The Effect of Tax Policy on Country's Competitiveness:

A Case Study of Income Taxation of Intellectual Property in Egypt and India

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Abstract

Tax policy in many developing countries has relied heavily on investment tax incentives as the key determinant to encourage private investment, particularly foreign direct investment, and consequently tax incentives are a critical factor for tax competitiveness.   On the other hand, a new approach of tax policy has been implemented by a few developing countries which focuses on lowering tax rates, and broadening the tax base with a minimum level of tax incentives. This can lower the tax burden on capital, and consequently improve the tax competitiveness of the country. Nevertheless, tax competitiveness can be seen from a different angle, with the focus being on the role of the tax system to encourage the transfer of use and development of intellectual property rights (IPRs). Examining the tax treatment of IPRs within pharmaceutical companies in Egypt and India shows that Egypt has an unfavorable tax treatment of IPRs when compared to India in terms of average effective tax rate and generosity of tax incentives to IPRs. This negatively affects the tax competiveness in terms of taxing IPRS and consequently the possibility of technology transfer and development. It is important to have a suitable tax policy towards usage, transfer and development of IPRs. This tax policy will be reflected through a favorable tax treatment of IPRs, which will improve the tax competitiveness, and consequently the country competitiveness as a whole.

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1. An Overview

Many developing countries have employed tax policy to solve fiscal imbalance issues and to increase economic growth rates. Accordingly, dealing with fiscal imbalance has resulted in a restructuring of the overall tax system in order to raise the ratio of tax revenue to GDP and reduce budget deficit. On the other hand, many developing countries have provided tax incentives as a tool to stimulate investment, particularly Foreign Direct Investment (FDI).Generous packages of investment tax incentives have been provided to encourage investment. Moreover, those tax incentives have been employed to deal with other economic inefficiencies which are beyond the limit of the tax system. These incentives have created many economic distortions and resulted in a leakage of tax revenue (Bird, 2008). Nevertheless, a few countries have prudently designed tax incentives resulting in some gains in terms of improving the country's competitiveness, and consequently enhancing their economic development levels.

The inefficiencies related to tax incentives led to a rationalisation or elimination of incentives and lowering of the statutory tax rate as a tool to stimulate economic growth.[2] (Mackenize, 1987) These changes in tax policy may affect a country's competitiveness and consequently economic growth rates. This paper examines the relationship between tax policy and tax competitiveness in terms of the tax treatment of Intellectual Property Rights (hereafter IPRs). IPRs play an important role in technology transfer and development, and consequently economic development (UNCTAD, 2005). The paper will also highlight recent trends in tax policy in developing countries, with reference to Egypt and India, measure the average

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[2] This approach is consistent with the view of neoclassical economists which argued that lowering tax burden improve economic efficiency and accelerates economic growth, which known latter on as supply side tax taxation. For more details see, Mackenize, George A (1987).

affective tax rate (AETR) as a determinant of a country's competitiveness on a microeconomic level, and propose specific measures to improve countries competitiveness and accelerated economic growth rates.

Accordingly, this paper precedes as follows, section 2 reviews literatures related to tax policy and tax competitiveness in developing countries; section 3 discusses the recent developments in tax policy and its impact on income tax legislation in Egypt and India, section 4 discusses the income taxation of IPRs and assesses the WAETR for specific industries in Egypt and India as a tool to assesses a country's competitiveness at the microeconomic level; and section 5 provides concluding remarks.

2. Literature review

2.1   A Brief Overview of Tax Policy in Developing Countries

Tax policy is an important component of macroeconomic policy in all countries. It has gained more importance since the early 1990s, particularly in developing countries. Many developing countries have launched economic stabilisation and transition programs with the assistance of international financial institutions, specifically the World Bank and International Monetary Fund (IMF) (McNab, 2000). Those programs often employ tax policy as a core element to tackle fiscal imbalance and accelerate economic growth rates through carrying out specific tax reform programs to address tax policy objectives. Tax reform programs vary from one country to another, and are carried out through different approaches. These differences in tax reform reflect individual differences amongst the different countries (Thrisk, 1997).

Tax policy in developing countries face a number of critical challenges, namely (i) macroeconomic stabilisation, (ii) globalisation (iii) stimulating economic development, and (iv) modernisation of tax administration (Vermeend *et al.*, 2008)

Many scholars examined those challenges and proposed many recommendations; for example, (Bird, 2008), (Goode, 1993), (Stern, 1993), and (Norregaard (Khan, 2007). The main concern here is to examine each of them in turn and to show how the recent trends in tax policy in developing countries have affected taxation of IPRs.

2.1.1 Tax Policy and Macroeconomic Stabilisation Issues

Macroeconomic stabilisation programs are mainly focused on tackling a number of macroeconomic issues, particularly inflation and budget deficits. Tax policy, among with other economic policies, is employed to curb those issues. However, a strong link can be easily identified between tax policy and budget deficits. In this regard, tax policy is being used to increase tax revenue through various techniques, such as introducing new taxes, increasing tax rates, broadening tax bases, changing the tax mix, etc.

Many developing countries have restructured their tax systems to increase tax revenue relative to GDP. This process has led to changes in the tax mix, moving from basis that are easy to tax and collect to those that are hard to tax and collect (Joshua Aizenman, 2006) Consequently, foreign trade taxes have declined, especially as percentage of total tax revenue, while Value Added Tax (VAT) and excise taxes have become more important (Simone, 2004). At the same time, income tax has been simplified and the marginal tax rates have been reduced. Those measures have led to significant results with regard to increasing tax revenues and consequently curbing budget deficits. Nevertheless, the ratios of total tax revenue to GDP in developing countries are still low in comparison with those of developed countries (Bird, 2008).

2.1.2 Tax Policy and Globalisation Issues

Globalisation of business transactions raises a number of tax issues to tax policy makers in developing countries, which may be classified into three broad categories as follows:

i.   increasing volume of cross-border transactions is a critical challenge to tax systems. It poses a number of international taxation issues, which may have an adverse impact on tax revenue. Consequently, many developing countries have introduced new international tax measures to overcome this issue, such as anti transfer pricing measures.

ii.   e-commerce business transactions have increased considerably. Specific tax measures have been developed to deal with e-commerce in the majority of developed countries, however the majority of developing countries lag behind in this respect.

iii. the dominance of the service sector in many developed countries implies that the role of intangibles (e.g., IPR) in the world economy has become more and more important. Accordingly, tax policy tools can play a significant role in stimulating domestic development of IPR subject matters.

3.1.3 Tax Policy and Economic Development Issue

Tax policy has been employed by many developing countries to stimulate economic growth. Policy makers often use various tax policy means, in order to encourage investment. This includes granting generous tax incentives to domestic and foreign investments through various techniques such as tax holidays, investment tax credits, low tax rates and special economic zones (Vann, 1998). However, the majority of developing countries tend to rely heavily on two types of tax incentives, namely tax

holidays and special economic zones. Nevertheless, many developing countries have recently realised that tax incentives are not the only method to stimulate investment, but also there are other factors such as political stability, infrastructure, legal system, etc (OECD, 2007b). As a result, many developing countries have either rationalised or abolished tax incentives (Bird, 2008). However, rationalisation or elimination of tax incentives may not be the optimal solution; tax policy makers must find the proper way to assess the costs and benefits arises from tax incentives.

2.1.4 Tax Policy and Tax Administration Issues

Tax administration in the majority of developing countries is lagging behind for many reasons, such as inherited poor practices, insufficient resources, untrained staff, corruption and insufficient information technology. Modernisation of tax administration is essential for the efficient implementation of any tax policy. Without a capable and an effective tax administration, any tax reform will be worthless. In this regard, Bird mentioned that 'the best tax policy in the world is worth little if it cannot be implemented effectively. Tax policy design must take into account the administrative dimension of taxation'(Bird, 2008).[3] Accordingly, reform of tax administration practices is a critical challenge to tax policy makers. They must take into account the capabilities of tax administration. It is not wise to introduce a modern tax legislation, which requires new administrative techniques and qualified personnel, while the tax administration lacks both. Therefore, policy makers may be advised to introduce simple tax legislation that can be managed efficiently, rather than a complicated one. Therefore, developing countries have to assess the capabilities of their tax administration before launching any new tax policy, as many

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[3] Bird 2008, p 16.

developing countries replicate a ready-made prescription for tax reform, which may not suit their tax administrations (Vermeend *et al.*, 2008).

2.2 Taxation and Country Competitiveness

Competitiveness has become more important in this recent era of globalisation and information technology. Competitiveness refers to the capability of countries, businesses and individuals to compete with their peers through acquiring or enhancing adequate criteria. This indicates that competitiveness is important on both a microeconomic and macroeconomic level. On the microeconomic level, enterprises are concerned with having a high degree of competitiveness, which enables them to increase their market share and consequently maximise their profits.

On the macroeconomic level, governments are waiting to make their countries more competitive which enable them to improve the living standards of their citizens. Therefore, governments employ macroeconomic policies as a tool to improve their competitiveness. In this context, Hawkins defines competitiveness by stating: an 'Economy is competitive if it does things that are likely to encourage economic growth' (Hawkins, 2006).[4] This concept implies that the competitiveness level mirrors social and economic policies which are capable of achieving a high level of economic growth, and improving the social welfare of households.

A competitive indicator has been provided annually by the World Economic Forum for countries around the world since 1995.[5] It is known as the Global Competitiveness Index (GCI), and assesses a country's competiveness based on 12

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[4] John Hawkins, (2006), p10.
[5] There are two approaches for measuring competitiveness worldwide, the first is IMD world Competitiveness Scoreboard, this is assess the competitiveness of a number of countries mainly in Europe, America and a number of Asian Countries, in 2009, they assessed the competitiveness of 57 countries. On the other hand the second ranking system for countries competitiveness is the World Competitive Index which runs yearly for all countries around the world. For more details see for example, World Economic Forum, 2009.

pillars which are grouped into three main categories. Those are (i) basic requirements, (ii) efficiency enhancing and (iii) sophistication and innovation factors. The 'basic requirements' is the key for factor driven economies and it includes, for example, institutions which identify the reliability of public and private institutions, infrastructures which include the quality of services related to roads, electricity, water, and communications (Palakurthi, 2009).

The second category of the pillars is the 'efficiency enhancing' group. It is a key for efficiency driven factors that include a number of pillars such as universities and other training institutions, market efficiency rules, and reliable financial institutions. The third category of the pillars of competitiveness is 'sophistication and innovation factors', which include business sophistication and innovation (World Economic Forum, 2009).

The relationship between tax policy and competitiveness is inclusive within the second group (efficiency enhances). In this respect, taxes affect businesses behavior and create economic distortions (Palakurthi, 2009). Countries are concerned with making their tax systems less distortionary, which creates a competitive tax system or what is known as tax competitiveness. This concept is a measure of a relative tax burden in each country when compared with other countries, or the tax burden in specific states compared with the tax burden in other states (World Economic Fourm Forum, 2009)

A number of scholars have been motivated to examine and identify the determinants of tax competitiveness in many countries. For example; Mintz has examined the tax competitiveness of the Canadian Provinces compared with each other. Moreover, he extended his study to examine the tax competeveness of Canada compared with other countries worldwide (Mintz, 2007) His study of tax

competitiveness was based on assessing two indicators; namely, corporate nominal tax rate and effective tax rates on capital. The latter consists of the rate of various types of taxes which include corporate income tax rates, sales taxes on capital purchases, and other taxes including asset and net worth taxes, stamp duties on securities, taxes on contribution to equity.

The effective tax rates on capital may be an inaccurate measure for assessing tax competitiveness because it is a rate of various items of the tax mix, which includes both direct and indirect taxes. Capital investment is more concerned with direct taxes rather than indirect taxes, since the previous is directly affects the after tax rate of return on capital. On the other hand, indirect taxes often born by households, since the owner of capital often enjoys a tax credit against this tax as input tax and therefore does not bear any tax burden. Accordingly, the most important factor for determining tax competitiveness is the corporate tax rate (either the marginal or effective tax rate). Moreover, using the average effective tax rates as an indicator of tax competitiveness contradicts with Mintz's conclusion of this study. He recommended comprehensive tax reform which changes the structure of the tax system through reducing the tax burden on capital and moving towards more consumption tax is needed. This reform should focus on lowering the corporate tax rate and broadening the tax base through the elimination of many exclusions and deductions, which ultimately will improve country tax competitiveness. The other study of tax competitiveness is concerned with the tax package. In this respect Vermeend, Ploeg and Timmer argued that countries compete between each other through the tax package, which covers a number of elements, such as the total tax burden, tax structure, nominal tax rates, effective tax rates, and tax incentives (Vermeend *et al.*, 2008).[6]

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[6] Vermeend., Ploeg and Jan Timmer, p 345

This is a general view of tax competitiveness elements, which comprises many factors. Nevertheless, addressing the tax competitiveness requires identifying the most important factor which directly influences the return on capital, which is the corporate effective marginal or average tax rate. Moreover, tax competitiveness will benefit the country when it encourages investments in specific industries which create positive externalities and leads to the development of new innovations and consequently increases economic growth rates. In contrast, a higher tax burden on those polluted industries is recommended as a result of their negative externalities. Accordingly, lowering the tax burden on specific industry such as those involved in R&D activities is advisable.

This paper therefore examines tax competitiveness in terms of the specific tax treatment of IPRs and its impact on the company tax burden. Accordingly, it examines the Egyptian and the Indian tax policies and their impact on the country's competitiveness in terms of encouraging exploitation and development of IPR subject matters with reference to pharmaceutical companies. Because of the positive externalities that arise from using IPRs through technology transfer and technology development and consequently it accelerates the rates of economic growth. In this respect, the average effective tax rate will be assessed as a measure of tax competitiveness, which determines the company tax burden and after tax rate of return on capital.

3 Tax Policies in Egypt and India

3.2 Recent Developments of Egyptian Tax Policy[7]

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[7] Abdellatif and Kitamura, 2004.

In 1991, the Egyptian Government, with the cooperation of international financial institutions, launched an economic stabilisation program. Accordingly, a new tax policy was needed to meet the program requirements; particularly cutting the severe budget deficits as shown in table 1.1 (annex 1). In addition, a new sales tax was introduced by the *General Sales Tax Law* No. 11 of 1991 (Hereafter GSTL 1991). It repealed the existing *Consumption Tax Law* No. 131 of 1981 (hereafter *CTL* 1981), and imposed a quasi-VAT sales tax. Accordingly, goods are subject to a standard tax rate 10 percent with a number of exceptions and services subject to 5 percent (Abdellatif, 2005).[8] The revenue impact of this tax was considerable, because the budget deficit to GDP ratio decreased from 17.2 percent in 1990/1991 to 5.2 percent in 1991/1992 and to 1.9 in 2000/2001. Also, in 1993, a significant amendment to the *Income Tax Law* No. 157 of 1987 (hereafter *ITL 1981)* had been introduced. This amendment was known as the *Unified Income Tax* (*Global Income Tax*) No. 187 of 1993. The new income tax law thus replaced the schedular income tax system with a comprehensive income tax under progressive tax rates structure for individuals. It is obvious that the fiscal imbalance was the main concern of tax policy makers, while the economic development objectives (e.g., economic growth) were not addressed well in 1990s tax policy.

Since the beginning of the new millennium, the Egyptian tax system has faced many new challenges that are related to globalisation and achievement of the millennium development agenda. [9] Its objectives include accelerating economic growth, integration of national economy with the world economy, and human development.

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[8] Abdellatif 2005.

[9] The *United Nations Millennium Declaration* is an initiative launched by the United Nations in 2000. It addresses a number of challenges and goals for new century. Among its objectives are increasing the human development in developing countries, integrating developing economies with the world economy and dealing with globalisation. For more details, see United Nation, Department of Economic and Social Affairs, 2007.

The existing tax system, particularly income tax, appeared to be incapable of coping with those new challenges. Because the tax legislation was outdated, it led to many economic distortions and constrained economic development. Therefore, after a new cabinet was sworn-in in July 2004, a new tax policy has been launched. This tax policy focused on accelerating economic growth through encouraging private investment, broadening the tax base and modernising the tax administration. In order to achieve these objectives a new income tax law was ratified in June 2005 - *Income Tax Law* No. 91 of 2005 (hereafter ITL 2005). It repealed the *ITL* 1981 and its amendments, and introduced new provisions, which cope with the international norms of taxation. Moreover, it also cut the tax rates for both individuals and corporations (a progressive rate structure with a top rate of 20 percent for individuals and a flat rate for corporations of 20 percent), and eliminated all tax incentives and development fees.

3.2 Recent Developments in Indian Tax Policy

In the early 1990s, the Indian Government commenced a transition towards a more market-based economy like many developing countries. As a result, a new tax policy was developed to cope with that new economic ideology. A Tax Reform Committee was formed in 1991 to review and assess the tax system as whole. This Committee produced three reports. The first one an interim report released in 1992. The second report (direct taxation) and the third report (indirect taxation) were both released in 1993. In the area of direct taxation, the report proposed many recommendations, including for example, lowering tax rates, broadening tax base, simplifying tax legislation and importantly modernisation of tax administration (Roa, 2006).

The bulk of these recommendations have been implemented gradually through the amendment of *Income Tax Act* 1961 (hereafter *ITA* 1961). In 1992/1993, the

individuals' income tax rates were reduced to 20, 30 and 40 percent. In 1993/1994, the company/corporation tax rates were unified for both privately held and publicly held corporations and decreased to 40 percent. Further reduction in tax rates occurred in 1997/1998. Individuals' tax rates declined to 10, 20 and 30 percent, respectively. The company tax rate was reduced from 40 to 35 percent, while, at the same time, the dividends were subjected to a final tax of 10 percent at company level (OECD, 2007a). It is obvious that the main concern of tax policy was to deal with fiscal imbalance through tax rates cut and simplification of tax legislation.

As a part of the millennium development agendas proposed by the United Nations, Indian tax policy has had to be updated in order to meet these development objectives. In this regard, new Task Forces for Direct and Indirect Taxes were formed in 2002. Those task forces presented their reports by the end of 2002. In the area of direct taxes, the recommendations focused on three aspects (Surry, 2006), namely (i) modernisation of tax administration, (ii) increasing the tax-free threshold for individual income tax, and (iii) broadening the company tax base. The important matter here is that tax policy has paid more attention to tax administration. In this regard, more taxpayer services are important to facilitate tax compliance, simplification of tax procedures, and extensive reliance on information technology is a prerequisite for a modern tax administration (Roa, 2006). Regarding individual income tax, many recommendations were released with respect to increasing the tax-free threshold, simplifying tax legislation, etc. Regarding corporations, the recommendations focused on the rationalisation of tax exemptions and tax deductions, the necessity of compatibility between tax provisions and accounting standards, etc. The tax policy in that period reflects more concern with economic development issues and modernisation of tax administration, in addition to dealing with the fiscal

imbalance by significantly increasing tax revenue compared with previous years. This is shown in table 1.2 (annex 1)

As a reflection of the above recommendations, a new tax bill was introduced in August 2009. This bill has introduced new tax legislation, known as *Direct Taxes Code Bill 2009*. This bill is intended to be enacted in 2011 after been ratified by Union Parliament. This bill introduces new tax legislation, which starts from scratch for both income tax and wealth tax. It will result in the repletion of many deductions and exclusions, which will broaden the tax base, and simplifies tax legislation. In addition, the maximum tax rates for individuals will be 30 percent and for corporations 25 percent. However, the tax incentives related to a number of industries will remain in order to achieve specific objectives

4. Assessing the Country's Competitiveness with regard to IPRs

The analysis of the tax treatment of IPRs transactions requires assessing the tax burden that arises from carrying out such transactions. To identify the tax burden separately, it is a difficult matter, because taxation of IPRs transactions is inclusive within the provisions of income tax legislation. However, their impact on a company income tax burden can be recognized through comparing those companies with extensive use/ production of IPRs (e.g. pharmaceutical industry) and other companies without or with less use/ production of IPRs (e.g. banks, and manufacturing). The comparison is based on measuring either the marginal or average tax rates for those companies.

4. 1 Analysis of the Tax Burden of IPRs Taxation

There are two approaches for measuring a company's tax burden: (i) Macroeconomic approach, and (ii) Microeconomic approach (Vermeend *et al.*, 2008). The former is

concerned with measuring a company's tax burden through using the aggregate data. Accordingly, the tax burden is calculated as the ratio of collected tax revenue from companies relative to the aggregate national tax base. On the other hand, the latter approach measures a company's tax burden either by using marginal tax rate or average tax rate. This approach is more realistic as it directly measures the tax burden for each individual company, and it helps companies to identify their tax burden appropriately.

The implementation of the microeconomic approach implies choosing between a dynamic or static measure for assessing the tax burden. The marginal effective tax rate (hereafter is METR) is the dynamic approach for measuring the tax burden. It is defined as the extra tax burden that arises from earning an additional unit of income. The METR is based on a simulation of tax law provisions through identifying a number of variables. Those variables are mainly expected rate of return on capital, discount rate, expected inflation rate, depreciation rates and statutory tax rates (Fullerton, 1983) .[10] The METR is helpful for making investment decisions and for assessing the efficiency of the tax system related to a specific industry. However, it has a number of drawbacks, which are namely (Herwig, 2004); (i) using different scenarios for measuring METR give different interpretations, (ii) standardised use of the provisions of tax legislation with regard to tax-deductible expenditures and (iii) assuming 100 percent tax compliance with tax legislation provisions.

The other measure for assessing the tax burden on the microeconomic level is the average effective tax rate (hereafter is AETR). It is a static measure for assessing the company tax burden and based on accounting information. The AETR is calculated as the ratio of the actual tax liability to accounting profit. There are a

[10]   There are a number of approaches for measuring marginal effective tax rate. Each approach use specific simulation method to simulate the tax legislation provisions under certain assumptions and variables to calculate the marginal effective tax rate.

number of approaches for calculating the numerator and denominator of AETR, which may affect the results (Thomas C. Omer, 1991).[11] However, the common approach for measuring AETR is based on dividing the current tax liability by accounting profit. The current tax liability means the national or federal corporate income tax on consolidated income, whereas the accounting profit is a company's consolidated income.

As a result of the differences between accounting and tax treatments of many expenditure and income items, there is a difference between AETR and statutory tax rate. These difference are classified into temporary (time) differences and permanent differences (George A. Peko, 2003). Temporary differences are known as time differences. They indicate that the tax treatment deviates from the accounting treatment for a specific expense or income item, for example, the tax treatment of depreciation, such as accelerated depreciation. Such a differences minimises the current tax liability but increases the potential tax liability. The amount of increase in the potential tax liability is known as deferred tax. On the other hand permanent difference may arise from different tax treatment, such as particular tax exemptions, deduction of additional allowances, etc. Accordingly, the specific tax treatment of IPRs has an impact on a company's tax base, through either a general or specific tax treatment of the income and expenses that arise from IPR transactions. Therefore, the AETR of those industries with a high level of IPRs is different to the statutory tax rate. Hence, AETR would capture the impact that the tax treatment of IPRs has on a company tax burden.

In order to assess this tax burden empirically, we are selecting a random sample of the Egyptian and Indian companies that are listed on the stock markets in

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[11] There are a number of approaches which may be used to calculate the AETR; those approaches are varied in terms of the complements of numerator (tax liability) and denominator (accounting profits). For more details see, Omer, Molloy, and Ziebart, 1991.

both countries. Those companies represent three industries; (i) Pharmaceutical, (ii) Manufacturing, and (iii) Banking. It is assumed that those industries are based on the following:

i. Pharmaceutical companies are involved extensively in IPR transactions as users, owners, and producers.

ii. Manufacturing companies are carrying out IPR transactions in a lower extent compared with pharmaceutical companies.

iii. Banks are carrying out a fair amount of IPR transactions, particularly in regards to patents.

The financial data of the selected companies is obtained from one source: Global Business Browser. The number of companies which are used for the study appear in table 1 below

Table 1: Number of Selected Companies in the Study

Industry	Egypt	India
Pharmaceutical Companies	9	19
Manufacturing Companies	25	20
Banks	13	31

The companies varied in terms of their size and tax liability. Consequently, to avoid the impact of extreme values, the AETR is weighted by the percentage of each company revenues to total company revenues, which give us the weighted AETR (hereafter WAETR). This WAETR is calculated as follows:

$$\text{WAETR} = \Sigma_{i=1}^{n} \; R_i * T_i / AP_i$$

Where:

Companies selected in the sample (starting from company i to n)

R is a company revenue

T_i is a company's tax liability

AP_i is a company's accounting profit.

Using a WAETR figure for those industries will enable us to verify the following hypothesis 'a specific tax treatment of IPRs, which deviates significantly from the accounting treatment, will have a significant impact on a company's tax burden through either the minimisation or maximisation of a company tax burden'. Moreover, the standard deviation related to each WAETR is calculated in order to assess the range of its variation, and its interpretation. The coming section shows the results of the study for both Egypt and India and its interpretation with regard to IPRs taxation.

4.1.1 The Case of Egypt

The legal analysis of taxing IPR transactions in Egypt has showed that there is not a specific tax treatment of IPRs in this context. The tax treatment of income arising or expenses incurred in IPR transactions is determined as follows;

    i.   With regard to the income arising from IPR transactions, the provisions of *ITL 2005* levy income tax on the royalty income arising s from licensing and capital gains from the transfer of IPRs on the ordinary rules of taxing other sources of income. This tax treatment is consistent with accounting treatment (Finance, 2005)[12]

   ii. With regard to expenses incurred in IPRs transactions, the royalty payments by a licensee is tax deductible as a current expense, which is the same as other business related expenses. Moreover, the acquisition costs of

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[12] Articles 3J and 17 of *ITL 2005*

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transferred IPRs shall be amortised within ten years of acquisition date, according to Art 25(2). However, the tax treatment may differ from accounting treatment.

iii. The expenses incurred in self developed or in-house IPRs are treated under the ordinary tax provisions. In this context, the development costs are classified into current expenses and capital expenses. The current expenses are expensed in accordance with EAS, while the capital expenses are expensed in accordance with Art.25 of *ITA2005*.

Accordingly, the impact of this tax treatment on the tax burden of the pharmaceutical industry in comparison with other industries is shown in the table 2

Table 2 Egypt: Weighted Average Effective Tax Rates for a number of Industries

Industry	2005	2006	2007	Average
Pharmaceutical	14.5%	14.1%	13.7%	14.1%
Standard Deviation	9.4%	7.3%	6.2%	
Manufacturing	5.42%	16.33%	14.49%	12.08%
Standard Deviation	7.76%	9.13%	6.56%	
Banking	0.40%	2.29%	3.60%	2.10%
Standard Deviation	3.64%	1.55%	1.68%	

Source: Author Calculations.

The above table shows that the WAETR for the pharmaceutical industry is higher than the WAETR of both the manufacturing and banking industries. The interpretation of these figures is elaborated below for each industry.

Pharmaceutical Industry

As mentioned before, there is not a specific tax treatment to IPR transactions. Therefore, pharmaceutical companies, which intensively carry out IPRs transactions, are subject to ordinary tax provisions. Accordingly, the difference between statutory tax rates and WAETR is mainly attributed to the accelerated depreciation scheme for tangible assets. However, the share of tangible assets in pharmaceutical industry is less than the share of tangible assets in the manufacturing industry. The pharmaceutical industry hold a significant share of intangible assets (e.g. patents and trade marks) and these are not subject to a favorable tax treatment, when compared with tangible assets and computer software.

Manufacturing Industry

The manufacturing industry has a low WAETR in 2005 in comparison with the pharmaceutical industry, while it went up in 2006/2007. This reflects the accelerated depreciation scheme granted to tangible assets. The block of a manufacturing company's fixed asset are tangible assets, (especially those in the industry of steel, cement and textiles, which are represented in the sample). Therefore, those companies enjoyed a lower WAETR in the first year of implementation of *ITL 2005.* While the balance of the pool of assets went down, the tax deductible depreciation also decreased, resulting in a higher tax burden in 2006/ 2007.

Banks

Banks WAETR is the lowest when compared to pharmaceutical and manufacturing industry, despite a low ratio of fixed assets. The low WAETR is due to the favorable tax treatment provided to banks which takes a number of forms: (i) the income arises from investment in treasury bills and government bonds is tax exempt under Law 17

No of 1991, which reduces their taxable income and consequently their tax liability,[13] and (ii) Art. 52(2A) of ITL *2005* allows a deduction of 80 percent of bad debt provisions.

4.4.2 The Case of India

The review of tax treatment of IPRs transactions within the provisions of the *Income Tax Act* 1961 (hereafter ITA *1961)* revealed a number of features:

1. With regard to the income arising from IPRs transactions, the royalty income of a licensor is taxable under the ordinary income tax provisions. On the other hand, capital gains arising from a transfer of IPRs are taxable under income tax rather than capital gains tax. This tax treatment is similar to the accounting treatment

2. With regard to the expenses incurred in the licensing and transfer of IPRs; the licensee has the right to deduct a royalty payment from taxable income according to s 32. The treatment is also similar to the accounting treatment. On the other hand, the acquisition costs of any IPR subject matter are eligible to be depreciated in accordance with s 32(2) *ITA 1961*. This tax treatment deviates from accounting treatment which creates a difference between accounting profit and taxable income.

3. A generous tax treatment is granted to the expenses of self developed IPRs, particularly to R&D expenses, as was explained before. This specific tax treatment of R&D deviates significantly from the accounting treatment which creates both temporary and permanent differences between accounting profit and taxable income.

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[13] For more detail see, Abdellatif, Mahmoud and Yoshino Naoyki, 'Egypt; Macroeconomics Effects of Corporate Income Tax on Investments by Banks', (2005) 7(5) Journal *of Derivatives and Financial, pp 199-205.*

Accordingly, the impact of this tax treatment of IPRs on the tax burden of the pharmaceutical industry in comparison with other industries is shown in table 3

Table 3 the Indian: Weighted Average Effective Tax Rates

Measure	2005	2006	2007	Average
WATR of Pharmaceutical	11.56%	14.69%	15.12%	13.79%
Standard Deviation	10.00%	10.14%	9.09%	
WATR of Manufacturing	15.6%	30.2%	29.4%	25.1%
Standard Deviation	16.2%	22.6%	20.0%	
WATR of Banks	6.5%	11.2%	27.2%	15.0%
Standard Deviation	17.32%	15.20%	12.33%	

Source: Author Calculations.

The above table shows a number of considerable results which are discussed in details for each industry below.

Pharmaceutical Industry

The specific tax treatment provided to IPRs transactions (particularly to the depreciation of acquisition cost of self developed IPRs) has a significant impact on the WAETR of pharmaceutical companies. In this regard, the WAETR was 11.56 percent in 2005 which is lower than the WAETR of manufacturing industry and above the WAETR of banks. However, on average, the WAETR of the pharmaceutical industry is low in comparison to both the manufacturing industry and banks. The lower WAETR indicates that the tax incentives for carrying out R&D activities and specific depreciation allowance available for to acquisition cost have a significant impact in reducing a company's tax burden.

Manufacturing Industry

The manufacturing industry has a higher WAETR in comparison with both banks and the pharmaceutical industry. This indicates that manufacturing companies bear a higher tax burden in comparison to with other industries. The higher tax rates reflect an unfavorable tax treatment of tangible assets through lower depreciation rates. It also reflects a lower involvement in R&D activities.

Banks

With regard to the low WAETR of banks in 2005/2006, the reason is attributed to the tax exemption of bank income that arises from their investment in Union and State government bonds or other government securities. This exemption is provided under s 10(15) (i), (ii), (iii a), (iii c), (iv d), (iv d), (iv e), (iv f) and s10 (23 D). Specific deductions for bad debts is allowed in accordance with s 36 (vii) and (vii a). Also, the income of financial institutions arising from bad or doubtful debts is subject to the income recognition rules issued by Reserve Bank of India, in accordance with s 43D. This exemption has a significant impact in reducing taxable income and consequently a bank's tax base.

4.2 The Comparative Analysis

The analysis of the corporate tax burden as a determinant of country competitiveness from the perspective of taxing IPRs reveals that a different level of WAETR in Egypt based on the type of industry as follows:

1. Egyptian Banks enjoy a favorable tax treatment compared to the pharmaceutical industry, because of the specific tax treatment provided to the banks provisions for non performing loans. In contrast, the pharmaceutical industry, which makes intensive use of IPRs, is not afforded any specific tax treatment.

2. The manufacturing industry enjoys a generous depreciation allowance with regard to tangible assets, which represent the bulk of their fixed asset base. On the other hand, intangible assets, which form the bulk of a pharmaceutical company's assets, only receive the ordinary depreciation allowance.

The Indian case is different than the Egyptian case, due of the following;

1. The Indian pharmaceutical industry enjoys a favorable tax treatment in terms of depreciation allowance and R&D allowance. Manufacturing industries could not benefit fully from this type of tax incentive as a result of the structure of their fixed assets.

2. Banks also enjoy a favorable tax treatment with regards to their investment in government securities and bad debts. However, the changes in their investment portfolio, and economic situation may restrict them from fully benefiting from such type of tax incentives

Accordingly, the different the tax treatment of IPR transactions leads to different levels of tax burden. This tax burden is higher in Egypt than India, which is reflected in a better tax competiveness for Indian compared with Egypt. This tax competitiveness is attributed to the fact that India provides generous tax treatment to various types of IPRs transactions in comparison with Egypt, despite the improvement in taxation of IPRs under *ITL 2005*. This type of tax treatment is reflected in the tax burden that pharmaceutical companies bear in carrying out IPRs transactions. While the Indian statutory tax rate is 33.6 percent, the WAETR of pharmaceutical companies is 13.79 percent. The Egyptian statutory tax rate is 20 percent which is lower than India, but the WAETR of pharmaceutical companies is 14.1 percent, which is higher than the Indian WAETR.

5 Concluding Remarks

This paper has examined the recent development in tax policy in developing countries and its impact on tax competitiveness. The tax policy has played a significant role in the economic transition process which was launched by many developing countries. Moreover the tax policy has been employed as the key factor for encouraging investment via a generous package of tax incentives.

Investment tax incentives are still common in many developing countries through granting a generous package of deductions, exemptions, exclusions and tax holidays to investment projects, particularly FDI. They may encourage investment and consequently improve the tax competitiveness of the respective countries. Nevertheless, they are too costly in terms of tax revenue foregone and other economic distortions.

Recently, a number of developing countries have generally reviewed their tax policy and particularly investment tax incentives. This has resulted in the implementation of a number of measures such as lowering the tax rate, eliminating many deductions, exclusions and exemptions, in order to broaden the tax base and make their tax system, particularly income tax, more efficient. This has also occurred in Egypt, and a similar approach has been suggested in India. This paper attempted to assess the impact of tax policy on tax competitiveness with reference to the tax treatment of IPRs.

In doing so, the paper reviewed the recent developments in tax policy in developing countries in general, and in Egypt and India in particular. It then reviewed the impact of tax policy on the income tax treatment of IPRs in both countries and its influence in the tax competitiveness through measuring the tax burden of pharmaceutical

companies compared with other companies. The pharmaceutical companies have been used as a proxy of the extensive use of IPRs and involvement in R&D activities.

The analysis on the microeconomic level shows that the tax treatment of IPRs under the Egyptian tax policy has led to unfavorable tax treatment to pharmaceutical industry when compared with other industries. This resulted from an unfavorable tax treatment to IPRs which are extensively employed and developed in the pharmaceutical industry. In contrast, the Indian tax treatment of the pharmaceutical industry is more favorable when compared with other industries. Therefore, the tax burden of the Indian pharmaceutical is lower compared to other industries and compared with their Egyptian counterparts. Therefore, India has greater tax competitiveness when compared to Egypt from the perspective of taxing IPRs.

Based on the above discussion we can conclude the following;

1. Tax competitiveness is an important part of the overall country's competitiveness.

2. The tax competitiveness reflects recent developments in tax policy in developing countries.

3. Using general tax incentives as the major factor to encourage investment may improve a country tax competitiveness. Nevertheless, it may erode the tax base and create a number of economic distortions. Accordingly, using specific purpose tax incentives may be inefficient and costless.

4. On the other hand, lowering the tax rate and eliminating tax incentive completely may create an efficient tax system to some extent. However, it does not take into account the specific nature of a number of business activities and related positive externalities. Those types of business are working under different economic circumstances and require specific tax

treatment, such as pharmaceutical companies which are an example of companies that make extensive use of IPR and are highly involved in R&D activities.

5. The specific nature of IPRs and their role in accelerating economic growth requires specific tax treatment. This tax treatment is known in tax literature as corrective tax, which is necessary to create efficient tax system. and consequently more competitive tax system.

6. The specific tax treatment of IPRs includes providing a generous amortisation scheme to the acquisition costs of holding IPRs (such as patents), and a generous package to stimulate self developed IPR subject matter such as tax incentives for R&D activities. This leads to more technology transfers and development, which ultimately improve the economic growth rates.

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Annex 1, table 1.1, Government Expenditures and Tax Revenues

| Year | GDP | Government Expenditures | Government Revenues | | | Budget Deficit | Government Expenditures/ GDP | Tax Revenues /GDP | Deficit/GDP |
			Tax Revenues	Non Tax Revenues	Total				GDP
1991	110	45.510	15.503	4.273	28.559	16.951	0.414	0.141	17.200
1992	131.1	47.563	24.286	14.072	41.406	6.157	0.363	0.185	5.200
1993	146.16	52.223	27.334	15.330	46.703	5.520	0.357	0.187	3.500
1994	162.97	56.264	31.373	18.288	52.567	3.697	0.345	0.193	2.100
1995	191.01	58.256	34.279	17.470	55.719	2.537	0.305	0.179	1.300
1996	214.19	63.889	38.249	20.375	60.893	2.996	0.298	0.179	1.300
1997	247.03	66.826	40.518	20.536	64.498	2.328	0.271	0.164	0.900
1998	266.76	70.783	43.962	21.420	67.963	2.820	0.265	0.165	1.000
1999	282.57	86.009	46.543	23.658	73.279	12.730	0.304	0.165	4.200
2000	315.67	95.096	49.621	27.929	79.385	15.711	0.301	0.157	4.800
2001	332.54	107.420	51.456	49.325	101.051	6.369	0.323	0.155	0.019
2002	354.50	115.542	51.726	48.306	104.042	11.500	0.326	0.146	0.032
2003	365.50	127.320	55.736	21.999	89.146	38.174	0.348	0.152	0.104
2004	381.00	145.988	67.147	26.122	101.881	44.107	0.383	0.176	0.116
2005	398.50	161.611	75.759	13.085	110.864	50.747	0.406	0.190	0.127
2006	426.10	207.811	97.779	36.940	151.266	56.545	0.488	0.229	0.133
2007	456.20	222.029	114.326	180.215	180.215	41.814	0.487	0.251	0.092
2008									
2009									

Source: Central Bank of Egypt

Annex 1, table 1.2: GDP, Government Expenditures and Tax Revenues in India

Year	GDP	Government Expenditures	Government Revenues			Budget Deficit	Government Expenditures/ GDP	Tax Revenues /GDP	Deficit/GDP GDP
			Tax Revenues	Non Tax Revenues	Total				
1999	1751199	445980.3	233017.88	39045.12	272063	173917	0.254671394	0.133061908	0.099313265
2000	1952035	517056.1	274583.08	49678.92	324262	192794	0.264880558	0.140665039	0.098765709
2001	2102314	552124.5	305320.24	41790.95	347111	205013	0.262627029	0.14523056	0.097517921
2002	2278952	613591	314535.19	60872.7	375408	238183	0.269242612	0.13801747	0.104514312
2003	2454561	661663.9	356638.23	60715.27	417354	244310	0.269565079	0.145296136	0.099533249
2004	2754621	762764.7	414084.77	76098.28	490183	272582	0.276903694	0.150323682	0.098954332
2005	3149412	824479.8	494370.1	85570.76	579941	244539	0.261788474	0.15697219	0.077645891
2006	3580344	933641.8	587687.81	99331.06	687019	246623	0.260768731	0.164142834	0.068882457
2007	4145810	1123912	735472.95	113736.73	849210	274703	0.271095943	0.177401509	0.066260294
2008	4713148	1285593	854812.6	120977.66	975790	309803	0.272767401	0.181367655	0.065731624

Source: Public Finance Statistics- Ministry of Finance- India