# eJournal of Tax Research

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# eJournal of Tax Research

**CONTENTS**

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# The Consequences of Fiscal Illusion on Economic Growth

Paulo Reis Mourão[*]

*Abstract*

This work discusses the impact of fiscal illusion on economic growth. Its main contribution highlights the need for reducing the expected return from participating in fiscal illusion practices in order to prevent adverse effects on economic growth. Additionally, this model reinforces the advantages of productive public goods (not deviated for political unproductive rents) in order to mitigate the negative effects of fiscal illusion.

## 1. INTRODUCTION

This original short article aims at discussing the implications of *fiscal illusion* on economic growth rates. For this purpose, the following section will contextualize the discussion, introduce a model derived upon the original sense of Puviani's (1903) *Fiscal Illusion*, and conclude that higher levels of fiscal illusion decrease growth rates. However, this negative effect is reduced by higher values of productive public consumption.

## 2. TOWARD A MODEL FOR DISCUSSING THE *FISCAL ILLUSION* CONSEQUENCES ON ECONOMIC GROWTH RATES

When Amilcare Puviani (1903) published *The Theory of Fiscal Illusion* he was founding the economics of illusion – the study of public choices made by some agents characterized by imperfect knowledge. After more than a half of a century, James Buchanan (1960) gave new life to that obscure work and to the fiscal illusion theory.

James Buchanan, influenced by the work of Downs (1957), extended Puviani's approach to analyze the substantial lag between the true intentions of governments and the beliefs of the electorate. This lag is usually manipulated to increase the size of the government through less visible (and less reactive) taxation.

The original sense of Puviani's ideas suggested fiscal illusion as a solution to a prior question: how can resistance to governmental actions be diminished from the perspective of taxpayers?[1] According to Buchanan (1967), the solution mainly studies fiscal illusion in the revenue side of a budget. Illusion can be inserted into revenues in many ways: obscuration of the individual shares in the opportunity cost of public outlays; utilization of institutions of payments that are planned to bind the requirement to a time period or an occurrence which the taxpayer seems likely to consider cheering; charging explicit fees for nominal services provided upon the occurrence of impressive or pleasant events; levying taxes that will capitalize on the sentiments of social fear, making the burden appear less than might otherwise be the case; use of 'scare tactics' that have a propensity to make the alternatives to particular tax proposals seem worse than they are; fragmentation of the total tax weight on an entity into numerous small levies; and opacity of the final incidence of the tax. The final result of this illusion is always gathering higher amounts of public revenues with a minimum of electorate resistance.

Due to the stimulation from Buchanan's rediscovery, this kind of fiscal illusion can properly be labelled the Puviani–Buchanan (P–B) fiscal illusion.

However, as far as we are aware, there is a very significant absence of studies reporting the consequences of P–B fiscal illusion on economic growth rates. We can point out some studies relating fiscal illusion and Public Finances (Oates, 1988; Rogers and Rogers, 1995; Easterly, 1999), but we have no framework discussing how economic growth will react to different levels of fiscal illusion. This work, more precisely the following section, intends to contribute to this purpose, developing the standard AK model (Barro and Sala-i-Martin, 1995, pp. 152-158).

## 3.1 FISCAL ILLUSION AND A RENT-SEEKING GOVERNMENT

The production function for a given firm *i* takes an *AK* Cobb-Douglas form

$$Y_i = AL_i^{1-\alpha} K_i^{\alpha} G^{1-\alpha}, \tag{3.1}$$

where $0 < \alpha < 1$, *A* is the level of technology, *L* is labor input, *K* is capital input and *G* is the total of government purchases. Therefore, it is assumed that production for each firm is characterized by constant returns to scale in the private inputs, labor and capital. Additionally, it is also assumed that the aggregate labor force, *L*, is constant. For a fixed *G*, the economy would be characterized by diminishing returns to the accumulation of aggregate capital, *K*. By stating that *G* rises along with *K*, we assume that (3.1) will not be characterized by diminishing returns and that an increase in *G* raises the marginal products of $L_i$ and $K_i$. Thus, the economy is capable of endogenous growth[2], following the traditional *AK* pattern.

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[1] Mourao (2007) is an exhaustive survey on the vast literature that followed the original Puviani (1903)–Buchanan (1960) sense of fiscal illusion.

[2] The equivalence of the exponent on *G* to $1-\alpha$ implies that the constant returns to $K_i$ and *G* generate endogenous growth, i.e., the economy should only increase *G* in a way that it accompanies a rise in *K*.

Now, assume that the government has a balanced budget. This balanced budget is financed by a proportional tax at rate *t* charged on the aggregate of gross output

$$G = tY .$$

(3.2)

We also suppose that *t* and, hence, the expenditure ratio, *G/Y*, are constant over time.

In our first case, it is assumed that there is only fiscal illusion perceived by firms, that is, firms know there is an announced proportional tax rate *t*, however due to the level of fiscal illusion $f$[3], firms actually pay an effective tax rate (1+*f*)*t*. In this first situation, we assume that the government achieves political rents *(ft)* used for private and unproductive ends, and although firms pay the effective tax rate, the balanced budget only incorporates *t*.

The firm's after-tax profit is given by

$$L_i\left[(1-(1+f)t)*Ak_i^\alpha G^{1-\alpha} - w - (r+\delta)k_i\right]$$

where $k_i \equiv K_i/L_i$, *r is* the rate of return on capital, *w* is the wage rate and $\delta$ is the depreciation rate of capital. The wage rate equals the after-tax marginal product of labor because we assume that firms follow the assumptions of profit maximization and the zero-profit condition. Additionally, we also obtain that the gross rental rate $r+\delta$ equals the after-tax marginal product of capital. Therefore, if we assume $k_i = k$ the rental price is given by

$$r + \delta = \left[1-(1+f)t\right]\frac{\partial Y_i}{\partial K_i} = \left[1-(1+f)t\right]\alpha Ak^{\alpha-1}G^{1-\alpha}$$

(3.3)

Using (3.1) and (3.2), we find an expression for *G*:

$$G = (tAL)^{1/\alpha}.k$$

(3.4)

Substituting (3.4) into (3.3) we obtain

$$r + \delta = \left[1-(1+f)t\right]\alpha A^{1/\alpha}(Lt)^{\frac{1-\alpha}{\alpha}}$$

(3.5)

On the right-hand side of (3.5), the after-tax marginal product of capital plays the same role in the growth process that the constant *A* played in the standard *AK* model.

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[3] Following Puviani (1903), the final consequence of inserting fiscal illusion in the process of tax collection is an increase of the amount actually paid by tax-payers and a minimization of their resistance. For convenience, we assume that $f \in [0,1]$ where a higher *f* characterizes a higher degree of fiscal illusion.

As there are no transitional dynamics, the growth rates of $c$, $k^4$, and $y$ all equal the same constant, $\gamma_{de,rs}$[5].

$$\gamma_{de,rs} = \frac{1}{\theta}\left[ \alpha A^{\frac{1}{\alpha}} (Lt)^{\frac{1-\alpha}{\alpha}} \left[1 - (1+f)t\right] - \delta - \rho \right]. \tag{3.6}$$

The effects of government on growth are obtained through two channels: the term $1 - (1+f)t$ represents the negative effect of effective taxation on the after-tax marginal product of capital, and the term $t^{\frac{1-\alpha}{\alpha}}$ represents the positive effect of $G$, the public services, on the marginal product.

Computing $\frac{\partial \gamma}{\partial t}$ we get

$$\frac{\partial \gamma_{de,rs}}{\partial t} = -\frac{A^{\frac{1}{\alpha}} L (Lt)^{\frac{1}{\alpha}-2}(\alpha + ft + t - 1)}{\theta}. \tag{3.7}$$

Therefore, the golden rule for the size of the government finds a maximum[6] at

$$t = \frac{1-\alpha}{1+f}. \tag{3.8}$$

The condition (3.8) corresponds to the natural efficiency condition for the size of the government $\frac{\partial Y}{\partial G} = 1 + f$, i.e., as the social cost of a unit of $G$ is $1+f$ and the benefit is the marginal product of public services, the efficiency condition equates the marginal cost to the marginal benefit.

Following (3.8), we can observe that the golden-rule growth rate is

$$\gamma^*_{de,rs} = \frac{1}{\theta}\left[ \alpha^2 A^{\frac{1}{\alpha}} \left( \frac{L(1-\alpha)}{1+f} \right)^{\frac{1-\alpha}{\alpha}} - \delta - \rho \right]. \tag{3.8'}$$

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[4] In our case, we assume that infinite-lived households maximize utility, as given by $U = \int_0^\infty e^{-(\rho-n)t}\left[ \frac{c^{1-\theta}-1}{1-\theta} \right]dt$, subject to the constraint $\dot{a}=(r-n)a+w-c$, where $c$ is consumption per person, $a$ is assets per person, and $n$ is the growth rate of population. Assuming it is a closed economy, $a=k$ may hold (Barro and Sala-i-Martin, 1995: 140-141).

[5] Some inequality conditions are required for the growth rate to be positive and for utility to be bounded: $\left[1-(1+f)t\right]\frac{\partial Y_i}{\partial K_i}-\delta>\rho$ and the transversality condition $\left[(\theta-1)/\theta\right]\left[1-(1+f)t\right]\frac{\partial Y_i}{\partial K_i}-\delta+\frac{\rho}{\theta}>0$.

[6] $\frac{\partial^2 \gamma_{de,rs}}{\partial t^2}=\frac{(\alpha-1)A^{\frac{1}{\alpha}}(Lt)^{\frac{1}{\alpha}-1}(2\alpha+ft+t-1)}{\alpha t^2 \theta}$ is negative as $t>\frac{1-2\alpha}{1+f}$, particularly at $t^*=\frac{1-\alpha}{1+f}$.

If we want to check the effects of fiscal illusion on the optimal decentralized growth rate, we calculate its partial derivative:

$$\frac{\partial \gamma^*_{de,rs}}{\partial f} = -\frac{\alpha A^{\frac{1}{\alpha}}\left(\frac{L(1-\alpha)}{1+f}\right)^{\frac{1}{\alpha}}}{\theta L} \quad (<0).$$

Therefore, we conclude that higher levels of fiscal illusion decrease the growth rate in a decentralized economy under the previous assumptions.

For the moment, we have shown that (3.8) is the government's best policy, given that the growth rate is the result of the decentralized choices of households and firms in accordance with (3.6). Now, it is time to observe whether the outcomes are Pareto optimal by solving the social planner's problem.

The planner determines the time paths $G(t)$ and $c(t)$ in order to maximize the consumer's utility $U = \int_0^\infty e^{-(\rho-n)t}\left[\frac{c^{1-\theta}-1}{1-\theta}\right]dt$. The planner is constrained by the production function (3.1) and the budget constraint

$$Y = C + G + \dot{K} + \delta K . \tag{3.9}$$

It is not difficult to set up a Hamiltonian expression to reach the conditions for dynamic optimization in the social planner's problem. This case will result in a different growth rate chosen by the social planner:

$$\gamma_{sp,rs} = \frac{1}{\theta}\left[\alpha A^{\frac{1}{\alpha}}[(1-\alpha)L]^{\frac{1-\alpha}{\alpha}} - \delta - \rho\right]. \tag{3.10}$$

The social planner satisfies the condition $\frac{\partial Y}{\partial G} = 1$. The key distortion in the decentralized model is that investors consider the private marginal product of capital $[1-(1+f)t]\frac{\partial Y_i}{\partial K_i}$ because of the effective tax rate $(1+f)t$, which is slightly different from $\frac{\partial Y_i}{\partial K_i}$. This difference between social and private returns produces a shortfall of the growth rate of (3.6). The difference is also explained because in (3.10), the negative effect of the effective taxation is replaced by 1 and the size of government is given by $1-\alpha$.

Consequently, we conclude that higher levels of fiscal illusion may magnify the distortion promoted by taxation in this economy.

## 3.2 FISCAL ILLUSION AND A BENEVOLENT GOVERNMENT

In this case, (3.1) retains the same production function, but (3.2) is now modified into (3.11):

$$G = (1 + f)tY. \tag{3.11}$$

Therefore, we are assuming that the total of government purchases react positively to the level of fiscal illusion, which can be viewed by incumbents as a way of wasting more public resources (Buchanan, 1960; Buchanan and Wagner, 1977). In this case, we follow the assumption of a benevolent government: this government uses all the collected effective taxation in order to stimulate the economy, not hiding values for opportunistic directions.

The firm's after-tax profit is again:

$$L_i\left[(1 - (1 + f)t) * Ak_i^\alpha G^{1-\alpha} - w - (r + \delta)k_i\right]$$

The rental price is now:

$$r + \delta = \left[1 - (1 + f)t\right]\alpha A^{1/\alpha}\left[Lt(1 + f)\right]^{\frac{1-\alpha}{\alpha}} \tag{3.12}$$

And the growth rates of *c, k,* and *y* are given by $\gamma_{de,b}$:

$$\gamma_{de,b} = \frac{1}{\theta}\left[\alpha A^{\frac{1}{\alpha}}\left[(1 + f)Lt\right]^{\frac{1-\alpha}{\alpha}}\left[1 - (1 + f)t\right] - \delta - \rho\right]. \tag{3.13}$$

Maximizing the growth rates to *t* leads again to $t = \dfrac{1-\alpha}{1+f}$. Therefore, the maximum growth rate is

$$\gamma_{de,b}^* = \frac{1}{\theta}\left[\alpha^2 A^{\frac{1}{\alpha}}\left[L(1-\alpha)\right]^{\frac{1-\alpha}{\alpha}} - \delta - \rho\right].$$

We can check that $\gamma_{de,b}^*$ could be achieved in (3.8') if there was no fiscal illusion, *f=0.* It is straightforward to conclude that $\gamma_{de,b}^* > \gamma_{de,rs}^*$. At this point, we can state that a benevolent government can minimize the harm of fiscal illusion on the growth rates. In this case, we can no longer point out that fiscal illusion is a negative determinant of economic growth because its capability of attrition was reduced by the "benevolence" of the government, which released all monies obtained by the effective taxation into the economy.

In this second case, the planner is constrained by the production function and a new budget constraint:

$$Y = C + (1 + f)G + \dot{K} + \delta K. \tag{3.14}$$

These changes will lead to a different growth rate:

$$\gamma_{sp,b} = \frac{1}{\theta}\left[ \alpha \; A^{\frac{1}{\alpha}} \left[ \frac{L(1-\alpha)}{1+f} \right]^{\frac{1-\alpha}{\alpha}} - \delta - \rho \right].$$                (3.15)

Checking what happens to the social planner's problem of a benevolent government, we find that the differences between the social planner's solutions and the decentralized solutions are smaller in this second case, indicating a proximity (smaller wedge) between the Pareto solution and the rational choices of households and firms.[7]

With few assumptions[8], it is straightforward to conclude that

$$\gamma_{de,rs} < \gamma_{de,b} < \gamma_{sp,b} < \gamma_{sp,rs}.$$

These inequalities show that a higher level of P−B fiscal illusion originating in political rents used for private and unproductive directions generates low growth rates. When fiscal illusion is characterized by smaller values or when the political rents are being invested in the economy (becoming productive), we face increasing rates.

Therefore, we have shown that the P−B fiscal illusion can be a significant determinant in the process of economic growth, functioning as a source of attrition: higher levels of fiscal illusion prejudice the economic growth rates. Therefore, fighting fiscal illusion, making public finances more transparent, is important for a healthy budget composition and for the overall economic growth.

## 4. CONCLUSION

This work demonstrated that the controversial question involving the role of fiscal illusion practices on public finances is not recent, but can be thought of as deriving from the discussion invoked by Puviani (1903) and substantially enriched by Buchanan (1960).

In spite of the fact that the 'Fiscal Illusion' School of Buchanan and Wagner (1977) identifies higher levels of fiscal illusion promoting increasing increments in the size of the public sector, this work developed a model that predicts higher levels of fiscal illusion also decrease national economic growth rates.

This model has had further and important implications. Mainly, it highlighted the need for reducing the expected return of incurring in fiscal illusion practices in order to prevent adverse effects on economic growth. Additionally, this model reinforced the advantages of productive public goods (not deviated for political unproductive rents) in order to mitigate the negative effects of fiscal illusion.

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[7] If fiscal illusion is too high, i.e, if $\ln(1+f) \geq \frac{\alpha}{\alpha-1}\ln\alpha$ holds, $\gamma_{sp,b}$ is smaller than $\gamma_{de,b}$. This can be thought as a disadvantage of a too heavy public sector because the social planner satisfies the pro-leviathan condition $\frac{\partial Y}{\partial G}=1+f$ in this case.

[8] We follow the assumptions that all the parameters of the equations have significant values and that $\ln(1+f) < \frac{\alpha}{\alpha-1}\ln\alpha$.

**REFERENCES**

Barro, R. and X. Sala-i-Martin 1995, *Economic Growth,* McGraw-Hill, New York.

Buchanan, J. 1960, *Fiscal Theory and Political Economy,* University of North Carolina Press, Chapel Hill, pp. 59-64.

Buchanan, J. 1967, *Public Finance in Democratic Process: Fiscal Institutions and Individual Choice,* University of North Carolina Press, Chapel Hill.

Buchanan, J. and R. Wagner 1977, *Democracy in Deficit: The Political Legacy of Lord Keynes,* Academic Press, New York.

Downs, A. 1957, *An Economic Theory of Democracy,* Harper Collins, New York.

Easterly, W. 1999, 'When is fiscal adjustment an illusion?', *Policy Research Working Paper Series* No. 2109, World Bank, Washington DC.

Mourao, P. 2007, 'The economics of illusion – A discussion based in fiscal illusion', *Journal of Public Finance and Public Choice,* 25(1), forthcoming.

Oates, W. 1988, 'On the nature and measurement of fiscal illusion: A survey', *Taxation and Fiscal Federalism: Essays in Honour of Russell Mathews,* Brennan, G., B. Grewal, and P. Groenwegen (eds), Australian National University Press, Sydney, pp. 65-82.

Puviani, A. 1903, *Teoria della Illusione Financiaría,* Sanaron, Palermo.

Rogers, D. and J. Rogers 1995, 'Political competition, causal relationship between taxes and spending, and their influence on government size: Evidence from state-level data', *International Finance Discussion Paper* No. 500, Board of Governors of the Federal Reserve System, Washington DC.

# Defining Ordinary Income after *McNeil*

Maurice Cashmere and Rodney Fisher*

*Abstract*

The High Court decision in *FCT v McNeil* (2007 HCA 5) decided that the market value of put options issued to shareholders over their shares in the company, as a mechanism for carrying out a share buy-back, was ordinary income at the time of issue in the hands of those shareholders who chose not to participate. The jurisprudential basis on which this decision was made is not manifestly clear, but the impact of the decision has the potential to set aside the traditional distinction which has been made between receipts which are on revenue account and those which are on capital account. This article seeks to establish that the approach which is manifest in *McNeil* is out of step with established principles and that the High Court provided no convincing reasons for setting aside the principles which have traditionally been accepted as determining which receipts are to be regarded as being on revenue account. This article seeks to show that the approach which is manifest in *McNeil* was also apparent in the earlier majority High Court decision in *FCT v Montgomery* (1998) 198 CLR 639, although *McNeil* does not appear to have relied on *Montgomery*. However, the authors seek to establish that the principles which can be derived from the majority decision in *Montgomery* are not sustainable. The problem which emanates from *Montgomery* is identified and a return to the position which existed prior to *Montgomery* is advocated as the solution to the problem which now exists. It is suggested that the legislative response of creating different tax treatment for call and put options is a disappointing response, with a preferable approach being the restoration of the previous tax treatment, which had been the undertaking given to industry and capital markets by the government.

## 1. INTRODUCTION

It might have been anticipated that by the beginning of the 21st century the principles used to determine what constitutes income according to ordinary concepts for the purposes of the *Income Tax Assessment Acts* 1936 and 1997 (Cwlth), would be clear and settled. Regrettably, that is not so.[1] The confusion which has arisen is largely attributable to recent law making by the High Court. *Federal Commissioner of Taxation* ("*FCT*") *v Montgomery*,[2] decided in 1999, is an early manifestation of the High Court's attempt to set aside established principles. *FCT v McNeil*[3] is the latest. *McNeil* decided that the market value of put options issued to shareholders of St George Bank Ltd ("SGL") over their shares in SGL, as a mechanism for carrying out a share buy-back, was assessable income on revenue account at the time of issue, in the hands of those shareholders who chose not to participate.

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[1] For an historical analysis of the development of the concept of income and the development of income tax principles in Australia see Slater A H, 'The Nature of Income', (2007) 36 *AT Rev* 138.

[2] (1999) 198 CLR 639.

[3] 2007 HCA 5.

The impact of the High Court's decision was not properly appreciated until the Australian Taxation Office ("ATO") subsequently issued a draft class ruling to Hutchison Telecommunications[4] advising that it would treat the value of a proposed issue to shareholders of renounceable rights in the issuing company as assessable income on revenue account in the hands of shareholders, from the date on which the rights were issued. This ruling meant that shareholders would be taxed on the value of the rights when they were issued, rather than on the net proceeds of sale when they were sold. In other words, the ATO was seeking to impose tax on unrealised, or paper profits on rights issues, relying on its success in relation to the SGL buy-back to extend the impact of *McNeil*'s case.

This led to calls for immediate action from the Federal government to reverse the controversial ruling, because of the harm it would do to capital markets in Australia.[5]

To address the uncertainty created in capital markets by the decision in *McNeil*, the Government has legislated specific tax treatment for call options and put options.[6] In relation to call options, whereby a company or trustee issues rights to shareholders or unitholders to buy additional shares or units, the legislative provisions affirm existing law that no amount would be included in assessable income of the shareholder, or unitholder, on issue of the rights, with the market value of the rights being non-assessable non –exempt income. Rather, a capital gain or loss would be made when a CGT event happens to the rights. This provision, then, maintains the capital/income distinction with any gain being a capital amount and not assessable income.

However, for put options, whereby a company issues shareholders with rights to sell their shares back to the company, the provisions effectively enshrine in legislation the decision in *McNeil*, The provisions operate to include the market value of the put options in assessable income, and then act to prevent double taxation by including any assessable amount in the cost base of the rights or the shares disposed of as a result of exercising the right. The inclusion of any assessable amount in the cost base would prevent the amount being taxed twice, as income when the option is issued, and as capital when a CGT event happens to the rights or options.

However, it would appear that the concerns of industry and the markets following the decision in *McNeil* have not been addressed. Rather than restoring the law to the pre-*McNeil* position, the legislation has enshrined the *McNeil* decision, allowing for the taxation of an unrealised paper profit as assessable ordinary income at the time the rights are issued.

## 2. OBJECTIVE

This article suggests that the approach which is manifest in the majority decision of the High Court in *McNeil*,[7] and which has now been adopted in legislation, is out of step with established principles and authority for determining what constitutes

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[4] CR 2007/42.
[5] The Editor, *The Australian Financial Review*, 15 May 2007, p 62: Goode C, Chairman, Australia and New Zealand Banking Group Ltd, *The Australian Financial Review*, 1 June 2007, p11.
[6] *Tax Laws Amendment (2008 Measures No 3) Act* 2008 Schedule 1
[7] Gummow ACJ, Hayne, Heydon and Crennan JJ; Callinan J dissenting.

ordinary income. Furthermore, it is argued that no convincing reasons were apparent for setting aside time-honoured principles, and that there is arguably an internal tension in the reasoning of the majority decision in characterising the nature of the put option.

While there has been commentary on the practicalities and potential impact of the decision in *McNeil*,[8] this analysis seeks to identify and examine in greater detail the jurisprudential underpinnings of the judicial reasoning underlying the majority High Court decision, and demonstrate how this reasoning accords with, or diverges from, established principles and decided authority that existed prior to the *McNeil* decision.

This examination is carried out by reference to the principles which have underpinned the determination of ordinary income for many generations. These principles are examined in the context of property derived from shares – since *McNeil* dealt with property arising from shares – with a view to establishing when such receipts have been regarded as being on revenue account and when they have been regarded as being on capital account. Consideration is also given to the apparent unsatisfactory nature of the decision in *Montgomery,* which appears to be the watershed for the new approach to the characterisation of receipts.

While it may be difficult to discern the precise jurisprudential basis on which *McNeil* was decided, the analysis examines the reasoning in the decision, in the light of the existing authorities discussed, with a view to highlighting its potential shortcomings. From this examination it will emerge that the decision has potentially effectively prescribed that anything which comes into the hands of a taxpayer can be regarded as being ordinary income. This is a situation which would effectively set aside the distinction between receipts on revenue account and those which are on capital account.

Given the suggestion that the decision of the majority, and the ensuing legislation, have overturned existing principles as to the nature and identification of income, it is argued that attention needs to be given to re-establishing the principles that establish and maintain the revenue/capital dichotomy, since there are different taxing regimes in Australia for each category of receipt.

## 3. THE ESSENCE OF *MCNEIL'S* CASE

The *McNeil* case arose out of an on-market share buy-back undertaken by SGL, whereby it sought to buy back 5% of its share capital. The share buy-back was structured through a series of interconnected unilateral and bipartite documents which had the effect of creating rights in the hands of the shareholders, with the rights enforceable against the parties to the transaction.

To effectuate the buy-back SGL created put options (called sell-back rights in the documentation) over its share capital, whereby SGL undertook to buy back any shares which shareholders required SGL to acquire pursuant to exercising their rights as grantee under the put option. The number of sell-back rights to which each

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[8] See for example Ian Stanley, "As of right – McNeil's Case", *Tax Specialist* 2007, 10(4).

shareholder was entitled was proportional to the member's shareholding. The sell-back rights were issued without consideration. The sell-back rights were not granted to the shareholders directly. Instead, they were granted in favour of a trustee company, which undertook to hold the number of rights to which shareholders were entitled on separate trusts for the absolute benefit of each shareholder.

If a shareholder wished to sell into the share buy-back, the shareholder was required to give notice to the trustee to vest the sell-back rights in the shareholder, so that the shareholder could then exercise the put option and require SGL to buy back the requisite number of SGL shares. SGL had assumed an obligation to do so under the interconnected documentation.

If a shareholder did not wish to sell shares, then the shareholder was not required to do anything. But in this situation the trustee company was obliged to take steps to require a merchant bank to sell those sell-back rights and account to the shareholder for the proceeds of sale (if any). The merchant bank was under a similar duty to account for the proceeds of sale, although this obligation could be satisfied by transferring the money to SGL, which would then account to the shareholder.

The taxpayer was one of those shareholders who took no steps to exercise the sell-back rights. As a result, the trustee required the merchant bank to sell her rights. The merchant bank did so. The trustee then accounted to the taxpayer for her proportional share of the net proceeds of sale arising from the sale of all of the rights of shareholders who did not participate in the buy-back. The amount received by the taxpayer from the sale proceeds was actually more than the price quoted on the Australian Stock Exchange ("ASX") on the date of the grant, but it was accepted that the difference between that price and the total amount received was as an assessable capital gain. The SGL share buy-back was funded ultimately from the share capital of SGL.

The decision of the High Court, which was a majority decision, was both cryptic and strained. The underlying reason for the Court's decision can be discerned only from the fact that the majority accepted the FCT's primary submission. That submission was to the effect that the grant of the sell-back right (put option) by SGL to the shareholder/taxpayer constituted the derivation of income according to ordinary concepts by the shareholder/taxpayer. In accepting this submission it followed that the grant of the put option was regarded as a revenue receipt in the hands of the shareholder, derived on the same date and having a value equal to the ASX volume weighted net selling price of sell-back rights on that date

Callinan J dissented. His Honour did not consider that the grant of the put option constituted the receipt of money, or any entitlement to receive money by the taxpayer, let alone income. It was a capital item which arose out of the reduction of capital carried out by SGL and was taxable only if the capital gains tax regime applied, which, in his view, was not triggered in these circumstances. On the question of value, even if the rights had been taxable on revenue account, the judge did not consider that the price of the rights quoted on the ASX accurately reflected their value, since that price inherently reflected the quoted price of the shares, which was lower than the price SGL was offering. Nor, in his view, could the price be accurate, when it might

be based on perceptions which were later found to be incorrect, or dependent on tax consequences which were not then known.

The two limbs of the majority decision appear to be that:

1) a determination about whether a receipt has the character of the derivation of income depends upon its quality in the hands of the recipient, not the character of the expenditure by the other party.
2) a determination about whether the gain arising from shares has an income characterisation depends on whether the gain has been severed from the shares.[9]

While these two limbs will be considered separately, they inevitably converge.

## 4. IMPACT OF *MCNEIL*'S CASE

Rights issues have been a popular capital raising method in Australia. For the period 2002-06 it has been estimated that some $26 billion had been raised in this way.[10] The ruling was seen as jeopardising this market both at the institutional and individual level, because of adverse tax consequences. As a response to the criticism which erupted, the Minister for Revenue announced that the pre *McNeil* position for taxing rights issues would be restored, with effect from the 2001−02 income year – as a tax compliance initiative.[11] The long standing position of treating rights issues as being on capital account would be maintained and changes to the capital gains tax rules would be made.

Despite the assurances of the then Minister, the legislation enacted does not fully restore the pre-*McNeil* position of rights issues being treated as on capital account. As noted above, in relation to rights in the form of call options, the legislation provides that on satisfying a number of conditions, the market value of the call option will be treated as non-assessable non-exempt income.[12] The conditions effectively require that:

- rights are issued only to taxpayers owning original interests of shares or units at the time the rights are issued,
- rights are issued to the taxpayer because of the ownership of the original interests, and
- the original interests are on capital account and not revenue account.

However, in relation to rights in the form of a put option, the legislation effectively enshrines the *McNeil* decision, rather than restores the previous treatment of such rights being on capital account. The legislation accepts that the market value of the rights at the time of issue will be assessable income, and then operates to prevent double taxation by including this assessable amount in the cost base of the rights or the shares disposed of as a result of exercising the right.

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[9] *McNeil* at paras 20 and 21.
[10] *The Australian Financial Review*, 27 June 2007, p4.
[11] *Taxation of Rights issues* – Press Release, Minister for Revenue and Assistant Treasurer, 26 June 2007.
[12] New s 59-40 ITAA 1997

The Second Reading Speech accompanying the Bill suggested that the new amendments "… will overcome the impact of the High Court of Australia's decision in *Commissioner of Taxation v McNeil*."[13] This suggestion would appear to be in accord with the previous announcement that the legislation proposed would reverse the effect of the decision in *McNeil*, and restore the previously existing law.

The legislation, however, does not restore the previous law, but rather it operates to enshrine the *McNeil* decision in legislation, thus changing the long accepted position that the gains from rights or options would be a matter of capital, and not assessable as ordinary income at the time of issue. Further, the legislation now provides separate and distinct treatment for call options and put options, which can only operate to add complexity to an already complex area of law.

The Explanatory Memorandum accompanying the Bill provides no discussion or explanation as to why there should be divergent treatment of rights represented by call options and rights represented by put options. Also there is no examination or explanation as to why the *McNeil* decision should be adopted. It may have been expected that if the legislation were to codify the law from the *McNeil* case there would have been some degree of analysis of the principles and authority which the legislation was enacting. As a result of the legislation, there is now the added complexity of different taxation treatment for rights depending on the nature of the right, an outcome which, it is suggested, can hardly be seen as optimal.

Given the uncertainty created in markets by the decision in *McNeil*, the dearth of reasoning in the *McNeil* decision itself, and the fact that rather than restoring the previous position, the legislation enshrines the *McNeil* decision in legislation, the outcome from this Bill and enacting legislation can only be seen as a less than satisfactory outcome for industry and the operation of the capital markets.

In analysing the suggested shortcomings in the majority decision in *McNeil*, the paper examines the principles underlying the concept of ordinary income, and the authorities that have led to the establishment and endorsement of these principles. The analysis then considers the decision in McNeil, highlighting the suggestion that the majority have diverged from established principle without having clearly enunciated any new principle, and highlighting the apparent tension within the majority decision. Again this analysis draws upon long established authority as to the rights carried by a share, with consideration of the delineation between payments which represent a return on capital as distinct from a return of capital.

## 5. WHAT IS ORDINARY INCOME?

The determination of what constitutes income goes to the very heart of tax law. It is of fundamental importance and yet there is nothing determinative which characterises just what income is for tax purposes. Even the *Income Tax Assessment Act* 1997 (Cwlth) ("ITAA 1997") provides little in the way of assistance.

Section 6-5(2) ITAA 1997 provides that, for Australian residents, assessable (or taxable) income includes income according to ordinary concepts from any source, so

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[13] *Second Reading Speech* to the Tax Laws Amendment (2008 Measures No 3) Bill 2008.

long as the income has been derived by the taxpayer. Then s6-5(4) goes on to provide an extension to the concept of derivation, in that a taxpayer is taken to have received income according to ordinary concepts as soon as it is applied or dealt with on the taxpayer's behalf, or as the taxpayer directs.

So first of all, the ITAA 1997 requires a receipt to be identified as income and then once identified, a determination needs to be made about whether it has been derived by the relevant taxpayer. There are two steps in this process, not one. Income cannot be derived until a receipt of an income nature has been identified. The ITAA 1997 does not define income, other than to provide that it includes income according to ordinary concepts. Nor does the ITAA 1997 define the concept of income according to ordinary concepts, or the concept of derivation.

The leading statement of principle regarding the nature of income is to be found in the judgment of Jordan CJ in *Scott v Commissioner of* Taxation[14]:

*The word income is not a term of art, and what forms of receipt are comprehended within it, and what principles are to be applied to ascertain how much of those receipts ought to be treated as income, must be determined in accordance with the ordinary concepts and usages of mankind....*"[15]

In considering the meaning of income according to the "*ordinary concepts and usages of mankind,*" the courts have not adopted the economist's broad view that income is an accretion to economic or spending power. This was the view advocated by the leading American economist Henry Simons in the late 1930's in his text *Personal Income Taxation*[16]. It was also reflected in what Lord Kaldor said in his dissent to the United Kingdom *Royal Commission's Final Report on the Taxation of Profits and Income, 1955.*[17]

There have been more recent attempts to popularise economic concepts of income. In 1998 the *Review of Business Taxation* considered that economic income would provide a better base for taxing, as the same economic transaction should not be subject to different taxation treatment because of differences in form. But this view has not been embraced by the courts, although there have been some recent moves in this direction taken by Parliament.[18]

In considering what may be regarded as income according to the "*ordinary concepts and usages of mankind,*" Professor R Parsons, in his definitive text, *Income Taxation in Australia*[19], identified some propositions which provide the hallmarks of income according to ordinary concepts.

Parsons considered that the concept of income denotes two component parts. First, there must be a gain by the taxpayer[20]. Second, once a gain has been established, there

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[14] (1935) NSWR 215.
[15] Ibid p219.
[16] H Simons, *Personal Income Taxation*, (1938) University of Chicago Press, Chicago.
[17] 1955, Cmd. 9474.
[18] Div 974 ITAA 1997.
[19] Parsons R*, Income Taxation in Australia*, (1985) The Law Book Co.
[20] Ibid p26, proposition 4.

must be something which comes in[21]. This latter component relates to the concept of derivation. However, there cannot be a derivation until a gain with an income character has been identified.

In his text Parsons turns to make a number of assertions, or propositions, which can be used in a general way to identify receipts as income. It is proposed to benchmark the principles which emerge from *McNeil's* case against these propositions, but since *McNeil's* case concerned the characterisation of a property-based receipt, only those propositions which are relevant to the identification of receipts arising from property are noted. These are that:

1. a gain from property has the character of income[22];
2. the character of an income item as income must be judged in the circumstances of its derivation by the taxpayer and without regard to the character it would have if it had been derived by another person[23];
3. a gain which is one of a number derived periodically has the character of income[24].

As with all general propositions, they may be subject to exceptions or re-formulation, depending on particular circumstances.

## 5.1 WHEN ARE GAINS FROM PROPERTY INCOME?

### 5.1.1 INCOME FROM PROPERTY

This discussion relates to the first of Parson's propositions outlined above.

*McNeil's* case concerned a gain which arose from property. In determining whether a gain has arisen from property, the issue which arises is whether the gain is capital or income – however unscientific that distinction may be – and, however difficult it may be to make in particular instances.[25]

There is no precise equation which can provide an answer to this dichotomy, but it requires a distinction to be made between a return which arises from the property, as distinct from the return of the property or part of the property itself. Because the distinction is so difficult to make, metaphors have been used to assist in clarifying the distinction. In this context reference is constantly made to the *Memorandum of Dissent to the United Kingdom Royal Commission's Final Report on Taxation of Profits and Income* where income was referred to as "*something which recurrently emerges and is separated off from its perpetual source, like the harvest from the soil…*"[26] But the most frequently quoted source of this metaphorical approach is to be found in the

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[21] Ibid , proposition 1.
[22] Ibid , proposition 12.
[23] Ibid , proposition 3.
[24] Ibid , proposition 11.
[25] Dixon J, *Hallstroms Pty Ltd v FCT* (1946) 72 CLR 634, 646  indicated that the traditional approach was not to attempt definitions, but state "*what positive ….factors in each given case led to a decision assigning the expenditure to capital or to income as the case might  be.*"
[26] 1955, Cmd. 9474, p 358.

decision of the Supreme Court of the United States of America in *Eisner v Macomber.*[27] There it was said that

*The fundamental relation of 'capital" to 'income' has been much discussed by economists, the former being likened to the tree or the land, the latter to the fruit or the crop: the former being depicted as a reservoir supplied from springs, the latter as the outlet stream, to be measured by its flow during a period of time….*

*…Here we have the essential matter: not a gain accruing to capital, not a growth or increment of value in the investment; but a gain, a profit, something of exchangeable value, proceeding from the property, severed from the capital however invested or employed, and coming in, being 'derived', that is, received or drawn by the recipient (the taxpayer) for his separate use, benefit and disposal: − that is income derived from property.*[28]

From this passage it can be seen that the essence of the nature of a gain arising from the use of property is that there must be a severance of the gain from the property, before it can be said that any income arises. This passage was accepted in Australia by the High Court in *Montgomery*[29] as containing the essence of the meaning of income derived from property and it has been resorted to on many occasions. It was utilised in *McNeil*.

**5.1.2 IS A GAIN FROM A SHARE INCOME?**

*McNeil's* case involved property relating to shares. In the context of shares the same metaphor has been adopted[30] and re-expressed in various ways.[31] But in considering whether a gain emanating from shares constitutes ordinary income or not, a distinction is drawn between a receipt which is in satisfaction of rights which make up the property in the share, being in effect a return of some part of that property in the share; and a receipt which is derived from, or which flows from, or is a product of the share, but does not represent part of the property held in the share. The former concept relates to a return of capital. The latter relates to a profit which has been released or detached, essentially in the form of a dividend.[32]

There is a conceptual difficulty inherent in this, because a share is a bundle of rights, and in one sense, whether the shareholder receives capital or profit, the receipt comes to the shareholder in satisfaction either in whole, or part, of the rights which make up the property in the share. But once share capital has been returned, that receipt is seen as representing the extinguishment or release of part of the right held by the shareholder to participate in a return of capital. In other words, the right to the share capital is no longer intact; it has either been diminished or extinguished.

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[27] 252 US 189 (1919).

[28] Ibid pp 204-207.

[29] The position had been accepted by the High Court in *Charles v FCT* (1953) 90 CLR 598, a case which related to rights to shares.

[30] *FCT v Uther* (1965) 112 CLR 630, 634 (Kitto J).

[31] *Webb v FCT* (1922) 30 CLR 450, 461: *C of T (NSW) v Stevenson* (1937) 59 CLR 80, 99: *FCT v Blakely* (1951) 82 CLR 388, 407; *FCT v Uther* (1965) 112 CLR, 630, 634.

[32] For further elaboration of the same point see Parsons above n 19, p 90-92.

On the other hand, where a dividend is paid to a shareholder, the share, as Kitto J explained in *FCT v Uther*,[33] remains intact as a capital asset. There is no release of the right to receive further dividends, since the right to a recurrent payment remains intact.

The distinction has also been considered in cases dealing with bonus shares. From the authorities it is clear that bonus shares did not represent any severance from the original share, even when they were funded out of the share premium account: they were merely a reframing of the shareholder's interest in the capital of the company.[34]

This leads to the question of whether rights to shares, or options issued to shareholders over shares in their company could be regarded as a detachment from the shares and thus be regarded as the produce arising from them. Parsons considered this issue and took the view that since a payment out of profit is an implicit element of the produce arising from a share, this could not be satisfied by options or rights.[35]

## 5.2 CHARACTERISATION ON REVENUE ACCOUNT THROUGH CIRCUMSTANCES OF DERIVATION

This is the second of Parsons' propositions outlined above.

If there is a receipt which can be seen as a gain arising from shares, then it is necessary to be able to characterise that gain. The fact that a gain has been identified does not automatically give the gain an income character, notwithstanding that a cursory reading of the first of Parsons' general propositions above, relating to gains from property, may suggest a contrary conclusion.

The characterisation of a gain arising from shares went to the very heart of the matter in *McNeil*.

### 5.2.1 GENERAL PRINCIPLES – QUALITY OF RECEIPT IN HANDS OF RECIPIENT

It will be recalled that Parsons asserted that the determination about whether a receipt is the produce of shares, or comes in satisfaction of rights making up the shares requires, at least primarily, an examination from the point of view of the shareholder as recipient. That view was based on the test which had been established by Windeyer J in *Scott v FCT*[36], a case which was before the High Court in 1966. In that case Windeyer J said "*whether or not a particular receipt is income depends on its quality in the hands of the recipient.*"[37] That test is objective.[38] This principle has been accepted since that time as the appropriate test.

Without making any reference to *Scott,* the majority in *McNeil* adopted similar terminology in the first of the principles which the case appears to establish, but qualified the test by stating that the character of the expenditure in the hands of the

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[33] *FCT v Uther* at 634.
[34] Parsons, above n 19, p 93: *IRC v Blott* [1921] AC 171; *Gibb v FCT* (1966) 118 CLR 628. This must be even more so under the *Corporations Act* 2001, which has abolished the concept of par value shares and authorised capital.
[35] Parsons, above n 19 p 93.
[36] *Scott v FCT* (1966) 117 CLR 514.
[37] Ibid pg 526.
[38] *Hayes v FCT* (1956) 6 AITR 248.

payer was not relevant. That statement does not accurately reflect the second of Parsons propositions referred to above. Nowhere in his text did Parsons state that the character of the amount in the hands of the payer was irrelevant. But it followed, in the view of the majority in *McNeil*, that the character of the sell-back right could be determined by isolating the receipt from the SGL buy-back process, which arose out of the capital restructuring of SGL.[39] This was despite determinations to the contrary in the Full Federal Court, when *McNeil* was before that court.

*GP International Pipecoaters Pty Ltd v FCT*,[40] a unanimous decision of the High Court in 1990, which adopted the test laid down in *Scott*, was referenced in support of this view. How *Pipecoaters* supported the view taken by the majority was not made clear. Ian Stanley, in his article *As of Right – McNeil's Case*, strongly declaims that it does not.[41]

However, the dissenting judgment of Callinan J in *McNeil,* provides some insight into this issue. There, in criticising the approach of the majority, the judge said "*In my view the character of a payment for the purposes of the statutory definition of income,....cannot always be determined simply and solely by reference to its quality in the hands of a recipient. I do not take GP International Pipecoaters Pty Ltd v FCT to be denying reference to the full circumstances leading to the receipt in the hands of the taxpayer. It will usually only be by reference to a transaction as a whole that the quality of a receipt, otherwise perhaps even unintelligible, will begin to be able to be ascertained.*"[42]

From this it appears that what was decisive for the majority was the focus of the inquiry. Characterisation could be determined by concentrating the inquiry just on part of the facts, rather than the facts as a whole. This suggests that the decision could turn on selectively isolated facts, rather than having regard to the factual context as a whole as required by the authorities. In this case, the relevant facts appear to be just those which were most proximate to the receipt of the payment by the taxpayer. Ian Stanley in his article is rightly critical of the majority judgment on this aspect, as it sets aside 50 years of consistent authority without appropriate justification, or indeed explanation.[43]

So, it needs to be determined which of these two divergent views is properly supported by appropriate authority.

While it is accepted that characterisation of a receipt is determined primarily from the point of view of the recipient, that focus alone does not determine characterisation. The real issue then becomes how that income quality, or character, is ascertained. Until recently there was no doubt about the test which had to be applied. That question had been resolved years ago by what Kitto J said in *The Squatting Investment Co Ltd v FCT*,[44] a case which was before the High Court in 1953. In that case Kitto J

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[39] *McNeil* at para 23.
[40] (1990) 170 CLR 124.
[41] Stanley, above n 8, 220, 224.
[42] *McNeil* at para 55
[43] Stanley, above n 8, p 224.
[44] (1953) 86 CLR 570.

established the test as being "*whether a receipt comes in as income must always depend for its answer upon a consideration of the whole of the circumstances.*"[45]

That approach was endorsed in 1987 by *FCT v The Myer Emporium Ltd*,[46] a unanimous decision of the High Court. This case involved the characterisation of the receipt of a payment made for an assignment of interest payable under a loan. Myer Emporium had lent funds to its finance subsidiary and immediately assigned the income stream arising under the loan to an independent finance company for a lump sum. Myer Emporium argued that the payment made to it under the assignment was an extra-ordinary receipt for a retailer and property developer and as such was on capital account, thereby escaping the normal rule that a receipt by a business in the normal course of its business was on revenue account.

The Court disagreed and held that the receipt was on revenue account. The Court accepted that if the assignment could have been regarded as a separate transaction, it may have been possible to say that no gain of a revenue nature would have arisen, because the receipt of the value of the chose-in-action assigned could have been seen as the realisation of a capital asset. But when the facts were viewed as a whole, particularly the fact that the taxpayer had assigned its interest under the loan immediately after the loan was advanced, in order to obtain the immediate benefit of the future interest payments, the receipt was seen as a receipt on revenue account, because it represented no more − nor less − than the quantified present value of the future interest payable under the loan. As a consequence the receipt was not a capital item.

*Pipecoaters,* which was decided after Myer Emporium, was also a unanimous decision of the High Court. *Pipecoaters* concerned the characterisation of a receipt to assist in establishing new plant for coating industrial pipes. *Pipecoaters* accepted what had been laid down by the earlier authority and finessed in Myer Emporium, but gave more expansive expression to the manner in which characterisation was to be determined. The High Court in *Pipecoaters* expressed the situation in the following way.

*Although the amount received as establishment costs was expended by, and was intended by (the payer of the amount) to be expended by, the taxpayer to meet the costs of constructing the plant so far as that amount would extend, and although the amount expended on the construction of the plant was a capital expenditure, it does not follow that the taxpayer's receipt of the establishment costs was a receipt of capital. To determine whether a receipt is of an income or of a capital nature, various factors may be relevant. Sometimes the character of receipts will be revealed most clearly by their periodicity, regularity or recurrence; sometimes, by the character of a right or thing disposed of in exchange for the receipt; sometimes, by the scope of the transaction, venture or business in or by reason of which money is received and by the recipient's purpose in engaging in the transaction, venture or business. The factors relevant to the ascertainment of the character of a receipt of money are not*

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[45] Ibid p 627.
[46] (1987) 163 CLR 199.

*necessarily the same as the factors relevant to the ascertainment of the character of its payment.*[47]

The emphasis, which is apparent here, on the whole of the factual matrix, is underscored by the reference made later to the need to apply "*a business conception to the facts, see FCT v Becker (1952) 87 CLR 456 at 467*"[48] when characterising a receipt.

In making these observations on the characterisation of receipts, the High Court in *Pipecoaters* did not say that the nature of the payment in the hands of the payer was irrelevant: simply that its nature in the hands of the payer did not determine its character in the hands of the recipient. Nor did *Pipecoaters* say that the general context in which the payment was received was irrelevant, or that only part of the facts should be considered. On the contrary, it said that characterisation was determined by considering the whole of the factual matrix. These observations accord with Parsons' view on this issue.

*Myer Emporium* is also important for two other things which it established in relation to the characterisation of receipts.

First, it accepted longstanding authority that a gain derived in the course of carrying on a business is income. Where the transaction which gives rise to the profit is part of the ordinary business of the taxpayer, the identification of the business itself may characterise the receipt. For instance, the profit on the sale of shares by a share-trader would be on revenue account. The same situation would arise where the sale is part and parcel of the business activity of the taxpayer, even if it is not the main business, because the profit-making purpose can be inferred from the association of the transaction with that business activity. So, if a taxpayer dealt in shares and switched investments regularly to maintain a growth profile, then that would be regarded as arising out of a normal operation in the course of the taxpayer's business.

Secondly, it did not follow that a gain made in a transaction which was not in the ordinary course of the taxpayer's business was not income. The Court said that if the facts disclosed that there was a gain, then it would be regarded as income, even if the transaction was extra-ordinary, so long as it was entered into for the purpose of making a profit. This was, of course, apparent from the decision itself. But the reasoning underscored that this purpose could only be determined from a consideration of the facts as a whole.[49]

Then, there is the later unanimous decision of the Full Federal Court in *Westfield Ltd v FCT,*[50] which is important for the additional light which it sheds on the second of the *Myer Emporium* principles. *Westfield* involved the characterisation of the proceeds of the sale of land by a developer and manager of shopping centres. The profit arising on the sale of some surplus land, which was not required for a shopping centre that

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[47] *Pipecoaters* at pp 137-138.
[48] Ibid p 141.
[49] For a comprehensive review of the Myer Emporium case and its impact and the historical context in which it is to be viewed see: Young N J, 'The Historical Significance of the High Court's decision in *FCT v The Myer Emporium Ltd*', (2007) Vol 37 *Melb Univ L Rev* 266.
[50] (1991) 21 ATR1398.

Westfield would own and operate itself, was held not to be on revenue account. This was because the profit-making purpose did not "*exist in relation to the particular operation*." [51] In considering what profit-making means in this context Hill J said that a profit-making purpose must be discerned "*in the very means*"[52] by which the gain was made. By this the judge meant that the mode of achieving that gain must have been contemplated by the taxpayer as at least one of the alternatives by which the gain could be realised. Where property has been acquired and later sold, the requisite purpose does not exist simply because at the time of acquisition there was merely the possibility of resale contemplated, because such a possibility exists in the acquisition of all property.

At the time *Myer Emporium* was decided it was regarded as something of a watershed case, but while the case accepted that payments received in the course of carrying on a business are income, it is not authority for the proposition that all receipts are income. If there were any doubt about that, then they were put to rest by the Full Federal Court in *FCT v Spedley Securities Ltd*.[53] There the Federal Court said that such a proposition would be "*contrary to authority, to the Act (ITAA) itself and to basic concepts concerning the distinction between capital and income*." [54]

Nor can the character be determined by the way a receipt is spent by the recipient. As was pointed out by the High Court in *Pipecoaters*, to do so would be unreliable, since a taxpayer may apply income in the acquisition of a capital asset, or apply a capital receipt to discharge a liability of a non-capital nature.[55]

While the cases which have established these principles have related to business taxpayers, there has been no suggestion, either prior to these cases or subsequently, that the characterisation principles established by them are not of general application and relevant to the characterisation of receipts in the hands of non-business taxpayers, including investors. It has been accepted specifically in relation to investors, that the issue is covered by what was said by Clerk L J in the English case *Californian Copper Syndicate v Harris.*[56]

*It is quite a well settled principle in dealing with questions of assessments of income tax, that where the owner of an ordinary investment chooses to realise it, and obtains a greater profit from it than he originally acquired it at, the enhanced price is not profit in the sense of Sch D of Income Tax Act 1842 assessable to income tax. But it is equally well established that enhanced values obtained from realisation or conversion of securities may be so assessable, where what is done is not merely a realisation or change of investment, but an act done in what is truly the carrying on, or carrying out, of a business.*[57]

In the following paragraph of the judgment it was said that the test is whether "*...the sum of gain that has been made (is) a mere enhancement of value by realising a*

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[51] Ibid ,1407
[52] Ibid 1408.
[53] (1988) 19 ATR 938.
[54] Ibid p 942.
[55] *Pipecoaters* at p 136.
[56] (1904) 5 TC 159.
[57] Ibid p 165-166.

*security, or is it a gain in an operation of business in carrying out a scheme for profit-making.*"

In applying what was said there, it is necessary to undertake a *"wide survey and an exact scrutiny of the taxpayer's activities.*"[58] So in this regard the approach accords with that developed in *Pipecoaters* and *Myer Emporium*. The approach is manifest in such cases as *Hayes v FCT*,[59] which involved the characterisation of the receipt of a gift.

This was how things stood until *Montgomery* reached the High Court in 1999. In this case the Court was required to characterise a payment received by a firm of lawyers as an inducement to take a lease of commercial premises. In the Full Federal Court it had been found that the inducement was an extra-ordinary payment, when gauged against the firm's normal activities, and one which the firm had received not for the purpose of obtaining the inducement, but for the purpose of obtaining new premises from which to carry on business. As such, the receipt was on capital account. In reaching this conclusion the Full Federal Court applied accepted principles and its approach was entirely in line with *Myer Emporium*.

In the High Court, by a majority, that conclusion was reversed. The receipt was found to be income. To reach this conclusion on the basis of the principles laid down in *Myer Emporium,* it would have been necessary to establish that receiving incentive payments was part and parcel of the taxpayer's normal business activities, or that the incentive payment was received for the purpose of making a profit. The evidence did not support the acceptance of either view; nor does the majority appear to have adopted either view. What the majority appears to have done is accept – contrary to the authority of *Pipecoaters* and *Myer Emporium* − that it could make a decision just by reference to the facts which immediately preceded the receipt of the payment.

The minority in *Montgomery* was critical of this approach and stated categorically that the payment was not received in the ordinary course of the taxpayer's legal practice, nor was the lease entered into for the purpose of obtaining the inducement. Furthermore, the minority did not consider it to be appropriate to characterise a receipt "*disregarding the entire transaction and directing attention to only part of it.*"[60] In this, the approach of the minority was entirely consistent with *Myer Emporium*. Furthermore, the deficiencies of the majority's amorphous decision have been subject to strident criticism, including a recent article by N J Young, *The Historical Significance of the High Court's decision in FCT v The Myer Emporium Ltd.* [61]

Since the majority in *McNeil* appears to have taken the view that receipts could be characterised simply by reference to those facts which related directly to the receipt and not by reference to the facts as a whole, it might have been expected that *Montgomery* − which was the trail blazer for this new approach − would have been

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[58] *London Australia Investment Co Ltd v FCT* (1977) 138 CLR 106 at 116 (Gibbs J), approving what was said in *Western Gold Mines NL v DCT (WA)* (1938) 59 CLR 729 at 740.
[59] 6 AITR 248.
[60] Ibid p 656.
[61] Young, above n 49.

adopted as the precedent. It was not used in this context at all. The judgment gives the impression the majority was merely expounding an orthodoxy.

**5.2.2 GENERAL PRINCIPLES – SEVERENCE OF GAIN FROM SHARES**

The second general principle upon which the majority in *McNeil* relied was that a gain from property has the character of income, if it has been severed from the underlying property.

This was also an issue in *Montgomery*. The majority in that case concluded that the inducement payment was not a gain which was linked to the lease and therefore capital, but a gain severed from the lease. Reference was made to what was said in *Eisner* that there was "*not a gain accruing to capital….but a gain…severed from the capital however invested or employed, and coming in, being derived, that is received or drawn by the recipient (the taxpayer) for his separate benefit and disposal*."[62] In explaining the application of this principle to the facts, the majority said that the taxpayer had exploited its capital in securing the inducement  and it was received, not as some growth or increment in value to its profit-yielding structure, but as a payment severed from that and available to the taxpayer for use as it saw fit.

The minority rejected the view that the payment could be seen as fruit arising from the firm's capital. The principal reason was that at the time of the payment the lease itself was not property of the firm. Nor could it be regarded as being the fruit arising from the exploitation of the firm's goodwill or reputation, since the payment was not severed from its reputation. The minority considered that there was an inexorable link between the incentive payment and the assumption of the obligations of the lease in the same way that such payments were regarded in England and New Zealand. For these reasons the incentive payment was not the fruit of the firm's capital.[63]

 It is at this point that it can be seen that the two elements of the characterisation inquiry intersect: the necessity to determine that a gain must be severed from capital before it can be regarded as income, and, the factual matrix against which the gain, in the hands of the recipient, is considered. It is clear that the majority in *Montgomery* was able to regard the inducement payment as having been severed from the lease only because it chose to regard the payment as being divorced from the background facts which gave rise to it.  As such it was devoid of any character. But having been received in the course of the taxpayer's business, it could therefore be regarded as having an income character.

The problem which this creates is manifest. If the character of a receipt can be determined in this way, then the receipt will always be capable of being seen as a receipt coming in as part of the recipient's income revenue. But as already indicated, the Full Federal Court in *Spedley*  said, that to view the matter so broadly would be contrary not only to authority, but also to the provisions of ITAA and basic concepts relating to the distinction between income and capital. To like effect is the warning of

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[62] *Montgomery* at p 677.
[63] The criticism is supported by Young, above n 49.

Hill J in *Westfield,* that this would "*eliminate the distinction between an income and a capital profit.*" [64]

The problem which this limited vision causes is manifest. The High Court in *McNeil* saw the position of the shareholders who chose not to participate as being an entitlement "*to be paid the proceeds of trading activities in their rights which were conducted on their behalf by the (merchant bank).*"[65] That entitlement was also seen as being entirely generated by the documentation creating the sell-back rights. But if the full facts had been considered, it would have been apparent that the money paid to these shareholders ultimately came from the share capital account of SGL.[66] Those funds did not have a revenue character.

The importance of judicial consideration of the entire factual matrix, rather than selectively isolated facts, was again highlighted in the High Court decision in *FCT v Hart*,[67] albeit in a context of considering the application of Part IVA, the general anti-avoidance provision.

Under Part IVA the FCT can attack transactions which constitute schemes, where the dominant purpose of someone connected with the scheme was to obtain a tax benefit.There has been much debate about the way in which schemes are identified. A scheme might be drawn narrowly, so that it is identified just by those facts which constitute the tax benefit, or a scheme might be drawn more broadly by reference to the transaction which the taxpayer entered into. If the scheme were drawn by reference just to the identified tax benefit, then inevitably the requisite dominant purpose will be present. This was the view supported by Gummow and Hayne JJ in *Hart.* But this view is contrary to unanimous High Court authority to the contrary.[68] It is also contrary to the approach propounded by Gleeson CJ and McHugh J in *Hart* that where a tax benefit relates to a deduction , the scheme cannot be defined without reference to all the facts which give the expense the character of deductibility for tax purposes. So in *Hart*, while the tax benefit had been identified as capitalised interest payable under a loan, those facts alone could not identify the scheme. The scheme could only be identified by reference to the borrowing transaction which the taxpayer had undertaken for the purpose of acquiring an investment property. As Gleeson CJ and McHugh J said "A description of the scheme that did not include the borrowing would make no sense."[69]

An analogy may arguably be drawn with the *McNeil* decision in that the majority decision, in characterising the amount, limited its consideration to the nature of the payment in the hands of the recipient, arguing that this had its genesis in the deeds poll, rather than seeing the complete factual matrix which identified the rights as a means to effect a share buy back. From the above it may be suggested that a characterisation that did not include a consideration of the whole buy-back scheme would make no sense. It is suggested that this limitation of the consideration to the

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[64] *Westfield* at p 342.

[65] *McNeil* at para 13.

[66] *McNeil v FCT* 55 ATR 384,392; Conti J at first instance.

[67] *FCT v Hart* (2004) 217 CLR 216.

[68] *FCT v Spotless Services Ltd* (1996) 186 CLR 404.

[69] Ibid 225.

selectively isolated facts, rather than to the whole factual matrix, may have contributed to a misconception as to the character of the receipt.

**5.3 PERIODIC DERIVATION INDICATES A RECEIPT ON INCOME ACCOUNT**

This is the third of Parsons' propositions outlined above. Little needs to be said about this proposition. The sell-back right was a one off receipt. It was not part of a recurring series of receipts. While this fact does not determine the character of the sell-back right it is indicative of the fact that it is not inherently of a revenue character.

**6. CRUX OF PROBLEM IN *MCNEIL***

The crux of the problem with the decision of the majority in *McNeil* lies in the two incompatible strands of the reasoning which were used to underpin it. The majority took the view that the rights which the taxpayer enjoyed had been severed from her shareholding. Yet, at the same time, the majority saw the rights as being distinct property, having no relationship to the shares themselves. The severance analogy is seen from the endorsement of *Eisner.*[70] The view that the sell-back rights were quite separate property is identified from the following passages. First, "*...the sell-back rights which the taxpayer enjoyed and which were turned to account on her behalf did not represent any portion of her rights as a shareholder under the constitution of SGL. The sell-back rights were generated by the execution, and subsequent performance of covenants in the (documents which created the rights)... and later....the scheme took its life from (those documents)…*"[71]

Having rejected the view that the sell-back rights represented any part of the rights attached to her shares, the justices went on to reject the argument that those rights represented the realisation of the shareholder's right to participate in a return of capital. This rejection is found in the following passage: "*Contrary to the taxpayer's submission, it is insufficient to say that SGL issued the sell-back rights to (the trustee) on behalf of shareholders in partial satisfaction of the shareholders' right to participate in reductions of capital, this being within the congeries of rights comprising the shares. It is the character of the grant of rights to the shareholders that is decisive. It is not the reduction of capital effected by SGL pursuant to the new statutory processes provided by the Corporations Law.*"[72]

But, if the taxpayer's interest in the sell-back rights did not represent any portion of the taxpayer's rights as a shareholder under the *Corporations Act* 2001, or the constitution of SGL, and, they were divorced from SGL's reduction of capital and arose quite separately out of the documentation which created them, then it would seem difficult to maintain that the rights had been severed from the shares. The documentation which effectuated the rights had independently created the rights as discrete property. As such they were not shorn from the shares. As discrete property, it would follow that the sell-back rights were capital assets. In accepting the FCT's submission that the rights were income, the majority appears to have fallen into error,

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[70] *McNeil* at paras 21-22.
[71] *Ibid* paras 23 & 37.
[72] *Ibid* para 36.

since by its own analysis, the rights had been shown to be separate capital assets created independently of the underlying shares.

This incompatability between the two strands of reasoning creates a tension in the judgment which is difficult to reconcile.

If their Honours were suggesting that the rights were 'shorn from the shares' then this would suggest, using the Eisner analogy, that the rights represented a return on the shares rather than a return of some part of the rights attached to the shares, and such a return could then be seen as analogous to a dividend return, and take an income character.

The tension in the reasoning is highlighted by the second strand in the judgment which suggests that the rights were items of distinct property, being solely a creation of the deeds poll as "The scheme took its life from the deeds poll executed on the record date".[73] On this basis the rights had no relationship at all with the shares themselves, and could not be seen as representing a return on the shares, or a return of some part of Mrs McNeil's rights as a shareholder.

It is suggested that in this latter conception of the rights being property distinct from the shares, the High Court has failed to view the entire factual matrix, as a review of the complete facts would reveal the rights as a mechanism for a return of capital by means of a share buy-back. So much would appear to be suggested by Callinan J when noting that "The fact that the capital of the company suffered a reduction is far from irrelevant".[74]

Given this apparent tension in the *McNeil* judgment, the discussion that follows analyses previous authorities which have examined the issue of the nature of the rights carried by shares. It is suggested that reference to previous authorities on this issue casts the *McNeil* decision as an example of a judgment which is difficult to support on the basis of the previously existing authorities.

## 7. CHARACTER OF *MCNEIL* SELL-BACK RIGHTS

The sell-back right was a put option. Since SGL wished to achieve a reduction in its share capital of a pre-determined percentage and it was anticipated that there would be a market in these rights, the put option mechanism was a vehicle for effectuating that commercial objective. It was anticipated that the market, which would thereby be created, would enable those who did not wish to sell their shares to have their rights taken off their hands and sold to others, who wished to increase their entitlement to participate in the return of capital. In this way no shareholder would be disadvantaged by the reduction in share capital, if they did not participate, as they were entitled to be paid the inherent value of the rights regardless.

As a prelude to a discussion regarding the character of the sell-back right, it is appropriate to consider the nature of a share, since once the jurisprudential basis of a share is ascertained, it is easier to ascertain whether a put option is part of the rights

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[73] *Ibid* at para 37.
[74] Ibid Callinan J at para 56.

attached to the share, and, can then be seen as having been shorn from the share to which it relates.

Traditionally, a share has been described as a chose-in-action, but this is not particularly helpful as this description is notoriously vague. The authorities show that a share is a bundle of rights and those rights are the ingredients of the chose-in-action. The one right it does not confer is a right to a physical thing. The classic statement regarding the nature of a share is to be found in what Farwell J said in *Borland's Trustee v Steel Bros & Co Ltd:*

*A share is the interest of a shareholder measured by a sum of money, for the purpose of liability in the first place, and of interest in the second, but also consisting of a series of mutual covenants entered into by all the shareholders inter se in accordance with (the appropriate companies legislation). The contract contained in the articles of association is one of the original incidents of the share. A share…is an interest measured by a sum of money and made up of various rights contained in the contract, including the right to a sum of money of a more or less amount.*[75]

The reference here to measuring the interest by a sum of money was a reference to the par value of a share.  That is no longer quite as apposite, since *the Company Law Review Act 1998 (Cwlth)* abolished the concept of shares having a par value, as well as authorised share capital. So now share capital is represented just by the number of issued shares, each representing a fraction of the company's undertaking with each having a pro rata value calculated by reference to the whole of the company's undertaking.[76]

In considering Farwell J's classic definition of a share, Gower's *Principles of Modern Company Law*,[77] took the view that the underlying jurisprudential basis was that the contract constituted by the Articles of Association, or constitution, defined the nature of the rights attached to shares. Of course, that contract is also subject to the provisions of the relevant corporations' law. But the respected author was equally clear that those rights are not purely personal rights. As well, they conferred some sort of proprietary interest in the company, although not in its property. The company is treated not merely as a person, the subject of rights and duties, but also as a res, the object of rights and duties. So a shareholder has rights in the company, as well as rights against it.

There are several Australian cases which have examined the nature of a share. Principal among these is *Archibald Howie Pty Ltd v Comr for Stamp Duties (NSW).* [78] This case concerned the imposition of stamp duty on a transfer of assets in satisfaction of a resolution made to reduce capital. Here Dixon J, as he then was, averted to the fact that a share is an aliquot proportion of the company's share capital, with reference to which the shareholder has certain rights. Those rights were recognised as arising out of the company's constitution and the authority of the relevant corporations' legislation. One of those rights was to have share capital returned in accordance with

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[75] [1901] 1 Ch 279, 288.
[76] Ford H A J, *Principles of Corporations Law,* (8th ed, 1997),  p717.
[77] Davies P D (ed), Gower's *Principles of Modern Company Law,* (6th ed 1997) p 301.
[78] (1948) 77 CLR 143.

the provisions of the company's constitution. That right, together with all the rights which a shareholder has, was seen as arising out of the "*contract inter socios.*"[79]

The Australian case which has given one of the most exhaustive reviews of the jurisprudential nature of a share is a decision of the New South Wales Supreme Court in *FCT v Miranda.*[80] This discussion arose in the context of whether rights to new shares had been acquired with the same profit making purpose as the original shares, so as to make them assessable to tax as having been acquired for the same purpose of profit making by sale. Nevertheless, the observations made during the course of the judgment are of general application.

In this case, after reviewing the relevant authorities, including *Borland* and *Archibald Howie*, Rath J accepted the jurisprudential basis outlined in *Archibald Howie* and observed that on the allotment of a share the shareholder becomes, inter alia, contingently entitled to dividends and to participate in reductions of capital. The entitlement becomes a legal right of enforcement once the company has taken the steps necessary to confer such rights on the shareholders. These are rights which are included in the bundle of rights which constitute the share. Those rights may change from time to time, but the rights are always referable to the contract inter socios that came into force on the allotment of the shares. In the view of the judge "*(t)he share in substance remains what it always was, namely an aliquot proportion of the company's share capital with reference to which (the shareholder) has certain rights.*"[81]

On the issue of rights to new shares Rath J considered that a shareholder's entitlement to a rights issue also arises out of the contract which exists between the company and the shareholder and the relevant corporations' legislation. The judge expressed the position as being "…*I do not think that the reality of the situation is that the right is to be regarded simply as a part of the original share. The reality of the situation appears to me to be that the right is independent of the share, and that it is not an incident of the share. It has come into existence as a result of the actions of the company, and is not merely an internal or inherent development of the share itself.*"[82] In reaching this conclusion the judge regarded as significant the fact that the share and the right were capable of existing independently in the market place.

In *Miranda* the FCT had argued that the right did not create anything in the nature of an entitlement. It was simply an offer made by the company, which the shareholder had to accept, before any enforceable legal right arose. That argument was rejected as being inconsistent with the basic analysis of the nature of a share made by Dixon J in *Archibald Howie. Miranda* was considered by the High Court in *Macmine Pty Ltd v FCT*[83] without any criticism of the analysis made by Rath J. *Macmine* was applied by the Supreme Court of New South Wales in *Palmarc Investments Pty Ltd v FCT*.[84]

What this establishes is that shares, while conferring proprietary rights on the holders, are, in fact, entitlements to benefits (and obligations) which are provided by the

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[79] Ibid 152.
[80] 6 ATR 367.
[81] Ibid pp 375-376.
[82] Ibid p 378.
[83] (1979) 24 ALR 217.
[84] (1985) 16 ATR 671.

company's constitution and the relevant companies' legislation. A right or option to take up shares is not an inherent part of a share. It arises independently – out of the contractual arrangements which exist between the company and its shareholders – from the actions of the company.

Whether a shareholder has any entitlement depends on the actions of the company. This can be tested by reference to an example. A right to a new issue of shares need not necessarily be made to existing shareholders. If a right to a new issue of shares were granted to a company's financiers, who were not shareholders, it would be difficult to argue that the entitlement to take up the new issue arose out of the shares in the company already on issue. Once created, the entitlement is a separate item of property, but it is not an item of property which is shorn from the share itself. If options to take up new shares are property separate from the shares themselves, then a fortiori, options created over shares, in order to create a mechanism to sell them, would also be separate from the shares themselves.

## 8. IMPORTANCE OF CAPITAL REDUCTION TO SELL-BACK RIGHTS

Share buy-backs are reductions of capital. One of the main cases to examine the nature of a share specifically in relation to a reduction of capital was *Archibald Howie*. Here, Dixon J made the point that when a shareholder contributes the amount paid for the share to the capital of the company, this contribution measures his right to any return of capital which the company may make, either as a going concern, or on liquidation. Today this would probably be rephrased to indicate that his shareholding affords him a proportional right to share with other shareholders in a distribution of the capital of the company. But what the case makes clear is that this right is conferred by the contract of membership, which arises from the company's constitution.

As Dixon J said "*The reduction involving the payment off of part of the paid up share capital must therefore be considered an effectuation of a provision of the contract of membership.*"[85] Thus the right to a return of capital arises out of the contract which exists between the company and the shareholder. It must follow that the right to participate in a reduction of capital is not imbedded in the share itself: it arises from the contractual arrangement which exists between the company and the shareholder.

*Archibald Howie* and *Uther* both make it clear that a return of capital does not constitute a severance of a capital amount, or indeed anything else, from the share itself. It represents a receipt by the shareholder of a part of the underlying asset value of the share. Once it has been received, the underlying value of the share has been irretrievably diminished and so has the right to receive further returns of capital. Indeed, if the capital has all been repaid, then the right has been entirely satisfied. But, it is not accurate to describe that impact as the severance of a gain. What has happened is that the shareholder has given up part (or all) of the entitlement to the profit yielding structure. This is entirely consistent with the general principles which relate to the basic nature of a share and share capital already outlined.

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[85] *Archibald Howie* at p 152.

In *McNeil* the majority did not refer to *Archibald Howie,* but did refer to *Uther*, and certain other liquidation cases.[86] However, these authorities were rejected on the basis that they afforded no sound analogy. *Miranda* and *Macmine* were also rejected, on the grounds that they were not cases concerned with the revenue nature of the rights considered in them. No reason was advanced why the general principles relating to the nature of shares and rights to them, and which are to be found in these cases, were not applicable. The fact that cases are not directly in point has never prevented courts from drawing on general principles established by analogous cases. It might also be pointed out that *Miranda* and *Macmine* were obviously not concerned with the revenue nature of rights or options to shares, because these rights are inherently of a capital nature.

In his dissenting judgment Callinan J considered that the taxpayer's receipt was not severed from her shares. While the taxpayer was left with her shares intact, that did not lead to the conclusion that what she had received had been shorn from her shares. What the taxpayer received was access to an early return of the capital of SGL and that flowed to her as part of the bundle of rights which constituted her capital assets. The taxpayer still had a contingent right to the capital of SGL, but that entitlement in a quantitative sense, had been reduced by the amount of capital which had been used to buy back part of the bank's capital. Part of the money used to do this was what the taxpayer had received. That view is entirely consistent with established principle.

## 9. CHARACTER OF OPTIONS OVER SHARES

The sell-back rights created under the deeds poll in *McNeil* were effectively seen as put options under which SGL would be required to purchase one share for each option at the buy-back price. The holder of a put option over shares generally has the right, but not the obligation, to sell a set number of shares at a specified price. In this case the taxpayer, as holder, did not exercise the option which she was granted, but in effect sold the option through intermediaries. Given that the Court accepted that the sell-back rights were put options, the issue arises as to the source of the right or option, as ultimately characterisation turns on the nature and source of the right.

As already indicated there has been significant judicial consideration concerning the nature of the rights carried by a share. In expanding on what Dixon J had said in Archibald Howie, Williams J said the rights which are part and parcel of a share:

*…include the right to participate in dividends whilst the company is a going concern and the right to participate in the distribution of assets available for the shareholders upon a winding up. They also include the right to receive capital in excess of the wants of the company.*[87]

The judge continued:

*[these rights] are legal rights which flow from the original issue of shares. They are ingredients in the chose in action which each original shareholder purchased from the*

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[86] *FCT v Stevenson* (1937) 59 CLR 80; *Thornett v FCT* (1938) 59 CLR 787; *FCT v Blakely* (1951) 82 CLR 388; *FCT v Uther* (1965) 112 CLR 630; *FCT v Slater Holdings Ltd* (1984) 156 CLR 447.
[87] *Archibald Howie* at p 156.

*company. If an original shareholder sells and transfers his shares the transferee upon registration will become legally entitled to all the rights of the member.*[88]

In *Ord Forest Pty Ltd v FCT*[89] the majority followed the approach manifest in *Archibald Howie* as to the nature of the rights constituted by a share in a company in relation to an issue of bonus shares. That case emphasises that in being provided with the right to participate in bonus issues or reductions or returns of capital the proportionality of shareholding entitlements must be preserved so that the value of the shareholders' rights remain unaffected. In this case Mason J also made some observations in relation to rights issues.

*Nor is any difficulty occasioned when a company makes an offer to shareholders of renounceable rights to take up new shares in proportion to their existing holdings. The shareholder is then at liberty to sell his rights to take up new shares. The difference between the value of the new shares when allotted and the amount payable to the company for it, reflects the value of the right to take up the share which is itself a satisfaction of the existing shareholders' rights under the memorandum and articles of association.*[90]

However, despite this authority as to the rights carried by a shareholding, the High Court in *McNeil* was able to determine that the sell-back rights did not represent any portion of the taxpayer's rights as a shareholder. They were to be seen as being generated solely from the covenants in the deeds poll which created them.

There would appear to be a difficulty in reconciling this view with previous High Court authority regarding the basis of entitlements which flow from shares. The covenants in the deeds poll were only of consequence for existing shareholders, and, the authorities would suggest that the shareholders obtained the sell-back rights as part of the package of rights associated with the holding of shares in the company. On this view, the covenants would not be viewed as creating the rights, but merely providing a system and methodology for dealing with a right which arose from the existing package of rights enjoyed by a shareholder.

This latter view would appear to be in accord with the observations of Mason J in *Ord Forest* noted above. As in that case, it is arguable that in the *McNeil* case the company was simply making entitlements available to shareholders in respect of the capital of the company in a manner which ensured that the entitlements were made available proportionally to their shareholdings. The documentation did not create anything new, but was simply the means adopted to ensure proportionality in the issue for existing shareholders and so as not to disadvantage any shareholder. The fact that *Ord Forest* was concerned with an issue of bonus shares and *McNeil* was concerned with a return of capital would not seem to be a material distinction, because both are concerned with matters relating to the capital structure of a company.

In similar vein, Gibbs J in *Archibald Howie*, in suggesting that shareholders' rights measured the right to a return of capital either on a winding up or as a going concern,

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[88] Ibid 158.
[89] (1973) 130 CLR 124.
[90] Ibid p 157.

found that this would be the case, even if the rights offered to existing shareholders contained an element of bonus to the shareholders. But even more importantly the judge suggested that a resolution to return capital created a legal right in the shareholders and that this legal right was a right which flowed from the original issue of shares and was passed on by the registration of shareholdings. It would follow that if the legal right arose from the shareholding, it could not have emanated solely from the resolution to return capital.

On this basis, it becomes difficult to reconcile the High Court's view that the sell-back rights did not represent part of the rights carried by a share, but were created solely by the covenant. It may appear that the High Court's view accepts part of the reasoning of Gibbs J in *Archibald Howie* that the resolution creates a legal right in the shareholder, but then fails to apply the remainder of the reasoning in identifying the true source of the legal rights created by the sell-back rights – the true source being the rights carried by the existing shares. Based on the analogous authorities, the sell-back rights could be seen as rights arising from the portion of rights held by a shareholder and the covenant as merely the form of resolution chosen to return capital and ensure that the proportionality of shareholding remained intact.

In addition to finding that the rights arose from the deeds poll, rather than the package of rights encompassed within the existing shares, the High Court took the view that the sell-back rights were separate and detached from the shares and became objects of "commerce." However, it would appear to be arguable from the authorities that trading in rights would not be sufficient to change their character. In *Ord Forest* there is no suggestion in the judgment of Mason J, or in any other of the judgments, that any sale by the shareholders of renounceable rights had, or could have, any bearing on characterisation issues.

## 10. EXISTING TAXATION PROVISIONS FOR OPTIONS OVER SHARES

Given that the sell-back rights had been identified as on revenue account, this obviated the need for the High Court to direct attention to the provisions of ITAA 1997 which provide that options are specifically included as capital gains tax (CGT) assets. This suggests that there is a legislative intention that the legislative regime explicitly recognises that options are treated as being on capital account. As with most CGT assets, the capital gain or loss provisions would be limited in their application if the asset were a revenue asset, such as trading stock.

In *McNeil's* case the put option was a right in the shareholder to require SBL to buy shares from the shareholder as part of the capital reduction arrangement. Such a put option would be a CGT asset, with nothing in the surrounding circumstances to suggest that the asset could be a revenue asset of the taxpayer.

Under the CGT regime which applies to options, the grant of an option would not generate a capital loss or gain. Any capital loss or gain would occur when the option ceases to exist, either due to exercise of the option, or some other reason.

While CGT event D2 happens when an option is granted, any capital gain or loss made by the grantor of the option will be disregarded if the option is exercised, with the determination of any capital gain or loss for the grantor being determined under

s134-1 ITAA 1997. On the granting of an option, the holder/grantee will have acquired a CGT asset and if the option is exercised, any capital gain or loss on exercise will be disregarded, as the exercise of the option is merged with the disposal transaction, with the capital gain or loss being determined on that transaction.

If an option is not exercised, the relevant CGT event would be event C2, which happens when ownership of an intangible CGT asset ends by being redeemed, cancelled, released, discharged, satisfied, expiring, abandoned, surrendered or forfeited. It is then provided that the capital loss made when an option ends in one of these ways will be the amount paid for the option, together with legal fees. In circumstances where no amount had been paid for the option and the option ends other than by exercise, presumably no capital loss would arise to the holder/ grantee.

This specific CGT regime for the taxation of options, whether or not exercised, suggests a legislative intent that options be taxed as capital assets with a determination of a capital gain or loss as provided under Part 3 ITAA 1997 − and not as income. The exception to the CGT regime − when an option would generate ordinary income − would arise when the options were revenue assets in the nature of trading stock, which they were certainly not in *McNeil*. The specific CGT regime seems to have been overlooked by the High Court.

## 11. ADDITIONAL PROBLEMS INHERENT IN *MCNEIL*

This final part of the discussion highlights three additional problems which may be seen as arising from the decision in *McNeil*.

### 11.1 ASSESSABILITY OF SELL-BACK VALUE

The principal issue which the majority in McNeil said that it had to consider was framed in the following manner. It was said: "*The Commissioner [ ] submits that the grant… of the … sell-back rights in respect of the taxpayer's shareholding and held by [the trustee] for her absolute benefit was the derivation of income by her in the amount of [$x]… It is [this] submission that should be accepted.*"[91]

It has already been shown that this proposition inappropriately attributes an income characterisation to the grant of the sell-back right simply because it was received by, or on behalf of, the taxpayer. But there is an additional problem. The statement also inappropriately equates the creation of a right with its derivation for income tax purposes.

Under the provisions of the ITAA 1936 a company passes assessable income to its shareholders through the payment of a dividend. A dividend is a distribution made or credited by a company to its shareholders. The distribution can be made in money or property. If the distribution consists of property, then the value of the property is its market value.[92] But the fact that a distribution answers the definition of a dividend does not, of itself, lead to the inclusion of the amount in the assessable income of a shareholder. To be assessable, a dividend must be paid out of profits. It was said in *Re*

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[91] *McNeil* at para 18.
[92] .Sec 21 ITAA 1936.

*Spanish Prospecting Co Ltd* that: "*Profits implies a comparison between the state of a business at two specific dates usually separated by an interval of a year. The fundamental meaning is the amount of gain by the business during the year. This can only be ascertained by a comparison of the assets of the business at the two dates.*"[93] This statement of principle was approved by the High Court in *FCT v Slater Holdings (No 2) Ltd.*[94]

It is implicit in this statement that profits arise out of the business activities of the company. So profit, in its ordinary sense, means the excess of returns over the outlay of capital.[95] It follows that the issue by SGL of options over its own shares could only have been brought to account as part of its business profit, if SGL were engaged in trafficking in buying back its own shares. SGL was not so engaged. Indeed, for SGL to have done so would have been contrary to the maintenance of capital rule, which has underpinned company law since the first companies law Acts were introduced in England in the mid 19th Century. Under the provisions of the Corporations Act (Cwlth) a company is only entitled to buy back its shares to the limited extent provided under that Act, and, once shares are bought back, they must be cancelled. As such, at the end of the financial year there would be no accretion to the financial position of the company as a result of the buy-back in any event. In other words, no excess of returns over the outlay of capital could exist. Therefore, the grant of the sell-back right could not be regarded as a dividend which had been derived by the taxpayer, because it had not been paid out of profit and could not, therefore, be assessable in the shareholder's hands.

## 11.2 OWNERSHIP OF SELL-BACK RIGHT

The second problem which arises out of framing the issue as the majority did, is that it contains an assumption that the sell-back rights were the property of the taxpayer, or at least she had a proprietary interest in them on creation. It will be recalled that on creation the sell-back rights were held on trust for the taxpayer. In the situation which eventuated it was necessary – before it could be said that the taxpayer had an interest in the sell-back rights on revenue account – that she had a present entitlement to them, on the date on which the rights were created. From a reading of the reports which trace the progress of the case,[96] there does not appear to have been any serious consideration of the nature of the entitlement of the taxpayer to the rights. Indeed, it appears from what Stanley has said,[97] that no argument was addressed to the courts on this issue in order to isolate the main issues more clearly. If that is so, then the omission would appear to have had the opposite effect.

The facts disclose that on the day on which the sell-back rights were created they were immediately transferred to a trustee which undertook, in respect of each of the shareholders who did not participate in the buy-back, to hold the rights which they had not taken up, upon trust for each absolutely. Later those rights were transferred to a merchant bank, which undertook to take reasonable steps to sell them. Then the total

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[93] (1911) Ch 92, 98.
[94] (1984) 15 ATR 1299.
[95] Ibid (Gibbs CJ) p 1306.
[96] 55 ATR 384; 60 ATR 275.
[97] Stanley, above n 8 pp 221and 228.

net proceeds of sale had to be determined and the entitlement to those proceeds, of each non-participating shareholder, calculated in accordance with a prescribed formula. Once that had been done, the trustee had to ensure that the net proceeds of sale (if any) were accounted for to the non-participating shareholders in the proportions to which they were entitled to share in those proceeds.

In the Federal Court at first instance and on appeal, the non-participating shareholders were accepted as having (and probably held to have) no more than a right to compel performance of these arrangements. This must mean that although the documents referred to the rights being held for the non–participating shareholders on trust absolutely, they had no proprietary rights in the sell-back rights which constituted the trust property. Even the High Court did not put the matter any higher. The High Court simply observed that the taxpayer's rights were a beneficial interest in the covenants supporting the obligations undertaken by SGL and that those rights were accrued not executory and were vested.[98] The High Court made no mention of the use of the terminology in the documentation that the rights were held for the taxpayer absolutely.

For the taxpayer to have been regarded as having any proprietary entitlement to the sell-back rights under a trust arrangement, it would have been necessary for her to have been the beneficiary under what is ordinarily referred to as a bare trust. G E Dal Pont and D R C Chalmers in their text *Equity and Trusts in Australia* describe a bare trust as one where a "*person holds property in trust for the absolute benefit and at the absolute disposal of beneficiaries who are of full age and capacity in respect of that property, but has no interest in that property other than by reason of legal title as trustee, and has no further duty to perform in respect of the property except to convey it upon demand to the beneficiaries or as directed by them.*"[99]

If there were a bare trust, it might have been possible to maintain that the trustee held the rights as nominee, so that the rights in the hands of the trustee could be said to be those of the beneficiary. But Mrs McNeil's interest under the trust was not that of a beneficiary under a bare trust. For one thing, the trustee had active duties to perform – such as selling the trust assets, without reference to the beneficiaries and without their direction. Such obligations are inconsistent with the notion of a bare trust.[100] For another, Mrs McNeil's rights were accepted as being no more than a right to compel performance of certain obligations. Under a bare trust the trustee is only a repository of trust assets and a beneficiary has a right to call for a transfer of the trust property and have it conveyed.

The use of the word 'absolute' in the documentation to describe the taxpayer's interest was probably used to indicate that her interest was indefeasible. This would accord with the view taken by the High Court that the interest was vested and accrued – not executory. It may also have been used to emphasise that it was a trust obligation in favour of Mrs McNeil separate from the trust obligations undertaken by the trustee for each of the other shareholders/beneficiaries. But the use of the word "absolute" in its

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[98] *McNeil* at para 27.
[99] Dal Pont G E & Chalmers D R C, *Equity and Trusts in Australia* (3rd ed, 2004) p 603: *Lysaght v Edwards* (1876) 2 Ch D 499, 516-517; *Re Cunningham and Frayling* [1891] 2 Ch 567, 571-572; *Motor Vehicle Dealers Inst Inc v UDC Finance* (1991) Ltd [1994] 1 NZLR 659, 664.
[100] *Herdegen v FCT* 88 ATC 4995, 5003-4.

context cannot be seen as providing the taxpayer with a proprietary, or ownership right to the sell-back right itself, at any point during the time the trust arrangement subsisted.

In so far as Mrs McNeil was concerned, all she was entitled to under the trust was her proportional share of the net proceeds of the sale, when they had been ascertained. Until that happened there was no certainty that she would receive anything, let alone any specific quantified amount. Until that time she had no more than an expectancy of receiving some sale proceeds. Likewise, until that time her beneficial interest was no more than a right to ensure due performance on the part of the trustee.

## 11.3 WRONG QUESTION POSED, THE DERIVATION ISSUE

The third issue which arises out of the way the question was framed by the High Court was that it led to the wrong question being posed for determination. The principal issue raised for determination was posed as being "*whether a particular receipt has the character of the derivation of income depends upon its quality in the hands of the recipient ...*"[101] That was also a proposition which the FCT put forward as flowing inexorably from his primary submission. But s6-5 ITAA 1997 is not concerned with the character of derivation. As was said at the outset of this paper, it is concerned with whether the receipt can be classified as income, and, only after that has been done, is it concerned with whether it has been derived and therefore forms part of the taxpayer's assessable income. Those are separate considerations, each of them dealing with different issues.

Therefore, the characterisation of a receipt as income cannot be made to depend on its derivation. By concatenating the issue which needed to be determined the majority would appear to have fallen into error. Indeed, if derivation determined the character of the receipt, then all receipts would be income and that would not only eliminate the distinction between income and capital; it would set aside fundamental principles on which income tax is founded. The effect of the High Court's decision is to do just that. Parsons did not accept such a proposition and it is contrary to authority such as *Federal Coke Co Pty Ltd v FC*,[102] which was not referred to by the High Court.

ITAA 1997 does not define what is meant by derivation. The word "derived" does not necessarily have the same meaning as "earned". The Macquarie Dictionary defines the verb "*to derive*" as meaning "*to receive or obtain from a source or origin*". It has been accepted that unless the ITAA makes some special provision to the contrary, the amount derived is determined by ordinary business and commercial principles and the method of accounting to be adopted – as Carden's case established – is the method which "*is calculated to give a substantially correct reflex of the taxpayer's true income.*"[103] Furthermore, as Dixon J, as he then was, said in that case "*…in the assessment of income the object is to discover what gains have during the period of account come home to the taxpayer in a realized or realizable form.*"[104] But Dixon J is

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[101] *McNeil* at para 20.
[102] 77 ATC 4255.
[103] *Executor Trustee & Agency Co of South Australia Ltd v FCT* (Carden's case) (1938) 63 CLR 108, 154; *Brent v FCT* (1971) 125 CLR 418.
[104] Ibid p 155.

not to be taken as having indicated that receipts which are realizable, but not received, are always derived. In situations which do not relate to trading income, the judge said that there must be something coming in, since "*for income tax purposes, receivability without receipt is nothing.*" [105]

This is illustrated by *Brent v FCT*.[106] In this case the wife of a notorious train robber had sold her life story for a sum of money which was to be paid at certain specified times. The taxpayer accounted on a cash basis. She was assessed to tax on two of the payments which had fallen due, but not been paid. The non-payment arose because the payments had not been requested by the taxpayer. The High Court set aside the assessment, because those sums had not been received. It followed that they had not been derived.

Mrs McNeil accounted on a cash basis. The option was not paid out to her on the date of creation, nor was it payable in a quantified amount. It may have had a value on the date of creation, but holding something of value is not sufficient to constitute a receipt of income. If there was no receipt in *Brent,* then a fortiori, there could be no receipt in so far as Mrs McNeil was concerned. There would need to be something which was not only realised but received, before it could be said that the gain had been derived.

Under ITAA 1997 there can be a constructive receipt of income. Section 6-5(4) provides that a taxpayer is deemed to have derived income if it is applied or dealt with in any way on the taxpayer's behalf, or as directed by the taxpayer. It had been submitted by the FCT in *Brent,* that the taxpayer fell within the predecessor of s6-5(4) because, in failing to call for payment, the income had been "*dealt with*" on her behalf. The Court rejected this. Furthermore, the Court also indicated that, even if the taxpayer had requested the company to defer payment, that would not have fallen within the meaning of the phrase "*dealt with*". The purpose of the provision was said to be "*to prevent a taxpayer escaping though his resources have actually increased by the accrual of the income and its transformation into some form of capital wealth or its utilisation for some purpose.*"[107]

So it follows, as Parsons maintained, that constructive receipt requires some change in the relationship between the debtor and the creditor. Accordingly, it is well settled that the making of an entry in the books of the company does not establish the payment of a dividend to a shareholder, if it is not done with his consent.[108] It is, however, accepted that where a bank credits interest to the account of a cash basis taxpayer, this is treated as a constructive receipt on the basis of actual or constructive consent, arising from standard banking practice.[109] That custom could not exist in relation to the creation of put options, even by a bank. But what this establishes is that apart from specific situations which arise out of banking practice, or some other accepted custom, deemed receipt of income does not arise out of mere quiescence on the part of the taxpayer.

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[105] Ibid.
[106] 125 CLR 418.
[107] Ibid, Gibbs J p430, quoting with approval observations of Rich J in *Permanent Trustee Company of New South Wales v FCT* (1940) 2 AITR 109.
[108] *Manzi v Smith* (1975) 132 CLR 671.
[109] Parsons, above n 19, p 650.

Since the ITAA 1997 does not alter the substance of provisions formerly contained in ITAA 1936, it can be assumed that the same considerations apply to s6-5.

So, for Mrs McNeil, there not only needed to be a gain that was realised, that gain also needed to be received, or applied to her credit, or dealt with on her behalf in some way, before it could be said that she had derived income. On the day on which the put option was created Mrs McNeil had merely been provided with a facility which enabled her shares in SGL to be sold. The ability to do so was not, in the circumstances which eventuated, a right which was even exercisable by her. In fact, she had no proprietary interest in the sell-back right at all. Nor had there been any change in her relationship with SGL, so as to put her into a position of being a creditor of SGL, or something akin to that. At the earliest, that occurred on the day the amount payable to her was quantified. Even if it could have been said that the taxpayer received a payment on the day on which the sell-back rights were created, what has been established is that the receipt of a payment by itself does not give the receipt an income character.

## 12. CONCLUSION

What emerges from this analysis is that the High Court's decision in *McNeil* is out of line with established and accepted authority regarding the nature of income. While it is accepted that characterisation of a receipt is determined primarily from the perspective of the recipient, that focus alone does not – as *McNeil* would have it – determine characterisation. The test established by two unanimous High Court decisions in *The Myer Emporium* and *Pipecoaters* is that the answer to determining whether what comes in is income, depends on a consideration of all of the circumstances in the entire factual matrix. Receipt of an amount by itself does not determine the character of the amount received. If it did, then the distinction between income and capital would evaporate.

Such authority as there is which supports the *McNeil* view that characterisation can be determined from a consideration of part of the facts, and in particular those facts which relate just to the receipt, is not widely accepted as being authoritative. This position was established by *Montgomery*. But the strong dissenting judgment in *Montgomery* reflects the weakness of the majority view in *Montgomery*. The majority in *McNeil* took the same approach that is apparent in the majority judgment in *Montgomery*. Both judgments diverge from existing established principles, such as those enunciated by Parsons, and from previous authority, without either judgment explaining why the prevailing orthodoxy was not correct, arguably making *Montgomery* and *McNeil* two nails in the coffin of the jurisprudence underlying the income/capital dichotomy.

The narrowness of the *McNeil* perspective led the Court to see the characterisation of the receipt in the hands of the taxpayer as having arisen from the sale of the sell-back rights, rather than from the buy-back of share capital undertaken by the corporate entity. Since what the taxpayer received arose from the sale of rights to shares undertaken by a merchant bank which traded in shares, this was seen as determining the character of that receipt in the hands of the recipient. If the authority of *The Myer Emporium* and *Pipecoaters* had been followed, the character of the receipt could not have been determined in this way. It would have been necessary to consider the whole

factual matrix to determine the nature of the receipt. That would have necessitated proper consideration of the circumstances which related to the issue of the sell-back rights. That in turn would have linked the receipt to the reduction in capital which is what the sell-back rights were effectuating.

The Federal Court saw the whole transaction as being on capital account from beginning to end and Callinan J in *McNeil* (dissenting) saw the situation in the same way. Furthermore the authorities – *Archibald Howie* included – establish that a return of capital cannot be regarded as a severance of the capital amount from the share itself. To regard a return of capital as a severance from the share, in the sense given to that concept in *Eisner,* would effectively obliterate the distinction which has traditionally been used to differentiate between receipts which are on revenue account and those which are not. Indeed, it would strike at the capital/revenue dichotomy which is maintained under the provisions of ITAA 1997. To return to the metaphor of the fruit and the trees, as Lord MacDermott did in *IRC v Reid's Trustees*, "The ripe tree loses weight when it sheds its fruit, but the fruit remains fruit and no more, unless in its fall it has taken part of the tree with it."[110] The majority in *McNeil* overlooked that a return of capital fells part of the tree.

The legislative response from the government has been disappointing in that, rather than restoring the previous tax position as had been announced, the legislation has enshrined the *McNeil* decision in relation to put options. However, the existing law has been retained in relation to call options, thus acting to create greater complexity with divergent tax treatment for rights which have previously been subject to the same taxation treatment, without explanation as to underlying principles as to why the treatment should now differ. The new legislation does little to allay the fears expressed earlier by capital markets, and worse, it enshrines in legislative form arguably unsustainable law relating to the characterisation of income. The problem identified in the *McNeil* decision remains. The promised legislation should have removed the difficulties as the Government undertook to do – not compounded them.

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[110] [1949] AC 361, 383.

# The Increasing Imperative of Cross-Disciplinary Research in Tax Administration

Clinton Alley and Duncan Bentley*

**Abstract**

National research agendas are focusing increasingly on encouraging cross-disciplinary research collaboration. Research into tax administration should provide a natural context for cross-disciplinary research as it operates at the intersection of several disciplines. However, there is little evidence of cross-disciplinary research in tax administration beyond research into tax compliance and tax evasion. This article argues that such research will provide significant benefits to research output and impact. It provides examples of the benefits in developing frameworks for and measures of good practice in tax administration.

## 1. INTRODUCTION

Many of the most urgent problems we face require novel approaches which facilitate collaboration across the traditional boundaries of disciplines, including those between the 'hard sciences' and the humanities and social sciences.[1]

The proposal of Dr Jim Peacock, Australia's Chief Scientist, for interdisciplinary National Priority Research Centres was endorsed by the Cutler Review of Innovation in Australia (Cutler Review), released in September 2008.[2] It is by no means a novel perspective. As early as 1776, Adam Smith identified the importance of the division of labour.[3] However, he noted the importance to 'improvement' of a high level of commerce and communication.[4] This interaction between specialists to improve innovation and encourage best practice forms an important element of the wider policy debate on research and innovation.

The Cutler Review is one of many such reviews over the years, both in Australia and overseas. Alan Hughes of the Cambridge University Centre for Business Research Programme on Enterprise and Innovation provides an interesting critique of what he suggests is the overly narrow focus of innovation policies that have developed as a

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[1] T Cutler, *Venturous Australia Report* (2008), <http://www.innovation.gov.au/innovationreview/Documents/NIS-review-web1.pdf> 75, at 19 September 2008.

[2] Ibid.

[3] A Smith, *An Inquiry Into The Nature And Causes Of The Wealth Of Nations* (1st pub 1776, Cannan ed., 1950) Book I, Ch I.

[4] Ibid, Ch III.

result of these reviews.[5] He explores, through a range of data, different forms of contribution to innovation and the sources of knowledge from which innovation is drawn.[6] The Cutler and other reviews acknowledge the importance of universities in this process.[7] Hughes suggests that their role may be under-emphasised and that their major strength is their multi-faceted role in contributing to a diverse range of interactions.[8] In other words, they provide a 'public space'[9] where specialists can interact and thereby support innovation and good practice.

An area of significant public policy importance, where specialists from a range of disciplines interact is taxation. A subset of taxation is tax administration. Current tax administrations generally focus on delivering efficiency and effectiveness while maintaining the requirements for the tax system to be fair and equitable, certain, simple, and neutral within the intended design parameters.[10] This flows from the public finance analysis within public economics but has become widely accepted across the disciplines researching tax design and tax administration.[11]

The combination of public sector management and performance management theories support the achievement of a 'good' tax administration through target setting, which is measured by selected key performance indicators. Endorsement for this approach is found in global market integration or globalisation, which directly affects tax administration and encourages interaction to assist in maintaining 'good' tax administration across international boundaries.[12] International organisations comprised mainly of tax administrators share research and examples of good practice, and provide information for comparative surveys.[13] These in turn allow them to get some indication of how they are performing against each other and the standards to which they should aspire.

A continual drive for excellence or at least to perform better appears to be part of the human condition in any sphere of endeavour.[14] This is no less true of tax administration than any other areas. Advances in research into quality assurance and

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[5] A Hughes, 'Innovation Policy as Cargo Cult: Myth and Reality in Knowledge-Led Productivity Growth' (Centre for Business Research, University of Cambridge *Working Paper No 348*, June 2007). This working paper forms part of the CBR Research Programme on Enterprise and Innovation.

[6] Ibid, especially 9-15.

[7] Cutler, above n 1, Ch 6.

[8] Ibid, 9ff.

[9] Ibid, exploring further the idea of 'the public space function of universities' put forward by RK Lester and MJ Piore in Innovation: The Missing Dimension (2004).

[10] KC Messere, *Tax Policy in OECD Countries: Choices and Conflicts* (1993) Ch 6, although the emphasis on fairness and equity is less apparent in some countries, for example , South and East Asia. See the foreword by V Tanzi in L Bernardi, A Fraschini and P Shome (eds), *Tax Systems and Tax Reforms in South and East Asia* (2006) xv.

[11] Discussed extensively in C Alley and D Bentley, 'A Remodelling of Adam Smith's Tax Design Principles' (2005) 20 *Australian Tax Forum* 579.

[12] Discussed below in the context of the Organisation for Economic Co-operation and Development (OECD). Illustrated also through the International Tax Dialogue <www.itdweb.org> at 8 September 2008.

[13] Ibid. The ATO, for example, participates in the OECD surveys, and is a member of groups such as the Pacific Association of Tax Administrators, the Study Group on Asian Tax Administration and Research and Commonwealth Association of Tax Administrators.

[14] From different perspectives, see H Arendt, 'The Human Condition' in K Schaff (ed.) *Philosophy and the Problems of Work* (2001) 23; PS Miller and GA Kerr, 'Conceptualizing Excellence: Past, Present, and Future' (2002) 14 *Journal of Applied Sport Psychology* 140; and JJ Dahlgaard, K Kristensen and GK Kanji, *Fundamentals of Total Quality Management* (2005).

good practice in tax administration is found at the intersection of disciplinary theory. It raises issues in that what we measure and how we measure it can depend on our perspective and approach: it may also significantly influence the results. However, reviews such as that by Cutler and programmes such as those by Hughes suggest that it is research collaboration across disciplines that will lead to innovation and best practice. Such collaboration does not appear widespread in tax administration research. This article suggests significant gains may accrue from encouraging cross-disciplinary research.

Public finance and economic theories drive much of the policy agenda surrounding the structure of the tax system. The influence of those theories flows naturally into tax administration. However, a revenue authority is either a government department or an agency that reports to and is responsible to government. Public administration and public sector performance management theories therefore provide useful insights into best practice operation. As a revenue authority goes through change and focuses increasingly on serving taxpayers better, it is also subject to theories of organisational behaviour, change management theory and personnel psychology. Emphasis on service quality introduces a substantial literature on service management, customer relationship economics, social psychology and consumer behaviour. Audit commissions are concerned with budgeting and accountability from an audit and accounting perspective. Legal theory is interested in the constitution, rules, structure and operation of tax administration and extends to public sector governance theory.

Unlike the extensive cross-disciplinary work that underpins the design of tax systems,[15] the research into tax administration is not comprehensive. There are areas where the work is increasingly sophisticated and a broader approach has been taken, such as research into tax compliance, avoidance and evasion.[16] However, the literature is not sufficiently comprehensive to provide a set of measures of good practice in tax administration that embraces most relevant disciplines.

Section 2 of this article illustrates that collaboration across disciplines is not widespread in tax administration research. A brief review of the papers delivered at an international conference on tax administration demonstrates that most remain focused within a particular discipline and do not generally cite literature from other disciplines. The remainder of the article illustrates how an inter-disciplinary approach to research using accepted frameworks enhances the value of tax administration research and therefore fits within national research policy.

Section 3 revisits why good practice in tax administration is important and how this has flowed through to current research. It identifies its cross-disciplinary nature and the development of common approaches. However, it is suggested that research questions and the methodologies used to answer them could be formulated more broadly. Alternative approaches to research that draw on cross-disciplinary developments should enhance their value.

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[15] See, for example, the work by R Krever through the *Australian Tax Forum* to generate inter-disciplinary debate on tax reform at a time of major change in the Australian tax system in the mid-1980s.

[16] For example, in work done at the Australian National University, Canberra. See V Braithwaite (ed.), *Taxing Democracy: Understanding Tax Avoidance and Evasion* (Aldershot, Ashgate Publishing Ltd, 2003).

Section 4 provides examples of how different discipline perspectives might improve research outcomes in three different areas: independence of revenue authorities, governance by and of revenue authorities and the principles of good practice. The starting point is legal and analytical, using legal argumentation and analysis. However, this section shows that cross-disciplinary questions develop through drawing on aspects of accepted economic, accounting and performance management theories that have been incorporated into analysis of tax administration. The aim is to demonstrate that the amalgamation of the theory of different disciplines can bring far deeper analysis and content to questions on areas that are historically considered by a particular group or discipline.

The article concludes by drawing together the broad themes examined in each part. By demonstrating the opportunities that arise from using different methodologies, different contexts, and different approaches, it encourages better use of the open spaces including those provided by universities for collaborative research in tax administration.

## 2. THE RESEARCH POLICY FRAMEWORK: THE PURPOSE OF THIS ARTICLE

Hughes notes that the informal interactions within and around universities across a broad spectrum of engagement are highly valued by business.[17] There is an assumption in reviews, such as the Cutler Review, that collaboration across disciplines is beneficial.[18] This is an assumption that underpins the idea of a university and the academic community. For example, Lester and Piore, in their analysis of how best to encourage innovation,[19] note in relation to university research that:[20]

> Another way in which the interpretive processes within the university differ from those in firms is in their diversity and openness to new participants. The university is a focus of conversation and debate that extends beyond the disciplines and, often, beyond the walls of the campus itself.

Yet, researchers and administrators themselves appreciate how difficult it is to encourage cross-disciplinary conversation, debate and research within the university. The assumptions and the reality do not necessarily align. Lester and Piore note this anomaly:[21]

> For the purposes of research, the university is structured around scholarly disciplines. The borders of these disciplines are sharply defined, and careers of faculty members are typically influenced more by their standing among peers within their discipline than by their activities within their own university.

The problem is widely recognised.[22] Does it subsist in research into tax administration, where the opportunity exists for regular conversation and debate across disciplines?

[17] Hughes, above n 5, 17.
[18] Above n 1, at 49, for example, the Review highlights the problem of a lack of collaboration and increasing fragmentation. It goes on to explore appropriate mechanisms to encourage collaboration.
[19] Above n 9.
[20] Lester and Piore, above n 9, 159.
[21] Ibid, 151.
[22] To take just one example, in 2003 Van Zandt argued in the legal context that disciplines are strengthened by faculty from a range of backgrounds. See, D Van Zandt, 'Discipline-Based Faculty' 53 (2003) *Journal of Legal Education* 332.

Arguably, it does. For the purposes of this article it is sufficient to illustrate the point using as an example the research presented at probably the leading conference on tax administration in Australasia.

The *8th International Tax Administration Conference* organised by Atax, University of New South Wales, was held on 27–28 March 2008. It is a biennial conference and appears widely respected given the range of high profile tax officials, academics and practitioners who speak and attend.[23] Most papers from these conferences are subsequently published as an edited collection.[24] There were 25 papers delivered at the 8th Conference. The papers can be classified as set out in the table below and are compared with the 25 papers delivered ten years earlier at the *3rd International Conference on Tax Administration* held on 16–17 April 1998. The classification is not rigorous and is simply based on the discipline focus set out in each paper and the accompanying citations.

| Classification topics | Number of papers 2008 | Number of papers 1998 | Cross-disciplinary citation |
|---|---|---|---|
| Keynote general addresses | 5 | 2 | Cross-disciplinary content |
| Description of administrative proposal | 2 | 0 | No |
| Compliance research/ analysis | 4 | 7 | Compliance literature |
| Management analysis | 1 | 1 | No |
| Legal analysis of compliance | 5 | 6 | No |
| Economic policy analysis | 2 | 0 | No |
| Accounting policy analysis | 1 | 0 | No |
| Legal policy analysis | 0 | 5 | Limited |
| Inter-disciplinary research/ analysis | 4 | 4 | Yes |

The table illustrates that collaboration across disciplines is not common even in a multi-disciplinary field such as tax administration. It may relate to the sharp definition of discipline borders identified by Lester and Piore.[25] In a wide-ranging article on the issue, McKerchar demonstrates, among other things, the different strategies of inquiry

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[23] Conference details are available at <www.atax.unsw.edu.au>, at 8 September 2008.

[24] See, for example, R Fisher and M Walpole (eds), *Global Challenges in Tax Administration* (2005).

[25] Lester and Piore, above n 9, 151.

that different disciplines use.[26] She suggests that although adapting to a different methodology can be challenging, given most researchers have a narrow discipline background, "the possible combinations for mixed method research are almost unlimited".[27]

The rest of this article seeks to demonstrate that a cross-disciplinary approach could yield valuable insights that are not currently explored. Researchers may use mixed method research as McKerchar suggests. They could also find it useful simply to apply the results of existing research from one discipline to the results of research in another discipline. As noted above, some tax compliance related literature demonstrates the significant benefits of this approach.[28]

## 3. WHY IS GOOD PRACTICE NEEDED IN TAX ADMINISTRATION AND HOW MIGHT IT BE PURSUED FROM A CROSS-DISCIPLINARY PERSPECTIVE?

### *The basis for research into good practice in tax administration*

Normative theory tends to underpin our fundamental conceptions of property rights. Murphy and Nagel suggest that there are two theoretical strands: consequentialist and deontological.[29] Consequentialist theory follows the utilitarian views of Bentham and Mill that emphasise maximising individual preferences.[30] The argument is that property rights maximise individual preferences and should be protected, particularly since they form the basis of the global economic system. Deontological theory argues that it is the inherent nature of a property right that requires protection. Theorists such as Locke and Kant stress the importance of protecting the concept of individual liberty, which includes the right to acquire and use property.[31]

The existence of society presupposes a social order. Depending on the theory of the origin of property rights, this allows a social organisation that maximises the individual preferences of the members to the greatest extent or, from a different perspective, safeguards the inherent standards of society that best protect the individual. A Hegelian perspective is one of several that suggest that acceptance of the concept of society includes concomitant acceptance of public interference with individual rights to allow the society to operate effectively.[32] We therefore have a society or social order, one of the aims of which is to protect the property rights of individuals, but balanced by interference with those rights where it is necessary to maintain the society.

Society is governed and its structure is determined by a framework of rules setting out the agreement between the citizens as to the powers of the state. The status and the origin of rules is analysed in philosophy and legal theory. However, normally a constitution provides the basis for the state and the rules governing it. The constitution usually provides the power to tax and does so explicitly because taxation is recognised

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[26] M McKerchar, 'Philosophical Paradigms, Inquiry Strategies and Knowledge Claims: Applying the Principles of Research Design and Conduct to Taxation' (2008) 6 *eJournal of Tax Research* 5.

[27] Ibid, 21.

[28] Braithwaite, above n 16.

[29] L Murphy and T Nagel, *The Myth of Ownership: Taxes and Justice* (2002) 42.

[30] Discussed extensively in NE Simmonds, *Central Issues in Jurisprudence: Justice, Law and Rights* (1986) Ch 1.

[31] Murphy and Nagel, above n 29, 42 and Simmonds, ibid, 25.

[32] GWF Hegel, TM Knox (trans.), *Philosophy of Right* (1967) 40.

as a legitimate interference with individual property rights in order to maintain society. To put it another way, taxation is not a public good.[33] Rather, it is necessary to allow the efficient and effective operation of society.

It is worth revisiting the assumptions on which the rationale for taxation is based for it drives the analysis of tax administration across all disciplines. If taxation were itself a public good, there would be less importance in determining limits on it. Because it represents interference with the basic order, albeit to allow that order to function, the manner and form of those limits become much more important. Taxation is introduced to perform a function and it should perform that function in the best way possible, within the framework of rules chosen to govern that particular society.

Good practice in tax administration flows directly from the nature of the tax function. It is implicit in the social contract constituting society that a revenue authority should collect and redistribute wealth as fairly and efficiently as possible. The type of politics and economics in the society is irrelevant at this level.[34] Good practice in tax administration is fundamental to the operation of almost any society. It is therefore a legitimate and important research pursuit to determine what good practice in tax administration is. But at this point the research diverges and becomes complex and cross-disciplinary.

### *Pursuing good practice in tax administration*

Take three examples to illustrate the divergence and resulting complexity. Legal theory seeks to provide the best possible framework of rules to constitute and operate the tax system in that society: cognisant of lessons learned from other jurisdictions, but consistent with the nuanced contexts of the home jurisdiction.[35] Public economics and the sub-discipline of welfare economics attempt to design government behaviour to ensure the most efficient, but fair, distribution of income to maximise individual preferences and limit negative externalities.[36] Political and government theorists analyse and explain how political and bureaucratic behaviour can best function to achieve the goals of government given the widely different representative, interest and power groups in society.[37] All this is before governance, management, marketing and accounting theorists design optimal systems to govern, manage, implement, monitor and continually improve tax administration.

The nature of publication in discipline-specific journals limits statements of research context to that particular discipline. It would be useful if researchers placed more emphasis on the inter-disciplinary context and effect of their research: even if only to make their research more accessible to other disciplines. Even within disciplines, it is not always clear where the research fits and how it relates to prior research.

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[33] For example, see J Finnis, *Natural Law and Natural Rights* (1980)155, 276.

[34] Unless it is a state in which property rights are not recognised.

[35] See, for example, JRS Gill, A Diagnostic Framework for Revenue Administration, *World Bank Technical Paper* No 472 (World Bank, 2000); C Silvani and K Baer, Designing a Tax Administration Reform Strategy: Experiences and Guidelines (Washington DC, 1997), *IMF Working Paper* No 97/30; and V Thuronyi (ed.), *Tax Law Design and Drafting* (1996), Vols 1 and 2.

[36] See, for example, HJ Aaron and MJ Boskin, *The Economics of Taxation* (1980); RA Musgrave and PB Musgrave, *Public Finance in Theory and Practice* (5th ed, 1989); and P Abelson, *Public Economics: Principles and Practice* (2003).

[37] Discussed at length in G Tullock, (ed.) *The Vote Motive* (2006).

Barzelay[38] identified a similar gap in 2001 in the research into New Public Management: an approach to the policy debate about administration and management in the public sector popular in the 1980s and 1990s. His response was to argue for a formal propositional approach to "dialogue about doctrinal ideas and policy choices in the area of public management".[39] However, the drawback to this approach is that it tends to formalise research and policy and doctrinal argumentation within a relatively orthodox policy-process framework; in this case that of political science.[40]

Restricting the research framework does not always encourage inter-disciplinary research. For example, the process for argumentation set out by Barzelay focuses on proving propositional claims using a process of claim, argument, explication and contextualisation.[41] Although this may work across a range of related fields of management and economics, it is less useful in other areas, such as an analysis of legal rules providing the legislative framework for tax administration and their interpretation and the development of proposals for reform.

A legal analysis of this kind employs doctrinal legal research, in which there is the systematic exposition, analysis and critical evaluation of legal rules and their interrelationships.[42] From this it is usual to propose reform by providing recommendations for change, also based on critical examination. Legal research uses a mix of analysis and synthesis as it draws from a broad range of diverse materials across disciplines and jurisdictions. It recapitulates the relevant elements of the concepts found in a wide range of legal theory. From these it expounds and analyses, through a mix of induction and deduction, the application of the theory, rules and principles to the development of proposed reforms. Reform proposals rely on making connections across often dissimilar and unrelated comparative and international legal concepts. Reform proposals are also finely nuanced as they require critical understanding of context across diverse jurisdictions and simultaneous appreciation of the implications of developments in the different international fields to take advantage of what is possible.

However, where such differences in approach are accepted and the strengths of each discipline are applied, research areas such as tax administration can profit from their placement at the intersection of different disciplines. The research into the different facets of tax compliance is a case in point. Works on tax compliance draw together researchers from several disciplines and produce a rich body of material that facilitates a broader understanding than would be possible from a single-discipline perspective.[43]

Disciplines do have predispositions to research particular areas of tax administration. The table below provides a limited summary representation of the relevant disciplines

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[38] M Barzelay, *New Public Management: Improving Research and Policy Dialogue* (2001).

[39] Ibid, 100.

[40] C Hood and G Peters, 'The Middle Aging of New Public Management: Into the Age of Paradox?' (2004) 14 *Journal of Public Administration Research and Theory* 267, 268.

[41] Barzelay, above n 38, 125ff.

[42] From the excellent summary of legal research in D Pearce, E Campbell, and D Harding, *Australian Law Schools: A Discipline Assessment for the Commonwealth Tertiary Education Commission* (1987), Para 9.14, on which this paragraph is based.

[43] Take, for example, C Sandford (ed.) *Tax Compliance Costs Measurement and Policy* (1985); C Evans, K Ritchie, B Tran-Nam and M Walpole, *A Report into Taxpayer Costs of Compliance* (1997) and C Evans, J Pope and J Hasseldine (eds), *Tax Compliance Costs: A Festschrift for Cedric Sandford* (2001).

most often interested in research into tax administration and common issues they seek to answer. There are areas of collaboration. Other areas produce fewer cross-disciplinary works. The table is not intended to be comprehensive but illustrates the significant potential for cross-disciplinary cooperation. In the search for new knowledge, advances are likely to occur more easily if different perspectives are brought to bear.[44]

| Discipline | Issues |
|---|---|
| Accounting | • Administrative process<br>• Best practice<br>• Collection<br>• Compliance and compliance measurement<br>• Data management<br>• Harmonisation<br>• Information management and delivery<br>• Intermediaries<br>• Performance and productivity measurement, indicators and benchmarking<br>• Regulation<br>• Reporting standards – effect on administration<br>• Systems management<br>• Tax policy and reform<br>• Tax ethics |
| Economics and public finance | • Administrative design and process<br>• Best practice<br>• Compliance and compliance measurement<br>• Efficiency<br>• Globalisation<br>• Intermediaries and agency costs<br>• Reform and optimisation<br>• Simplification<br>• Systemic efficiency<br>• Tax policy and reform<br>• Tax system design and design principles |
| Governance | • Accountability, reporting and budget process<br>• Dispute resolution<br>• Functions, roles and responsibilities<br>• Integrity and corruption<br>• Organisational purpose and outcomes<br>• Risk management<br>• Skill development<br>• Tax governance<br>• Taxpayers' rights<br>• Values |
| Law | • Tax compliance regulation<br>• Cross-jurisdictional administration<br>• Dispute resolution<br>• Ethics and responsibility<br>• Judicial and administrative law aspects of tax administration |

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[44] Lester and Piore, above n 9, 186–187.

| | |
|---|---|
| | • Legal aspects of administrative design and implementation<br>• Regulation<br>• Regulation of intermediaries<br>• Tax governance<br>• Taxpayers' rights<br>• Tax policy |
| Marketing | • Customer information management<br>• Customer relations management<br>• Quality assurance and taxpayer satisfaction<br>• Service delivery<br>• Service strategy<br>• Taxpayer segmentation |
| Political Science | • Accountability<br>• Administrative design and process<br>• Compliance and compliance measurement<br>• Data management<br>• Harmonisation<br>• Information management and delivery<br>• Integrity and corruption<br>• Performance and productivity measurement, indicators and benchmarking<br>• Policy implementation<br>• Reform and optimisation<br>• Regulation<br>• Reporting standards – effect on administration<br>• Simplification<br>• Systems management<br>• Tax governance<br>• Taxpayers' rights<br>• Service strategy<br>• Tax policy and reform |
| Psychology | • Best practice<br>• Change management<br>• Compliance and compliance measurement<br>• Harmonisation<br>• Information management and delivery<br>• Integrity and corruption<br>• Organisational behaviour<br>• Performance and productivity measurement, indicators and benchmarking<br>• Personnel management<br>• Regulation<br>• Reporting standards – effect on administration<br>• Risk management<br>• Systems management<br>• Tax policy and reform<br>• Tax ethics |
| Public Sector Management | • Change management<br>• Dispute resolution<br>• Organisational behaviour<br>• Performance and productivity measurement, indicators and benchmarking<br>• Personnel management<br>• Policy implementation<br>• Processes and procedures<br>• Quality assurance<br>• Values |

| Sociology | • Administrative relationships<br>• Change management process<br>• Organisational behaviour<br>• Compliance culture<br>• Relationship elements of information management and delivery<br>• Cultural impact of performance and productivity measurement, indicators and benchmarking<br>• Impact of regulation<br>• Impact of tax policy and reform<br>• Tax values and ethics |
|---|---|

## 4. EXAMPLES OF HOW DIFFERENT DISCIPLINE PERSPECTIVES MIGHT IMPROVE RESEARCH OUTCOMES

In this part we identify three areas from our own research where different perspectives would provide greater depth to the research outcomes. One aspect of research into tax administration examines good or best practice. As noted by Hasseldine in a keynote address to the *8th International Tax Administration Conference*, mentioned in Section 2, research into best practice in tax administration is relatively recent.[45] This in itself is anomalous and goes directly to the point of this article.

Research into tax administration over the past twenty years has been substantial. This is evidenced by the extensive literature that has commented not only on tax reform, but on its implementation and administration.[46] However, the concept of good or best practice in tax administration is relatively untested.[47] This is distinguishable from the position in related disciplines. For example, the areas of public sector management and New Public Management, in particular, were focused on performance and good practice from the 1980s.[48] Not so in tax administration research, despite the increased emphasis on changing the culture of service delivery evident within tax administrations.[49]

McKerchar explains this in part where she argues that "taxation is complex and researchers in this field are often not fully equipped to grapple with its multidimensional nature, particularly when it involves the study of human behaviour".[50] In part it is explained by the focus of research on the legal and economic implications of tax reform, with relatively little attention paid to the rise of unenforceable administrative rules and practices.[51]

It is clear from Section 2 that good practice in tax administration is not easily discovered and can have different definitions depending on the perspective and

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[45] J Hasseldine, 'Study into: "Best Practice" in Tax Administration: Consultancy Report for the National Audit Office', (paper presented at the Atax *8th International Tax Administration Conference*, Sydney, 27–28 March 2008).
[46] Discussed in Alley and Bentley, above n 11 and D Bentley, *Taxpayers' Rights: Theory, Origin and Implementation* (2007), Ch 1.
[47] Hasseldine, above n 45, 9.
[48] Discussed more extensively below in Section 4.
[49] See Bentley, above n 46, 278ff.
[50] McKerchar, above n 26, 6.
[51] Discussed in D Bentley. 'The Rise of "Soft Law" in Tax Administration – Good News for Taxpayers?' (2008) 14 *Asia-Pacific Tax Bulletin* 32.

discipline of the researcher. However, there is much generally accepted good practice implemented in different jurisdictions. This section provides examples of how we might measure good practice in tax administration in three topical research areas: independence of the revenue authorities, governance by and of the revenue authorities and the principles of good practice applicable in tax administration. It bases its analysis in law and governance with a taxpayers' rights perspective. But in each example, the issues bring up questions on which other disciplines could shed light and bring a deeper content.

What makes the area so interesting and rewarding for researchers is that the research outcomes can have a major practical impact on a country's economic and political success. If a tax administration fails or is inefficient, it directly affects the country's revenue base. Tax administration is often used as a vehicle to deliver and monitor welfare payments and is one of the most pervasive and intrusive areas of interaction between the citizen and the state. Ineffective or injudicious tax administration can bring down governments or lead to the resignation of a prime minister.[52]

For this reason, tax administrators are vitally interested in the effectiveness of their administration and produce useful information that can form the basis of broader research. Over a long period, the OECD, in particular, has produced reports that provide useful guidance on good practice generally; agreed good practice in specific areas such as the exchange of information; and surveys and reports to develop good practice, such as the work on strengthening tax audit capabilities. The International Tax Dialogue provides an effective repository of information from the International Development Bank, International Monetary Fund (IMF), OECD, United Nations (UN) and World Bank.

Because tax administrations already exist and operate, most analysis of good practice begins with existing systems. However, first principles are often examined in reports on new or developing areas. Examples include the 2007 IMF *Manual on Fiscal Transparency* and the 2005 OECD Working Party on Regulatory Management and Reform Proceedings, *Designing Independent and Accountable Regulatory Authorities for High Quality Regulation*. They provide a useful starting point for significant further research at a more specific level.

The rest of this section considers aspects of each of the three exemplar areas and illustrates the opportunities they present for broader and deeper cross-disciplinary research. They are also instrumental in allowing the application of the basic principles of tax administration set out above: efficiency and effectiveness; equity and fairness; certainty and simplicity; and neutrality.

### *Revenue authorities should be independent of political interference*

A fair and effective revenue authority needs to be free from external interference. It needs to be free from the taint of corruption. Traditional research suggests that it needs to be independent from political interference. A broader view suggests that different perspectives could deepen understanding of how this could occur.

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[52] Arguably, the difficulties in administering the collection of the 'community charge' led to the resignation of UK Prime Minister, Margaret Thatcher. Discussed in S James and C Nobes, *The Economics of Taxation: Principles, Policy and Practice* (1998) 240.

The structure and autonomy of a revenue authority to ensure its independence from political interference is an area of interest to developing countries and countries in transition. Research into this area focuses on such issues as structure, transparency, and independence. It also examines the quasi-regulatory nature of a revenue authority and the negative effects of its character as a public monopoly.

The OECD Comparative Information Series on Tax Administration (OECD 2006 Report) identifies a number of different institutional arrangements across the surveyed group[53] They include:[54] unified and semi-autonomous bodies responsible for administration of most taxes and reporting direct to a government minister; separate bodies for the collection of tax and social contributions; semi-autonomous or single directorates in the Ministry of Finance; and single or multiple directorates within the Ministry of Finance with limited autonomy. The structure is not as important as the independence of the revenue authority that is charged with administering the tax system.[55]

A revenue authority can have practical independence within a formal structure that theoretically might permit interference. This occurs in jurisdictions where the revenue authority comprises one or more directorates within the finance ministry.[56] However, it is the lack of practical independence that opens the way to external interference. The head of the revenue authority should have sufficient independence and autonomy that the functions of assessment, collection and enforcement should not be interfered with politically or otherwise.[57] Moving from interference to independence is not easy and can be assisted by clear measures that can benchmark and encourage progress.[58] However, perhaps current research is too narrow.

Economists, for example, could try to measure the inefficiencies introduced by corruption within the tax system. Organisational behaviourists may be able to shed light through case studies using past data on how much corruption can exist in a tax administration and at what levels before the inefficiencies seriously undermine its operation. Further work by performance management specialists on the advantages and disadvantages of autonomous and semi-autonomous revenue agencies would also be useful. This could include the use of tax farming (which includes variants on outsourcing tax collection). There seems little literature on the effectiveness of external consultants' involvement in tax administration. Taking such work to the next step, it would be useful to analyse the arguments from an inter-disciplinary

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[53] OECD, *Tax Administration in OECD and Selected Non-OECD Countries: Comparative Information Series* (2006), 9.

[54] Ibid.

[55] For a detailed discussion, see Bentley, above n 46, ch 7. It is a well accepted principle. CIAT, *Measures for Improving the Level of Voluntary Compliance with Tax Obligations* (1985) 41, records that the issue was addressed in discussions on improving voluntary compliance in member countries. It was recognised at the 1984 General Assembly that it is fundamental to an effective tax system that there must be sufficient guarantee for taxpayers against the illegal actions of tax administrators whether acting on their own account or at the behest of politicians or bureaucrats.

[56] Countries of this type are listed in the 2006 OECD Report, above n 53, 27.

[57] M Bersten, 'Independence and Accountability of the Commissioner of Taxation' (2002) 12 *Revenue Law Journal*, 5 in the context of the Australian Commissioner of Taxation.

[58] Described, for example, in FDAM Luoga, 'The Viability of Developing Democratic Legal Frameworks for Taxation in Developing Countries: Some Lessons from Tanzanian Tax Reform Experiences' *Law, Social Justice & Global Development* 2003 (2), <www2.warwick.ac.uk/fac/soc/law/elj/lgd/2003_2/luoga > 24ff, at 15 January 2008.

perspective of out-sourcing tax administration to the revenue administration of another jurisdiction. There is a growing body of data available for these types of research, but it would be most easily available through agencies such as the IMF and World Bank.

Current thinking suggests that the key to overcoming the problem of political interference generally is to ensure that the system is transparent.[59] A mechanism that allows the revenue authority to report directly to the legislature or to the executive arm of government can achieve this. However, the report should be tabled before parliament so that it cannot be hidden if concerns are raised within it. This was the genesis of the semi-autonomous revenue authority.[60] Disconnecting the administration of taxes from the political decision-making authorities provided a way to clean up the tax administration.[61]

This accepted requirement of practical independence is an essential element of good practice. It is measurable. Third parties already measure the extent of independence and corruption, for example, Transparency International.[62] It is arguable that effective measurement of practical independence and absence of corruption should deliver good practice at the structural level, but this should be tested. Although structures may shape inefficiencies, inequities and other measures that distort, they do not seem necessarily connected. Further research could provide a basis for structural choice, taking into account the context. It would seem that if measures of good practice are put into place, they can ensure that a wide range of structures remain effective.

Taking this further, as an example, tax administrators do not generally operate in law as independent regulators. However, in fact, particularly where they issue regulations, rulings and interpretations that are followed as a matter of course by most taxpayers, they have a quasi-regulatory function. In a different context, Gilardi has identified an evaluation framework for independent regulators as part of an OECD Working Party on Regulatory Management and Reform.[63] It does not exactly fit a revenue authority. However, the rationale for the establishment of an independent regulatory authority (IRA) bears a striking similarity to the requirements for independence of the revenue authority, sometimes for different reasons.

Gilardi relies on a mix of economic, legal, organisational and political authorities to identify the rationale for IRAs.[64] Although Gilardi uses output and quality measures for IRAs,[65] the critical elements in the establishment of an IRA may prove initially even more useful to evaluators of revenue authorities in determining whether a

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[59] IMF Fiscal Affairs Department, *Manual on Fiscal Transparency* (2007).
[60] Discussed, for example, in L Rakner and S Gloppen, 'Tax Reform and Democratic Accountability in Sub-Saharan Africa', (paper presented at an *IDS Taxation Seminar*, 28–29 October 2002) 6, <www.ids.ac.uk/gdr/cfs/activities/Taxation-Seminar.html> at 15 January 2008. For a comprehensive analysis of semi-autonomous revenue authorities and their advantages and disadvantages, see AJ Mann, Are *Semi-Autonomous Revenue Authorities the Answer to Tax Administration Problems in Developing Countries? A Practical Guide*, (2004),
<www.fiscalreform.net/best_practices/pdfs/sara_study_final_jan-4-2005.pdf > at 15 January 2008.
[61] Rakner and Gloppen, ibid, 7.
[62] <www.transparency.org> at 15 January 2008.
[63] F Gilardi, 'Evaluating Independent Regulators' in OECD, Designing Independent and Accountable Regulatory Authorities for High Quality Regulation, (*Proceedings of an Expert Meeting*, London, United Kingdom, 10-11 January 2005), <www.oecd.org> at 15 January 2008.
[64] Ibid 102.
[65] Ibid 109.

revenue authority is sufficiently independent of political interference. In this context, Tullock would argue from a public choice theory perspective that the most significant hurdle is that the revenue authority is a public monopoly and it is overcoming the negative effects from this that requires most attention.[66] It would be useful to draw these perspectives together.

That said, critiques of New Public Management adopted to some extent by the UK, Australia, New Zealand and Canada in the 1980s and 1990s,[67] note that care needs to be taken in assuming a 'one-size-fits-all' approach to public administration.[68] Before innovative research is applied to tax administration it needs careful testing, based where possible on empirical evidence.[69] This is particularly relevant where there are 'ideological schisms' within the discipline from which the theories and research are drawn.[70]

Whether in theory or practice there is a tendency to adopt 'whole of government' initiatives, simply because of the nature of government. Much of the criticism of New Public Management in the literature we have cited appears to focus on this problem. Both researchers and the leaders of tax administrations need to be aware of this. It underlines the need for independence, so that the critically important function of tax administration cannot be driven by current trends. McGuire identifies this problem in her review of the Australian performance monitoring framework developed for the Council of Australian Governments by the Australian Productivity Commission.[71] She notes the different paradigms of performance measures and the tension between political (outcomes-oriented) and managerial (process-oriented) approaches.[72]

It may be accepted that tax administrators need to be sufficiently independent on a number of levels if they are to administer a fair, effective and efficient tax system. However, even a cursory review of the structure and independence of tax administration suggests that there is scope to draw more effectively on related research from other disciplines to better achieve this. Current research remains largely within discipline boundaries. Although the descriptive reports from institutions such as the OECD demonstrate increasing interest in these areas, broader academic research needs to follow this inquiry.

### *Governance by and of revenue authorities*

In this second example of how different discipline perspectives might improve research outcomes, current issues and potential areas for broader research are noted in the governance by and of revenue authorities. A comprehensive analysis of governance in the context of tax administration is not attempted.

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[66] Tullock, above n 37.

[67] C Hood and M Jackson, *Administrative Argument* (1991) was one of the early works defining and describing the concept. See further, Barzelay, above n 38 and P Aucoin, *The New Public Management: Canada in Comparative Perspective* (1995).

[68] C Hood and G Peters, 'The Middle Aging of New Public Management: Into the Age of Paradox' (2004) 14 *Journal of Public Administration Research and Theory* 267, 278.

[69] Ibid.

[70] Ibid.

[71] L McGuire, 'Counting Performance or Performance that Counts? Benchmarking Government Services in Australia' (*Working Paper 5/02*, Working Paper Series, Monash University Faculty of Business and Economics, February 2002).

[72] Ibid, 16ff.

Public sector governance presents a conundrum because the functions of government and therefore government departments and agencies are so diverse. In the same way that theories of the firm applicable to the private sector cannot be applied without modification to the public sector; application of theories of public sector organisation, governance and management need to be adjusted according to the purpose and function of the department or agency under examination.

The position becomes more complex when examining revenue administration. Governments find increasingly that their revenue authorities are actors on a world stage. The rules for international interaction are burgeoning, for example, through unilateral and multilateral economic, trade, investment and tax co-operation agreements. Analysis therefore extends to these broader international frameworks. Baker and Groenhagen draw attention, however, to the incompleteness of these frameworks. They note that the rules developed to enable international interaction do not extend to the formulation of international governance principles for taxation.[73]

Reviewing the OECD 2006 Report, it is clear that governance is important.[74] However, the elements are blended into different chapters.[75] A useful governance benchmark equally applicable to revenue administration was that issued by the Independent Commission for Good Governance in Public Services in the UK, *The Good Governance Standard for Public Services* (Good Governance Standard).[76] It sets out six major principles:[77]

1.  Good governance means focusing on the organisation's purpose and on outcomes for citizens and service users.

2.  Good governance means performing effectively in clearly defined functions and roles.

3.  Good governance means promoting values for the whole organisation and demonstrating the values of good governance through behaviour.

4.  Good governance means taking informed, transparent decisions and managing risk.

5.  Good governance means developing the capacity and capability of the governing body to be effective.

6.  Good governance means engaging stakeholders and making accountability real.

The detailed content of each principle is reinforced by sub-principles and explanations.[78] They provide a useful starting point to produce measures of good governance applicable to tax and this was done by one of the authors in the work,

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[73] P Baker and AM Groenhagen, The Protection of Taxpayers Rights – An International Codification (2001) ch 2.
[74] Above n 53.
[75] Ibid, Ch 2 and Ch 3.
[76] (2004 OPM & CIPFA), <www.opm.co.uk/ICGGPS/download_upload/Standard.pdf> at 1 October 2007.
[77] Ibid, 5.
[78] Ibid, 5–26.

*Taxpayers' Rights: Theory, Origin and Implementation.*[79] The importance of governance is critical to effective tax administration. Kaufmann argues that:[80]

> The process of economic development does not in itself automatically ensure improved governance, civil liberties and control of corruption. The causality direction is from improved governance (including civil and political liberties) to economic development, and not vice versa.

His research shows that specific intervention by the state and the formulation and implementation of policies on governance is necessary to establish the climate both for human rights to be observed and economic development to occur.[81] This suggests that until we get the governance right, there is little point pursuing lower-order performance management. It is particularly relevant, given the emerging international focus on the ethical responsibilities of intermediaries[82] and corporate social responsibility.[83] While pursuing intermediaries and companies the tax administration should model the values and practices it seeks to impose.

However, the debates over tax intermediaries and corporate social responsibility highlight that when detailed measures of governance performance are sought there is less agreement as to exactly what constitutes 'good governance' and what measures should be used to determine whether or not it exists.[84] The arguments can become ideological.[85] It suggests that the general principles identified in the introduction (efficiency and effectiveness, fairness and equity, certainty and simplicity, and neutrality) and accepted principles such as the UK Good Governance Standard should provide a framework for the development of more detailed indicators. They provide an agreed base from which more detailed indicators and measures can evolve through argument and debate. Otherwise, without a starting point, the debate will not progress.

The knowledge from different disciplines has not generally, but arguably should be, applied to develop detailed measures to assess revenue authority governance. Remaining bound by traditional disciplines is limiting. The documentation of theory and practice of other disciplines abounds. From a social science perspective, for

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[79] Bentley, above n 46, 269ff and 380ff.

[80] D Kaufmann, 'Human Rights and Governance: The Empirical Challenge' in P Alston and M Robinson (eds), *Human Rights and Development: Towards Mutual Reinforcement* (2005), 352, Section 5.

[81] Ibid, see the conclusions in Section 5, summarising the earlier analysis, particularly in Sections 2 and 3.

[82] There is extensive ongoing debate over the OECD, *Tax Intermediaries Study*, <www.oecd.org> at 15 January 2008, which reflects domestic developments in the member states.

[83] For example, see OECD, *Principles of Corporate Governance* (2004), and OECD, *Guidelines for Multinational Enterprises* (2000), www.oecd.org at 15 January 2008.

[84] S van Roosbroek, 'Rethinking Governance Indicators: What Can Quality Management Tell Us About the Debate on Governance Indicators?' (paper presented at *EGPA conference: Permanent Study Group on Productivity and Quality in the Public Sector*, Madrid, Spain, 19–22 September 2007), <soc.kuleuven.be/io/egpa/qual/madrid/papers/Paper%20Van%20Roosbroek.pdf> at 16 January 2008.

[85] W Drechsler highlights this in 'The Rise and Demise of the New Public Management' (2005) 33 *Post-autistic Economics Review*, Article 2, www.paecon.net at 15 January 2008. See also, P Dunleavy, H Margetts, S Bastow and J Tinkler, 'New Public Management Is Dead – Long Live Digital-Era Governance' [2005] 8 September Journal *of Public Administration Research and Theory* 1.

example, Stoker suggests that there are five propositions that help us to frame our governance theory:[86]

1.  Governance refers to institutions and actors from within and beyond government;

2.  Governance identifies the blurring of boundaries and responsibilities for tackling social and economic issues;

3.  Governance identifies the power dependence involved in the relationships between institutions involved in collective action;

4.  Governance is about autonomous self-governing networks of actors; and

5.  Governance recognizes the capacity to get things done which does not rest on the power of government to command or use its authority.

These propositions suggest that effective governance in a revenue authority requires a detailed understanding of its culture and organisation. Organisational behaviour and change management studies will contribute to our understanding of effective governance, particularly as it is value based. Peters and Pierre note from public administration theory that cultural change often determines whether performance measurement succeeds.[87] Braithwaite's socio-political perspective identifies system integrity as a key determinant of successful governance.[88]

Van Roosbroek provides a useful analysis of the development of the debates over governance and its measurement, particularly in relation to values and quality.[89] Whereas legal research into governance (as compared to other areas of quality measurement) has traditionally made less use of the measurement methodologies put forward by Van Roosbroek: hard data, surveys, expert assessments and internal or external evaluations, the results of such measurement have the potential to add value to the conclusions. However, because of the conceptual differences that exist between different strands of research and between researchers, it is acknowledged that great care should be taken in how the data are used. This caveat seems to apply equally to disciplines that, on the surface, appear closely related, in part because governance is socio-political and not apolitical in nature.[90] As is to be expected, the differences to be negotiated become even more acute when comparing results across nations.[91]

The issues become even more complex with the added questions of personal drive and motive to comply with values and ethics to improve governance. In this context it would be useful to research the motives and find a simple goal that represents utility maximisation for tax administrators.[92] This goal would have to distinguish between developed and developing countries and may have to distinguish between different

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[86] G Stoker, 'Governance as Theory: Five Propositions' (1998) 50 *International Social Science Journal* 17, 18ff.

[87] BG Peters and J Pierre, 'Governance without Government? Rethinking Public Administration' (1998) 8 *Journal of Public Administration Research and Theory* 223, 230.

[88] V Braithwaite, 'Tax System Integrity and Compliance: The Democratic Management of the Tax System' in Braithwaite, above n 16, 271, 272.

[89] Van Roosbroek, above n 84.

[90] Ibid, 10.

[91] Ibid, 12.

[92] Tullock, above n 37, 62ff.

positions in economic systems. The research might help to find the most effective drivers of improved performance in an environment with limited resources.

Governance principles, such as the UK Good Governance Standard, reflect the general principles that underpin most tax administrations. It is more difficult to measure good practice and the substantive content of that practice without a cross-disciplinary perspective. Research has to cater for concerns about subjectivity and ideology. Nonetheless, in an area that crosses disciplines, the research generally needs to be applicable outside a narrow disciplinary paradigm. In this way, it is likely that the research will produce a wider range of valid measures of good governance in tax administration.

### *Principles of good practice*

Cross-disciplinary research can promote better understanding of revenue authority structures, independence and governance. It is equally important to a proper understanding of how application of principles of good practice can encourage better administration of a tax system. Principles of good practice, as researched and applied in public administration generally, should therefore inform tax research. Yet, this rarely occurs.

Principles of good practice flow from public service standards and reflect the modern management focus on the achievement of measurable outcomes. However, they also embody the value element of service and contribution to society that is recognised as integral to the work of a revenue authority. Historically, the evolution of performance and operations management tended to start in the private sector and was later adopted by the public sector.[93] How effective this was in the 1980s and 1990s has been the subject of much debate, as discussed above in the context of New Public Management. However, the current approach was broadly reflected by Schacter in a 1999 Canadian Policy Brief.[94]

Schacter suggests that public sector programs require a 'complete performance measurement system' that tracks both the public sector operations and their effect on society.[95] In the tax administration context this means that: input measures reflect the allocation of resources and their application to the administration of the tax system; output measures indicate the delivery of the broad range of services and the performance of the required functions of the revenue authority; efficiency measures track how well the resources are used to perform the functions and deliver the services; and outcome measures determine whether 'society' is affected as it was intended by the government's taxing and welfare delivery function undertaken through the tax administration.[96]

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[93] Described in overview by ZJ Radnor and D Barnes, 'Historical Analysis of Performance Measurement and Management in Operations Management' (2007) 56 *International Journal of Productivity and Performance Management* 384. For works giving a more detailed description of aspects of that history relating to public sector management, see above n 67. In the context, it is briefly described in OECD 2006 Report, above n 53, 36ff.

[94] M Schacter, Means…Ends…Indicators: Performance Measurement in the Public Sector, Institute on Governance, *Policy Brief* No 3 – April 1999.

[95] Ibid, 1.

[96] Ibid.

The 2006 OECD Report notes that performance budgeting and performance management are the strongest performance trends across the OECD with a particular focus on outputs, efficiency and outcomes.[97] However, it warns of a number of challenges:

- While identifying examples of good practice, the Report notes that many authorities struggle with effective strategic planning to align the purpose, mission and objectives of a revenue authority and its programs for all the stakeholders.[98] Without this it is difficult to define the principles and performance standards that determine good practice for that tax administration.

- The Report recognises the appeal of outcome measures, particularly for the public and politicians, but notes the difficulty in designing appropriate measures for tax administration generally, finding measures for some activities, the technical difficulty of their application and issues of time lag and control.[99] There is particular difficulty in relation to target setting. As with many organisations the level at which the target is set is difficult to get right, as is the number of targets to set so that they do not impose too great a burden on administrators.[100]

- The cost and complexity of setting up data collection systems that produce quality data that are both verifiable and valid adds another layer to the measurement issue.[101]

Because performance measurement in tax administration places such an emphasis on values, taxpayer relationships and service delivery, the OECD 2006 Report provides in this context, without much analysis, a survey of taxpayers' rights, charters, and service delivery standards.[102]

In *Taxpayers' Rights: Theory, Origin and Implementation* Bentley provides, from a legal perspective, a comprehensive analysis of principles and measures that demonstrate good practice in tax administration.[103] The aim was to provide a broad set of rules that would serve as a model for good practice in tax administration. James, Murphy and Reinhart review the experience of the Australian[104] and UK[105] charters of rights and draw some valuable conclusions as to how such rules should be implemented. Their support for the approach of the ATO is reinforced by improvement over time in the results of third party surveys of taxpayer perceptions of the ATO.[106] Legal and administrative rules comprise a useful combination of hard and soft law. However, there needs to be more in-depth inter-disciplinary study to draw together the research that forms the foundation for rule-based approaches and relate it

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[97] OECD, above n 53, 37.
[98] Ibid, 39.
[99] Ibid.
[100] Ibid.
[101] Ibid.
[102] Ibid, 49ff.
[103] Above n 46, Ch 7 and Ch 9.
[104] S James, K Murphy amd M Reinhart, 'The Taxpayers' Charter: A Case Study in Tax Administration' (2004) 7 *Journal of Australian Taxation* 336.
[105] S James, K Murphy and M Reinhart, 'The Citizen's Charter: How Such Initiatives Might Be More Effective' (2005) 20 *Public Policy and Administration* 1.
[106] TNS Consultants, *Review of the Taxpayers' Charter 2005* (2006), <www.ato.gov.au> at 15 January 2008.

to that underpinning targets and measures flowing from performance management, performance budgeting and other theories.

James, Svetalekth and Wright apply the theory of performance indicators to a case study of Thailand's Excise Tax Administration.[107] Van Stolk and Wegrich take performance indicator theory further to explore the 'relative significance and interaction of different mechanisms of choice and how this shapes the development and application of performance indicators'.[108] Of particular importance in the latter research is the analysis of the differences in performance indicators between countries.[109] The authors suggest that there is scope for further research at a comparative level, including "the effect of different governmental settings on the way targets are defined and enforced";[110] further exploration of "conditions and limitations for international learning and 'benchmarking'";[111] and how this is influenced by country-specific factors.[112] Finally, they also suggest that comprehensive empirical analysis is required at different levels to understand better the connections 'between choice mechanisms and the operation and effectiveness of performance indicators within wider performance management systems'.[113]

Answers to these questions would also support an analysis of ways to develop both hard and soft law in tax administration that complies more closely with the underlying principles of good tax administration identified in the introduction: efficiency and effectiveness, fairness and equity, certainty and simplicity, and neutrality within the intended design parameters. They would assist governance frameworks and strategic planning. They flow directly into related issues raised by accounting and other performance management disciplines.

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[107] S James, T Svetalekth and B Wright, 'Tax Charters, Performance Indicators and the Case for a More Strategic Approach to Tax Administration', (*University of Exeter Discussion Papers in Management, Paper* No 07/12), <sobe.ex.ac.uk/documents/discussion_papers/management/2007/0712.pdf> at 16 January 2008.

[108] C van Stolk and K Wegrich, 'What Gets Benchmarked Gets Measured? A Comparative Analysis of the Choice of Performance Indicators in Tax Administration and Social Security' (paper presented at *EGPA conference: Permanent Study Group on Productivity and Quality in the Public Sector*, Madrid, Spain, 19-22 September 2007), <soc.kuleuven.be/io/egpa/qual/madrid/papers/Paper%20Van%20Roosbroek.pdf> at 16 January 2008.

[109] Ibid, 13ff.

[110] Ibid, 17.

[111] Ibid.

[112] Ibid.

[113] Ibid.

In the same way, a review of performance budgeting and performance measurement literature generally provides a wide range of useful answers to questions raised in the tax literature as it considers how best to measure tax administration.[114] The issues range from definition of terms, through evaluation of value frameworks, to analysis of the personnel and organisational behaviour effects of such measurement.

Of course, the emphasis on service quality in tax administration raises a range of different issues again. There is a significant body of literature on consumer satisfaction and service quality,[115] but this does not necessarily translate into service quality in the public sector. However, there are ways to use the quality management tools that come from customer satisfaction literature[116] and to do this would allow a much deeper understanding of what service quality in tax administration is and how to measure it.

Good practice in tax administration is measured. It is not measured consistently and it is not always measured effectively. Yet, the literature from different disciplines suggests that there is research available that could form an invaluable base for further research into tax administration that might allow more consistent and effective measurement. The breadth and extent of the literature also suggest that the benefits of much current research into good administrative practice are unnecessarily constrained within disciplines.

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[114] A selection is listed here as a stimulus for further enquiry. For example, see the series of Discussion papers by M Robinson on performance management and performance budgeting: 'Best Practice in Performance Budgeting', (*Discussion Paper* No 124, Queensland University of Technology, November 2002); 'Tightening the Results/Funding Link in Performance Budgeting Systems', (*Discussion Paper* No 147, Queensland University of Technology, May 2003); and 'The Output Concept and Public Sector Services', (*Discussion Paper* No 155, Queensland University of Technology, September 2003). Performance management papers illustrating the issues relevant to tax administration include: A Stainer and L Stainer, 'Strategic Change in Public Services: A Productivity and Performance Perspective' (1998) 7 *Strategic Change* 111; T Boland and A Fowler, 'A Systems Perspective of Performance Management in Public Sector Organisations' (2000) 13 *International Journal of Public Sector Management* 417; R McAdam and T Walker, 'Evaluating the Best Value Framework in UK Local Government Services' (2004) *Public Administration and Development* 183; GM Cunningham and JE Harris, 'Toward a Theory of Performance Reporting to Achieve Public Sector Accountability: A Field Study' [Summer 2005] *Public Budgeting and Finance* 15; D Greiling, 'Performance Measurement: A Remedy for Increasing the Efficiency of Public Services?' (2006) 55 *International Journal of Productivity and Performance Management* 448; C Game, 'Comprehensive Performance Assessment in English Local Government' (2006) 55 *International Journal of Productivity and Performance Management* 466; and ZJ Radnor and D Barnes, 'Historical Analysis of Performance Measurement and Management in Operations Management' (2007) 56 *International Journal of Productivity and Performance Management* 384.

[115] Much of this, which is based on empirical evidence and modelling of this kind, could very usefully add to the service quality measurement in the tax area. For example, see A Dean, 'Links Between Organisational and Customer Factors in the Delivery of Service Quality: A Review of the Evidence', (*Working Paper* 63/01, Working Paper Series, Monash University Faculty of Business and Economics, August 2001); and A Wong and A Sohal, 'Evaluating Service Encounters From the Customers'Pperspectives: The Effect of Service Quality on Overall Relationship Quality', (*Working Paper* 69/01, Working Paper Series, Monash University Faculty of Business and Economics, August 2001).

[116] For a practical approach, see M Prowle, *Professional Guide to Management in the Public Sector* (2000) 167.

## 5. CONCLUSION

The wider research policy framework is placing increasing emphasis on cross-disciplinary research collaboration. The rationale is that in a complex world it is not always possible or sufficient to resolve problems within the research paradigm of a single discipline. This appears to be particularly relevant to research into good practice in tax administration.

To analyse effectively good practice in tax administration, requires a genuinely cross-disciplinary and inter-jurisdictional approach. The strengths of this approach to research have been demonstrated in areas such as tax compliance and tax evasion. Tax administration in both these areas has benefited significantly in its development from the different perspectives brought by the different disciplines.

However, it is apparent that although compliance and evasion have attracted cross-disciplinary research collaboration, this does not extend generally to other areas of tax administration. Yet, the examples in Part 3 identify the benefits of this approach. They also emphasise how important it is to be clear exactly what approach is being taken, from which disciplinary perspective and why. Equally important is to understand the significance of context and the nuances it can bring to research. Perhaps, as McKerchar suggests, there is need for researchers to build confidence in "philosophical research paradigms and strategies of inquiry" different from those with which they are familiar.[117]

If researchers take into account the opportunities that cross-disciplinary research brings, it will substantially enhance the quality of research into tax administration. Instead of just looking for how we might measure and pursue good practice we may well be able to aspire to best practice in tax administration.

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117 McKerchar, above n 26, 6.

# Value Added Tax Administration in Ethiopia: A Reflection of Problems

Wollela Abehodie Yesegat*

***Abstract***

This paper examines VAT administration in Ethiopia and identifies key problems including lack of sufficient number of skilled personnel and gaps in the administration in such areas as refunding, invoicing and filing requirements. The paper suggests that in Ethiopia attempting to implement what is legislated in the main areas (such as refunds) deserves the government's due attention. The study also emphasises the need to strengthen the administration capacity in general and the tax audit program in particular. Furthermore, the paper assesses the assignment of VAT revenue to regional governments and the decentralisation of its administration as a way forward for future research.

## 1. INTRODUCTION

Ethiopia introduced value added tax (VAT) in the year 2003 as a replacement to sales tax. VAT is the principal source of revenue for the Ethiopian government. For instance, in the 2006–07 fiscal year, federal VAT revenue (on domestic transactions) accounted for about 41 per cent of total federal revenues from domestic sources (EFIRA 2007). Further, since its introduction, VAT has been more revenue productive than sales tax (Teferra 2004). To sustain VAT's revenue role in the government's finance, it is important to ensure that the revenue generated by this tax is raised as efficiently as possible. However, in Ethiopia revenues raised by VAT are usually garnered at the expense of erosion in its salient features. This may be caused by factors including poor VAT administration, i.e., the incapacity of tax authorities to implement the attributes of the tax in practice. A good tax administration is essential in fully implementing the design features of VAT and achieving government's policy objectives at large.

This paper examines VAT administration in Ethiopia. The remainder of the paper is organised as follows. Section 2 presents a brief review of the literature on VAT

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administration. Section 3 presents the methods adopted. Section 4 presents VAT administration practices in Ethiopia with respect to the main administrative tasks, administrative costs and the administrative organs (the issue of who should administer the tax). Finally, conclusions and limitations of the paper are presented in Section 5.

## 2. LITERATURE REVIEW

VAT administration pertains to how tax authorities discharge the responsibilities entrusted to them. According to Jantscher (1990) these responsibilities include a range of related activities such as taxpayer identification and registration, invoicing, filing and payment requirements,[1] control of filing and payments, refunds, audits and penalties.[2] Perhaps peripherally, VAT administration is also concerned with issues of who should administer the tax, what organisational setup to use and what resources are available.

There may be weaknesses in how VAT administrators perform their duties. Weaknesses in VAT administration, in turn, may adversely impact on the salient features of the tax and government's policy objectives as a whole. In this regard, Tanzi and Pellechio (1995) (cited in Mikesell (2007)) noted that poor tax administration would change the manner in which taxation affects government's policy objectives, namely economic stabilisation, resource allocation and redistribution of income. In developing countries the poor performance of taxes is likely to be due to weak tax administration (i.e., the incapacity of the administration to implement the tax in practice). This is perhaps caused by such factors as resource constraint and designing the tax separately from the administration. Concerning the latter, Bird and Gendron (2005) noted that developing and transitional countries, unlike developed countries, appear to have fragmented economies, large informal sectors, low tax morale, rampant evasion, and total distrust between tax administrators and taxpayers. In these countries, thus, simply adopting a successful VAT's design attributes of developed countries would not make the tax successful (Bird and Gendron 2005). The design ought to consider the tax administration dimension and the socio-economic realities of the developing country in question. In discussing the importance of tax administration in general, Bird (1989 and 2004) noted that tax administration dimension ought to be placed at the centre, not periphery, of tax reform. Jantscher (1990: 179) also stated that "…in developing countries tax administration is tax policy."

Considering the significance of tax administration, many studies have been conducted in some developing and transitional countries with respect to the main VAT administration tasks. These studies include Jantscher (1990), Edmiston and Bird (2004), Bird and Gendron (2005), Grandcolas (2005) and Bird (2005). These papers assessed how VAT administrators in developing and transitional countries perform their duties and how the effective taxpayer requirements differ from the legislation. More specifically, the analyses focused on practices of different developing countries with respect to taxpayer identification, invoicing, filing and payment process, control

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[1] As invoicing, filing and payment requirements are taxpayers' activities, the discussion here focuses on whether the actual procedures by tax authorities, with respect to these requirements, are in line with the VAT legislation.

[2] Bird and Gendron (2005) and Grandcolas (2005) also noted the following key VAT administration activities: registration, collection, audit and enforcement.

of filing and payments, refunds, audits and penalties. In addition, the costs of VAT administration were briefly examined in the case of Jantscher's (1990) study. The main conclusion of these studies is that VATs prevailing in developing countries were quite different from the broad based tax discussed in public finance literature and that administrative problems have a major contribution to this divergence.[3] Administrative problems, in turn, may be partly caused by administrative resources constraint.

VAT administrative costs can include costs incurred by tax authorities in performing the tasks entrusted to them. In developing countries, estimates of VAT administrative costs are scant. In fact, as a measure of efficiency some governments attempted to develop percentages of administrative costs to the revenues generated by taxes. In the case of VAT, Jantscher (1990) indicated that fragmentary data, supplemented by the impressions of administrators, suggest that administrative costs usually range between one and two per cent of the VAT revenues collected. In addition to the administrative activities and the availability of administrative resources, VAT administration deals with issues such as administrative organs (who should administer the tax) and their mode of organisation. Of particular importance for this paper is the VAT administrative organ. It suffices, however, to note that for a successful VAT the significance of appropriate institutional setup with proper human and material deployment must not be underestimated.

In respect of the VAT administrative organs, as Martinez-Vazquez and Timofeev (2005) noted the assignment of responsibilities ought to be seen as an element that must interact and be compatible with the rest of the design of a decentralised financial system. The decision (who should administer VAT) should be made within the framework of the overall fiscal system, particularly the assignment of VAT. In this context, examination of the theory of fiscal federalism shows the guidelines for the assignment of functions and fiscal instruments to different levels of government. According to this theory, the central government should have the basic responsibility for macroeconomic stabilisation, income redistribution and resource allocation (Musgrave 1959 and Oates 1972 cited in Oates 1999). In view of this conventional theory and the practical difficulties of implementing the tax, sub-national VATs were considered to be unfeasible. In this regard, Bird and Gendron (1998) quoted that the usual understanding was not to assign the VAT to sub-national governments (McLure 1993) and that the simplest practical way to run a federal state sales tax system including VAT was to adopt a revenue sharing scheme similar to the federal republic of Germany (Tait 1988). As a result, in most countries that have already introduced VAT, the tax has been assigned to central (federal) governments.

However, against the above supposition that sub-national VATs are unworkable, recently, tax experts including Bird and Gendron (1998), Bird (2001), McLure (2000), and Keen and Smith (1996 and 1999) argued that sub-national VATs are feasible. Their arguments used the Canadian dual VATs and the VATs in the European Union

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[3] Gray (1987) noted that in developing countries there is a big gap between what the tax system appears to be on the surface and what it is in reality (cited in Bird 1989). Typically in low income countries there is usually a gap between the effective tax system and what is legislated in the relevant tax law (IMF 1989).

member states as evidence.[4] They suggested different structures of sub-national VATs including dual and compensating VATs, which require a good administration[5] and information exchange among tax authorities. More specifically, Bird (2001) suggested that compensating VAT would be fairly feasible and potentially attractive in developing countries – at least in large countries in which states have major expenditure roles, the VAT is the major source of actual and potential revenue, and tax administration is not up to developed countries' standards. In general, however, according to Bird and Gendron (2005) in the context of developing and transitional countries a centralised VAT with some of the revenues shared with regional governments on a formula basis is the best approach to finance regional governments.

Following the assignment of VAT revenue, the question would be who should administer VAT? On this issue there are different possibilities, the extreme ones being central government only (centralised) or regional governments only (fully decentralised). Between these two extremes there may be different arrangements. There are arguments, at least conceptually, on the advantages and disadvantages of centralised and decentralised tax administration in terms of economies of scale and cost efficiency.Mikesell (2007) noted that innovation of new approaches and techniques are cited as advantages of decentralised administration while economies of scale and expertise are for a centralised administration. Martinez-Vazquez and Timofeev (2005) also indicated that the final decision may depend on how the objectives of the tax administration and the constraints involved are weighted and also on the nature of the trade-off among them.

In general, it can be concluded that although there have been studies on VAT administration in some developing countries, in Ethiopia there are no comprehensive studies that examine the administrative practices.[6] It is, hence, not known whether the administration of VAT in Ethiopia is as per the legislation, and which features of VAT are being affected due to administrative weaknesses. Furthermore, in Ethiopia, administrative practices that are compromising the VAT's operation are not known. In this context, the objectives of this paper are to examine the administration of VAT in Ethiopia and identify the main administrative problems that deserve the government's due attention, and briefly examine the decentralisation of VAT revenue and administration as a way forward for future research.

## 3. RESEARCH METHODS ADOPTED

To examine the VAT administration practices in Ethiopia and identify the main problems, data obtained through in-depth interviews with tax officials and surveys were used. Specifically, in-depth interviews were held with seven tax officials at different times. Three of the tax officials were interviewed at the same time while the remaining four were interviewed independently and with no interaction among each other.

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[4] Canada has demonstrated that with a good tax administration it is possible to operate sub-national VATs on a destination basis, at least for large regional governments (Bird 2001).

[5] Not all conceptually attractive assignments can be realised in practice for administrative reasons (McLure 2001).

[6] Teffera (2004) attempted to examine the implementation of VAT in Ethiopia using information obtained solely from the tax authority.

Surveys of taxpayers and tax practitioners (mainly accountants in the private practice) on VAT compliance costs in Ethiopia were conducted from mid November 2006 to July 6, 2007. These surveys were conducted using semi-structured questionnaires designed to elicit both quantitative and qualitative data on compliance costs and problems in the VAT system. Both surveys were conducted using face-to-face interview method.

The sample size for the taxpayer and tax practitioner surveys was 269 taxpayers and 33 tax practitioners. With respect to the taxpayer survey, because of problems (including difficulty of locating potential respondents and lack of cooperation and willingness from them) interviews were conducted with only 193 VAT registered businesses (71.8 per cent response rate). Compared to other compliance costs studies and considering the difficulty of collecting data in poor developing countries such as Ethiopia, a 71.8 per cent response rate was reasonably good.[7] In the case of the tax practitioner survey, face-to-face interviews were conducted with 29 tax practitioners (87.9 response rate).

For the purpose of this paper, the analyses are restricted to survey questions designed to obtain information about the problems in the VAT system. In particular, the paper examines the responses to the taxpayer survey question 'What aspects of the legislation and administrative procedures are problematic for you to comply with the VAT system?' Similarly, the question examined here from the tax practitioner survey is 'Do you have any comments on the VAT system in Ethiopia?' The responses of taxpayer and tax practitioner survey respondents to these questions are summarised and contained in Appendices 1 and 2 respectively.[8]

## 4. VAT ADMINISTRATIVE PRACTICES

Before turning to the discussion of the tax administration tasks, it is sensible to briefly review the major design features and administrative organs of VAT in Ethiopia. In terms of design VAT is imposed on the supply of goods and services other than exempted supplies (such as bread and milk). VAT is based on the invoice credit method in which taxpayers are given credit for the VAT paid on inputs when it is supported by the relevant documents. The tax is also based on the destination principle in that imports are taxed but not exports. VAT is chargeable at a standard rate of 15 per cent on all taxable supplies of goods and services other than those zero rated (mainly exports). VAT registration[9] is required by businesses that have annual turnover of Ethiopian Birr (ETB) 500,000[10] and more. The VAT legislation allows refunds to be made to mainly exporters within two months from the time applications

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[7] Although studies into the compliance costs of VAT in developing countries appear to be scant, face-to-face interviews into the compliance costs of taxes in both developed and developing countries revealed response rates in the range between 38 per cent and 100 per cent. However, the 100 per cent response rates obtained in empirical studies were typically not based on randomly selected survey respondents (see, for example, Plamondon (1993)).

[8] The results are based on the total number of respondents in the respective surveys for each response. Further, the discussions focused on the six (taxpayer survey) and seven (tax practitioner survey) most frequently reported responses to the relevant question.

[9] In addition to the annual turnover level as a basis for registration of taxpayers, Ethiopia uses sector specific registration schemes as reviewed later.

[10] US$1=ETB9.09 (as of October 30, 2007); annual registration threshold is thus about US$ 55,005.

are lodged. Non-exporting taxpayers are required to carry forward excess credits to the next five accounting periods; if there are still unused excess credits it is allowed (at least in the legislation) to be refunded within two months from the time of lodging applications.

VAT is administered by the EFIRA, ECA[11] and the Regional Government's Finance Bureaux [12]. The ECA administers VAT on imports into the country. The EFIRA with its VAT department, large taxpayers' office and branch offices (Addis Ababa branch and regional branch offices) administers federal and joint VAT on domestic transactions, while regional governments' finance bureaus administer their own VAT revenues.

With this overview of the design and administration of VAT in Ethiopia the following sections present how the tax authorities perform their responsibilities with respect to the major VAT administration tasks, including taxpayer identification and registration, VAT filing and payment, control of VAT filing and payment, VAT invoicing, VAT auditing, penalties and VAT refunds.

### Taxpayer identification and registration

As mentioned previously, the VAT legislation requires businesses undertaking taxable activities in Ethiopia with an annual turnover of ETB 500,000 and more to register for VAT. After the VAT was operational with such a registration requirement, the authority devised forced–registration schemes. These schemes include selective registration requirements that compel all businesses engaged in a specific sector/form of ownership to register for VAT regardless of the level their annual turnover.[13]

In Ethiopia, where the awareness of taxpayers, the culture of paying taxes[14] and the capacity of tax administrators appear to be poor, using sector or ownership specific registration requirements is sensible. However, caution should be exercised in selecting the sectors that should be covered by the VAT. The decision ought to be based on a careful examination of sectors' nature, volume of operations and the level of keeping records.[15] Limiting the number of sectors to be covered by VAT under such a requirement at a manageable level is advisable.

In addition to the sector specific (selected) registration requirement, to encourage VAT registration, government institutions are obliged to transact with VAT registered

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[11] The EFIRA and ECA have merged since the year 2008 (Yeneakal 2008).

[12] Ethiopia is a federal country with two self administering cities (Addis Ababa and Dire Dawa cities) and nine regional governments (Amhara, Afar, Oromia, Tigray, Benishangul, Gambella, Somali, Southern Nations, Nationalities and People, and Harari regional governments).

[13] According to this scheme, such businesses as importers, plastic and plastic products factories, computer and computer accessories suppliers, goldsmiths, electronic appliances suppliers, and private limited companies are required to register for VAT.

[14] In discussing the conditions for the choice of an appropriate organisational structure of tax administrations, Vehorn and Brondolo (1999) indicated that the conditions including a taxpaying population that is for the most part inclined to comply with the tax laws if the laws are explained clearly to them do not exist in developing countries.

[15] Examination of the nature and volume of operations of businesses engaged in a particular sector is desirable in order to determine whether those businesses are capable of having turnover up to the threshold level.

businesses for transactions valued ETB 100,000 and above. In general, according to discussion with tax officials, these schemes were designed to help the administration in bringing taxpayers (that were required to register but did not do so) into the VAT net. At March 2008, there were about 32,840 taxpayers registered for VAT (EFIRA 2008).

Examination of survey responses revealed several problems related to taxpayers registration. For example, 13 per cent of (taxpayer survey) and 62 per cent of (tax practitioner survey) respondents indicated the prevalence of VAT unregistered businesses and urged the government's due attention. The dominance of VAT unregistered businesses, according to survey respondents, resulted in uneven market competition and a loss of market share and profitability by registered businesses. Survey respondents identified weaknesses in the tax administration and exclusion of businesses with annual turnover less than ETB 500,000 as the major causes of the prevailing competition problem.

### VAT filing and payment

VAT filing practices differ among countries. As Jantscher (1990) noted, in some developing countries[16] taxpayers effect provisional payments monthly and file returns annually; while most developing countries require monthly filing and payment of VAT and do not require taxpayers to furnish a yearly return. In the case of Ethiopia, taxpayers are required to file VAT returns accompanied by the appropriate payments on monthly basis and there is no year-end reconciliation requirement. Further, the VAT legislation allows taxpayers a 30-day period within which to file returns and make payments. Nevertheless, in practice, according to the outcomes of interviews with tax officials, there are three VAT reporting periods depending on whether a taxpayer is a nil, credit or payment filer.[17] The reporting time from the end of the accounting period is 10 days for nil filers, 20 days for credit filers and 30 days for payment filers. According to tax officials, taxpayers that fail to meet the reduced deadlines would not be fined as long as they report within 30 days from the end of the accounting period. However, such taxpayers would be given verbal warning that if they do not keep the reduced reporting periods, penalty would be applied.

Concerning the reporting periods, 15.5 per cent of taxpayer survey respondents indicated that the reporting period, especially the 20-day period for credit filers, is very short. This is a problem especially for taxpayers conducting business at several locations since gathering documents from different offices takes time. Further, according to survey respondents, the shortness of the reporting period puts substantial pressure on employees and disrupts the normal operation of businesses.

The other aspect worth assessing is the return filing process. Return filing could be done by going to the premises of the tax authority in person, through the post office or electronically. In Ethiopia, taxpayers file VAT returns by going to the tax office in

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[16] Countries including Argentina, Mexico and Peru.
[17] Nil refers to no activity, while credit and payment refer to situations where input VAT exceeds output VAT, and output VAT exceeds input VAT respectively.

person. This is a problem for taxpayers[18] that reside in remote areas (where the EFIRA does not have branch offices) and are forced to go to the capital city, Addis Ababa, or nearby cities where the tax authority has a branch office. In addition, in terms of the method of payment, in Ethiopia taxpayers with VAT liability greater than ETB 1,000 may be required to effect payments with bank certified payment orders (CPOs). The use of CPOs is, in fact, to mitigate the problem of insufficient fund balance that might arise from accepting taxpayers' cheques. Nevertheless, such a practice imposes a cost on taxpayers in the form of out of pocket payment (CPO preparation fees charged by banks) and time costs.

Generally, the above mentioned practices pertaining to reduced VAT reporting periods,[19] the method of effecting payments and the return filing process are likely to be translated into increasing taxpayers' compliance costs, especially on small businesses.[20] It is therefore worthwhile to strengthen the administration capacity of the tax authorities and reduce the burden on taxpayers (because this may, in turn, have an impact on their compliance decisions).

### *Control of filing and payment*

In administering VAT in Ethiopia tax authorities use computer programs, namely: Standard Integrated Government Tax Administration System (SIGTAS) and Automated System for Customs Data Management (ASYCUDA). The computer programs are used to maintain taxpayer register and process VAT returns. Detection of non-filers seems to be carried out mainly manually. As the outcomes of the in-depth interviews with tax officials showed, the tax authority tries to identify non-filers in collaboration with the Ministry of Trade and Industry. In Ethiopia every trader is required to renew business license annually with the pertinent offices under the Ministry of Trade and Industry or regional governments. To renew business licenses, traders are required to produce evidence from tax authorities that all taxes have been paid. The tax authorities on their part, before providing the evidence to taxpayers, check if there are delinquent taxes (including VAT).

In addition, tax authorities endeavour to follow-up non-filers identified by the computer programs. However, because of shortage of manpower, such follow-ups are usually carried out once in a 3 to 6 month period. The above practices pertaining to controlling VAT filing and payment delay the collection of the tax and jeopardise the government's revenue.[21] It is, hence, suggested that to ameliorate the potential impact of non-filers on the revenue performance of the tax, strengthening the administration capacity of the tax authorities, and effectively using the computer programs coupled with timely follow-up of non-filing taxpayers are worthwhile to consider.

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[18] This includes Federal or joint taxpayers who file their returns with the EFIRA including its branch offices.

[19] The segregation of the reporting period is likely to impose psychological burden on taxpayers in addition to out of pocket and time costs. The psychological burden may be due to the verbal warnings of tax administrators on late filers. Psychological burden may also arise because of the pressure on employees that the shortness of the 20 day period causes.

[20] For discussion on compliance costs and their regressivity see Sandford (1995), Evans et al. (1997) and Evans (2003).

[21] Jantscher (1990) noted that most developing countries detect non-filers manually after a long delay putting the collection of the delinquent tax at risk.

### VAT invoicing

Jantscher (1990) noted that unlike developed countries most developing countries require some form of invoicing for all transactions subject to VAT including sales to final consumers. n Ethiopia, the VAT legislation states mainly two things. Firstly, the waiver of traders that have transactions with total consideration not exceeding ETB 10 from the requirement to issue invoices and secondly, simplification of the VAT invoice.[22] To facilitate the implementation of these provisions, the VAT legislation empowered the Ministry of Revenue to issue the relevant directives. However, as the interviews with tax officials showed, until June 2007 the pertinent directives had not been issued. Consequently, all registered traders (including those who have transactions with total consideration not exceeding ETB 10) were effectively required to issue the standard VAT invoice.[23]

Examination of survey responses in this regard showed that about 10.4 per cent of taxpayer survey respondents raise several problems. These problems include the difficulty of getting invoices on purchases and details of customers for the preparation of sales invoices, the problem of supplying without invoices (by giving the option of buying with or without invoices to customers) and using duplicated invoices. The optional issuance of VAT invoices in some sectors reveals that invoices are being used as a negotiation tool[24] between customers and VAT registered businesses. That is, full VAT is chargeable if a customer needs invoices. Such a practice can jeopardise the use of invoices as a revenue safeguarding tool. In addition, 20.7 per cent of tax practitioner survey respondents indicated the lack of consistency in using invoices and also emphasised the need to design a strategy that can encourage customers, including government institutions, to ask for VAT invoices.

As a whole, there appear to be various factors contributing to the invoicing problems mentioned above. These factors include lack of tax administrators' follow-up and control, lack of awareness among the society and the prevalence of poverty.[25]  To mitigate these problems, enhancing tax education and follow–up programs are worthwhile to consider. Further, as the tax practitioner survey respondents suggested, designing a strategy that can encourage consumers to ask for VAT invoices could be helpful although this is likely to increase the administrative costs of the tax.

### VAT audit

There appears to be a considerable VAT evasion in developing countries (Pedone 1982 cited in Jantscher 1990). As Edmiston and Bird (2004) noted the only real solution to the evasion problem is a good tax administration and, especially, a strong VAT audit program. A strong VAT audit program needs, among other things, an appropriate audit case selection method. Jantscher (1990) noted that cross checking

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[22] Simplification of the VAT invoice pertains to the format and the amount of information to be contained in the invoice.

[23] Until June 2007, there was no simplified VAT invoice in Ethiopia.

[24] Jantscher (1990) noted that the use of invoices as a strategy in fighting VAT evasion is likely to be jeopardised by, among others, the attitude of consumers.  Further, Jantscher showed the use of invoices in a Latin American country as a bargaining tool.

[25] In the fiscal year 2005–06, 38.7 per cent of the population was below the poverty line (CIA 2007).

purchases and sales data by various taxpayers would provide an effective tool for selecting VAT taxpayers for audit and hence improve audit results.

In respect of VAT audit in Ethiopia, the in-depth interviews with tax officials showed the selection of audit cases by the audit selection committee. The selection criteria include: credit declaration, nil VAT declaration, non-filers, unusual VAT filing patterns, and information obtained from third parties and the ECA. Cases selected based on the above criteria would be subjected to audit. In the 2004–05 fiscal year, tax authorities audited 189 taxpayers out of 17,278 registrants (1.1 per cent). Similarly, in the 2005–06 fiscal year, 347 taxpayers out of 22,215 registrants were audited (1.6 per cent).[26] These figures suggest the low audit rate which may have negative impact on the revenue potential of VAT and the level of compliance. This low audit rate is may be due to resource constraint.[27]

The resource constraint can be assessed in terms of the number of VAT administrative personnel, auditors in particular, in relation to the number of VAT registrants and also total number of employees in the tax authorities. Taking the total number of VAT administrative personnel in relation to the number of VAT registrants in the fiscal year 2004–05 showed a ratio of 1:234. Similarly, the number of auditors to total number of VAT registrants in the same fiscal year revealed a ratio of 1:786.[28] In addition, the proportion of VAT administrative personnel to the total number of employees at the EFIRA was about 10.4 per cent.

To examine whether the above ratios are sufficient, it would be worth cautiously comparing them with similar estimates in other, especially developing, countries. However, similar ratios in other developing countries appear to be unavailable. Therefore, these ratios would be scrutinised in light of features which are likely to be prevalent in developing countries, Ethiopia in particular. These features include low levels of literacy,[29] low and fragmented economy, small and inefficient VAT administration experience and poor taxpaying culture. In the context of these problems, the above estimated ratios are likely to be very small which, in turn, suggests that the tax authorities are not equipped with sufficient number of personnel.

Apart from the audit selection method and the audit rate, an equally important factor is the quality of auditors. In Ethiopia, the benefit schemes of civil servants (according to the Ethiopian Civil Service Regulations) widely differ from those of the private sector. Consequently, as the tax authorities are governed by the Ethiopian Civil Service Regulations, their employee compensation schemes are by far lower than those of the

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[26] The data was obtained from the VAT department at the EFIRA.

[27] In practice, because of mainly resource constraints, most developing countries have not implemented massive cross checking schemes in their audit programs (Jantscher 1990).

[28] During the 2004/05 fiscal year, VAT was mainly administered by the VAT department of the EFIRA. So, the computations were based on the number of VAT registrants until July 7, 2005 and the number of auditors and total VAT administrative personnel at the VAT department and regional branch offices of the EFIRA. According to the data obtained from the management information system and data processing department of the EFIRA until July 7, 2005 (the end of the fiscal year), 17,278 businesses were registered for VAT. Further, according to the EFIRA's employee's placement document for the 2004/05 and 2005/06 fiscal years, there were about 22 auditors and 74 VAT administrative personnel (including those at regional branch offices) out of the 712 employees at the EFIRA.

[29] The literacy rate for the year 2003 estimated at 42.7 per cent (CIA 2007).

private sector. Such a phenomenon is likely to impede the recruitment and retention of well trained and qualified personnel, auditors[30]in particular.

Examination of survey outcomes in this connection supports the above assertion. That is, 34.2 per cent of taxpayer survey respondents indicated that tax administrators are not qualified enough and also not capable of handling cases quickly, particularly at the time of audit. These taxpayer survey respondents further indicated that tax administrators lack confidence to make decisions and willingness to help taxpayers. The tax administrators also fail to give consistent[31] information on the same VAT issues. Similarly, 55.2 per cent of tax practitioner survey respondents emphasised the lack of well trained personnel and noted the necessity of staffing the tax authorities with qualified personnel.

In general, the quality of auditors (VAT administrators at large) that appears to be poor coupled with their relatively small number is affecting the effectiveness of the audit program. This is, in turn, likely to impact on the revenue that could be generated through effective audit programs and on the use of effective audits as tools of deterring noncompliance.[32] It is, thus, worthwhile for the government to consider the possibility of recruiting and retaining a sufficient number of qualified VAT administrators, auditors in particular. This can be achieved mainly through making revenue authorities autonomous in terms of setting better employee benefits schemes. As discussed in a later section, the autonomy has to be accompanied by the government's commitment to make sufficient resources available for the administration.

### *Penalties*

From examination of the practices pertaining to VAT penalties, Jantscher (1990) noted that in most developing countries the stricter penalties in VAT laws are usually not applied, thus penalties have little deterrent effects. In Ethiopia, the VAT legislation proclaims that taxpayers that fail to fulfil the requirements of VAT are chargeable with penalties ranging from financial penalties to imprisonment. The tax authority started enforcing the penalty provisions (including the stricter ones) of the VAT legislation to some extent.[33] For instance, although the legislation in general stipulates a penalty of 5 per cent of the amount of VAT unreported/underpaid, in practice (according to the outcomes of the in-depth interviews with tax officials) a late filing penalty of ETB 1,000 for each accounting period the tax remained un(der)-reported is imposed. In

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[30] At the same time, young staff trained to be auditors would quickly leave to enjoy higher paying jobs in the private sector once they acquired the necessary accounting skills –state tax administrators have the problem of retaining personnel, especially auditors (Vehorn and Brondolo 1999).

[31] Different tax administrators give different information on the same tax issue.

[32] Considering the incapacity of the administration, the audit program in particular, taxpayers may be tempted to not comply. As Jantscher (1990) noted in developing countries taxpayers tend to register for VAT freely (to avoid taxes imposed on unregistered traders) because they know that the administration's resources are limited to check their reporting compliance.

[33] The VAT legislation promulgates taxpayers that fail to fulfil the requirements of VAT are chargeable with penalties ranging from financial penalties to imprisonment.

addition, there are cases where taxpayers convicted of VAT evasion have been fined (both money and imprisonment).[34]

With respect to VAT penalty, 13.8 per cent of tax practitioner survey respondents indicated that the penalty is high. These tax practitioner survey respondents further noted that it is unfair to impose, practically, the same amount of penalty on taxpayers regardless of the amount of VAT un(der)-reported. Similarly, 4.1 per cent of taxpayer survey respondents indicated the lack of consistency in imposing penalties. Respondents of both surveys emphasised the importance of enhancing voluntary compliance and focusing on tax education instead of punishment when there are genuine mistakes.

In general, considering that VAT is still young (introduced for the first time in the year 2003) in Ethiopia, focusing on the implementation of strict penalty provisions (like imprisonment of taxpayers) instead of taxpayers' education may have negative impact[35] on the attitude of taxpayers beyond its deterrence effect. Further, the lack of consistency and transparency in administratively imposing the penalty may open a room for corruption. It is, thus, advisable to try to implement what is legislated in the law regarding penalties (on the financial penalty aspect).

### *VAT refund*

Grandcolas (2005) and Jantscher (1990) noted that managing VAT refunds is one of the challenges of VAT administrations in developing countries. In managing refunds and combating refund frauds, different countries use schemes including denial of refund claims (except to exporters), carrying forward of refund claims, demanding a third party certification[36] of the claim, demanding guarantee, requiring taxpayers to have separate VAT bank accounts, zero rating of supplies to exporters and remission of input VAT on certain goods (mainly capital goods).[37] Some of these schemes are not only to combat refund frauds, but are also intended to reduce the strain on business cash-flows.

Looking closely at the practices concerning VAT refunds in developing countries shows that all developing countries give refunds to exporters and some require other VAT taxpayers to carry forward their excess credits indefinitely (Jantscher 1990). In Ethiopia, as shown previously, for the purpose of refunds, the VAT legislation categorises taxpayers into two groups: zero rated businesses (mainly exporters) and other (non-exporting) businesses. As the outcomes of the interviews with tax officials revealed, the tax authority makes refunds mainly to exporters in addition to employing

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[34] For example, a newspaper reported that the Ethiopian Federal First Instance Court 8th Criminal Bench convicted a taxpayer of VAT evasion and passed a 10 year imprisonment and a fine of ETB 75,000 (EFIRA undated).

[35] Taxpayers may worry much (increasing the psychological costs of VAT compliance) and may hate the tax system. This in turn may exacerbate the gap between taxpayers and tax administrators, which is, according to Bird and Gendron (2005), already found to be wide in developing countries.

[36] Certification, for instance, by CPAs as is the case in Kenya.

[37] For more discussion on the various schemes that countries use in combating refund fraud and reducing refund requests see Harrison and Krelove (2005).

voucher system[38] for coffee exporters. According to interviews with tax officials the first cash refund to non-exporting businesses was made in February 2007. In addition, tax officials revealed that refund claimants in the non-exporting business category are mainly importers that claim have excess VAT credits which are not being used by carrying forward to the next five accounting periods (months). This was believed to be because at the time of import taxpayers pay VAT based on customs valuation, which is usually more than the price that taxpayers claim they sell their products. In this situation, in the opinion of the tax officials, giving refunds to taxpayers would have its own impact on the revenue position of the government. Further, the tax authority is not in a position (in terms of capacity) to administer the refund claims of these taxpayers.

In connection with customs valuation, 37.9 per cent of tax practitioner survey respondents showed that the valuations are unreasonably high. According to these survey respondents, the high customs valuation usually leads taxpayers, including genuine traders, to report excess VAT credits for a very long time. This in turn results in rejection of taxpayers' accounting records by the tax authorities and determination of taxes due[39] using the customs valuation as a basis. This practice is resulting in higher effective taxation and is also against the generally accepted accounting principles legislated to be followed in taxation in Ethiopia.

As a whole, instead of totally refusing taxpayers' refund requests, it is reasonable to re-examine the customs valuations periodically and endeavour to check selectively the sales invoices of traders with the invoices held by, at least, government institutions. In addition, strengthening the administration capacity of tax authorities and attempting to make refunds on genuine requests deserve the government's due attention.

Further, in connection with refunds, it is important assessing the practices in treating VAT on capital goods. In the Ethiopian VAT system, capital goods are treated in the same way as other merchandise items. Such a custom affects mainly taxpayers that are required to carry forward credit claims including those on capital goods to future periods. This procedure, apart from tying up investors' money for a very long time, is likely to constrain business cash-flows and impact negatively on investment. This coupled with the escalating inflationary[40] trend in Ethiopia evidences the effective taxation of capital goods against the hallmark of a consumption type VAT.[41] In light of the above, making a distinction between goods and devising a strategy by which the VAT on capital goods could be immediately refunded deserve the government's attention.

In addition to the concerns discussed thus far, about 25.4 per cent of taxpayer survey respondents noted that frequent changes in the administrative procedures, directives

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[38] In Ethiopia to reduce the number of refund requests the government uses vouchers for coffee exporters. Coffee exporters can use vouchers as VAT payments to suppliers of coffee for export.

[39] As per tax practitioner survey respondents, for all taxes (both income tax and VAT) the customs valuation is used as a cost basis for the determination of selling prices and the applicable taxes.

[40] The annual average headline inflation stood at 19 per cent as of March 2008 an increase by 3.1 and 4.2 percentage points from its position at the beginning of the fiscal year and the same month a year earlier (NBE 2008).

[41] To the extent that excess credits stem from sizable purchases of capital goods, the difficulty in obtaining refunds erodes the value of the capital goods exemption that is the hallmark of the consumption-type VAT used in most developing countries (Jantscher 1990).

and personnel are impacting on the normal operations of taxpayers. About 6.7 per cent of taxpayer survey respondents also indicated that taxpayers and the society in general do not know much about the tax. These taxpayer survey respondents further noted that the tax authority has not made sufficient effort in increasing the awareness about the tax. About 34.5 per cent of tax practitioner survey respondents hence emphasised the need to strengthen the tax education program.

All the above problems pertaining to the administration of VAT in Ethiopia may be due in part to insufficient resources. It is therefore important to briefly assess the resources available for the administration of VAT in Ethiopia. In this respect, Yesegat (2008) estimated VAT administrative costs in Ethiopia in the 2005−06 fiscal year to be in the range of 0.66 to 0.8 per cent of VAT revenue. Further, Yesegat (2008) through comparative analysis with similar estimates in other countries suggested that in Ethiopia VAT administrative costs are at a low level. These low VAT administrative costs, as Jantscher (1990) contended, may not imply simplicity, but may show rather that important functions are being neglected and also may mean that the administration is concentrating exclusively on the largest taxpayers and ignoring the others. In this context the low level of VAT administrative costs in Ethiopia together with the administrative problems presented previously suggests that the tax authorities are not equipped with the necessary facilities (human and material). The relatively low level of VAT administrative costs appears to have contributed to the tax authorities' inability to implement the VAT legislation fully. As Bird (2005) noted the existence of a fundamental gap between the institutional requirements for a good VAT administration and the real fiscal institutions in place in a country is one of the factors contributing to the poor and unfair performance of VAT.

In general, in addition to the apparently low level of VAT administrative costs in Ethiopia, the above suggested strategies (to mitigate the caveats in the administration of VAT) boil down to the importance of accessing sufficient resources and equipping the tax administration with a sufficient number of skilled personnel and physical resources. It is hence proposed that the government ought to consider the possibility of recruiting and retaining a sufficient number of qualified VAT administrators. This can be achieved mainly through making revenue authorities autonomous in terms of setting better employee benefit schemes. The autonomy in the tax administration needs to be accompanied by access to resources for the availability of sufficient resources is fundamental in strengthening the administration of VAT in the country. Of course, increasing the resources by itself would not create effective VAT administration overnight. As Bird (2005) emphasised enhancing tax administration takes time. However, this does not mean that tax authorities should be devoid of the required resources. Tax authorities need both adequate resources and sufficient political support to enable them to do their essential jobs (Bird 2005). The additional VAT administrative costs may be financed with revenues that could be generated through enhanced administration. Enhanced tax administration which is partly possible through equipping the administration with the necessary facilities is likely to generate more revenue in a fairer manner.

In addition to the administrative tasks and the availability of resources, VAT administration is concerned with the issue of who should administer the tax. In Ethiopia, the VAT legislation entrusts the responsibility of administering VAT to the

federal government. Accordingly, until September 2004, VAT was being administered by the federal government's revenue organs (the EFIRA and ECA). However, since September 2004, the EFIRA has delegated[42] to regional governments the administration of VAT for sole traders residing in their respective jurisdictions revealing the trend in decentralising the VAT administration. As indicated in the literature review, it is crucial to assess the decentralisation of VAT administration within the framework of the whole fiscal system. Consequently, before proceeding to the decentralisation of the administration, the following discussion briefly examines the assignment of VAT revenues in Ethiopia.

Proclamation No. 33/1992 and the Constitution of the Federal Democratic Republic of Ethiopia identify revenues belonging to the federal and regional governments and those jointly shared by both. In addition, on the assignment of revenues, Article 99 of the Constitution stipulates that the power of imposing and collecting taxes, which are not identified and given to a particular level of government to be determined by at least a two-thirds majority vote in a common meeting of the councils of federation and the representatives of peoples and nationalities.

Of particular importance for this discussion is the assignment of sales taxes. Sales taxes from organisations owned by the federal government and regional governments are stipulated to belong to the federal government and regional governments respectively. Sales taxes on imports belong to the federal government. Sales taxes from sole traders are entirely given to regional governments whilst sales taxes from private companies are legislated to be shared between the federal and regional governments. In the case of VAT revenue, the outcomes of interviews with tax officials revealed that neither Article 99 of the Constitution was applied nor did any written document on the assignment of VAT revenue exist. Instead, the assignment of sales taxes seems to have dictated, to some extent, that of VAT. Accordingly, while VAT revenue from sole traders is for regional governments, the VAT revenue from other sources is given either entirely to the federal government or jointly shared with regional governments.[43] This reveals that in Ethiopia VAT revenue is decentralised. The decentralisation is against the approach considered to be the best, in the literature, in financing regional governments, i.e., assigning VAT to central government and adopting some revenue sharing scheme with regional governments.

The decentralisation of VAT revenue, in Ethiopia, may result in distortions[44] including a revenue gain in one jurisdiction at a loss in another. To illustrate such a problem assume two sole traders (A and B) and two regional governments (1 and 2). Sole trader "A" resides in region 1 while "B" is in region 2. Sole trader "A" supplies goods subject to VAT to "B" (who is an exporter). Sole trader "A" files VAT return with

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[42] The transfer of the administration of VAT from sole traders to the regional governments is through delegation as the VAT Proclamation No. 285/2002 empowers only EFIRA and ECA for the administration of VAT.

[43] Interviews with tax officials revealed that VAT from sole traders is to regional governments, from government owned enterprises to the federal government and from private companies to be shared between the federal and regional governments.

[44] Potential distortions of decentralisation of taxes include inefficiencies involving for example impacting on the levels of revenues in other jurisdictions, export of tax burdens, as well as certain equity issues associated with a generally regressive pattern of tax incidence (Oates 1999).

region 1 and "B" files VAT return with region 2. Region 1 collects VAT from sole trader "A" on the supplies made to "B". Region 2, on the other hand, gets nothing; instead it would be paying refunds to "B" for the VAT paid in region 1. This scenario, though simplified, can demonstrate how one regional government may lose VAT revenue due to the features of VAT in Ethiopia. Such a problem seems to be caused by the assignment of VAT revenue to regional governments with almost no thorough consideration of the associated consequences and the technicalities to deal with them. In fact, the assignment of VAT to regional governments, in Ethiopia, appears to be artificial and is intended to serve the politics involved.[45] This is because the assignment does not give the full autonomy to regional governments. VAT rates and the base are determined by the federal government[46] and the VAT proclamation which is used by both the federal and regional governments is enacted by the federal government. In addition to the problems, the decentralisation of VAT is against the understanding that VAT is a federal tax. [47]

The delegation of regional governments for the administration of VAT seems to have followed the assignment of VAT revenue. Consequently, some regional governments including the Addis Ababa city administration have started administering VAT, to some extent[48] in respect of their own taxpayers. In addition to the inherent administrative difficulties of VAT, the delegation, as per the interviews with tax officials, did not clearly layout the power of regional governments. Further, the delegation of regional governments has not cautiously envisaged technical issues pertaining to such things as refunds.[49] In general, in Ethiopia where administrative resources are limited and tax administration at regional governments appear to be weak,[50] decentralisation of VAT administration has dangers in terms of revenue loss and widening the gap between the effective taxation and the stipulations of the law. In the interviews with tax officials it was emphasised that the decentralisation would be a challenge to the overall tax system.

Besides the apparent weaknesses of regional governments compared to central governments, administration of VAT by different agents has its own bearing on VAT control. To ensure control, it would be better if only one agency is responsible for collecting a tax and ensuring the validity of claims for exemption or refund especially

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[45] Tax policy is always about politics more than it is simply a matter of tax design and administration (Bird 2005). Evans et al. (2007: 65) also noted that "tax is politics with a dollar sign in front."

[46] An important precondition for the exercise of sub-national fiscal autonomy is the ability to decide on tax rates (McLure 2001). Bird (2001) also noted that the best way to achieve a good sub-national tax is by allowing those governments to establish their own tax rates with respect to at least some major taxes.

[47] At the 9th VADA (Value Added Tax Administration in Africa) Forum Ethiopian delegates (2006) in Zimbabwe also emphasised that the Ethiopian VAT is a federal tax to be administered centrally.

[48] The outcomes of interviews with tax officials showed that regional governments are not fully implementing the VAT legislation; they have not started giving refunds to even exporters.

[49] As per discussion with tax officials, so far, regional governments have not made any refund to entitled taxpayers compromising the basic attribute of VAT.

[50] On the weaknesses of regional governments, Oates (1999) quoted that in underdeveloped countries the weakness of local government in relation to the central government is one of the most striking phenomena (Martin and Lewis 1956). In discussing the decentralisation of retail sales tax administration, Bird (2001) also noted that developing countries have universally found it impossible to administer such taxes even at the national level let alone at regional levels. Mikesell (2007) also noted that not all administrative tasks are efficiently carried out by small governments.

when the horizontal flow of information between different agencies is difficult (Bird 2005)**.**

In general, the decentralisation of VAT revenue and its administration in Ethiopia is likely to impact on the proper functioning of the VAT system, and achieve the government's policy objectives at large. So, considering the practical difficulties of administering VAT at regional governments' level and the distortions of VAT revenue decentralisation (revenue import among different regional governments), it is worthwhile for the government to reassess the assignment of VAT revenue and the decentralisation of its administration.

## 4. CONCLUSIONS AND LIMITATIONS

VAT has a significant role in the revenue system of the Ethiopian government. To sustain VAT's revenue role in the government's finance, it is crucial to ensure that the revenue generated by this tax is raised as efficiently as possible. Nevertheless, in Ethiopia revenues generated by VAT are usually garnered at the expense of a compromise in its salient features. This is usually caused by factors including weaknesses in the administration, that is, the incapacity of the administration to put the attributes of VAT in practice.

A good VAT administration is critical in fully implementing the design attributes of the tax and reducing gaps between the effective taxation and what it is purported to be in the legislation. More broadly, a good tax administration, VAT administration in this case, is important to achieve the policy objectives of a government.

In the context of the above, this paper examined how VAT administrators in Ethiopia perform their duties and how the effective taxation requirements differ from the legislation (focusing on the key administration tasks). Furthermore, the paper attempted to identify key problem areas that deserve the government's due attention. Accordingly, procedures that taxpayers and tax administrators follow were examined in the light of the provisions in the legislation and the benchmark whenever available. Furthermore, relevant data from a compliance cost survey and in-depth interviews with tax officials were examined.

The findings of the analyses suggested that in Ethiopia there is divergence between the effective VAT taxation and the legislation. The main areas where there are gaps and problems include taxpayers identification and registration, VAT filing and payment, VAT refunds, VAT audits, penalties and VAT invoicing.[51] In addition, the outcomes of the surveys showed a paucity of tax awareness among the society and strong education programs as well as lack of trust between taxpayers and administrators as major challenges to the VAT system in the country. The gaps and problems identified in the study were partly because of under staffing of the tax authority. This, in turn, is attributable to limited tax administration resources.

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[51] A study conducted by the Ethiopian Economics Association stated that ever since the introduction of VAT, its irregular implementation has been a major problem for businesses (Tadesse 2007). This supports the assertions in this paper.

It is hence suggested that the government would better look at the possibility of making sufficient resources available for the administration of VAT. Of course, this would be a challenge for countries like Ethiopia where resources appear to be limited. However, considering the role of VAT administration in the overall financial system of the Ethiopian government, allocating reasonably sufficient resources is worthwhile to consider.

Moreover, this paper examined the decentralisation of VAT administration following the assignment of VAT revenue to regional governments. As discussed previously, the Ethiopian government has assigned VAT revenue to regional governments without clearly envisaging the distortions which, until recently, have impeded many developed and developing countries from decentralising the tax. Following the assignment of VAT revenue, the administration has been partly delegated to regional governments. Both the decentralisation of VAT revenue and the administration do not appear to be with thorough consideration of the distortions, the inherent administrative difficulty of the tax and weaknesses in the tax administrations, especially, at regional governments' level. In this regard, it is suggested that before the tax has further consequences in the form of revenue losses and undesirable inter-governmental relationships it is worth to reassess the decentralisation. That is, the assignment of VAT revenue and the decentralisation of its administration ought to be re-examined in light of the design features of the tax, the constitutional inter-governmental fiscal relationships, the experiences in other developing countries and the capacity of the country in implementing sub-national VATs. This issue, therefore, could be future research agenda.

This study is not without its limitations. The major limitation is that it does not fully assess all activities involved in the administration of VAT in Ethiopia. More specifically, issues such as tax intelligence and investigation, taxpayers' education and services, and organisational setup of administrators are not examined. Albeit, this is the case, it is believed that the findings of the paper would shed light on the major gaps between the effective taxation and legislation and the problems of administering VAT in Ethiopia.

**REFERENCES**

Bird, R.M. 2005, 'Value added taxes in developing and transitional countries: Lessons and questions', *ITP Paper No. 0505*, International Tax Program, Rotman School of Management, University of Toronto, available at <http://www.rotman.utoronto.ca/iib/ITP0505.pdf>, accessed November 2007.

Bird, R.M. 2004, 'Administrative dimensions of tax reform', *Asia–Pacific Tax Bulletin*, 10(3): 134–150.

Bird, R M. 2001, 'Sub-national revenues: Realities and prospects', *Fiscal Policy Training Program*, Andrew Young School of Policy Studies July 23–August 3, available at <http://www1.worldbank.org/wbiep/decentralization/Courses/Atlanta%207.23.01/bird 2000.pdf>, accessed November 2007.

Bird R.M. 1989, 'The administrative dimension of tax reform in developing countries' in M. Gillis (ed.) *Tax Reform in Developing Countries,* Duke University Press, Durham, North Carolina, pp. 315–346.

Bird, R.M. and P–P Gendron 2005, 'VAT revisited: A new look at the value added tax in developing and transitional countries', paper presented at the *USAID Workshop for Practitioner on Tax*, 4 May.

Bird, R. M and P–P Gendron 1998, 'Dual VATs and cross-border trade: Two problems, one solution?', *Journal of International Tax and Public Finance* 5(3): 429–442.

CIA 2007, *World Fact Book Ethiopia* (last updated 18 October 18 2007), available at <https://www.cia.gov/library/publications/the-world-factbook/geos/et.html#Econ>, accessed October 2007.

Council of Ministers – Federal Democratic Republic of Ethiopia 2002, 'Value Added Tax Regulation, Council of Ministers Regulation No. 79/2002', *Federal Negarit Gazeta*, Addis Ababa, Ethiopia.

Edmiston, K.D. and R.M. Bird 2004, 'Taxing consumption in Jamaica: the GCT and SCT', *IPT Paper No 0414*, International Tax Program, Rotman School of Management, University of Toronto, available at <http://www.rotman.utoronto.ca/iib/ITP0414.pdf>, accessed October 2007.

Ethiopian Delegates 2006, 'Value added tax in Ethiopia', Speech at the $9^{th}$ *Value Added Tax Administration in Africa* (VADA) *Forum*, Zimbabwe.

EFIRA 2008, 'Federal Inland Revenue Authority (FIRA) collected more than ETB 5.9 billion in the last nine months', *EFIRA News*, available at <http://www.mor.gov.et/firaweb/fira%20collection%202000.htm>, accessed October 2008.

EFIRA 2007, 'Federal Inland Revenue Authority collected 5.81 billion birr tax revenue for 1999 EC budget year', *EFIRA News*.

EFIRA (undated), 'The Federal first instance court 8th criminal bench penalizes VAT violation', *EFIRA              News,*              available              at <http://www.mor.gov.et/firaweb/newscourt.htm>, accessed in November 2007.

Evans, C. 2003, 'The operating costs of taxing the capital gains of individuals: A comparative study of Australia and the UK, with particular reference to the compliance costs of certain tax design features', PhD Thesis, University of New South Wales, Kensington, Australia.

Evans, C., B. Tran-Nam and B. Andrew 2007, 'Towards systemic reform of the Australian personal income tax: Developing a sustainable model for the future', *Australian Tax Forum* 22(2): 63–93.

Evans, C., K. Ritchie, B. Tran-Nam and M. Walpole 1997, *A Report into Taxpayer Costs of Compliance*, AGPS, Canberra.

FDRE 2002, 'Value Added Tax Proclamation No. 285/2002', *Federal Negarit Gazeta*, Addis Ababa, Ethiopia.
.
FDRE 1995, *Constitution of the Federal Democratic Republic of Ethiopia,* The Ethiopian Federal Government, Addis Ababa.

Grandcolas, C. 2005, 'The occasional failure in VAT implementation: Lessons for the Pacific' *Asia–Pacific Tax Bulletin,* 11(1): 6–13.

Harrison, G. and R. Krelove 2005, 'VAT refunds: A review of country experience', *IMF Working Paper No. 05/218*, IMF, Washington DC.

IMF 1989, 'Tax administration in developing countries: Strategies and tools of implementation', *Policy, Planning and Research Working Papers* (*WPS 43*), background paper for the 1988 *World Development Report*.

Jantscher, M. Casanegra de 1990, 'Administering the VAT' in M. Gillis, C.S. Shoup and G.P. Sicat (eds) *Value Added Taxation in Developing Countries,* World Bank, Washington DC.

Keen, M. and S. Smith 1999, 'Viva VIVAT', *Journal of International Tax and Public Finance* 6(2):741–751.

Keen, M. and S. Smith 1996, 'VIVAT: An alternative VAT for the EU' *Economic Policy*, Oct 96: 375–420.

Martinez-Vazquez, J. and A. Timofeev 2005, 'Choosing between centralized and decentralized models of tax administration', *Andrew Young School of Policy Studies Research    Paper    Series,    Working    Paper*    06–49,    available    at <http://papers.ssrn.com/sol3/papers.cfm?abstract_id=901821>.

McLure, C.E. 2001, 'The tax assignment problem: Conceptual and administrative considerations in achieving sub-national fiscal autonomy', *Fiscal Policy Training Program*, Andrew Young School of Policy Studies, July 23–August 3, available at <http://www1.worldbank.org/wbiep/decentralization/Courses/Atlanta%207.23.01/mcl ure2000.pdf>.

McLure, C.E. 2000, 'Implementing sub-national value added taxes on internal trade: The Compensating VAT (CVAT)', *Journal of International Tax and Public Finance* 7(6): 723–740.

Mikesell, L.J. 2007, 'Developing options for the administration of local taxes: An international review', *Public Budgeting and Finance* 27(1): 41–68

NBE 2008, 'The monthly macroeconomic indicators for the month of March 2008', *Economic Research Document*, National Bank of Ethiopia, available at <http://www.nbe.gov.et/MEFR/March%2008%20MMEI.pdf>, accessed in October 2008.

Oates, W.E. 1999, 'An essay on fiscal federalism', *Journal of Economic Literature* 37(3): 1120–1149.

Plamondon, R. 1993, *GST Compliance Costs for Small Businesses in Canada*, Department of Finance, Ottawa, Canada.

Sandford, C. (ed.) 1995, *Tax Compliance Costs Measurement and Policy*, Fiscal Publications, Bath.

Tadesse, K. 2007, 'VAT implementation, lack of infrastructure and good governance trouble business in Ethiopia: ECCSA', *Capital News,* November 11, available at <http://www.capitalethiopia.com/archive/2007/november/week2/local_news.htm#5>.

Tait, A.A. 1988, *Value Added Tax: International Practice and Problems*, IMF, Washington DC.

Teffera, A.H. 2004, 'Assessment on the value added tax implementation in Ethiopia', Paper presented at the *2nd International Conference on the Ethiopian Economy*, United Nations Conference Centre, Addis Ababa, 3–5 June.

Transitional Government of Ethiopia 1992. 'Proclaim No. 33/1992 − A proclamation to define the sharing of revenue between the central government and national/regional self government,' *Federal Negarit Gazeta*, Addis Ababa, Ethiopia.

Vehorn, C.L. and J. Bondolo 1999, 'Organizational options for tax administration', *Bulletin for International Fiscal Documentation* 53(11): 499–512.

Yeneakal, T 2008, 'Melaku to remain head at the new revenue authority', *Capital Newspaper*, Addis Ababa, July 20, available at <http://www.capitalethiopia.com/archive/2008/july/week3/local_news.htm#6>, accessed in September 2008.

Yesegat, W A (2008) 'Estimating VAT administrative costs in Ethiopia', Paper presented at the *8<sup>th</sup> International Conference on Tax Administration*, Atax, Sydney, 27 –28 March.

# Appendix 1

**Summary of responses of taxpayer survey respondents to the question "What aspects of the legislation and administrative procedures are problematic for you to comply with the VAT system?"**

| Summary of responses | Count | Per cent |
|---|---|---|
| The reporting periods of 10 days for nil filers and 20 days for credit filers are very short. The 20 day period for credit filers is problematic especially for taxpayers conducting business at several locations as it takes a lot of time until documents are collected from different branches. There is also delay in getting customs declarations. So trying to report within 20 days sometimes leaves out some credits from being reported in the appropriate period. | 30 | 15.5 |
| The existence of unregistered businesses is creating unfair competition in the market and making registered businesses lose their market shares and profitability. Such a problem is because of the administrative weaknesses of the tax authority and the inherent design feature of the tax which excludes traders with annual turnover less than ETB 500,000 from the net. The VAT has to cover all traders. | 25 | 13.0 |
| Tax administrators are not qualified enough, lack politeness and confidence to make decisions and willingness to help taxpayers. Tax administrators do not give consistent information on the same case; they tend to take very long time in handling cases, especially at the time of audit. It is sometimes difficult for taxpayers to know well in advance what the administrators need in addition to the tax return, which obliges taxpayers to visit the tax authority repeatedly. | 66 | 34.2 |
| There is a very high frequency of changes in administrative procedures and directives including the requirements of the authority and the personnel who are directly involved in the administration of VAT. Changes are not communicated to taxpayers in due time. In addition, due to changes in personnel some information provided by those who were accomplishing some duty related to VAT may not be accepted by the new personnel causing undesirable inconveniency to taxpayers. | 49 | 25.4 |
| Taxpayers and the society at large do not know much about the tax. The government has not made sufficient efforts before and after the introduction of the tax in creating awareness among taxpayers and the society as a whole. | 13 | 6.7 |
| Problems relating to invoices including the difficulty of getting invoices even from registered traders, getting details of customers for the preparation of invoices, and keeping the sequential number of invoices especially for those taxpayers that have several sales offices. The existence of businesses that supply without invoices coupled with using duplicated invoices is another problem. | 20 | 10.4 |

Sources: Taxpayer Survey and own computation.

## Appendix 2
**Summary of responses of tax practitioner survey respondents to the question** "**Do you have any comments on the VAT system in Ethiopia?"**

| Summary of responses | Count | Per cent |
|---|---|---|
| Failure of tax administrators in fully enforcing the law has caused problems to taxpayers that are part of the VAT net in the form of unfair competition with taxpayers that are required to register but did not do so. The level of the registration threshold also has its contribution to the competition problem. It would be hence worthwhile to consider the possibility of reducing or entirely abolishing the registration threshold. | 18 | 62.0 |
| The treatment of credit sales is creating financial difficulty among traders whose transactions involve credit sales. It would be worthwhile to consider the use of cash basis of accounting. | 5 | 17.2 |
| Customs valuations (on imports) are unreasonably high, resulting in reporting of credits for a long period by taxpayers including genuine ones. It also ties up taxpayers' money for a long period putting them in severe financial constraints. In such situations the administrators ignore the accounting records of taxpayers and estimate the tax using customs valuations as a cost basis. | 11 | 37.9 |
| Tax administrators lack the necessary skills, and are not well trained and are not in a position to give appropriate answers on taxpayers' requests. It is worth training administrators and recruiting qualified personnel. In addition, there is no consistency in the information obtained from different personnel on the same case. | 16 | 55.2 |
| Given the poor understanding of taxpayers, the authority did not make sufficient effort in creating awareness among taxpayers and the citizens as a whole before the introduction of the tax. Further, currently the government is not exerting efforts in creating awareness among taxpayers and others concerned. In curbing the various problems, tax education should be instrumental. | 10 | 34.5 |
| Lack of consistency in using invoices and the existence of under invoicing in some sectors. Under invoicing, especially on imports, is partly caused by the foreign exchange limits of the NBE which force taxpayers to get the foreign exchange permit up to the maximum amount allowed for a certain product and cover the rest with foreign currency obtained from the informal (black) market. Further, invoices are being used as a bargaining instrument (supply with or without VAT). These problems are partly due to the failure of administrators to follow-up taxpayers. It would be worthwhile to concentrate in developing strategies to encourage final customers to ask for invoices. | 6 | 20.7 |
| The VAT rate is high. The level of the rate has made goods and services very expensive and is contributing to the noncompliance of taxpayers. It would be better to reduce the rate and broaden the base. | 6 | 20.7 |

Sources: Tax practitioner Survey and own computation.

# Modelling the Effects of Corporate Taxation in the Underground Economy

Konstantinos Eleftheriou[*]

*Abstract*

This paper develops a two-sector search model of the labour market in which firms in one sector (the informal sector) evade profit taxes (underground economy). A comparative static analysis is employed to analyze the impact of corporate taxation on unemployment, occupational choice of individuals, mix of jobs, welfare of agents and the size of informal sector. The findings suggest that profit, firing and payroll taxation have the same effects on the above economic variables. However, if a certain condition does not hold, then the number of individuals searching for jobs only in the informal sector decreases with profit taxes. The above result implies that the adoption of active labour market policies, which accelerate the matching process between employers and employees, will mitigate the positive (negative) impact of taxation on the size of underground economy (wages).

## 1. INTRODUCTION

Many empirical studies indicate that the size of shadow economic activity is growing year by year. More specifically, the increase of the size of the underground economy (measured as a percentage of the GDP) between 1960 and 1995 for the United States was 6%. In other OECD countries such as Germany and Norway growth was even higher [see, for example, Schneider and Enste (2000)]. The negative impact of growing shadow activities on the economy can take many forms. This diversity has motivated researchers to find the main causes for the growth of underground economy and potential remedies. A widely accepted explanation for the increasing size of the underground sector is the existence of high marginal income tax rate [Loayza (1996), Giles (1999a), Thomas (1992) et al.]. Higher taxes increase the incentive for tax evasion and consequently the size of the shadow economy.

Tax evasion as a topic of theoretical investigation was first suggested by Mirrlees (1971). Since then numerous papers have been written about the phenomenon of tax evasion. Most theoretical analyses try to model the phenomenon of tax evasion by using standard portfolio theory of choice and uncertainty. An early example of such a theoretical approach is the work of Allingham and Sandmo (1972). In their model, they examined two cases, one static and one dynamic. In the dynamic case individuals have to make a sequence of tax declaration decisions. They argued that the impact of

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the tax rate on the reported income in the static case is ambiguous. However, Yitzhaki (1974) showed that if the fine for tax evaders is imposed on the evaded tax and not on the undeclared income then Allingham and Sandmo model gives a positive relationship between tax rates and tax evasion.

Kesselman (1989) developed an intersectoral model of income tax evasion in order to examine the general equilibrium aspects of it. In his analysis, workers are assumed to have heterogeneous evasion costs and the outputs produced in each sector are imperfect substitutes. He concluded that if an increase in taxation does not affect the level of evasion costs and if the consumption pattern of government is the same with that of households, then the higher the tax, the greater the extent of evasion. However, if one of the above does not hold then we may get the inverse outcome.

While the above theoretical works focus on employee tax evasion, Blakemore, Burgess, Low and Louis (1996) examined employer (corporate) tax evasion. They showed that an increase in the payroll tax rates is likely to increase the employer tax evasion in the UI program. According to their analysis an increase in tax rates has two opposite effects: (i) increases the evasion incentives by increasing the return from incomplete disclosure and (ii) decreases evasion incentives by reducing the optimal size of the workforce (more unemployment). Nevertheless, under certain parameter values, the latter effect is dominated by the former one. Moreover, they empirically verified the above findings.

The main contribution of our paper to the literature on tax evasion is the use of a Pissarides-type matching model of the labour market where workers have heterogeneous productive skills.[1] More specifically, we examine an intersectoral (two sectors) model of the labour market where workers and vacant jobs meet each other according to a constant returns to scale matching function. One of the sectors is characterized as the underground sector in the sense that in this sector filled jobs evade taxes (profit and firing[2] taxes). A rather striking result of our analysis is that under certain conditions, the welfare of a subgroup of the total population of individuals increases as profit tax rises.

In the standard Pissarides model of the labour market with stochastic job matchings, an increase in profit taxation (all firms are taxed with the same tax rate) will result in a decrease in the welfare of individuals. However, the existence of the untaxed sector in our model will initiate certain effects which will lead to a welfare improvement of some individuals. More specifically, when profit and severance tax increase, the following effects occur:

(i)     The mix of jobs changes in favour of the underground sector (i.e., underground sector becomes more attractive for firms). As a result of this change, the probability that an unemployed worker will meet a vacancy in the underground sector is greater than the probability that he will meet a vacancy in the taxed sector.

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[1] The framework of the model resembles that of Roy (1951), where individuals are assigned a random vector the elements of which indicate their productivities in each sector.

[2] Firing taxes (severance payments) are the payments – benefits received by an employee when he is laid off (e.g,. layoff compensation).

(ii)     The flow of firms out of the taxed sector is not equal to the flow of firms into the tax evading sector and therefore the total number and the arrival rate of vacant jobs decrease. In a Nash bargaining process the former effect increases the outside option (threatening point) of individuals who search only for jobs in the underground sector whereas the latter effect decreases it. If the impact of (i) is greater than that of (ii) on the outside option of those individuals then their welfare unambiguously increases.

Apart from welfare effects, we investigate the impact of an increase of profit and firing taxes on total unemployment and relative sectoral employment (thus measuring the size of the underground sector). We also examine how profit and severance taxes influence the occupational choice of individuals and the mix of vacancies. We find that payroll taxation in Albrecht et al (2006) work has the same impact on the above economic variables with the corporate and the firing tax in our analysis. However, our assumption about the endogeneity of the arrival rate of informal sector jobs is the driving force behind the result, that less people accept only informal sector jobs as corporate income tax or severance tax increase, when the parameter which captures the "technological" advances in the matching process is high enough. This result is the opposite from that of the firing and payroll tax in Albrecht et al (2006). Such a result cannot be obtained in the case of payroll taxation in the Albrecht et al paper, since the arrival rate of informal sector jobs is exogenous. This result also leads us to important policy implications. Active labour market policies favouring technological advances in the matching process between employers and employees (technological advances in the matching process include reforms such as the computerization of employment offices, job advertising on the internet, job-search assistance policies, governmental subsidies into policies helping the matching process etc.), will 'moderate' the expansion of the underground sector caused by an increase in profit/firing taxes. Moreover, the adoption of such policies, will limit the reduction of wages induced by higher taxes (corporate/firing).

The model which is closest to ours is that of Albrecht, Navarro and Vroman (2006). In their paper, they extended the standard Mortensen and Pissarides (1994) model of the endogenous job destruction by adding an informal sector and allowing for worker heterogeneity. More specifically, they assumed that the arrival[3] and the destruction rate of informal sector jobs are exogenous whereas formal sector jobs are characterized by endogenous (arrival and destruction) rates. The assumption of the exogenous arrival rate of informal sector jobs ignores the inter-relationship between the two sectors (formal-informal). More specifically, the number of vacancies (vacancy creation-job destruction) and the total level of unemployment in the formal sector will have an impact on the arrival rate of jobs in the informal sector and vice versa. The failure of their model to incorporate the aforementioned interaction will 'eliminate' the efficiency of active labour market policies in 'smoothing' the impact of taxation on the size of the underground economy. Moreover, Albrecht et al assumed that all individuals who are employed in the informal sector earn the same income (homogeneous productive abilities) while the workers in the formal sector have different productivities and hence they are paid different wages. This homogeneity assumption may have a drawback, since if the income received is too small –close to

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[3] The assumption of the exogenous arrival rate implies that the average unemployment rate among those who accept only informal sector jobs remains the same as payroll tax increases.

zero– then nobody will work for the informal sector. Moreover, it can be considered as a bit unrealistic. The homogeneity assumption regarding the earnings in the informal sector again limits the effectiveness of active labour market policies in the reduction of the distortionary effects of taxation on wages. In our analysis, individuals are heterogeneous regarding their productive abilities in both sectors.[4]. Furthermore, we assume that there are no productivity shocks (i.e., jobs in both sectors are characterized by the same exogenous destruction rate) and that all jobs arrive at the same endogenous rate.

The paper is organized as follows. In the next section, the basic model is presented. Section 3 examines the nature of equilibrium. Section 4 presents the comparative statics analysis and simulates the model. Section 5 concludes.

## 2. THE MODEL

## 2.1 ENVIRONMENT

We consider a continuous-time model with risk neutral and infinitely lived agents. A continuum of workers, normalized to unity, participate in the market. There are two sectors: 1 and 2. Before entering into the labour market, each individual is endowed with a two-dimensional skill vector $a \equiv (a_1, a_2)$, where $a_1$ and $a_2$ are independent random variables and uniformly distributed over the interval [0,1]. Denote the density function $f(a_1, a_2) = 1$.[5] Each element of this vector indicates the productive capability that an individual has in the corresponding sector. Hence, the output produced by an individual with skill vector $a$ is $a_1$, if he is employed in sector 1, and $a_2$, if he is employed in sector 2.

Workers are either employed or unemployed, and jobs are either filled or vacant. Each job can employ only one worker and vice versa (i.e., workers can be employed either in sector 1 or in sector 2 but not in both sectors). Filled jobs 'die' at an exogenous rate $\delta$. Assume free entry for vacancies, i.e., vacancies are created whenever it is profitable to do so (the long-run nature of the model allows the assumption of the free entry). Firms and workers discount the future at the same rate $r$. The cost of holding a vacancy is constant and equal to $c$. The value of the unemployment insurance benefit is equal to $b$. For simplicity, we will assume that $b$ is equal to zero. Firms in sector 1 pay a profit tax at rate $\tau$ (where $0 \leq \tau \leq 1$) in each period. Sector 2 is assumed to be the underground sector of the economy and therefore no tax is paid by sector 2 firms. However, profit tax evasion has an explicit cost. We will assume that the probability of being caught evading taxes is $\omega$, while the penalty rate is proportional to the level of the evaded tax and equal to $p\tau$, where $p$ is constant and greater than one and the product of $\omega$ times $p$ is less than one.

According to our assumptions, unemployed individuals cannot work in the shadow economy and employed individuals cannot be employed in both sectors (formal–

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[4] The wage differentials in the informal sector may capture the income uncertainty in this sector.
[5] Since $a_1$ and $a_2$ are indepedently distributed, their joint density will be the product of their marginal densities.

informal). It is obvious that there are situations in real life, where these assumptions are not true. However, such assumptions cannot be incorporated into the limited artificial environment of our model. The policy implications we obtain are logical and well-defined even without these assumptions. Nevertheless, the above cases can be considered as a topic for future research.

Workers and vacancies meet each other randomly according to a Pissarides-type matching function, $m(u,v)$, where $u$ is the unemployment rate (since the population of workers is normalized to one) and $v$ is the measure of vacancies. Moreover, we assume that the matching function exhibits constant returns to scale.[6] Hence the arrival rate for workers is $m(\theta)$ where $\theta = v/u$ is the measure of labour market tightness. The usual properties hold for $m(\theta)$, i.e., $m'(\theta) > 0$ and $\lim_{\theta \to 0}[m(\theta)] = 0$. The arrival rate for jobs is $m(\theta)/\theta$ with $[m(\theta)/\theta]' < 0$ and $\lim_{\theta \to 0}[m(\theta)/\theta] = \infty$. Let $\varphi$ denote the fraction of sector 1 vacancies. Hence, unemployed individuals meet sector 1 vacancies at rate $m(\theta)\varphi$ whereas the contact rate for sector 2 vacancies is $m(\theta)(1-\varphi)$.

## 2.2 DECISION MAKING

For a worker with ability vector $a$, let $U(a)$ be the value of unemployment, $W_i(a)$ be the value of employment in a job of sector $i$, $i = 1,2$, $J_i(a)$ be the value to the employer of filling a job in sector $i$, $z_i(a)$ be the probability that a match occurs when a worker with ability vector $a$ meets a vacancy in sector $i$, $\rho_i(a)$ be the probability that the worker is willing to get employed by a sector $i$ job and finally $V_i$ be the value of a vacancy of sector $i$.

**Workers**

*a) Unemployed*

The Bellman equation for an unemployed worker is

$$rU(a) = m(\theta)\varphi z_1(a)max\{W_1(a) - U(a),0\} + m(\theta)(1-\varphi)z_2(a)max\{W_2(a) - U(a),0\} \qquad (1)$$

According to the above equation, the flow value of unemployment for a worker endowed with ability vector $a$, is equal to the arrival rate of sector 1 vacancies willing to employ him times the maximum between the capital gain from being employed on sector 1 job and zero, plus the arrival rate of sector 2 vacancies willing to employ this individual times the maximum between the capital gain from working in sector 2 and zero.

*b) Employed*

The flow value of employment for a worker with ability $a$ on a job of sector $i$ is

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[6] Most empirical studies, such as Anderson and Burgess (2000), Coles and Smith (1996) and Burda (1993) find that a matching function with constant returns to scale fits the data quite well.

$$rW_i(a) = w_i(a) + \delta[U(a) - W_i(a)] \qquad i = 1,2 \tag{2}$$

where $w_i(a)$ is the wage received by a worker with skill vector $a$, employed to sector $i$. Equation (2), determines the flow value of employment as the sum of the flow return to employment (the wage) plus the instantaneous capital loss.

**Firms**

*a)      Vacant*

The Bellman equation for vacancies is

$$rV_i = -c + \frac{m(\theta)}{\theta} E_a[\rho_i(a) \max\{J_i(a) - V_i, 0\}] \tag{3}$$

Equation (3) incorporates the assumption that $a$ is unknown to vacancies before they contact workers and it is only realized when the meeting is taking place. However, firms know the distribution of $a$ s'. Thus they form expectations about their capital gain from becoming filled.

*b)  Filled*

The flow value to a firm in sector $i$ filled by a worker of type $a$ is

$$rJ_i(a) = [a_i - w_i(a)](1 - \omega_i p_i \tau) + \delta[V_i - J_i(a)] \tag{4}$$

where $\omega_1 p_1 = 1$ and $\omega_2 p_2 = \omega p$.

**Wage Formation and Reservation Ability**

Define $\hat{W}_i(a,w)$ as the value of employment in sector $i$ on wage $w$. If there is positive surplus, then

$$r\hat{W}_i = w + \delta[U(a) - \hat{W}_i] \Rightarrow \hat{W}_i = \frac{w + \delta U(a)}{r + \delta}$$

Define $\hat{J}_i(a,w)$ as the value of a filled vacancy in sector $i$ on wage $w$. If there is positive surplus, then

$$r\hat{J}_i = (1 - \omega_i p_i \tau)[a_i - w] + \delta[V_i - \hat{J}_i] \Rightarrow \hat{J}_i = \frac{(1 - \omega_i p_i \tau)[a_i - w] + \delta V_i}{r + \delta}$$

*Symmetric Nash Bargaining*

$$w = \arg\max_w [\hat{W}_i(a,w) - U(a)][\hat{J}_i(a,w) - V_i]$$

$$\Rightarrow \frac{1}{r + \delta}[\hat{J}_i(a,w) - V_i] = \frac{1 - \omega_i p_i \tau}{r + \delta}[\hat{W}_i(a,w) - U(a)]$$

Then at the equilibrium wage $w^*$, $J_i = \hat{J}_i$, $W_i = \hat{W}_i$ satisfing

$$W_i(a) - U(a) = \frac{J_i(a) - V_i}{1 - \omega_i p_i \tau} \tag{5}$$

The above condition implies that firms and workers have the same bargaining power. Given the free entry assumption, $V = 0$, equation (5) becomes

$$(1 - \omega_i p_i \tau)[W_i(a) - U(a)] = J_i(a) \tag{6}$$

Equation (6) implies that workers and firms have the same decision rule, i.e., if a worker is willing to get employed by a firm in sector $i$ then $z_i(a) = 1$ otherwise $z_i(a) = 0$ (a match is formed when there is a positive surplus to the match). By using equations (6), (2) and (4), we get that the wage earned by an individual of type $a$ employed in sector $i$ is

$$w_i(a) = \frac{1}{2}[a_i + rU(a)] \tag{7}$$

By using equations (7) and (2) we obtain

$$W_i(a) = \frac{1}{2}[\frac{a_i}{r + \delta}] + [\frac{(r/2) + \delta}{r + \delta}]U(a)$$

A match between an individual with ability vector $a$ with a vacancy of sector $i$ will take place if and only if $a_i \geq rU(a)$ where $i = 1,2$. We get this result by using (7), (2) and the fact that a match will occur if $W_i(a) \geq U(a)$. If $a_1 \geq (<) \ a_2$ and the latter condition holds for $a_2 \ (a_1)$ then it is implied that it will hold for $a_1 \ (a_2)$ too.

**Lemma 1** *Workers will always accept at least one type of job.*

<u>Proof</u>: If a worker never takes a job, $U(a) = 0$. But $W_i(a) = \frac{1}{2}[\frac{a_i}{r + \delta}] > 0$ implies that a positive matching surplus exists which contradicts the argument that a worker will reject any type of job.[7]

**Lemma 2** *Individuals accept only sector 1 jobs if and only if* $a_2 \leq a_2^R(a_1) = \frac{m\varphi a_1}{2(r + \delta) + m\varphi}$, *where* $0 \leq a_1 \leq 1$.

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[7]As it is easily noted, for $a_1$, $a_2 = 0$ individuals are indifferent between accepting or rejecting employment. In such a case, we will assume that individuals accept employment.

Proof: Suppose that $a_1 \geq a_2$. This implies that $W_1(a) \geq W_2(a)$. It can be easily shown that there is an $a_2 = a_2^R$, such that

$$W_2(a_1, a_2^R) = U(a_1, a_2^R) \Rightarrow rU(a_1, a_2^R) = a_2^R$$

From equation (1) we get:

$$rU(a_1, a_2^R) = m(\theta)\varphi[W_1(a_1, a_2^R) - U(a_1, a_2^R)]$$

By using equation (2) and (7), we can show that $a_2^R(a_1) = \dfrac{m\varphi a_1}{2(r + \delta) + m\varphi}$. Hence if

$a_1 \geq a_2 \geq a_2^R(a_1)$, then $W_2(a) \geq U(a)$ and individuals accept jobs in both sectors. However if $a_2 < a_2^R \Rightarrow a_2 < rU(a)$, there is no gain from trade with a sector 2 firm and thus workers do not accept jobs in sector 2. Similarly, for $a_1 < a_2$, we get the following Lemma.

**Lemma 3** *Individuals accept only sector 2 jobs if and only if* $a_1 \leq a_1^R(a_2) = \dfrac{m(1 - \varphi)a_2}{2(r + \delta) + m(1 - \varphi)}$, *where* $0 \leq a_2 \leq 1$.

Proof: It is similar to that of Lemma 2.
The economic intuition behind Lemmas 2 and 3 is the following. When the arrival rate of job offers is high, then individuals are less willing to accept jobs in which they are less productive (the cost of remaining unemployed now by rejecting such job offers is dominated by the benefit of getting employed in a well-paid job in the near future). The same applies when the layoff rate of filled jobs and/or the rate of time preferences (as expressed by the interest rate) are low.
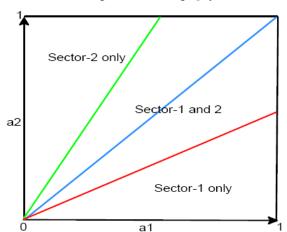


Diagram 1 : Demography

Lemmas 1, 2 and 3 are illustrated in Diagram 1. The blue line is the $45^o$ degree line. On the horizontal axis is the productive capability ($a_1$) of each individual in sector 1 and on the vertical axis is the corresponding capability ($a_2$) in sector 2. The green (red) line is the 'frontier' above (below) which individuals accept jobs only in sector 2 (1).

Following from Lemmas 1, 2 and 3 when the arrival rate of job offers increases and the job's destruction rate and/or the interest rate decreases, the red (green) line shifts upwards (downwards). Moreover, when the arrival rate of sector 1 (2) employment opportunities goes up, the red (green) line shifts upwards (downwards).

By using Lemmas 1, 2 and 3 and equations (1), (2) and (7) we get the following flow values of unemployment:

$$rU(a) = \frac{m(.)\phi a_1}{2(r+\delta)+m(.)\phi} \quad \text{if} a_2 \leq a_2^R \tag{8}$$

$$rU(a) = \frac{m(.)(1-\phi)a_2}{2(r+\delta)+m(.)(1-\phi)} \quad \text{if} a_1 \leq a_1^R \tag{9}$$

$$rU(a) = \frac{m(.)[\phi a_1 + (1-\phi)a_2]}{2(r+\delta)+m(.)} \quad \text{otherwise} \tag{10}$$

The flow value of unemployment for workers with $a$'s below the reservation values depends only on their preferred $a$ ($a_1$ or $a_2$). On the other hand, a worker with ability vector that enables him to accept any employment opportunity has his flow value depending on his joint ability vector.

Using equations (4), (7), (8), (9) and (10), and the free entry condition $V_i = 0$, we can easily derive the following values for filled jobs:

$$J_1(a) = \frac{a_1(1-\tau)}{2(r+\delta)+m(.)\varphi} \text{if} a_2 \leq a_2^R \tag{11}$$

$$J_2(a) = \frac{a_2(1-\omega p\tau)}{2(r+\delta)+m(.)(1-\varphi)} \text{if} a_1 \leq a_1^R \tag{12}$$

$$J_1(a) = \frac{[2(r+\delta)a_1 + m(1-\varphi)(a_1-a_2)](1-\tau)}{2(r+\delta)[2(r+\delta)+m]} \text{if} a_2 \geq a_1 > a_1^R \text{ & } a_1 \geq a_2 > a_2^R \tag{13}$$

$$J_2(a) = \frac{[2(r+\delta)a_2 + m\varphi(a_2-a_1)](1-\omega p\tau)}{2(r+\delta)[2(r+\delta)+m]} \text{if} a_2 \geq a_1 > a_1^R \text{ & } a_1 \geq a_2 > a_2^R \tag{14}$$

## 3. STEADY STATE

Let $\lambda_t(a)$ and $g_t(a)$ denote the densities of unemployed and employed individuals respectively with skill vector, $a$, at time $t$. The above densities are related by the restriction that $f(a) = \lambda_t(a) + g_t(a)$ where $f(a) = 1$ is the density of the total population which does not depend on time. During any infinitely small interval of time, $dt$, unemployed individuals with $a_2 \leq a_2^R(a_1)$ and $0 \leq a_1 \leq 1$ become employed at rate $m(\theta)\varphi dt$ whereas a fraction $\delta dt$ of them lose their job. Hence, the evolution of employed individuals with $0 \leq a_2 \leq a_2^R(a_1)$ and $0 \leq a_1 \leq 1$ will be equal to $m(\theta)\varphi\lambda_t(a)dt - \delta g_t(a)dt$. Similarly, we can define the evolution of employed individuals with $0 \leq a_1 \leq a_1^R$, $1 \geq a_2 \geq 0$, and $\tilde{a}_1 \leq a_1 \leq 1$, $a_2^R < a_2 \leq 1$ and $a_2^R(a_1) < a_2 < a_1^{R^{-1}}$, $0 \leq a_1 \leq \tilde{a}_1$ (where $a_1^{R^{-1}}(\tilde{a}_1) = 1$ and $a_1^{R^{-1}}$ is the inverse function of $a_1^R$). In steady-state the evolution of employed individuals is equal to zero (i.e., the flow of workers out of unemployment should be equal to the flow of workers back to unemployment). Hence, the steady-state distribution of employed individuals is given by (where the use of $f(a) = \lambda_t(a) + g_t(a) = 1$ has been made):

$$g(a) = \frac{m(\theta)\eta(a)}{m(\theta)\eta(a) + \delta} \tag{15}$$

where

$$\eta(a) = \begin{cases} \varphi & \text{for } 0 \leq a_2 \leq a_2^R, 0 \leq a_1 \leq 1 \\[2em] 1 & \text{for } \tilde{a}_1 \leq a_1 \leq 1, a_2^R < a_2 \leq 1 \,\&\, a_2^R < a_2 < a_1^{R^{-1}}, 0 \leq a_1 \leq \tilde{a}_1 \\[2em] 1 - \varphi & \text{for } 0 \leq a_1 \leq a_1^R, 1 \geq a_2 \geq 0 \end{cases}$$

Following the same procedure, we get the steady-state distribution of unemployed individuals which is equal to

$$\lambda(.) = \delta/[\delta + \eta(a)m(\theta)] \tag{16}$$

By integrating $\lambda(.)$ and dividing by the steady-state unemployment $u$ we get the proportion of unemployed individuals in each of the above cases. For example the proportion of unemployed individuals who accept any job offer is

$$(\int_0^1 \psi(a_1 - a_2^R)da_1 + \int_0^1 \psi(a_2 - a_1^R)da_2)/u, \text{ where } \psi = \delta/(m + \delta).$$

Among all individuals, those who accept employment only in one sector suffer more unemployment. This is reasonable since such workers receive 'worthwhile' offers at a slower rate. The steady state unemployment is given by

$$u = \int_{a_2=0}^{1}\int_{a_1=0}^{1} \lambda(a)da_1da_2$$

By doing the calculations, we obtain

$$u(\theta,\varphi) = \frac{\delta m}{2}\left\{\frac{(1-\varphi)}{[2(r+\delta)+m(1-\varphi)][m(1-\varphi)+\delta]} + \frac{\varphi}{[2(r+\delta)+m\varphi](m\varphi+\delta)}\right\} +$$
$$(r+\delta)\psi\left\{\frac{4(r+\delta)+m}{[2(r+\delta)+m\varphi][2(r+\delta)+m(1-\varphi)]}\right\} \qquad (17)$$

The steady-state employment can be defined as $1-u$.

**Definition 1** *A steady-state equilibrium is a five tuple* $a_2^R$, $a_1^R$, $\theta$, $u$, $\varphi$ *that satisfy:*
*(i) 'Free' entry, i.e.,* $V_i = 0$, $i = 1,2$, *(ii) 'Balanced flows,' i.e., the flow of workers out of unemployment equals to the flow of workers into unemployment (equation (17)) and (iii) the reservation properties in Lemmas 2 and 3.*

Let $F(a_1,a_2)$ denote the cumulative distribution function (c.d.f.) describing the distribution of $a$ across unemployed workers. Then:

$$\frac{\partial^2 F}{\partial a_1 \partial a_2} = \frac{\lambda(a)}{u}$$

The free entry conditions can be written as:

$$c = \frac{m(\theta)}{\theta}\int_{a_1=0}^{1}\int_{a_2=a_2^R}^{1} J_1(a)\frac{\partial^2 F}{\partial a_1 \partial a_2} da_2 da_1$$

$$c = \frac{m(\theta)}{\theta}\int_{a_2=0}^{1}\int_{a_1=a_1^R}^{1} J_2(a)\frac{\partial^2 F}{\partial a_1 \partial a_2} da_1 da_2$$

From equations (3), (11), (12), (13), (14), (16) and Lemmas 1, 2 and 3 the free entry condition for each sector can be written as (where $m = m(\theta)$):

$$c = \frac{m(1-\tau)}{\theta u(\theta,\varphi)}\left\{\int_{0}^{1}\frac{a_1 m\varphi a_1 \delta}{[2(r+\delta)+m\varphi]^2(m\varphi+\delta)}da_1 + \int_{0}^{a_1^R(1)}\int_{a_2^R(\theta,\varphi)}^{a_1^{R^{-1}}(\theta,\varphi)} \mu da_2 da_1 + \right.$$
$$\left. \int_{a_1^R(1)}^{1}\int_{a_2^R(\theta,\varphi)}^{1} \mu da_2 da_1\right\} \qquad (18)$$

where $\quad \mu = \dfrac{[2(r+\delta)a_1 + m(1-\varphi)(a_1 - a_2)]\psi}{2(r+\delta)[2(r+\delta)+m]}$ and $\quad a_1^R(1) = \dfrac{m(1-\varphi)}{2(r+\delta)+m(1-\varphi)}.$

$$c = \frac{m(1-\omega p\tau)}{\theta u(\theta,\varphi)}\{\int_0^1 \frac{a_2[m(1-\varphi)a_2]\delta}{[2(r+\delta)+m(1-\varphi)]^2[m(1-\varphi)+\delta]}da_2 +$$

$$\int_0^{a_2^R(1)}\int_{a_1^R(\theta,\varphi)}^{a_2^{R^{-1}}(\theta,\varphi)} \zeta da_1 da_2 + \int_{a_2^R(1)}^1\int_{a_1^R(\theta,\varphi)}^1 \zeta da_1 da_2\} \tag{19}$$

where $\qquad \zeta = \dfrac{[2(r+\delta)a_2 + m\varphi(a_2-a_1)]\psi}{2(r+\delta)[2(r+\delta)+m]}$ and $\qquad a_2^R(1) = \dfrac{m\varphi}{2(r+\delta)+m\varphi}.$

Equations (18) and (19) equate the cost of holding a vacancy with the expected revenue from filling it (where the expected revenue is equal to the sum of products of the arrival rate of unemployed with the conditional expectation of a job's net worth). The equilibrium values of $\theta$ and $\varphi$ are given by the solution of the system of (18) and (19) (for the proof of the existence of the equilibrium see the Appendix).

## 4. COMPARATIVE STATICS

This section analyzes the impact of an increase in profit taxes in sector 1 on the steady-state equilibrium. More specifically, it analyzes the comparative static effects of profit tax on reservation values, unemployment, welfare of individuals and the size of the underground economy. Let $Z$ be the right-hand side of equation (18) and $\Gamma$ be the right-hand side of equation (19). In order to find the comparative static effects, totally differentiate equations (18) and (19):

$$0 = \frac{\partial Z}{\partial \theta}d\theta + \frac{\partial Z}{\partial \varphi}d\varphi + \frac{\partial Z}{\partial \tau}d\tau$$

$$0 = \frac{\partial \Gamma}{\partial \theta}d\theta + \frac{\partial \Gamma}{\partial \varphi}d\varphi + \frac{\partial \Gamma}{\partial \tau}d\tau$$

By rearranging, and dividing by $d\tau$ we get

$$\frac{\partial Z}{\partial \theta}\frac{d\theta}{d\tau} + \frac{\partial Z}{\partial \varphi}\frac{d\varphi}{d\tau} = -\frac{\partial Z}{\partial \tau} \tag{20}$$

$$\frac{\partial \Gamma}{\partial \theta}\frac{d\theta}{d\tau} + \frac{\partial \Gamma}{\partial \varphi}\frac{d\varphi}{d\tau} = -\frac{\partial \Gamma}{\partial \tau} \tag{21}$$

It can be easily shown that $\partial\Gamma/\partial\tau < 0$ and $\partial Z/\partial\tau < 0$. The sign of the partial derivatives of $Z$ ($\Gamma$) with respect to the fraction of sector 1 vacancies ($\varphi$) and with respect to the measure of labour tightness ($\theta$) cannot be determined without giving certain values to the parameters of the model. If we evaluate them at $\varphi = 0.5$ ($0.5$ is the steady-state value of $\varphi$, when $\tau = 0$ and the model is symmetric – for $\tau = 0$,

equations (18), (19) are equal if $\varphi = 0.5$ )[8], and if we assume that the elasticity of $m(.)$ with respect to $\theta$ is less than or equal to 0.5 (in the case of a Cobb–Douglas matching function characterized by constant returns to scale, $m(\theta) = A\theta^{\gamma}$ where $\gamma$ is the elasticity of $m(\theta)$ with respect to $\theta$ and $A$ is a parameter that captures the matching efficiency) then $\partial Z/\partial \theta$ ( $\partial \Gamma/\partial \theta$ ) is negative (negative) and $\partial Z/\partial \varphi$ ( $\partial \Gamma/\partial \varphi$ ) is negative (positive) for any value of the parameters (see the Appendix).

According to the preceding analysis, equations (20) and (21) can be written as

$$
\begin{bmatrix}
\dfrac{\partial Z}{\partial \theta}|_{\varphi=0.5} & \dfrac{\partial Z}{\partial \varphi}|_{\varphi=0.5} \\
(-) & (-) \\
\dfrac{\partial \Gamma}{\partial \theta}|_{\varphi=0.5} & \dfrac{\partial \Gamma}{\partial \varphi}|_{\varphi=0.5} \\
(-) & (+)
\end{bmatrix}
\begin{bmatrix}
\dfrac{d\theta}{d\tau}|_{\varphi=0.5} \\
\dfrac{d\varphi}{d\tau}|_{\varphi=0.5}
\end{bmatrix}
=
\begin{bmatrix}
-\dfrac{\partial Z}{\partial \tau}|_{\varphi=0.5} \\
(+) \\
-\dfrac{\partial \Gamma}{\partial \tau}|_{\varphi=0.5} \\
(+)
\end{bmatrix}
\tag{22}
$$

where the brackets below the partial derivatives indicate their sign. By solving (22), we get that $\dfrac{d\theta}{d\tau}|_{\varphi=0.5}, \dfrac{d\varphi}{d\tau}|_{\varphi=0.5} < 0$ (For $\varphi = 0.5$, it can be easily derived that $\dfrac{\partial \Gamma}{\partial \theta}|_{\varphi=0.5} \dfrac{\partial Z}{\partial \tau}|_{\varphi=0.5} - \dfrac{\partial Z}{\partial \theta}|_{\varphi=0.5} \dfrac{\partial \Gamma}{\partial \tau}|_{\varphi=0.5} > 0$ ). These total derivatives imply that if we start from the symmetric case where $\tau = 0$ and increase $\tau$, then the new steady-state equilibrium will be characterized by lower $\theta$ and $\varphi$.

As $\tau$ increases, the right hand side of equations (18) and (19) decreases while the left hand side (cost of holding a vacancy) remains unchanged. However, the right-hand side of equation (18) decreases at a faster rate. As a result of this change, sector 1 and 2 will reduce their vacancy supply until the zero profit condition (equations (18), (19)) is restored. This reaction will have two effects: (i) the reduction of the vacancy-unemployment ratio ( $\theta = v/u$ ) since the total number of vacancies decreases and (ii) the change of the mix of vacancies in favour of the underground sector (decrease of $\varphi$). This result is driven by the fact that equation (18) decreases at a faster rate.

As was previously shown, the reduction of $\varphi$ has a positive impact on the right hand side of equation (18)[9]. The positive effect from the decrease of the fraction of sector 1 vacancies will mitigate the negative one from the increase of profit taxation, and therefore will confine the reduction of sector 1 vacancies and consequently of the measure of labour market tightness. However, the negative effect will prevail and the vacancy-unemployment ratio will be reduced. The reaction of sector 1 in profit taxation will have an immediate impact on the underground sector. The decrease of $\theta$

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[8] By evaluating the partial derivative of $Z$ ( $\Gamma$ ) w.r.t. $\varphi$ at $\phi=0.5$, we get a good approximation for the change that occurs on $Z$ ( $\Gamma$ ) as $\varphi$ deviates from 0.5.

[9] As $\varphi$ decreases the number of unemployed searching only for sector 1 jobs increases (since $\delta/(\delta + m(\theta)\varphi)$ decreases) and their reservation ability and consequently their threat point in the bargaining process decreases. These two effects lead to the increase of the expected revenue of sector 1 firms.

as a result of the lower vacancy supply in sector 1 will give an incentive in sector 2 to increase its vacancy creation. However, this effect will be completely offset by the negative effect caused by the change in the mix of vacancies in favour of the shadow sector[10] and the increase in tax rates. At the end the steady-state measure of labour market tightness and the fraction of sector 1 vacancies will diminish. A number of individuals previously searching only for sector 1 jobs will now accept offers in both sectors as $a_2^R$ unambiguously decreases.[11] The impact that the taxation of profits has on $a_1^R$ is ambiguous. The reason for that is the existence of two opposing effects; the 'tightness' effect (reduction of $\theta$) which decreases $a_1^R$ and the 'composition' effect (reduction of $\varphi$) which increases $a_1^R$. More people will accept jobs only in the underground sector if and only if

$$
\frac{\dfrac{d\theta}{d\tau}\big|_{\varphi=0.5}}{\dfrac{d\varphi}{d\tau}\big|_{\varphi=0.5}} < \frac{m(\theta)}{m'(\theta)(1/2)} = \frac{2\theta}{\kappa(\theta)}
\tag{23}
$$

where $\kappa(\theta)$ is the elasticity of $m(\theta)$ with respect to $\theta$.

If inequality (23) holds, then the percentage of individuals working in the underground sector will be greater after the increase in the profit tax. Moreover, if (23) holds then the arrival rate of sector 2 ($m(\theta)(1-\varphi)$) jobs increases as we raise the profit tax ($\frac{d[m(\theta)(1-\varphi)]}{d\tau} = m'(\theta)\varphi\frac{d\theta}{d\tau} - m(\theta)\frac{d\varphi}{d\tau}$). By assuming a Cobb–Douglas matching function characterized by constant returns to scale and simulating the model, we can show that (23) does not hold if the parameter which captures the matching technology (constant of matching) is quite high (the constant of matching can be increased through active labour market policies). This occurs since the higher the value of the parameter which captures the 'technological' advances in the matching process, the lower is the positive effect caused by the increase of $\varphi$-the high value of the constant of matching, will mitigate the negative impact of taxation on the fraction of sector 1 vacancies (for high values of this parameter, the positive effect from $\varphi$ is dominated by the negative effect from $\theta$). However, even if (23) does not hold, then if we start from the symmetric case ($\varphi = 0.5$, $\tau = 0$) and raise the tax the percentage of individuals working in the underground sector will again be greater. This occurs due to the fact that the decrease of $a_2^R$ is greater than the decrease of $a_1^R$ and because an individual who accepts jobs in both sectors, is more likely to be offered a sector 2 job (as a result of the decrease in $\varphi$). Table 1, presents the results of a simulation of the model described above when (23) holds. In Table 1, the baseline values of the

---

[10] By bringing the cost of holding a vacancy, $c$ on the right-hand side of equation (18) and total differentiating, we get that $\frac{\partial\Gamma}{\partial\theta}\big|_{\phi=0.5}d\theta = -\frac{\partial\Gamma}{\partial\phi}\big|_{\phi=0.5}d\phi$, where the partial derivatives are evaluated in the case where the profit tax is equal to zero (symmetric case).

[11] $a_2^R$ is increasing in $\varphi$ and $\theta$.

parameters are: $A = 0.5$, $c = 0.3$, $\delta = 0.1$, $r = 0.05$, $\omega = 0.3$, $p = 1.5$ and $m(\theta) = A\sqrt{\theta}$ (where $A$ is the parameter capturing the technological advances in the matching process). Finally, Table 2 presents a case where (23) does not hold ( $A = 1.5$, $c = 0.3$, $\delta = 0.1$, $r = 0.05$, $\omega = 0.3$, $p = 1.5$ and $m(\theta) = A\theta^{0.5}$ ). Our parameter values where chosen so as to produce plausible results for our baseline case where there are no taxes.

Table 1: *Simulation of the model when (23) holds*

| $\tau$ | $\theta$ | $\varphi$ | $u$ | $a_2^R$ | $a_1^R$ | % s.1 empl. | % s.2 empl. |
|---|---|---|---|---|---|---|---|
| 0 | 1.115 | 0.5 | 0.213 | 0-0.4681 | 0-0.4681 | 0.5 (0.3935) | 0.5 (0.3935) |
| 0.05 | 1.063 | 0.487 | 0.217 | 0-0.4556 | 0-0.4685 | 0.488 (0.382) | 0.512 (0.401) |
| 0.1 | 1.012 | 0.471 | 0.22 | 0-0.4412 | 0-0.47 | 0.473 (0.369) | 0.527 (0.411) |
| 0.15 | 0.961 | 0.454 | 0.224 | 0-0.4259 | 0-0.4715 | 0.457 (0.355) | 0.543 (0.421) |
| 0.2 | 0.91 | 0.434 | 0.227 | 0-0.4083 | 0-0.4736 | 0.438 (0.339) | 0.562 (0.434) |

The last two columns of Tables 1 and 2 present the fraction of sector 1 and sector 2 employed (where inside the brackets is the absolute number of employed). The fourth and the fifth column present the range of the reservation abilities.

Table 2: *Simulation of the model when (23) does not hold*

| $\tau$ | $\theta$ | $\varphi$ | $u$ | $a_2^R$ | $a_1^R$ | % s.1 empl. | % s.2 empl. |
|---|---|---|---|---|---|---|---|
| 0 | 1.718 | 0.5 | 0.082 | 0-0.7662 | 0-0.7662 | 0.5 (0.459) | 0.5 (0.459) |
| 0.05 | 1.648 | 0.495 | 0.083 | 0-0.761 | 0-0.7642 | 0.498 (0.457) | 0.502 (0.46) |
| 0.1 | 1.578 | 0.489 | 0.085 | 0-0.754 | 0-0.7624 | 0.494 (0.452) | 0.506 (0.463) |
| 0.15 | 1.508 | 0.482 | 0.087 | 0-0.747 | 0-0.761 | 0.491 (0.45) | 0.509 (0.465) |
| 0.2 | 1.437 | 0.475 | 0.088 | 0-0.74 | 0-0.759 | 0.487 (0.44) | 0.513 (0.468) |

As we observe unemployment increases in $\tau$. The main reason for that is the decrease in $\theta$. When labour market tightness decreases, unemployment increases due to the decrease of the contact rate.

However, there is a positive effect stemming from the fact that individuals become less picky. If

$$min[2a_1\delta\varphi(r+\delta) - a_1 m^2(.)\varphi^2, 2a_1\delta(1-\varphi)(r+\delta) - a_1 m^2(.)(1-\varphi)^2] \leq 0$$

(i.e., as frictions decline or as we approach the classical model) then the positive effect is dominated by the negative effect and unemployment increases.

As was discussed above, when the constant of matching ( $A$ ) and consequently the contact rate among economic agents is high enough, then the reservation productivity of those accepting only informal sector jobs decreases. This result is the opposite with the case of firing and payroll tax in Albrecht et al (2006). This result occurs since in our formulation the arrival rate of informal sector jobs is endogenous. Hence, our analysis implies that a corporate income tax can lead to the opposite reservation

results[12] regarding informal sector as a firing or a payroll tax increases, as long as matching technology is relatively high (high matching technology can be obtained through active labour market policies). This effect will mitigate the expansion of the underground sector. In other words, active labour market policies assisting the matching process will limit the negative effects of taxation. Moreover, the average wage decreases with corporate income tax regardless of inequality (23) but when (23) does not hold –the constant of matching is high– then the decrease is smoother. This result is illustrated in Diagrams 2 and 3.

**Diagram 2**

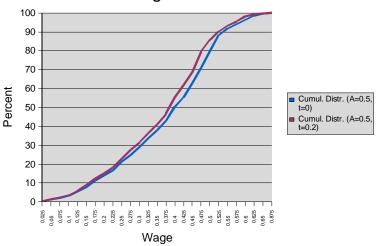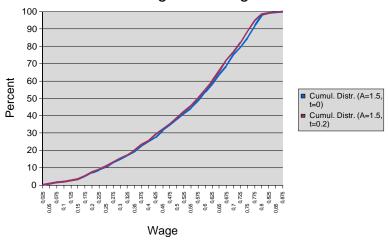## Distribution of Wages with Low Contact Rate



**Diagram 3**

## Distribution of Wages with High Contact Rate



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[12] The number of people searching only for informal sector jobs will decrease.

Our welfare analysis will focus on the individuals who accept jobs only in the underground sector. This is because under certain conditions their welfare increases with profit tax. More specifically, according to our previous analysis, if (23) holds then $a_1^R$ and the arrival rate of sector 2 vacancies both increase with profit taxation. An immediate result from the increase of $a_1^R$ is the increase of the wage received by the individuals who are employed in sector 2 and their $a_2 \le a_1^R$ (for those individuals $a_1^R$ represents their reservation wage). Moreover, an increase in the arrival rate of jobs in the underground sector decreases the period of unemployment for those searching for sector 2 jobs. Hence, the welfare of individuals with $a_2 \le a_1^R$ (accept jobs only in sector 2) after the increase of profit tax unambiguously increases.

## 4.1 FIRING TAXES

Under a firing tax and without corporate taxes equation (4) becomes

$$rJ_i(a) = [a_i - w_i(a)] + \delta[V_i - J_i(a) - s_i] \tag{4b}$$

where $s_2 = \omega ps$, $s_1 = s$ and $s$ is the firing tax. Mathematical calculations yield

$$J_1(a \mid a_2 \le a_2^R) = \frac{a_1}{2(r+\delta) + m(.)\varphi} - \frac{\delta s}{r+\delta} \tag{11b}$$

$$J_2(a \mid a_1 \le a_1^R) = \frac{a_2}{2(r+\delta) + m(.)(1-\varphi)} - \frac{\delta \omega ps}{r+\delta} \tag{12b}$$

$$J_1(a \mid a_2 \ge a_1 > a_1^R \ \& \ a_1 \ge a_2 > a_2^R) = \frac{[2(r+\delta)a_1 + m(1-\varphi)(a_1 - a_2)]}{2(r+\delta)[2(r+\delta)+m]} - \frac{\delta s}{r+\delta} \tag{13b}$$

$$J_2(a \mid a_2 \ge a_1 > a_1^R \ \& \ a_1 \ge a_2 > a_2^R) = \frac{2(r+\delta)a_2 + m\varphi(a_2 - a_1)}{2(r+\delta)[2(r+\delta)+m]} - \frac{\delta \omega ps}{r+\delta} \tag{14b}$$

The flow values of unemployment are the same with these in the analysis of corporate taxation. Hence, under a firing tax the equilibrium values of $\theta$ and $\varphi$ are given from the following equations:

$$c = \frac{m}{\theta u(\theta,\varphi)} \{[\int_0^1 \frac{a_1 m\varphi a_1 \delta}{[2(r+\delta)+m\varphi]^2(m\varphi+\delta)} da_1 + \int_0^{a_1^R(1)} \int_{a_2^R(\theta,\varphi)}^{a_1^{R-1}(\theta,\varphi)} \mu da_2 da_1 +$$

$$\int_{a_1^R(1)}^1 \int_{a_2^R(\theta,\varphi)}^1 \mu da_2 da_1 ]\}$$

$$- \frac{\delta s}{(r+\delta)} \{[\int_0^1 \int_0^{a_1^R(\theta,\varphi)} \frac{\delta}{m\varphi+\delta} da_2 da_1 + \int_0^{a_1^R(1)} \int_{a_2^R(\theta,\varphi)}^{a_1^{R-1}(\theta,\varphi)} \frac{\delta}{m+\delta} da_2 da_1$$

$$+ \int_{a_1^R(1)}^1 \int_{a_2^R(\theta,\varphi)}^1 \frac{\delta}{m+\delta} da_2 da_1 ]\} \tag{18b}$$

$$
\begin{aligned}
c = \frac{m}{\theta u(\theta,\varphi)} \Big\{ & \int_0^1 \frac{a_2[m(1-\varphi)a_2]\delta}{[2(r+\delta)+m(1-\varphi)]^2[m(1-\varphi)+\delta]} da_2 + \int_0^{a_2^R(1)} \int_{a_1^R(\theta,\varphi)}^{a_2^{R-1}(\theta,\varphi)} \zeta da_1 da_2 + \\
& \int_{a_2^R(1)}^1 \int_{a_1^R(\theta,\varphi)}^1 \zeta da_1 da_2 \Big\} - \frac{\delta \omega p s}{(r+\delta)} \Big\{ \Big[ \int_0^1 \int_0^{a_2^R(\theta,\varphi)} \frac{\delta}{m(1-\varphi)+\delta} da_1 da_2 + \int_0^{a_2^R(1)} \int_{a_1^R(\theta,\varphi)}^{a_2^{R-1}(\theta,\varphi)} \frac{\delta}{m+\delta} da_1 da_2 \\
& + \int_{a_2^R(1)}^1 \int_{a_1^R(\theta,\varphi)}^1 \frac{\delta}{m+\delta} da_1 da_2 \Big] \Big\}
\end{aligned}
\tag{19b}
$$

The existence of equilibrium can be easily proven (see the Appendix). Following the same procedure with the above subsection, we get $\frac{d\theta}{ds}\big|_{\varphi=0.5}, \frac{d\varphi}{ds}\big|_{\varphi=0.5} < 0$ (see the Appendix). Hence, an increase in firing tax (when corporate tax is zero) has the same effects as the increase in corporate taxation. In the case of severance taxes, equation (23) becomes

$$
\frac{\dfrac{d\theta}{ds}\big|_{\varphi=0.5}}{\dfrac{d\varphi}{ds}\big|_{\varphi=0.5}} < \frac{m(\theta)}{m'(\theta)(1/2)} = \frac{2\theta}{\kappa(\theta)}
\tag{23b}
$$

In Albrecht et al (2006) an increase in firing tax will reduce the level of the unemployment rate. In our model the exact opposite result occurs (i.e. unemployment increases in firing tax). This result occurs, because in our analysis the reduction in the job arrival rate is not outweighed by the increasing job duration since it is assumed that there is no endogenous job destruction.

Table 3 presents the results of a simulation of the model described above when (23b) holds. In Table 3, the baseline values of the parameters are $A = 0.5$, $c = 0.3$, $\delta = 0.1$, $r = 0.05$, $\omega = 0.3$, $p = 1.5$ and $m(\theta) = A\sqrt{\theta}$. Table 4 presents the case where (23b) does not hold ( $A = 1.5$, $c = 0.3$, $\delta = 0.1$, $r = 0.05$, $\omega = 0.3$, $p = 1.5$ and $m(\theta) = A\theta^{0.5}$ ).

*Table 3: Simulation of the model when (23b) holds*

| $s$ | $\theta$ | $\varphi$ | $u$ | $a_2^R$ | $a_1^R$ | % s.1 empl. | % s.2 empl. |
|---|---|---|---|---|---|---|---|
| 0 | 1.115 | 0.5 | 0.213 | 0-0.4681 | 0-0.4681 | 0.5 (0.3935) | 0.5 (0.3935) |
| 0.01 | 1.107 | 0.498 | 0.214 | 0-0.4662 | 0-0.4682 | 0.498 (0.3914) | 0.502 (0.3946) |
| 0.03 | 1.092 | 0.494 | 0.215 | 0-0.4625 | 0-0.4684 | 0.494 (0.3878) | 0.505 (0.3964) |
| 0.08 | 1.055 | 0.485 | 0.217 | 0-0.454 | 0-0.4685 | 0.486 (0.3805) | 0.514 (0.4025) |

Table 4: *Simulation of the model when (23b) does not hold*

| $s$ | $\theta$ | $\varphi$ | $u$ | $a_2^R$ | $a_1^R$ | % s.1 empl. | % s.2 empl. |
|------|-------|-------|-------|-----------|-----------|---------------|----------------|
| 0 | 1.718 | 0.5 | 0.082 | 0-0.7662 | 0-0.7662 | 0.5 (0.459) | 0.5 (0.459) |
| 0.01 | 1.698 | 0.499 | 0.082 | 0-0.7648 | 0-0.7655 | 0.4995 (0.4585) | 0.5005 (0.4594) |
| 0.03 | 1.658 | 0.495 | 0.083 | 0-0.7612 | 0-0.7648 | 0.4975 (0.4562) | 0.5025 (0.4608) |
| 0.08 | 1.562 | 0.488 | 0.085 | 0-0.753 | 0-0.7619 | 0.494 (0.452) | 0.506 (0.463) |

The last two columns of Tables 3 and 4 present the fraction of sector 1 and sector 2 employed (where inside the brackets is the absolute number of employed). The fourth and the fifth column present the range of the reservation abilities.

## 5. CONCLUSION

In this paper, we examined how profit and firing taxation influence the size of the underground economy. We conclude that the impact of wage and payroll taxation on the size of the underground sector (a subject which is widely examined by the literature) is the same with that of profit and firing taxation. More specifically as profit tax or severance tax increases, the size of the underground sector increases too. Moreover, we showed that the adoption of active labour market policies which assist unemployed individuals to find more easily the 'whereabouts' of vacant jobs, will 'mitigate' the expansion of underground sector and the reduction of wages caused by taxation. Finally, active labour market policies can increase the welfare of a subgroup of individuals as taxation (corporate or firing) increases.

## REFERENCES

Albrecht, J. and S. Vroman 2002, 'A matching model with endogenous skill requirements,' *International Economic Review* 43(1): 283–305.

Albrecht, J., L. Navarro, and S. Vroman 2006, 'The effects of labor market policies in an economy with an informal sector', *IZA Discussion Paper* No. 2141, Institute for the Study of Labor, Bonn.

Allingham, M. and A. Sandmo (1972), 'Income tax evasion: A theoretical analysis,' *Journal of Public Economics* 1(3–4): 323–338.

Anderson, P. and S. Burgess (2000), 'Empirical matching functions: Estimation and interpretation using state-level data,' *Review of Economics and Statistics* 82(1): 93–102.

Blakemore, A., P. Burgess, S. Low and R. Louis (1996), 'Employer tax evasion in the unemployment insurance program,' *Journal of Labor Economics* 14(2): 210–230.

Burda, M. (1993), 'Unemployment labour markets and structural change in Eastern Europe,' *Economic Policy* 16(April): 101–137.

Clotfelter, C. (1983), 'Tax evasion and tax rates: An analysis of individual returns,' *Review of Economics and Statistics* 65(3): 363–373.

Coles, M., and E. Smith (1996), 'Cross-section estimation of the matching function: Evidence from England and Wales,', *Economica* 63(252): 589–597.

Giles, D. (1999a), 'Measuring the hidden economy: Implications for econometric modelling,' *Economic Journal* 109(456): 370–380.

Kesselman, J. (1989), 'Income tax evasion: An intersectoral analysis,' *Journal of Public Economics* 38(2): 137–182.

Loayza, N. (1996), 'The economics of the informal sector: A simple model and some empirical evidence from Latin America,' *Carnegie-Rochester Conf. Series Public Policy* 45: 129–162.

Mirrlees, J. (1971), 'Notes on some special cases of the taxation of risk-taking,' mimeographed.

Mortensen, D., and C. Pissarides (1994), 'Job creation and job destruction in the theory of unemployment,' *Review of Economic Studies* 61(3): 397–415.

Pissarides, C. (2000), *Equilibrium Unemployment Theory*, 2nd edition, MIT Press, Cambridge, MA.

Roy, A. (1951), 'Some thoughts on the distribution of earnings,' *Oxford Economic Papers* 3(2): 135–146.

Schneider, F., and D. Enste (2000), 'Shadow economies: Size, causes, and consequences,' *Journal of Economic Literature* 38(1): 77–114.

Thomas, J. (1992), *Informal Economic Activity*, LSE Handbooks in Economics, Harvester Wheatsheaf, London.

Yitzhaki, S. (1974), 'A note on income tax evasion: A theoretical analysis,' *Journal of Public Economics* 3(2): 201–202.

**APPENDIX**

Given that for $\tau = 0$ the model becomes symmetric and $\varphi = 0.5$, the solution is given by

$$
\begin{aligned}
c \quad = \quad & \frac{m}{\theta u(\theta,0.5)} \{ \int_0^1 \frac{a_2[m0.5a_2]\delta}{[2(r+\delta)+m0.5]^2[m0.5+\delta]} da_2 \\
& + \int_0^{a_2^R(1)} \int_{a_1^R(\theta,0.5)}^{a_2^{R^{-1}}(\theta,0.5)} \zeta da_1 da_2 + \int_{a_2^R(1)}^1 \int_{a_1^R(\theta,0.5)}^1 \zeta da_1 da_2 \}
\end{aligned}
\tag{24}
$$

where $\quad u(\theta,0.5) \quad = \quad \dfrac{2\delta[2\delta(r+\delta)+m(r+\delta)+m0.5(m+\delta)]}{(m+\delta)(m+2\delta)[m0.5+2(r+\delta)]}$.

As $\theta \to 0$, $\quad \lim_{\theta \to 0}(\frac{2\delta[2\delta(r+\delta)+m(r+\delta)+m0.5(m+\delta)]}{(m+\delta)(m+2\delta)[m0.5+2(r+\delta)]}) = 1$,

$$\lim_{\theta \to 0}\frac{[2(r+\delta)a_2+m0.5(a_2-a_1)]\psi}{2(r+\delta)[2(r+\delta)+m]} = \frac{a_2}{2(r+\delta)} \ ,$$

$$\lim_{\theta \to 0}\frac{a_2[m0.5a_2]\delta}{[2(r+\delta)+m0.5]^2[m0.5+\delta]} = 0 \ ,$$

$$\lim_{\theta \to 0} a_2^R(1) = 0 \ ,$$

$$\lim_{\theta \to 0} a_1^R(\theta,\varphi) = 0 \ ,$$

$$\lim_{\theta \to 0} a_2^R(\theta,0.5) = 0 \ ,$$

$\lim_{\theta \to 0} a_1^R(\theta,0.5) = 0$ (since the reservation values are equal to zero as $\theta \to 0$, the first two double integrals of the above equation are equal to zero). From our assumptions $\lim_{\theta \to 0}\frac{m}{\theta} = \infty$. Hence as $\theta \to 0$ the r.h.s of (24) approaches infinity.

As $\theta \to \infty$, the reservation productivities are equal to the 45° line. Hence the last two integrals of (24) are equal to zero. We get that

$$\lim_{\theta \to \infty}\frac{m}{\theta u(\theta,0.5)}\int_0^1 \frac{a_2[m0.5a_2]\delta}{[2(r+\delta)+m0.5]^2[m0.5+\delta]}da_2 =$$

$$\lim_{\theta \to \infty}\frac{m}{\theta}\lim_{\theta \to \infty}\frac{2[m0.5]}{3[2(r+\delta)+m0.5]}\frac{(m+\delta)}{2[2\delta(r+\delta)+m(r+\delta)+m0.5(m+\delta)]} \overset{\text{by applying del Hospital rule}}{=} 0$$

Hence as $\theta \to \infty$ the r.h.s. of (24) approaches zero. Moreover as we have shown the r.h.s. of (24) decreases in $\theta$. The above analysis implies that a unique equilibrium exists for $\tau = 0$. The same result is derived in the case of severance tax since $\frac{\delta s}{(r+\delta)}$ does not depend on $\theta$.

Equation (18) describes a downward sloping curve in $\theta$, $\varphi$ locus ($\frac{\partial Z}{\partial \theta}|_{\varphi=0.5} < 0$ and $\frac{\partial Z}{\partial \varphi}|_{\varphi=0.5} < 0$ (for the proof see below). On the other hand (19) describes an upward sloping curve in $\theta$, $\varphi$ locus ($\frac{\partial \Gamma}{\partial \theta}|_{\varphi=0.5} < 0$ and $\frac{\partial \Gamma}{\partial \varphi}|_{\varphi=0.5} > 0$ (the proof is given below).

By substituting $\varphi = 0$ into (18) we obtain

$$c = \frac{\delta(1-\tau)\{6(r+\delta)[m+2(r+\delta)]+m^2\}}{12[m+2(r+\delta)]^2(r+\delta)(m+\delta)}\frac{m}{\theta u(\theta,0)} \Rightarrow$$

$$c = \frac{\delta(1-\tau)}{2(m+\delta)[m+2(r+\delta)]}\frac{m}{\theta u(\theta,0)} + \frac{\delta(1-\tau)m^2}{12[m+2(r+\delta)]^2(r+\delta)(m+\delta)}\frac{m}{\theta u(\theta,0)} = \Lambda(\theta)$$

By substituting $\varphi = 0$ into (19) we get:

$$c = \frac{\delta(1-\omega p\tau)}{2(m+\delta)[m+2(r+\delta)]}\frac{m}{\theta u(\theta,0)} = \Omega(\theta)$$

The above equations have a solution in $\theta$, since they are decreasing in $\theta$ and $\lim_{\theta \to 0}\Lambda(\theta),\Omega(\theta) = \infty$ and $\lim_{\theta \to \infty}\Lambda(\theta),\Omega(\theta) = 0$.

Let $\theta_1$ be the solution of $c = \Omega(\theta)$ and $\theta_2$ be the solution of $c = \Lambda(\theta)$. In order to prove that the curve described by (18) is above that described by (19) for $\varphi = 0, \tau \neq 0$ (i.e. $\theta_2 > \theta_1$), we have to show that:

$$\Lambda(\theta_1) > \Omega(\theta_1)$$

By solving with respect to $\tau$, we get:

$$\tau < \frac{m^2(\theta_1)}{m^2(\theta_1)+6(r+\delta)[m(\theta_1)+2(r+\delta)](1-\omega p\tau)}$$

The r.h.s. of the above inequality is positive and less than one. Hence, there will be values of $\tau$, such that $\theta_2 > \theta_1$ for $\varphi = 0$. By substituting $\varphi = 1$ into (18) we get:

$$c = \frac{\delta(1-\tau)}{2(m+\delta)[m+2(r+\delta)]}\frac{m}{\theta u(\theta,1)}$$

By substituting $\varphi = 1$ into (19) we get:

$$c = \frac{\delta(1-\omega p\tau)}{2(m+\delta)[m+2(r+\delta)]}\frac{m}{\theta u(\theta,1)} + \frac{\delta(1-\omega p\tau)m^2}{12[m+2(r+\delta)]^2(r+\delta)(m+\delta)}\frac{m}{\theta u(\theta,1)}$$

By following the same analysis, it can be easily shown that the value of $\theta$ which satisfies $c = \frac{\delta(1-\tau)}{2(m+\delta)[m+2(r+\delta)]}\frac{m}{\theta u(\theta,1)}$,   is   less   than   that   satisfying

$c = \frac{\delta(1-\omega p\tau)}{2(m+\delta)[m+2(r+\delta)]}\frac{m}{\theta u(\theta,1)} + \frac{\delta(1-\omega p\tau)m^2}{12[m+2(r+\delta)]^2(r+\delta)(m+\delta)}\frac{m}{\theta u(\theta,1)}$ . Hence, the existence of solution for $\tau \neq 0$ is proved.

Starting from $\tau = 0$, $\varphi = 0.5$ an increase in $\tau$ corresponds to a shift of the curve described by (19) downwards. Hence, if we start from the symmetric case where $\tau = 0$ and $\varphi = 0.5$, and increase $\tau$, there will exist an equilibrium characterized by lower $\varphi$ and $\theta$. The same analysis is applied in the case of firing taxes.

A) *Proof that $\partial Z / \partial \theta < 0$ ($\partial \Gamma / \partial \theta < 0$) when the derivative is calculated for $\varphi = 0.5$ and the elasticity of $m(\theta)$ w.r.t. $\theta$ is less or equal to $0.5$.*

$Z$ consists of two parts: the arrival rate of workers ($m(\theta)/\theta$) divided by the measure of steady-state unemployment and the term inside the braces. The term inside the braces can be alternatively written with the following way:

$$(1-\tau)\left\{\int_0^1 \int_0^{a_2^R} \frac{a_1\delta}{[2(r+\delta)+m\varphi](m\varphi+\delta)}\,da_2\,da_1 + \int_0^1 \int_{a_2^R}^{a_1} \mu\,da_2\,da_1 + \right.$$

$$\left. \int_0^{a_1^R(1)} \int_{a_1}^{a_{1R}^{-1}} \mu\,da_2\,da_1 + \int_{a_1^R(1)}^1 \int_{a_1}^1 \mu\,da_2\,da_1 \right\} \tag{25}$$

where

$$\mu = \frac{[2(r+\delta)a_1 + m(1-\varphi)(a_1-a_2)]\psi}{2(r+\delta)[2(r+\delta)+m]}$$

$$\psi = \delta/[m+\delta]$$

$$a_1^R(a_2) = \frac{m(1-\varphi)a_2}{2(r+\delta)+m(1-\varphi)}$$

$$a_2^R(a_1) = \frac{m\varphi a_1}{2(r+\delta)+m\varphi}$$

$$m = m(\theta)$$

and $a_1^{R^{-1}}$ is the inverse function of $a_1^R$. In equation (25), the sum of the last two double integrals describe the area between the $45^{\mathrm{o}}$ line and the $a_1^{R^{-1}}$ (look at Diagram 1). Since the value of a filled job ($J_i(.)$) is always decreasing in $\theta$ and $a_1^R$ ($a_1^{R^{-1}}$) is increasing (decreasing) in $\theta$, the derivative of the sum of the last two double integrals with respect to $\theta$ will be always negative. By mathematical manipulations, we can show that the sum of the first two double integrals is equal to

$$\int_0^1 \frac{a_1^2 \delta\varphi m}{[2(r+\delta)+m\varphi]^2[\delta+m\varphi]}\,da_1 + \int_0^1 \frac{(r+\delta)a_1^2\delta}{[2(r+\delta)+m\varphi]^2[\delta+m]}\,da_1 + $$

$$\int_0^1 \frac{(r+\delta)a_1^2\delta}{[2(r+\delta)+m\varphi][\delta+m][2(r+\delta)+m]}\,da_1 \tag{26}$$

In the above equation, the derivative of the third integral with respect to $\theta$ is always negative, whereas the derivative of the sum of the first two integrals with respect to labour market tightness is equal to

$$\frac{\delta m'}{3[2(r+\delta)+m\varphi]^3}\{\frac{\varphi[2(r+\delta)\delta-m\varphi\delta-2m^2\varphi^2]}{[\delta+m\varphi]^2}-\frac{\varphi m(r+\delta)}{[\delta+m]^2}-\frac{\varphi 2(r+\delta)}{[\delta+m]}-\frac{2(r+\delta)^2}{[\delta+m]^2}\} \quad (27)$$

But for $\varphi=0.5$, $\delta/[\delta+m\varphi]^2$ is less than $1/(m+\delta)$. Hence, the derivative of the term inside the braces in equation (18) w.r.t. $\theta$ is always negative if it is evaluated at $\varphi=0.5$.

The steady-state unemployment is equal to

$$u(\varphi,\theta) \quad = \quad \int_0^1\int_0^{\frac{m\varphi a_1}{2(r+\delta)+m\varphi}}\frac{\delta}{m\varphi+\delta}da_2 da_1 + \int_0^1\int_{\frac{m\varphi a_1}{2(r+\delta)+m\varphi}}^{a_1}\frac{\delta}{m+\delta}da_2 da_1 +$$

$$\int_0^1\int_0^{\frac{m(1-\varphi)a_2}{2(r+\delta)+m(1-\varphi)}}\frac{\delta}{m(1-\varphi)+\delta}da_1 da_2 + \int_0^1\int_{\frac{m(1-\varphi)a_2}{2(r+\delta)+m(1-\varphi)}}^{a_2}\frac{\delta}{m+\delta}da_1 da_2$$

After simplifying the above expression and by multiplying with $\theta/m$, we can show that $u(\varphi,\theta)\theta/m$ is equal to

$$\int_0^1\frac{\delta\theta a_2}{(m+\delta)m}da_2 + \int_0^1\frac{\delta\theta a_1}{(m+\delta)m}da_1 + \int_0^1\int_0^{\frac{m(1-\varphi)a_2}{2(r+\delta)+m(1-\varphi)}}\frac{\varphi\theta}{[m(1-\varphi)+\delta](m+\delta)}da_1 da_2 +$$

$$\int_0^1\int_0^{\frac{m\varphi a_1}{2(r+\delta)+m\varphi}}\frac{(1-\varphi)\theta}{(m\varphi+\delta)(m+\delta)}da_2 da_1 \quad (28)$$

By differentiating equation (28) w.r.t. $\theta$, we get that $\partial(u\theta/m)/\partial\theta$ is equal to

$$\frac{\delta[\delta(m-\theta m')+m(m-2\theta m')]}{(m+\delta)^2 m^2}+\int_0^1\varphi\{\frac{\theta a_1^{R'}}{[m(1-\varphi)+\delta](m+\delta)}+$$

$$\frac{a_1^R[\delta^2+\delta(2-\varphi)(m-\theta m')+(1-\varphi)(m-2\theta m')]}{[m(1-\varphi)+\delta]^2(m+\delta)^2}\}da_2 +$$

$$\int_0^1(1-\varphi)\{\frac{\theta a_2^{R'}}{[m\varphi+\delta](m+\delta)}+\frac{a_2^R[\delta^2+\delta(1+\varphi)(m-\theta m')+\varphi(m-2\theta m')]}{[m\varphi+\delta]^2(m+\delta)^2}\}da_1$$

If we assume that the elasticity of $m(\theta)$ w.r.t. $\theta$ is less or equal to 0.5 (i.e. $m-2\theta m'\geq 0$), and given the fact that $m-\theta m'>0$ (from our initial assumption regarding the properties of the matching function, we get that $\partial(m/\theta)/\partial\theta=(\theta m'-m)/\theta^2<0$), $\partial(u\theta/m)/\partial\theta>0$. Hence, it is proved that

$\partial Z/\partial\theta < 0$ when the derivative is calculated for $\varphi = 0.5$ and the elasticity of $m(\theta)$ w.r.t. $\theta$ is less or equal to $0.5$ (the proof for $\partial\Gamma/\partial\theta$ is similar).

Since $\dfrac{\delta s}{(r+\delta)}$ does not depend on $\theta$, $\varphi$ the analysis and the results in the case of firing taxes is the same.

*B) Proof that $\partial Z/\partial\varphi < 0$ ( $\partial\Gamma/\partial\varphi > 0$ ) when the derivative is calculated for $\varphi = 0.5$*

$Z$ is the product of the the arrival rate of workers ( $m(\theta)/\theta$ ) divided by the measure of steady-state unemployment times the term inside the braces. The derivative of the steady-state unemployment w.r.t. $\varphi$ is equal to

$$\frac{\delta m}{2}\{\frac{-2\delta(r+\delta)+m^2(1-\varphi)^2}{[2(r+\delta)+m(1-\varphi)]^2[\delta+m(1-\varphi)]^2}+\frac{2\delta(r+\delta)-m^2\varphi^2}{[\delta+m\varphi]^2[2(r+\delta)+m\varphi]^2}\}+$$
$$(r+\delta)\psi\{\frac{-[4(r+\delta)+m]m^2(1-2\varphi)}{[2(r+\delta)+m(1-\varphi)]^2[2(r+\delta)+m\varphi]^2}\}$$

(29)

where $\psi = \delta/(m+\delta)$. It can be easily shown that the above equation is equal to zero for $\varphi = 0.5$.

In equation (25), the derivative of the sum of the last two double integrals with respect to $\varphi$ is equal to

$$\frac{\delta m(r+\delta)}{3[2(r+\delta)+m(1-\varphi)]^3[2(r+\delta)+m](m+\delta)}$$

(30)

This equation is always positive.

By mathematical calculations, we can demonstrate that the sum of the first two double integrals in equation (25) is equal to

$$\int_0^1\frac{a_1^2\delta\varphi m}{[2(r+\delta)+m\varphi]^2[\delta+m\varphi]}da_1+\int_0^1\frac{(r+\delta)a_1^2\delta}{[2(r+\delta)+m\varphi]^2[\delta+m]}da_1+$$
$$\int_0^1\frac{(r+\delta)a_1^2\delta}{[2(r+\delta)+m\varphi][\delta+m][2(r+\delta)+m]}da_1$$

Differentiating the above expression w.r.t. $\varphi$ and adding equation (30) yield

$$\frac{\delta m}{3[2(r+\delta)+m\varphi]^3}\{\frac{[2(r+\delta)\delta-m\varphi\delta-2m^2\varphi^2]}{[\delta+m\varphi]^2}-\frac{2(r+\delta)}{[\delta+m]}\}+$$
$$\frac{\delta m(r+\delta)}{3(\delta+m)[2(r+\delta)+m]}[\frac{1}{[2(r+\delta)+m(1-\varphi)]^2}-\frac{1}{[2(r+\delta)+m\varphi]^2}]$$

(31)

But for $\varphi = 0.5$, $\delta/[\delta + m\varphi]^2$ is less than $1/(m + \delta)$ and the last term is equal to zero. Hence, the derivative of the term inside the braces in equation (18) w.r.t. $\varphi$, it is always negative if it is evaluated at $\varphi = 0.5$ (the proof for $\partial\Gamma/\partial\varphi$ is similar).

Since $\dfrac{\delta s}{(r + \delta)}$ does not depend on $\theta$, $\varphi$ the analysis and the results in the case of firing taxes is the same.