simple limited partnerships. The current tax rate on profits is a progressive rate which starts at 20 percent for profits up to LE 2,500 and reaches 40 percent for profits exceeding LE 16,000 yearly. In addition, a development duty of two percent is applied to the unified income tax base if it exceeds LE18,000. Personal allowances are the same as those under the wage and salary tax. They may be claimed by the taxpayer under the unified tax, if they are not claimed elsewhere.

The tax on movable capital revenue is imposed at the rate of 32 percent, an additional two percent is levied on movable capital revenue received by directors. Movable capital revenue includes: interest income (if not exempt altogether), foreign dividends (net of foreign taxes) received by Egyptian residents, benefits to non-executive members of corporate boards and to executive members of corporate boards (in excess of LE 5,000 per year). The movable capital tax is usually withheld at the source on payments to both residents and non-residents.

Given the differential tax treatment of various income sources and the deductibility of interest, wages and salaries from corporate and other business income, there may be an incentive to shift income from the business income category to other categories (wages and salaries or movable income). These possibilities are partly circumscribed by including wage and interest income of owners of sole proprietorships and partnerships as part of commercial and industrial profits.

The corporation income tax

Corporate tax is imposed on the net annual profits of joint stock companies, limited liability companies and partnerships limited by shares established according to Egyptian law (Law 159/1981 and Investment Law 8/1997). It is imposed on private and public sector companies alike and on public authorities engaged in taxable activities. Foreign banks and foreign companies operating in Egypt are subject to this tax with respect to the profits realized from their activities in Egypt.

Taxable income is equal to accrued revenues net of allowable costs. Both revenues and expenditures are calculated on an accrual basis rather than on a cash basis. Revenues include income that results from the main activities of the firm, in addition to any other incomes, revenues or gains such as profits realized from activities accomplished outside Egypt, unless such activities are carried out by an independent enterprise. Gains from the disposal of capital assets are also included, but if the proceeds are fully utilized within two years to purchase new capital assets, the part of the corporate tax related to such capital gains shall be reimbursed or deducted from the corporate tax due for payment.

The standard rate for the corporate tax is 40 percent. Profits from manufacturing and from exporting activities are subject to a reduced rate of 32 percent. A complementary tax of two percent (the development of state resources duty) is also levied on the amount of taxable income of companies exceeding LE18,000 a year.

Deductions from accrued revenues to obtain the actual taxable corporate income include: Depreciation charges as well as a 25 percent initial deduction of the cost of new machinery and equipment. The annual depreciation allowances are calculated after the year when the initial allowance is deducted. In addition, the tax law allows for the deduction of interest on debt from taxable income. There are also special allowances granted to certain organizational forms, such as the paid-up capital deduction granted to joint stock companies listed on the stock exchange.

The straight-line method is used to depreciate fixed assets (except land). Commonly applied rates of yearly depreciation are two to five percent for buildings, six to 15 percent for furniture and fixtures, 10 to 20 percent for plant and machinery, 12.5 to 20 percent for office and accounting machines, 20 to 25 percent for motor vehicles (World Bank, 1994).

Corporate tax is further applied to 10 percent of dividend income and of net-of-movable-income-tax interest received.

Other deductions include: interest and royalties provided the scheduled tax has been withheld, bad and doubtful debts (with a maximum of five percent of net profits per year), rent, worker participation payments (required by law to be equal to 10 percent of profits or 100 percent of annual payroll, whichever is less), pension contributions (with a maximum of 20 percent of payroll), all other taxes including social insurance contribution to the Egyptian state social insurance schemes, and prior years' corporate losses (so long as they have not been carried forward for more than five years).

Any inventory valuation method for inventory costing is permissible: first-in-first-out (FIFO), last-in-first-out (LIFO) or the average cost method. However, the first-in-first-out method or the average cost method is commonly used for inventory valuation, although the last-in-first-out method is more advantageous to the corporation in times of rising prices. There is, in general, no adjustment made for inflation.

Capital gains earned from the sale of fixed assets subject to depreciation are taxed at the usual rate of corporate tax. However, they are not taxable to the extent that the proceeds are reinvested in new fixed assets.

Other taxes include:

Withholding taxes

In general, there are no Egyptian withholding taxes on income remitted to non-residents apart from scheduled taxes on interest and royalties. Foreigners may also have taxes imposed on their wages and salaries although exemptions may be given to projects qualifying for tax incentives (as discussed later).

Egypt has signed tax treaties for providing against double taxation with a number of countries such as: Austria, Belgium, Cyprus, France, Germany, India, Italy, Jordan, Lebanon, Sweden, UK, USA and others. Other countries have signed tax treaties with Egypt to be effective in the near future.

General sales tax

This is the main commodity tax in Egypt. It is imposed on the sale of goods and services. Both domestic and imported goods are taxed (the sales tax is applied on the value of imports including customs duties).

The standard rate of tax is 10 percent. However, a zero rate applies to certain food products and export sales. The sales tax rates further vary by commodities and type of service between five percent for necessities and 25 percent for luxury goods. The standard rate of 10 percent applies to machinery and transport vehicles (not exceeding 1,600c.c.)

Social insurance contributions

These contributions are for medical care, old age security, industrial accidents and unemployment insurance. The employees' contributions are withheld by the employer from wages and salaries.

As a percentage of the gross wage or salary, aggregated for both employers and employees, this tax rate is about 32 percent for wage income and 28 percent for variable income (e.g. production incentive bonuses) annually.

Property tax

Real estate taxes are levied on the assessed net annual rental value of buildings and land. These rates range between 10 percent for non-residential buildings to 20 to 40 percent on residential buildings. The net rental value is 80 percent of gross rental value² (20 percent of the gross rental value is deducted for maintenance and expenses). In addition to the basic rate, there is a complementary tax called a guards tax (*khafar* tax) amounting to 20 percent of the original tax. Additional local taxes and duties are also imposed by the governorates of Egypt (KPMG, 2000).

Stamp duties

The stamp tax requires payment of a specific tax on a wide range of documents: contracts, minutes of companies' meetings, commercial papers, various legal documents, cash receipts and the value of certain financial transactions.

Proportional stamp taxes are imposed on the value of certain financial transactions and instruments at prescribed rates, starting from 0.8 percent on loans, one percent on credits. They may go up to 36 percent on advertisements.

Customs duties and surcharges

Customs tax rates on imports have been reduced to range between five and 40 percent, with few exceptions including means of transportation, which are subject to a rate of 135 percent. There is also an additional surcharge of three percent if the import tax is 30 percent or less and of four percent if the import tax exceeds 30 percent.

2.2 Investment Incentive System

Like many other developing countries, investment incentives are permanent features of the Egyptian tax policy, where the preferred form of tax incentive is the tax holiday. Egypt has heavily used tax incentives to encourage new industry to locate outside of Cairo and Alexandria.

² Gross rental value for buildings and land are respectively eight percent and five percent of the value of the corresponding asset (interview with tax experts)

The Egyptian Income Tax Code (Law 157/1981 and the more recent Law 187/1993) contains specific tax incentives provisions for investment and reinvestment. The main tax benefits provided are as follows:

Income tax deferral for reinvestment. The code exempts the proceeds from the sale of a capital asset from income tax if they are reinvested in a similar type of asset. This is a significant tax incentive provision for reinvestment.

Tax deduction for investment in industrial assets. Deduction from the basis of corporate tax is allowed for the acquisition of assets used in industrial production activities. The amount of this deduction is equal to 25 percent of the cost of the assets. Although depreciation allowances must be computed on the reduced basis of the assets, the deduction can result in significant tax savings.

Five-year income tax exemption for new factories. A five-year tax exemption from corporate tax for new factories employing at least 50 persons is provided. The exemption starts the first year following the beginning of production operations.

Special exemption for paid-in capital. Companies listed on the Egyptian Stock Exchange have the benefit of a special income tax exemption equal to the product of paid-in capital times an interest rate set by the Central Bank. The amount of this exemption is thus equal to the alternative return that investors could have earned by investing in bank deposits. Hence, publicly listed companies are subject to the corporate tax only on the amount of profits beyond the alternative return on paid-in capital.

Other incentives for targeted investments. Among them are the following: up to a ten-year exemption from tax on commercial and industrial net profits or from corporate tax for projects engaged in land reclamation and cultivation, poultry, cattle, fishery, bee-breeding (no limit) and tourism (5 years).

Other tax incentives that are especially important to foreign investments are provided under Law No. 8 of 1997 for Investment Guarantees and Incentives. This law has replaced Egypt's former Investment Law 230 of 1989 which itself had replaced Law 43 of 1974 on "Arab and Foreign Investment". A major feature of Law 8 is that no minimum investment nor approval process is required. However, it is a targeted investment law and specifies sixteen activities that qualify. They range from

reclamation of desert land to industry and mining, air transportation and the tourism industry³. Other activities may be added by decree⁴.

Despite the fact that the enactment of Law 8 is considered a step forward in granting equal treatment for domestic and foreign enterprises, the general regime yet maintains some restrictions to foreign direct investment. Companies registering under Company Law 159 face limitations concerning ownership and management. According to this law, corporations must initially publicly offer shares of at least 49 percent to the company's equity, over the period of one month, to Egyptians and only in the case of lack of subscription by Egyptians, may foreigners own the majority of shares. In addition, the company law states that the majority of directors must be Egyptian. The Insurance Law 91 of 1995 limits foreign firms' participation in Egyptian insurance companies to 49 percent.

Law 8 provides incentives to inland investment as well as to offshore investment in free zones. Incentives to inland investments include:

Investment guarantees

These guarantees cover in particular: nationalization, administrative seizure or sequestration, pricing interference and determination of profits, rescission of licenses, land ownership rights, the right to import directly (without the need to be registered on the importation registry) or through intermediaries, raw materials and equipment. Similarly, the right to export directly without being registered on the exportation registry is guaranteed. The law also includes exemptions from certain corporate law and labor law requirements.

Tax incentives Law 8 provides several tax benefits, mainly:

³ Specifically the sixteen activities are: 1) reclamation and cultivation of barren and desert lands, 2) animal, poultry and fish production, 3) industry and mining, 4) hotels, motels, tourist resorts and tourist transportation, 5) transportation of goods in cooling vans, cold storage..., industrial products, food, containers and silos for grain, 6) air transport and directly related services, 7) external sea transportation of goods and passengers, 8) oil exploration services and delivery of gas, 9) residential housing projects, 10) infrastructure projects, 11) hospitals and certain medical centers, 12) finance leases, 13) guarantee of subscription in securities, 14) risk capital, 15) production of computer programs and systems, 16) projects financed by the Social Fund for Development

⁴ It is noteworthy that *corporate income taxation does not encourage research and development (R&D) activities*. Information and technology-related activities have been recently made eligible for Law 8/1997 incentives. However, in contrast to many countries, Egypt does not grant any additional tax incentives beyond those stipulated by Law 8- to stimulate R&D. In Egypt, expenditures on R&D are a relatively low percentage of GDP, estimated at 0.2 percent compared to the corresponding figure of 0.7 percent in Turkey.

Income tax exemption. Profits are exempted from taxes for a period of five years, starting the first year following the beginning of production. This exemption benefits corporations as well as individuals. It is extended to 10 years for investments implemented in specific remote areas (new urban communities, new industrial zones) or new projects financed by the Social Fund for Development. A 20-year exemption is granted to investments outside the Old Nile Valley.

Exemption from the stamp tax and notarization/registration fees for three years starting from the date of registration with the Registry of Commerce. This tax is generally small but is a nuisance in business transactions.

Special income tax exemption. Companies listed on the Egyptian Stock Exchange have the benefit of a special income tax exemption for an amount equal to the product of their paid-in capital times an interest rate set by the Central Bank of Egypt. This exemption is identical to that provided by the Income Tax Law discussed earlier.

Exemption from the tax on interest income: Income from registered bonds and other finance instruments issued by publicly listed companies is exempt from the tax on movable income which applies at the rate of 32 percent on interest-type income.

Reorganizations resulting from mergers, split-offs, or changes in legal status of companies operating under Law 8 are exempt from tax. Reorganizations will also not end prematurely the tax incentive benefits, they will not however, extend these tax benefits beyond the period originally granted.

Capital gains: An income tax exemption is provided on capital gains realized on the transfer of assets to a new legal entity as a capital contribution.

Customs duties apply at a flat rate of five percent for all machinery and equipment imported for investment projects under Law 8. These tariffs nominally apply at various rates ranging from five percent to 40 percent with some exceptions.

Land allocations

State-owned land may be allocated free of charge or for a nominal rent for investments in designated areas.

Exemptions from labor law and social security law requirements

Law 8 companies are exempt from certain labor law requirements. In particular, they can freely hire Egyptian staff and are exempt from the provisions requiring employees' participation in the companies' management. However, they are still subject to the general requirement that 10 percent of the distributed profits be allocated to employees. Law 8 companies are also free to organize their own social

security schemes, provided that they offer at least equal benefits to the general scheme.

Incentives to offshore investments in free zones.

Free zones are specified areas administered by a special government body according to preset administrative regulations. The main incentive for investments in these zones is that activities within the free zones are permanently exempted from taxes, duties or customs procedures. This exemption applies to raw materials imported to be processed within these zones and to equipment, machinery and means of transport, except for passenger cars. However, goods processed within the free zones and sold in Egypt are subject to customs duties. A requirement set for admission in these zones is that at least 50 percent of the production must be exported.

Another important incentive in the free zones is that profits are not subject to Egypt's tax, except for a one percent annual duty on the value of the goods stored or processed within the zone, or a one percent duty on gross revenue in the case of services projects to be paid to the Investment Authority.

Various exemptions from certain corporate law and labor law requirements are also granted to investments in free zones.

It may thus be concluded that the current investment incentive scheme is based on tax holidays offered indiscriminately to a vast array of activities in the economy. The question remains whether tax holidays or import facilities are decisive factors in the decision to invest. It appears that tax holidays are important for some companies to offset the inflated costs of doing business in Egypt - such as high import duties, sales tax, costly and time consuming procedures through ports and customs, duty drawbacks. Reducing these and similar inefficiencies may be a more effective means of lowering the costs and attracting investments than tax holidays.

2.3 The Burden of Corporate Income on Investors

Generally there are two approaches in designing tax policy: either to apply a uniform tax provision to all activities combined with low tax rates, or to tax various activities differently in order to achieve specific economic goals such as export promotion, employment generation, or development of remote areas. The latter is usually accompanied with generous incentives and also results in a relatively high tax rate in some sectors. Evidence shows that Egypt opted for the second alternative. In what follows we examine the impact of this choice on the tax level, while the effects of the incentives schemes adopted will be studied later.

Judging whether or not the current statutory tax rate is at the appropriate level, is a difficult task. In this regard the literature on optimal tax theory provides little practical guidance on the choice of the overall level of taxation. Nevertheless, we will attempt to detect whether the actual corporate tax level is high and overburdens investors. Table 1 explores different revenue sources and reveals that taxes on individual and corporate income are an important source of public revenues. Their average shares in total revenues and total tax revenues were 22 percent and 37 percent, respectively, over the period 1995/96-1998/99, of which corporate tax revenues represent 17 percent of total revenue and 28 percent of tax revenues for the same period.

Comparison for 1995 with other countries in the region confirms this fact. The shares of corporate income taxes to both total tax revenues and GDP in Egypt are nearly 23 percent and five percent higher than the average of around nine percent (with the exception of Iran) and two percent in comparator countries (see Table 2)⁵.

But, why do corporate income tax (CIT) revenues seem to be high in Egypt? Besides many possible theoretical explanations for the high level of CIT, such as a large tax base, efficient tax administration, high level of investment – none of which are the case in Egypt - two factors can help explain the high level of corporate taxes in Egypt as compared to other countries in the region: the level of statutory tax rates, and the composition of corporate tax revenues. Some statutory tax rates are relatively high in Egypt compared with other MENA countries. In addition, the high corporate tax revenue is explained by the large participation of the oil sector, the Suez Canal, and the Central Bank of Egypt. Nearly 60 percent of the corporate tax yield is attributable to these economic authorities.

As for the evolution of CIT, corporate tax revenues did not exhibit a significant upward trend during the 1990s. The question is why corporate tax revenues did not follow the same growth pattern as investment? If we take into account that the tax rate did not change over this period, this could be explained by: the generous incentive schemes in Egypt, the low levels of profits which reflect low productivity and efficiency levels, and finally, high tax evasion.

To sum up one may say that corporate income taxation seems to increase the cost of capital in Egypt. On the one hand, the statutory tax rate is relatively high. On the other hand, due to inefficient tax collection mechanisms, the government depends on many indirect taxes such as the sales tax, tariff duties, and many other surcharges and duties

⁵ If we take into consideration that Corporate Income Tax accounts for almost 83 percent of total income tax revenues (Table 2-1), this would reflect that most direct income taxes burden falls on the corporate entities in Egypt, while in other comparable countries the burden is more felt by the individuals.

for revenue purposes, which impose additional costs on investment. Thus, the share of corporate tax in total tax revenue understates the tax burden imposed on businesses. The following section examines the actual burden of taxation on investors.

3. Assessment of the Effect of the Tax System on Investment Decisions

3.1 Methodology

Effective tax rates on capital are calculated to determine, in addition to the effect of statutory tax rates on corporate and non-corporate investment income and return, the impact of other aspects of the tax system such as capital allowances and tax incentives on the actual amount of tax paid and on investment profitability. Effective tax rates also consider the way personal taxes affect the return of investment to the individual savers.

Taxes on business income (corporate and non-corporate), in general, raise the pre-tax rate of return required to yield a given post-tax rate of return. Hence a firm (corporation, proprietorship, partnership) has to earn a higher pre-tax rate of return on its investment in order to obtain, after paying taxes, a post-tax rate of return, at least as high as could be obtained by a bank deposit or government bonds of equal value. Taxes on personal income from the corporate sector reduce further the income to savers, compared to the gross amount they receive. The difference between the pre-tax rate of return earned by firms and the post-tax receipts an individual gets is a measure of the total distortion (total tax “wedge”) caused by taxes.

Three rates of return are useful to focus on when discussing the effects of the tax system on investment decisions:

p = the real pre-corporate tax rate of return to projects,

r = the real interest rate (= return on government bonds or bank deposits before payment of personal taxes),

s = the real post-personal tax rate of return received by the savers (the ultimate financiers of the investment),

$p-s$ = tax wedge.

The precise methodology used to calculate effective tax rates on marginal investments is based on an approach developed by King and Fullerton (1984). This methodology has further been applied by OECD (1991) and the World Bank. Dunn and Pellechio (1990) from the World Bank developed the Marginal Effective Tax Rate (METR) model for their survey work on the taxation of business income in developing countries. This is a very useful and valuable tool to calculate effective tax rates for a

variety of tax policies, types of investments and tax incentives. The METR model is based on assuming a hypothetical project with a particular internal, before-taxes, rate of return. METR generates a cash flow for the project. Given the appropriate information on tax policy, the model applies this information to the cash flow and derives the internal rate of return for the after-tax cash flow. The effective tax rate (ETR) is the difference between the before and after-tax rates of return expressed as a percentage of the before-tax rate of return.

$$ETR = \frac{p-s}{p} \times 100 = \frac{BTROR - ATROR}{BTROR} \times 100$$

Calculation of these rates of return is based on the specification of the before-tax cash flow (BTCF) and the after-tax cash flow (ATCF). The cash flows are generated by following basic accounting principles and straightforward application of the tax code. Thus:

$$BTCF_t = \text{InvInc}_t - \text{InvExp}_t - \text{EconDep}_t - \text{Int}_t - \text{Princ}_t + \text{NetSalesofAssets}_t$$

where:

- InvInc_t is investment income. It is equal to the revenue from the investment project net of wages and costs of intermediate goods and services.
- InvExp_t denotes the sums used (equity or debt or any combination of the two) to finance investment in year t.
- EconDep_t is economic depreciation in year t. It is assumed to be equal to replacement cost such that the real value of the original investment remains constant all through the life of the project⁶.
- Int_t and Princ_t are respectively interest payment and principal repayment in year t. They only appear when the project resorts to debt financing.
- $\text{NetSalesofAssets}_t$ denotes the net sales proceeds of the assets in year t. These proceeds are calculated as $I_0 (1 + \pi)^t$ where I_0 is the initial investment, π the expected annual inflation rate and t is time. For $t = 0, 1, \dots, T-1$, $I_0 (1 + \pi)^t = 0$.

⁶ Assuming α_i to be the share of asset i in initial total investment I_0 and δ_i the rate of economic depreciation for this asset, the rate of economic depreciation of these assets in year t may be estimated as: $\text{EconDep}_t = (\alpha_1 \delta_1 + \alpha_2 \delta_2 + \alpha_3 \delta_3 + \alpha_4 \delta_4) I_0 (1 + \pi)^t$ - where π is the expected rate of inflation. It is assumed in the calculation to remain constant over time, and 1 to 4 refer successively to investment in land, buildings, machinery and equipment, and vehicles. Economic depreciation is equal to investment replacement necessary to preserve the real value of investment constant.

whereas it is $I_0 (1 + \pi)^T$ in the terminal year considered for the investment project, so long as investment in each period $t = 1, 2, \dots$ equals the economic depreciation $\text{ATCF}_t = \text{BTCF}_t - (t_c + d) (\text{InvInc}_t + \text{InvCred}_t - \text{Dep}_t - \text{IntDed}_t - \text{Carryover}_t + \text{Capgain}_t + \text{Inventgains}_t) - \text{Proptax}$.

where:

- t_c denotes the corporate tax rate and d is the complementary tax called the “development of state resources” duty whenever applicable.
- nvInc_t is, as defined previously, income that results from the main activities of the firm, or investment income.
- InvCred_t is investment credit in year t.
- Dep_t denotes depreciation allowances which include initial allowances granted in the first year of the depreciation schedule, annual allowances granted each year and possible adjustments when the assets are sold in the final year.
- IntDed_t denotes deductions of interest on bank deposits and dividends earned, allowed by law 159/1981
- Carryover_t is prior years’ corporate losses cumulated over at most five years before year t.
- Capgain_t refers to capital gains earned from the sale of depreciable fixed assets in year t, if the proceeds are not reinvested in new fixed assets.
- Inventgains is nominal gains on goods held in inventory in year t.
- Proptax denotes real estate tax paid by the firm on property.

The after-tax corporate cash flow thus equals the before-tax cash flow minus taxes paid on taxable income and other taxes, before distribution of dividends, plus tax credits. Taxable income in Egypt equals investment income plus investment credits minus depreciation allowances, investment deductions and interest deductions. Taxable income is further reduced by losses which may be carried forward for five years. Capital gains (or losses) are also included in taxable income. Distributed corporate dividends are, according to the Egyptian tax code, exempt from movable income tax.

3.2 Parameters of the Model

Application of the model requires the specification of several parameters related to the project under study, and to the tax policy.

3.2.1 The project

The project includes physical investment, the terms of operation of the project and its financing.

Physical investment includes three depreciable assets and one non-depreciable (land). The shares of each asset in total physical investment have been derived from the 1996/97 Economic Census⁷. They have been set in the base case, for corporate business in manufacturing as: 4.75 percent for land, 25.16 percent for buildings, 64.68 percent for machinery and equipment and 5.41 percent for vehicles. For corporate business in services, the figures for the asset structure are: 18.28 percent, 37.82 percent, 29.87 percent and 14.03 percent for land, buildings, machinery and equipment, and vehicles, respectively. Services considered include: trade, hotels and restaurants, financial mediation, education, health and other social and personal services. Transport and communications have been excluded as their highly machinery intensive asset structure distorted the results of the METR calculations⁸. Electricity and construction are also excluded because, according to the ministry of planning they are considered as commodity producing sectors.

Real economic depreciation, as specified in Dunn and Pellechio (1990) is assumed to be 3.6 percent, 12.25 percent and 30 percent for buildings, machinery and equipment, and vehicles, respectively.

Terms of operation: The project is assumed to incur all of its investment costs in year zero, before it starts generating income. In subsequent years, the project generates a stream of before-tax cash flow that remains constant in real terms from year one until the end of the operating period $T = 10$ years. The initial level of operating income is chosen so that the project generates a real BTROR assumed to equal 20 percent of equity invested⁹. Finally, capital is sold at the end of its operating period (10 years) at its real initial value I_0 , that is at a nominal value of $I_0 (1+\pi)^{10}$, where π is the expected inflation rate. The annual inflation rate (April 1999-April 2000) of 2.9 percent is used as a deflator (CBE, July 2000). The Egyptian taxation system is a non-indexed system.

⁷ CAPMAS: Economic Census

⁸ The high share of machinery and equipment in the asset structure of the transport and communication activities together with the 25 percent initial depreciation allowance granted to this asset unrealistically reduce the METR on services when this activity is included in the sector.

⁹ This assumption of fixed pre-tax rate of return conforms to what King and Fullerton call the fixed p-calculation which is said to be a better guide to the schedule of tax rates levied on different kinds of projects and determines the welfare losses resulting from the distortionary effect of taxation on capital income.

Terms of Financing: Several sources of finance are available to corporate business in Egypt - principally direct financing by investors through sale of equity or previously retained earnings or through borrowing - mainly from banks. The usual debt/equity ratio in Egypt has been estimated by accountants at 2:1. It may go up to 5:1 or sometimes higher. Retained earnings are assumed to equal five percent of profits for corporate firms (legal reserve) and zero percent for non-corporate firms¹⁰. Two cases have been considered: all equity financing and partial financing through debt with debt/equity ratio estimated at 2:1.

The loan duration, i.e. the period over which amortization of the loan is achieved, is assumed to be equal to the operating period.

The interest rate on retained earnings and on capital investments is assumed to be equal to 9.25 percent, the average interest rate on bank deposits.

3.2.2 Taxes on income

The corporate income tax is the main tax considered. Its basic rate is 40 percent, however to encourage manufacturing and exports, this rate is reduced to 32 percent for income generated by such activities. In all cases, an additional two percent is imposed as a duty for the development of state resources, whenever taxable income exceeds LE18,000 per year.

The corporate income tax base is revenue less expenses. Revenue includes annual income, capital gains and interest earned on retained earnings. Deductions from this revenue may include, in addition to current operating expenses (wages and cost of intermediates), depreciation, interest paid on debt, principal repayments, carried over losses up to five years, paid-up capital deductions¹¹, import and property taxes.

Straight-line depreciation is applied in Egyptian accounting practices for tax purposes. For buildings, applied rates of yearly depreciation are two percent in services and three percent in industry. For vehicles and machinery the rates are 20 percent and 10 percent, respectively. New machines and equipment used by firms in productive activities (mostly interpreted as manufacturing activities) are granted an initial

¹⁰ Another element that reduces the return to capital in corporate firms, besides the legal obligation to retain 5 percent of profits, is the employees' profit sharing of 10 percent of total distributions

¹¹ This deduction is equal to the paid - up capital multiplied by the interest rate and is only applicable to joint stock companies listed on the stock market. The interest rate applied to joint stock companies under law 157/1981 is the prevailing interest rate on time deposits at banks in Egypt for one year (9.25 percent) whereas the rate applied to joint stock companies under law 8/1997 is the Central Bank of Egypt lending or discount rate (12.0% as of the end of 1998) (KPMG,1999).

allowance of 25 percent and the remaining 75 percent is depreciated over a 10 years period.

Distributed dividends enjoy an exemption from movable income tax. Thus, the effective tax rate to the shareholders or the partners in limited liability companies is the same as that imposed on the firm. Retained earnings are also exempt from other taxes, as they have already been subjected to corporate tax on investment income.

Personal income taxes: In the case of sole proprietorships and general partnerships, no income tax is imposed at the firm level. However, personal income tax is levied on the share of the proprietor's or the partner's net income derived from the firm. Non-corporate entities are deprived from some deductions allowed to corporate business, the most important being the paid up capital deduction. Property tax is imposed at the firm level and is deductible from taxable income accruing to the owners. Capital gains and distributed profits, as part of individual owners' income, are taxed at the following rates: 20 percent for profits less than LE2,500; 27 percent for less than LE 7,000; 35 percent for less than LE 16,000; and 40 percent for amounts exceeding LE 16,000. For taxable incomes in excess of LE 18,000, an additional two percent duty for state resources development is also imposed.

Manufacturing and exporting activities are granted, respectively, 20 percent and 30 percent deductions from non-corporate profits exceeding LE 8,000, before imposition of the income tax.

Retained earnings are assumed to be zero for non-corporate firms.

3.3 Effective Tax Rates on Capital in Egypt

This section discusses the impact of the Egyptian tax system based on the METRs computation for private investment projects. Differentiation between tax treatment according to organizational forms of business, sectors of activity, sources of finance and asset types are considered. The assessment of the impact of the main tax incentives on the METR are also presented. We particularly emphasize the following aspects of the tax system:

- a) the impact of the effective tax compared to the statutory tax,
- b) the impact on various organizational forms,
- c) the choice of sources of finance,
- d) the impact on manufacturing and services activities,
- e) the effect on exporting,
- f) the effect on asset structure.

3.3.1 Effective burden of taxation

METR estimates in Table 3 reveal that the Egyptian tax system imposes a burden on capital different from that reflected by the statutory tax rates on profit. The table provides two sets of METR estimates: the first illustrates the impact of direct taxation only, while the second incorporates both direct and indirect taxation. It is worth noting that the effective tax rates based on direct taxation differ from the statutory tax rates on profits. Sources of divergence are mainly the special tax allowances such as those granted to joint stock companies and to non-corporate firms engaged in manufacturing and exporting, property taxes and the non-indexed tax system in Egypt. Special allowances work on reducing METRs, while property taxes increase METRs and finally non-indexed depreciation and capital gains raise METRs. Indirect taxation in the form of tariffs and surcharges, sales tax and stamp duties impose an additional cost on capital as reflected by the second set of METRs estimates. This applies to all firms regardless of their legal forms or activities.

The observed relationship between METRs and nominal tax rates appear intuitively acceptable, given that indirect taxes are added in METR calculation. In fact, the relation between nominal and effective tax rates is not straightforward. The outcome depends on the different aspects of the tax system that vary substantially from one country to another.

Examining this relationship in some MENA countries, as shown in Table 4, indicates that although the preferential statutory tax rate, imposed in Egypt on manufacturing activities, is lower than the corporate income tax rate in the selected MENA countries, the estimated METR is consistently higher. The main reasons for this relate to indirect taxation: tariff rates are relatively high in Egypt and the sales tax adds an additional burden on the cost of capital, yet all these countries, with the exception of Egypt, allow partial or total crediting of sales taxes and import duties on imported capital goods. Furthermore, these countries, especially Turkey, allow targeted and generous allowances to be deducted from taxable corporate income. They are applied to specified sectors with special importance, priority regions and organized industrial regions.

3.3.2 Impact on organizational forms and activities

Table 3 also shows that tax deductions for the imputed cost of paid-up capital granted to joint stock companies¹² listed on the stock market, are particularly favored. They bear the least METR followed by non-corporate firms and finally by other corporate

¹² Joint stock companies are assumed to be listed on the stock market and are thus eligible for the paid-up capital allowance.

firms (limited liability companies and partnerships limited by shares). This result holds for the two sets of estimates, as well as across economic activities. It appears further, that due to the tax deduction enjoyed by joint stock companies listed on the stock market, METR associated with direct taxation on capital is lower than the statutory tax rate on corporate profit.

METR figures in Table 3 also reflect the 1997 revision of the unified personal income tax schedule (which entailed the simplification of the schedule from six to four categories and a reduction of its upper limit from 48 to 40 percent). This revision has had the effect of correcting an obvious bias against non-corporate firms in the past (World Bank, 1995). The results point to a more favorable treatment for non-corporate firms as compared to corporate firms other than joint stock. The gap between corporate and non-corporate firms of course declines as non-corporate firms realize higher profits and thus face higher average tax rates.

According to the general tax law, corporate firms receive more incentives. They are granted a tax holiday for five years if engaged in industrial activity and employ more than fifty workers. Corporate firms are further allowed to deduct from their gross taxable profit, an amount equal to the dividends received from their shareholdings in another Egyptian joint stock company, on condition they acquired the shares of the other company on its foundation. Moreover, machines and equipment imported by corporate firms are subject to a reduced tariff rate of five percent¹³. Other legal forms of enterprises (mainly partnerships and foreign branches) do not enjoy this advantage unless they come under the Investment Incentives Law No. 8. On the other hand, corporate firms face the disadvantage that they can only carry their losses forward up to five years, while partnerships and sole proprietors can offset any losses incurred against other sources of income under the unified income tax.

Contrasting the legal profile of establishments in Egypt with the preceding analysis reveals that most firms in Egypt will not benefit from these advantages since non-corporate firms represent about 95 percent of total establishments (CAPMAS).

In all cases, manufacturing is favored by the tax system compared to services as indicated in Table 1. In the manufacturing sector, for example, METR estimates based on direct and indirect taxation show that joint stock companies face the least METR estimated at 41.6 percent compared with 53.6 percent for non-corporate firms and

54.5 percent for corporate firms other than joint stock. The corresponding rates in services are 47.2 percent, 58.4 percent and 63.2 percent, respectively.

Despite this favorable treatment, the average share of manufacturing to GDP was only 16.6 percent for the period 1991/92-1998/99. It seems that tax incentives are not very effective in encouraging manufacturing growth, which calls for an evaluation of the cost and benefits of the tax and related incentives offered to this sector.

3.3.3 Sources of finance

Generally speaking, METRs tend to fall when the initial investment is partially financed by debt and the tax system allows for the deductibility of non-indexed interest payments. METRs estimates in Table 5 are consistent with this predication for all legal forms other than joint stock companies.

For corporate firms other than joint stock, METR in manufacturing falls from 36.8 percent to 34.7 percent when the firm relies on a 2:1 debt/equity ratio compared to 100 percent equity finance shown previously. A similar conclusion holds for non-corporate firms. It is noteworthy that METRs decline further as the debt/equity ratio increases. However, excessive decreases in the project leverage, negatively impacts its profitability and sustainability due to heavy principal repayment requirements.

Conversely for joint stock companies, METR in manufacturing activities increases from 22.9 percent in the case of all equity finance to 27.0 percent in the case of 2:1 debt/equity finance. The main reason behind this anomaly is the lost benefit of the paid-up capital allowance granted to joint stock companies. The same observations apply to the services activities, although the marginal effective tax rates are consistently higher in these activities relatively to manufacturing. Thus, it appears, in general, that debt is favored over other sources of finance.

In conclusion, resorting to debt financing considerably alleviates the effective tax burden on projects other than joint stock companies, hence providing an additional incentive to borrow for financing new investments. This channel, however, is not easily accessible to non-corporate businesses, particularly if they are small or even medium in size and are unable to provide the necessary collateral for bank borrowing. Hence, small firms are more likely to be faced with a heavier burden of taxation.

3.3.4 Impact on exports

The corporate income tax and the personal unified tax clearly affect the cost of capital engaged in exporting activities. The same corporate tax treatment provided to manufacturing is given to export activities. However, the unified personal tax code offers added incentives to exporters by allowing a 30 percent profit deduction from

¹³ Contrasting the legal profile of establishments in Egypt with these advantages reveals that most firms in Egypt will not benefit from these tax advantages since non-corporate firms represent around 95 percent of total number of establishments (CAPMAS).

the tax base if profits from exporting exceed LE 8,000 annually. These deductions decrease METRs on manufacturing from 53.6 percent in case of all equity financing to 50.9 percent for exporting as shown in Table 1. This is a very modest incentive with respect to the costs and efforts exporters have to incur to accede to external markets.

Furthermore, indirect taxation does not work in favor of export promotion. On the one hand, import tariffs impose a tax on exports, the equivalent economy wide anti-export bias of the tariff level was estimated to be in the range of 19.7 percent in 1997 (Kheir-El-Din and El-Shawarby, 2000). On the other hand, the non-deductibility of sales tax imposed on imported capital further increases cost and puts exports at a disadvantage. Added to this, the high tax rate on services (40 percent plus a development duty of two percent) limits the possibility of increasing exports. This may explain the low level of merchandise export performance in Egypt which accounts for only five percent of GDP compared with an average of 41 percent for some developing countries (World Bank, 1999)

3.3.5 Impact on asset structure

Capital income taxation in Egypt discriminates against depreciable assets such as vehicles and machinery, and favors land (6). METR calculations (inclusive of indirect taxation) indicate that vehicles are the most taxed (ranging between 95.1 and 113.3 percent), followed by machinery and equipment (ranging between 43.6 and 64.0 percent), buildings (ranging between 26.4 and 48.8 percent), and finally land (ranging between 24.6 and 46.0 percent). This pattern holds across different organizational forms and across all activities. For example, in the case of joint stock companies operating in manufacturing, vehicles are taxed at 95.1 percent, while land is taxed at 24.6 percent.

The relatively high METR on vehicles and machinery is due to the high tariff rates and the fact that sales tax is imposed on the value of imported goods inclusive of tariffs. At the same time there is no input credit for the sales tax to reduce the bias against investment in vehicles and machinery. These conclusions are supported by the figures in Table 6 compared with METR estimates exclusive of indirect taxation (Appendix Table A.1).

Based on the above analysis, one may conclude that the taxation regime in Egypt raises significantly the cost of capital. It also indicates that the regime favors joint stock companies listed in the stock exchange over other corporate forms, manufacturing over services, exporting over domestic sales, debt financing over equity financing or self-financing, and land and buildings over machinery, equipment

and means of transport. The question is: how would these results differ if tax holidays and transaction costs related to tax compliance are taken into account?

4. Impact of Tax Incentives

Besides direct and indirect taxation, tax exemptions affect the cost of capital. The main concern in this section is to examine how these incentives affect previously presented METRs. Do they significantly reduce the tax burden on investors? Do they deepen the existing biases or do they reverse them?

According to the Investment Incentives and Guarantees Law (Law No. 8 for 1997), companies falling under this law, regardless of their legal form, are exempted from taxes for a period of five years starting from the first year of activity. For enterprises located in new industrial zones, new urban communities, or remote areas, tax exemption is extended to 10 years. The exemption period increases to 20 years for activities located outside the Old Valley. As for companies operating in free zones, they are exempt from all direct and indirect taxes for an unlimited period. They are only subject to an annual duty of one percent of the value of goods manufactured or of total annual revenues for services projects. Investments located in free zones and outside the old valley are thus favored.

The impact of tax holidays granted under Law 8/1997 to inland projects and of lifetime tax and duty exemptions granted to projects located in free zones has been assessed. As tax holidays vary in length, the analysis was carried out for five-year holidays, also METRs were estimated for projects enjoying 10 and 20 years tax exemptions¹⁴. Tables 7 and 8 show that inland projects enjoying a five-year tax holiday face lower METRs across all legal forms, economic activities, and all types of assets, than in the case of no incentives. Estimated METR for manufacturing, for example, declines by 10.8 percentage points for joint stock companies, 18.3 for other corporate entities and 20.6 for non-corporate projects. Virtually more than half of the real burden on projects operating under Law 8 can be attributed to indirect taxation. For inland projects, Law No. 8 cuts down the burden of direct taxation, namely the impact of profits tax, but touches very lightly on indirect taxation. In the case of free zone projects, because the law deals effectively with direct as well as indirect taxation, METRs are very low.

Table 7 also shows that tax holidays mitigate the effect of the preferential tax treatment granted under corporate income tax law to joint stock companies and manufacturing activities. Differences in METRs across legal forms become less

¹⁴ The simulations for 10 and 20 years tax holidays are presented in Table A.2 in the Appendix.

pronounced, and the previously noted bias in favor of joint stock companies is reduced due to the partial erosion of the paid-up capital allowance incentive as a result of tax holidays. METR estimates also show that the favorable treatment of manufacturing over services is less apparent in case of inland projects and even slightly reversed for free zone investments. The 0.1 percent bias against manufacturing in the free zone is due to the higher share of depreciable assets in the capital structure of manufacturing as compared to services (95 percent for manufacturing in comparison to 82 percent for services).

However, as revealed from Table 8, METR variations by assets persist under Law No. 8 for inland projects. This is largely because inland tax holidays deal only with direct taxation, and do not affect indirect taxation, which is responsible for high and different METRs across assets. As regards sources of finance, equity turns out to be a more favorable option to investment finance as compared to debt, for all legal forms. Inland projects resorting to debt are deprived of interest deductibility during the tax holiday, while other factors, such as the non-indexed capital gains and depreciation and lower rights for investors in case of debt finance, persist in pushing METRs upwards (see Appendix Table A.3).

The main conclusion is that Law No. 8 reduces the cost of capital for inland projects across all legal forms, economic activities, and assets. As for the impact of tax holidays on differential tax treatment, the analysis illustrates that while it reduces the biases across legal forms and activities, it maintains the biases between assets. In free zones, METRs decline more drastically relative to inland companies.

It is worth reemphasizing that export activities of corporate firms do not receive any preferential tax treatment beyond that granted to manufacturing. Law 8/1997 does not provide exports any additional incentives either if produced inland, contrary to other countries in the MENA region, as illustrated in Table 9.

Corporate taxation in Egypt considerably reduces export profitability and incentives as compared to other selected MENA countries. The export incentive scheme in Tunisia appears to be most effective in reducing the tax burden on investment in export industries. All incentive schemes in the countries considered, except Egypt, reduce the effective tax burden below the respective nominal corporate tax rates.

Incentives provided in free zones in both Egypt and Morocco considerably alleviate the burden of taxation on investments. On the question of effectiveness of these tax incentives, there is clearly a revenue loss for the government. However, some studies show that nearly 77 percent of the shipments from the free zones go to the Egyptian domestic market and only 23 percent go to foreign markets (Marks *et al.*, 1999). To

the extent that these numbers are accurate, they indicate that free zones incentives are mainly directed to importing operations rather than exporting activities - which was the real *raison-d'etre* of these zones - and that Egypt's untargeted incentive scheme did not succeed in promoting exports.

In view of this heavy reliance on tax incentives, Egypt's poor investment performance also seems paradoxical. Egypt's investment ratio to GDP was on average around 18 percent. This is below the average of 27 percent for middle-income countries (World Bank, 1999). This implies that even with heavy reliance on incentives, the Egyptian taxation of capital is too high, and the current design of taxation of capital in Egypt is not effective in inducing investment. Furthermore, it seems that the multiplicity of incentives introduced in Egypt over time have led to complex tax administration procedures and opaque tax accounting, resulting in a distorted pattern of investment, large incidence of tax evasion, and little revenue. This issue is considered in the following section.

5. The Impact of Tax Compliance

Besides tax rates and incentives, tax compliance may affect investment decisions through either increasing the tax burden or creating some distortions, or both. It is well recognized that tax compliance in general is a function of economic incentives imbedded in the tax rate from one side and of the effectiveness of tax administration in detecting and penalizing non-compliance, on the other (Chen and Reinikka, 1999). In what follows we try to examine key features of taxpayer compliance in Egypt, namely related transaction costs and tax evasion.

Tax administration and transactions costs

Despite the growing consensus that there have been favorable and progressive changes in the business environment, several private investment surveys registered taxes as the most impeding constraint for business operations. Investors do not complain about the level of taxes as much as the complicated tax administration itself. The latter, in their opinion, is inefficient, costly and time consuming. This raises transaction costs and negatively affects their efficiency. In terms of specific problems related to tax administration, the private sector complains most about the mutual distrust between tax collectors and tax payers, inefficiency of the dispute settlement system and arbitrary estimation of taxable profits, in that order. Investors report that they do not know how much tax they actually have to pay. The main problem is that the criteria for tax assessment are ambiguous, and tax collectors have unlimited discretionary powers which lead tax officers and taxpayers to extreme initial bargaining positions. In many instances, it leads to underreporting of taxable income or tax evasion and often leads to disputes that take years to resolve in court.

Moreover, taxpayers complain that tax collectors tend to overestimate taxes due to the collection targets which act as incentives to tax officers (World Bank, 1992 and 1994; Hassan, 1996; Galal, 1996; Fawzy, 1998).¹⁵

There is no estimate of transaction costs related to tax administration in terms of additional cost or in terms of foregone time in compliance. However, the 250,000 pending tax cases in Egyptian courts could give an idea about this issue. A general estimation of transaction costs due to bureaucracy in general has been undertaken. Investors say that the time consumed in compliance with the bureaucracy is in the range of 16 days per year on average (World Bank Survey, 1999). A World Bank study further estimates that inefficient seaport service raises c.i.f. cost for imports by over 10 percent (World Bank, 1997). If we take into consideration, that several business environment surveys pointed out that tax systems are the most impeding constraint, then we may be able to say that transaction costs due to cumbersome tax administration procedures are not negligible.

Tax administration and tax evasion

Theoretically, people evade taxes when at the margin, the expected benefits (lower taxes) are rather higher than the expected costs (penalties). In Egypt, it seems that the benefits from tax evasion exceed the costs. On the one hand, the statutory rates are high, and tax administration is cumbersome. On the other hand, both financial and criminal penalties are not sufficiently deterring. The magnitude of the financial penalties is relatively low and criminal penalty is seldom imposed¹⁶.

Estimates for tax evasion vary widely, some sources indicate that the overall estimated tax evasion burden on the treasury, reached almost LE 14 billion per year, of which LE six billion is from income tax evasion (Atta, 1999). While official figures announced in *El-Ahram* newspaper is 17.6 LE billion (April, 2000), another indicator of tax evasion is the large size of the informal sector which evades taxes altogether. EFG-Hermes estimates the size of the informal sector to amount to nearly 40 percent of the total Egyptian economy (EFG-Hermes). Firms that do comply with the tax system acknowledge difficulty with the informal practices of their competitors As for tax evasion associated with complicated tax administration, some firms said that they

¹⁵ Other problems that face private sector firms include low productivity, inefficient banking sector, and lack of adequate support services., in addition to other institutional constraints

¹⁶ Financial penalty is equal to 10 percent of tax due with a maximum of 1000 pounds, Criminal penalties are vague, citing "punishment by imprisonment " as a possible penalty for failing to register with a tax authority, or submitting inaccurate records to hide taxable income. (Sahar Tohamy, 1998)

keep nearly 20 percent to 24 percent of the value of their total sales off the books. (World Bank Survey, 1999).

While the magnitude of tax evasion seems to be high, this is not out of line with international experience. Tax evasion is reported to be similar to that of other developing countries such as Korea and Indonesia, and generally lower than its corresponding level in some countries such as the Philippines and Brazil.

But how does tax evasion affect investment? As there is no accurate estimate of transaction costs related to tax compliance, and of the magnitude of tax evasion in Egypt, METR calculations could not capture this phenomenon. By being informal, production units are deprived from many services available in the formal sector such as financial support. It is important to note that as the magnitude of transaction costs and tax evasion differ from one firm to another, tax compliance is also expected to affect taxpayers differently. Those who adhere to the tax regulations are in an unfair competition situation as compared with those who succeeded in non-compliance to the tax system.

6. Conclusion and Policy Implications

Although taxation is not the most important determinant of investment, it has a major impact on its competitiveness and its net profitability through affecting the cost of capital and the expected net revenue from a given investment. Moreover, different tax burdens distort investment allocation. Recognizing the importance of these effects, tax reform has been under consideration for some time within the Egyptian policy-making circles. This study tries to identify the tax induced distortions associated with the current system of taxation and to consider their likely impact on investment profitability. To this end, we have attempted to estimate effective tax rates under various business circumstances. This final section begins with a brief summary of the main findings, then concludes with some policy recommendations based on the results of the study.

Corporate income taxation in Egypt is complex. Tax rates are relatively high and non-uniform. The actual tax burden imposed on firms varies according to legal form, economic activity, market orientation (domestic versus export), means of financing, type of assets and location. The tax system favors joint stock companies, large firms, manufacturing, debt financing and investment in land.

The statutory tax rate is high. Noncorporate firms, depending on their income level, face four tax rates ranging, from 20 percent to 40 percent plus an additional two percent development duty for annual incomes exceeding LE18,000. Corporations, are taxed on their net profits at a normal rate of 40 percent (exclusive of the development

duty) or, if engaged in manufacturing or exporting, at a concessional rate of 32 percent (exclusive of the development duty). To alleviate the heavy tax burden associated with these high rates, the government of Egypt (GOE) uses generous tax deductions (for example, 25 percent of the value of machinery as initial depreciation allowance) to calculate the tax base subject to the usual corporate tax rates. The GOE recurs further to generous and untargeted incentive schemes (tax holidays, tax credits) to reduce the tax burden on projects subject to the Investment Incentives and Guarantees Law operating inland or in free zones. Although tax holidays reduce marginal effective tax rates on capital, they often do not provide significant cuts as compared to the normal tax treatment.

Lost government revenues due to heavy reliance on these incentives, seem to be unjustified in terms of the resulting modest investment growth and distortion in investment allocation. Whatever the benefits of these incentives are, it seems that their costs surpass their gains, thus suggesting low cost effectiveness. The multiplicity of these tax incentives and exemptions results in an opaque system that is further complicated by tax administration procedures.

The implication of the non-uniformity of generous income tax incentive schemes, is that tax administration is burdened with too many tax provisions and a wide range of exemptions and incentives. The result is detrimental to both investors and the government itself. Investors complain of high taxation and complicated tax procedures and the government suffers from a high incidence of tax evasion.

Assessment of indirect taxation (including sales taxes and import duties) on marginal effective tax rates on capital, indicates that its burden on the investor is even higher than that of income taxes. Furthermore, tax incentives do not offset the burden of sales taxes and import tariffs on inland projects, which remain highly constrained by such taxation.

If Egypt is to simultaneously promote investment and growth, it cannot avoid a reform of its tax system with respect to the treatment of capital. The reform involves both the reduction of tax rates and the unification of tax treatment of various investments, in order to address the major sources of distortions revealed by the analysis. Following are some policy suggestions and recommendations for consideration:

- A clear policy implication arising from the experience of other countries is that a lower and uniform tax rate with limited recourse to incentives is more effective in stimulating investment and, at the same time, results in minimal distortions. Accordingly, serious consideration should be given to reducing the corporate

income tax rate to no more than 30 percent for all activities and types of corporate firms and to eliminate all other surcharges, such as the development of state resources duty. A study of the elasticity of tax proceeds with respect to tax rates may well indicate a positive response of these proceeds to reductions in tax rates especially when viewed in a dynamic perspective. Reduction in tax rates may stimulate further expansion of productive activities, hence enlarging the tax base.

- Reduction of the maximum tax rate on commercial and industrial profits applied on net revenues of non-corporate firms to 30 percent, is also warranted. Revision of the minimum income exempt from the unified income tax from its current level of LE 3,000 to at least LE10,000 annually - as a means to support low income groups and to promote micro and small enterprises which often avoid taxation by remaining in the informal sector - should be considered.
- Broadening the corporate tax base by eliminating the interest expense deduction and thus granting equal tax treatment to debt and equity as a means of corporate finance.
- Eliminating the paid-up capital deduction granted to joint stock companies.
- The 20 percent tax deduction from the rental value of buildings to cover expenses and maintenance costs, for the purpose of calculating the property tax base, is unrealistic and is no longer sufficient to fulfill its target, particularly for old buildings. Upward revision of this figure to 40 percent or even 50 percent may be warranted.
- Reforming the depreciation schemes of physical assets instead of heavy reliance on tax holidays should be considered. The analysis showed that under the current schemes, tax holidays are largely offset by the loss of the advantage of the 25 percent initial depreciation allowance deducted from the value of machinery and equipment. Revision of the depreciation schemes for all projects to include higher depreciation rates than the actual physical lives of the underlying assets or using the declining-balance method of depreciation rather than the straight-line method should be considered.
- Tax holidays should be reduced to a minimum and should be targeted to projects fulfilling pre-set requirements such as achieving certain export targets or generating specified employment levels or other positive regional externalities.
- Reconsideration of the whole system of indirect taxation in Egypt is required. The tariff structure - although largely improved - should further be reduced. Its dispersion also needs further reduction. Refund of import tariffs on capital goods used by firms in production should also be allowed.

- ✿• Deduction of the sales tax on capital for all projects - or even better its complete removal - should be allowed in the form of deduction from the total sales tax collected on the sales of their product.
 - ✿• The proportional stamp tax on credit and loans involve double taxation. To eliminate this double taxation it is advisable to restrict it to a stamp tax on loans.
 - ✿• The specific stamp duty, although small, is a nuisance in transactions. Including it into the fees paid for various government services may be considered.
 - ✿• Efforts to restructure the tax administration can not be over emphasized. These efforts require regular dialogue with the private sector in order to build mutual trust. It further requires increasing awareness, and achieving tax education and training for both tax collectors and taxpayers.
- Raising and reinforcing the financial penalty structure for noncompliance is necessary. The current financial penalty is too low and the imprisonment penalty is excessive and is seldom applied.

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Table 1: Revenues Collected as a Percent of Total Government and Tax Revenue (Average for 1995/96-1998/99)

	% of Total Revenue	% of Tax Revenue
Total Revenue	100.0	-
Tax revenue	59.7	100.0
Taxes on net income and profits	22.0	36.9
Corporate taxes	16.5	27.7
Personal tax revenues	5.5	9.2
Sales taxes	16.5	27.6
Import duties	12.4	20.9
Stamp duties	4.4	7.3
Other taxes	4.4	7.3

Source: Ministry of Finance.

Table 2: Corporate Tax Revenue: Cross Country Comparison, 1995 (%)

Country	Corporate Tax /Total Tax Revenue	Corporate Tax/GDP	Personal Tax/GDP
Egypt	23	5	1
Morocco	8	2	3
Tunisia	7	2	2
Syria	0	0	0
Turkey	10	1	4
Iran	27	2	0
Jordan	9	2	1
Israel	9	3	11

Source: IMF, Government Finance Statistics, 1998 and International Financial Statistics, March 2000.

Table 3: Tax Rates on Profits and METRs in Egypt (%)

Activity and Legal Form	Tax Rates on Profits	METRs: Direct Taxation	METRs: Direct and Indirect Taxation
Manufacturing			
Joint Stock	32	22.9	41.6
Other Corporate	32	36.8	54.5
Non-Corporate	20-40	31.2	53.6
Services			
Joint Stock	40	29.6	47.2
Other Corporate	40	46.6	63.2
Non-Corporate	20-40	39.2	58.4
Exports			
Joint Stock		22.9	41.6
Other Corporate		36.8	54.5
Non-Corporate		28.3	50.9

Source: Authors' Calculations

Table 4: METR in Egypt and in Selected MENA Countries Other Corporate Firms in Manufacturing (%)

Country	Nominal Corporate Tax Rate	Marginal Effective Tax Rate
Egypt	32	54.5
Morocco	35	50.6
O		
Tunisia	35	50.5
Turkey	33	48.5

Source: For Egypt: authors' calculations; other MENA countries: respective country papers on taxation prepared for the project on "Competitiveness in MENA Region".

Table 5: Effective Tax Rates on Capital per Finance Sources (%)

	Effective Tax Rates		
	Joint Stock	Other Corporate	Non-Corporate
Manufacturing			
All equity	22.9	36.8	31.2
Debt/Equity finance 2:1	27.0	34.65	28.6
Services			
All equity	29.6	46.6	39.2
Debt/Equity finance 2:1	34.35	45.6	34.7

Source: Authors' calculations

Table 6: Asset Specific METRs: Impact of Direct and Indirect Taxation (%)

	Land	Buildings	Machinery & Equipment	Vehicles
Corporate Firms				
Manufacturing & Exporting				
Joint - Stock Companies	24.6	26.4	43.6	95.1
Other Corporate	38.3	40.1	56.1	105.9
Services				
Joint - Stock Companies	28.9	31.8	48.4	98.5
Other Corporate	46.0	48.8	64.0	113.3
Non-Corporate Firms				
Manufacturing	32.6	34.6	57.2	102.2
Services	38.5	41.5	63.1	107.9

Source: Authors' calculations

Table 7: METRs under Various Incentives Schemes: Impact of Direct and Indirect Taxation (%)

	Manufacturing	Services
No Incentive Case		
Joint Stock	41.6	47.2
Other Corporate	54.5	63.2
Non-Corporate	53.6	58.4
Tax Holidays Inland		
Joint Stock	30.8	32.0
Other Corporate	36.2	38.9
Non-Corporate	33.0	35.5
Tax Exemptions in Free Zones		
Corporate	3.8	3.7
Non corporate	1.5	1.5

Source: Authors' calculations

Table 8: Asset Specific METRs under Various Incentives Schemes: Impact of Direct and Indirect Taxation (%)

	Land	Buildings	Machinery & Equipment	Vehicles
<i>No Incentive Case</i>				
<i>Corporate Firms</i>				
Manufacturing				
Joint Stock Companies	24.6	26.4	43.6	95.1
Other Corporate	38.3	40.1	56.1	105.9
Services				
Joint Stock Companies	28.9	31.8	48.4	98.5
Other Corporate	46.0	48.8	64.0	113.3
<i>Non-Corporate Firms</i>				
Manufacturing	32.6	34.6	57.2	102.2
Services	38.5	41.5	63.1	107.9
<i>Inland investment</i>				
<i>Corporate Firms</i>				
Manufacturing				
Joint Stock Companies	12.6	14.2	33.0	84.4
Other Corporate	17.7	19.4	38.3	91.1
Services				
Joint Stock Companies	13.8	15.3	33.4	86.4
Other Corporate	20.3	21.9	40.0	95.0
<i>Non-Corporate Firms</i>				
Manufacturing	13.8	15.75	35.2	89.2
Services	16.2	17.9	36.6	92.6
<i>Free zone</i>				
Corporate	3.3	3.5	3.9	4.7
Non-corporate	1.0	1.2	1.6	2.5

Source: Authors' calculations

Table 9: METRs on Manufactured Export Activities of Corporate Firms Inland and in Free Zones in Selected MENA Countries (%)

Country	Inland Incentive Schemes	Free Zones
Egypt	36.2	3.8
Morocco	32.8	18.1
Tunisia	8.9	-
Turkey	24.5	-

Source: For Egypt: authors' calculations, for other countries: respective country papers on taxation, prepared for the "Competitiveness in MENA Region" project (FEMISE/ERF).

Appendix

Table A1: Asset Specific METRs Exclusive of Indirect Taxation

	Land	Buildings	Machinery & Equipment	Vehicles
Corporate Firms				
Manufacturing				
Joint Stock Companies	24.6	26.4	21.6	24.3
Other Corporate	38.3	40.1	35.3	37.9
Services				
Joint Stock Companies	28.9	31.8	27.3	29.5
Other Corporate	46.0	48.8	44.3	46.3
Non-Corporate Firms				
Manufacturing				
Joint Stock Companies	32.6	34.6	29.7	32.7
Services	38.5	41.5	36.8	39.1

Source: Authors' calculations

Table A2: METR for Inland Investments under Different Durations for Tax Holidays

	METR: Impact of Direct and Indirect Taxation	
	Duration of Tax Holiday (years)	
	10	20*
Manufacturing		
Joint Stock Companies	28.7	22.5
Other Corporate	29.7	22.5
Non-corporate	25.7	19.9
Services		
Joint Stock Companies	31.6	23.0
Other Corporate	32.6	23.0
Non-corporate	28.3	20.5

Notes: * Operation period for investment is 20 years

Source: Authors' calculations

Table A3: METRs by Source of Finance under Law 8

	Joint Stock	Other Corporate	Non-Corporate
Manufacturing			
All equity	10.9	16.0	12.1
Debt/Equity finance 2:1	18.55	22.15	18.05
Services			
All equity	12.8	19.3	15.15
Debt/Equity finance 2:1	22.55	27.15	22.25

Source: Authors' calculations