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eJournal of Tax Research

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The Managerial Benefits of Tax Compliance: Perception by Small Business Taxpayers

Philip Lignier*

Abstract

Research undertaken in 2006 – 2007 investigated the perception of managerial benefits of tax compliance by small business taxpayers. Survey data from a sample of 300 small business taxpayers and responses to semi-structured interviews of owner-managers were examined. The study found that a majority of small business taxpayers recognised that tax compliance activities led to better record keeping and to an improved knowledge of their financial affairs. However, there seemed to be a general reluctance by respondents to accept the idea that *benefits* could be derived as a result of complying with tax. The findings of this study are important as it is the first research that systematically investigated managerial benefits and their perception by small business taxpayers in Australia.

1. INTRODUCTION

Managerial benefits may be derived by business taxpayers as a result of record keeping requirements imposed by tax compliance obligations.¹ These benefits come in the form of improved financial information and improved managerial decision making.² The managerial benefits of tax compliance have been discussed by many authors³ in the tax compliance costs literature; however the empirical evidence on how these benefits are derived and about their significance is very limited. As a consequence, managerial benefits have generally been left out by researchers when measuring net tax compliance costs.⁴

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¹ Benefits other than managerial benefits may also be derived by taxpayers from tax compliance activities; these include cash flow benefits and tax deductibility benefits. This article only considers managerial benefits. For a discussion of other benefits of tax compliance, see B Tran-Nam, C Evans, M Walpole and K Ritchie, 'Tax compliance costs: Research methodology and empirical evidence from Australia' (2000) 53(2) *National Tax Journal* 229.

² C Sandford, M Godwin and P Hardwick, *Administrative and Compliance Costs of Taxation* (Fiscal Publications, 1989), 118.

³ Authors that have discussed managerial benefits include Sandford, Godwin and Hardwick, above n 2; C Evans, K Ritchie, B Tran-Nam and M Walpole, *A Report into the Incremental Costs of Taxpayer Compliance* (AGPS, 1996); B Tran-Nam, 'Tax compliance costs methodology - a research agenda for the future' in C Evans, J Pope and J Hasseldine (eds), *Tax Compliance Costs: A Festschrift for Cedric Sandford* (Prospect, 2001) 51, J Pope, 'Research methodology for estimating the compliance costs of GST' in A Lymer and D Salter (eds), *Contemporary Issues in Taxation Research* (Ashgate, 2003) 69.

⁴ Net tax compliance costs are defined as gross tax compliance costs less tax compliance benefits. Tran-Nam, Evans, Walpole and Ritchie, above n 1, 232.

The main difficulty with managerial benefits is that even though the *concept* itself is rather straightforward, the reality of managerial benefits can be elusive because it is dependent on how the accounting information generated by tax compliance activities is valued by business owner-managers and used in business decisions. Hence, the actual realisation of managerial benefits by the firm will be closely related to the perception that owner-managers have about the usefulness of the information generated by record keeping activities.

Research undertaken in late 2006 and early 2007 compared accounting practices in businesses exposed to the record keeping requirements of the tax legislation, with accounting practices in firms of similar size that had no tax compliance obligations. The primary purpose of that study was to investigate the nature of managerial benefits generated as a result of tax compliance activities, and to identify the conditions in which these benefits may be derived. In addition, the researcher sought to examine what managerial benefits were perceived by owner-managers and contrast this perception with managerial benefits actually realised.

The study deliberately focused on small businesses for two main reasons. Firstly, managerial benefits resulting from tax compliance activities are more likely to arise in small organisations where accounting information systems are relatively undeveloped. Secondly, since previous research has indicated that the burden of tax compliance costs is felt more acutely by small businesses, it is possible that managerial benefits, if they exist and are significant, make this burden more sustainable.

This remainder of this article is structured as follows. Section 2 examines the empirical evidence on managerial benefits, and reviews the previous literature that has discussed the concept of managerial benefit. The methodology adopted for this research is described in Section 3 and the research outcomes are presented in Section 4. A discussion of the results follows in Section 5 while Section 6 concludes the article by identifying the limitations of the study and making suggestions for further research.

2. PREVIOUS LITERATURE

2.1 Significance of managerial benefits in small businesses

Two studies, the Sandford, Godwin, Hardwick and Butterworth 1981 Value Added Tax (VAT) study and the National Audit Office (NAO) 1994 VAT survey have attempted to quantify managerial benefits.⁵ Both studies relied on estimates provided by owner-managers of the benefits they received. In the Sandford et al study, respondents were asked to give values to specific managerial benefits, while the 1994 NAO study proposed an overall estimation of managerial benefits.

The report from the NAO valued the overall managerial benefits generated by compliance with VAT in the United Kingdom (UK) at £149m (\$312m),⁶ representing nine per cent of gross tax compliance costs.⁷ The value of managerial benefits relative

⁵ The report published by the National Audit Office in 1994 largely relied on the valuation undertaken by Sandford.

⁶ N The exchange rate used for the conversion to Australian dollars is the 1994 average rate.

⁷ National Audit Office, *HM Customs and Excise: Cost to Business of Complying with VAT Requirements* (Her Majesty Stationery Office, 1994), 20.

to gross tax compliance costs ranged from 7.4 per cent for business in the £100,000 to £500,000 (\$210,000 to \$1,048,000) annual turnover category to 28 per cent for businesses with an annual turnover of £19,000 (\$40,000) or less.

The main outcome from the NAO survey was that managerial benefits (measured as a percentage of gross compliance costs) derived by small businesses were roughly three times as large as those derived by medium and large firms. The results were also consistent with findings by Sandford et al which were that a higher percentage of small businesses perceived managerial benefits from complying with VAT compared to large firms.⁸

Sandford et al study also analysed the number of benefits of tax compliance reported by small business owner-managers. Table 1 presents the number of tax compliance benefits reported by small businesses (turnover under £20,000 (\$35,000)) in various industry sectors.

TABLE 1: PERCENTAGE OF SMALL BUSINESS TAXPAYERS* BY REPORTED NUMBER OF TAX COMPLIANCE BENEFITS FROM COMPLYING WITH VAT (INCLUDING CASH FLOW BENEFITS), UK, 1977-78.

Number of benefits	Sector of Activity									
	Primary	Manufacture & utilities	Construction	Transport & communication	Retail	Wholesale	Finance & bus. Services	Profess. & scient. services	Misc. public services	All sectors
0	31	51	33	28	50	50	56	41	29	40
1	16	13	25	28	15	20	21	22	15	20
2	22	18	13	31	13	17	9	17	10	17
3	14	15	13	0	13	12	3	7	8	11
≥ 4	16	3	16	12	9	0	12	13	5	11
Total[†]	100	100	100	100	100	100	100	100	100	100

Data source: Sandford, Godwin, Hardwick and Butterworth, 1981, Appendix K, pp. 235-239

* Small business taxpayers are defined as having an annual taxable turnover < £20,000.

† Percentages may not add up to 100% because of rounding.

One should bear in mind when interpreting these figures that respondents were invited to report *any* benefit of complying with VAT. It is therefore possible that the number of benefits reported included cash flow benefits as well as managerial benefits. Overall, 40 per cent of respondents perceived no benefit, 60 per cent at least one benefit and 40 percent at least two benefits from complying with VAT. Owner-managers of small businesses in the miscellaneous public services, the professional services and the primary sectors appeared to perceive a significant number benefits from complying with VAT; on the other hand the number of benefits reported was much lower in the retail, wholesale and financial services sectors.

⁸ C Sandford, M Godwin, P Hardwick and M Butterworth, *Costs & Benefits of VAT* (Heinemann, 1981), 94.

Additional empirical evidence on the perception of managerial benefits by business taxpayers is available from research on tax compliance costs undertaken in New Zealand and Australia in the 1990s. Nearly 50 per cent business owners surveyed in New Zealand in 1991 agreed that their purchase records were better kept as a result of complying with GST obligations, and 31 per cent said that there was useful cash collected.⁹ In Australia in 1995, Evans et al found that only a small majority of small business taxpayers agreed that the requirements of the federal tax system helped them to improve their record keeping. There was an even lower level of agreement that managerial benefits were derived in the form of improvements to internal controls.¹⁰ Higher rates of managerial benefit perception were reported by a study commissioned by CPA Australia in 2003: over 75 per cent of small business owner-managers indicated that they were using financial information produced from the record keeping system to manage the business and 73 per cent agreed that compliance obligations acted as an incentive to keep up-to-date records.¹¹

In conclusion, even though the evidence on managerial benefits is extremely patchy, there is some indication that a significant proportion of small businesses perceive that they are deriving benefits from tax compliance in the form of improved record keeping. The degree of perception and the number of benefits perceived seemed to be influenced by the size of the business and the activity sector.

2.2 The concept of managerial benefits

The concept of managerial benefits was first introduced by Sandford et al in the 1981 VAT study and further discussed in a further publication a few years later.¹² Sandford argued that the effect of complying with tax may not always be detrimental, as individuals who complete their tax return and file the necessary information, may at the same time be encouraged to engage in more efficient management of their financial affairs. These benefits are likely to be more significant in the case of businesses (hence the terminology “*managerial* benefits”) as compliance with the tax system will force the business owner to introduce a more efficient financial information system.¹³ Sandford described managerial benefits from compliance with VAT in this manner:¹⁴

“[...]It is clear that there are continuing and not inconsiderable cash benefits from the better record keeping which is necessary to comply with VAT requirements. It is not possible to put a realistic value on these benefits but they are an important offset to the compliance costs of some of the smaller businesses.”

⁹ C Sandford and J Hasseldine, *The Compliance Costs of Business Taxes in New Zealand* (Institute of Policy Studies, 1992), 96-97.

¹⁰ Evans, Ritchie, Tran-Nam and Walpole, above n 3, 131-133.

¹¹ CPA Australia, *Small Business Survey Program: Compliance Burden* (CPA Australia, 2003), 17.

¹² Sandford, Godwin, Hardwick and Butterworth, above n 8, 90; Sandford, Godwin and Hardwick, above n 2, 13.

¹³ Sandford, Godwin and Hardwick, above n 2, 13.

¹⁴ *Ibid*, 118.

Some years later, Tran-Nam proposed a broader definition of managerial benefits which expanded the concept beyond better record keeping to include improvement to business decision making:¹⁵

“Tax compliance is supposed to generate recurrent managerial benefits to taxpayers, especially business taxpayers, in the form of improved decision making. These benefits are brought about by the need to have more stringent record keeping in order to comply with the requirements of the tax law.”

In the above definitions, record keeping, particularly more stringent record keeping, is identified as the source of managerial benefits. However, record keeping is a broad concept that involves a number of varied activities from which discrete managerial benefits may result. These specific benefits, which were for the most part described by Sandford,¹⁶ can be classified according to three broad sources: improvements to the accounting information system; improvements to controls; and savings on other costs.

2.3 Sources of managerial benefits

2.3.1 Improvements to the accounting information system

Improvements to the accounting information system (AIS) are achieved as a result of the necessity to have a complete record keeping system. Compliance with the Goods and Services Tax (GST) (or with VAT, its UK equivalent), for instance, requires taxpayers to keep a record of their sales and purchases.

In recent years, the proliferation of tax compliance obligations has also been a major driver of the acquisition of computerised accounting systems (CASs) by small businesses. Significant computer costs were typically incurred by small firms when a new tax was introduced or when substantial amendments were brought to an existing tax.¹⁷ In Australia for example, small business owners interviewed prior to the introduction of GST in 2000, stated that the new tax was the main reason for acquiring a computer.¹⁸ This acquisition of information technology was actively encouraged by the federal government through the provision of a grant and the possibility of immediate tax deduction.¹⁹ The acquisition of computers is potentially an important source of managerial benefits for small businesses as the use of technology is expected to bring substantial improvements to the AIS. These improvements come mainly in the form of the increased efficiency that is achieved when the use of a CAS enables staff to perform the same task in less time, more accurately and using fewer resources.²⁰ Effectiveness benefits can also arise because the use of technology allows owner-managers to perform new activities that contribute more to the value of the business than the old activities they replace.²¹

¹⁵ Tran-Nam, above n 3. 55.

¹⁶ Sandford, Godwin, Hardwick and Butterworth, above n 8, 90-4.

¹⁷ G. Bannock and H. Albach, *The Compliance Costs of VAT for Smaller Firms in Britain and Germany* (Bannock Consulting, 1987); Centre for Fiscal Studies, *The Tax Compliance Costs for Employers of PAYE and National Insurance in 1995-96* (University of Bath, 1998); Pope, above n 3.

¹⁸ Pope, *ibid*, 75-6.

¹⁹ *Ibid*.

²⁰ M Roberts and M Wood, 'The strategic use of computerised information systems by a micro enterprise' (2001) 15(1/2) *Logistics Information Management* 115.

²¹ *Ibid*, 120.

A recent survey of Australian accountants found that practitioners believed that most of their clients benefited from the adoption of a CAS, but in their opinion these benefits come in the form of improved efficiency (improved accuracy and savings on accountant's time), rather than increased effectiveness.²² Additional evidence of managerial benefits derived as result of the adoption of computerised accounting by small business was found by a case study which investigated the costs and benefits of the introduction of GST in Australian small businesses: participants in the case study reported that adopting a CAS allowed them to have up-to-date records from which they could retrieve information "at the touch of a button".²³

2.3.2 Improvements to controls

Better control mechanisms will often be associated with the adoption of more sophisticated accounting systems. These improved controls will assist small businesses in three main areas of financial management: cash flow monitoring, stock control and credit management.

Even though business operations are the major sources of cash inflows and outflows, in many jurisdictions the requirements of the taxation system are also likely to have a significant influence on the cash flows of small firms. There is some evidence that the introduction of GST in Australia had a positive impact on the ability of some small business owner-managers to monitor their cash flows.²⁴

Sandford also expected that more stringent record keeping might lead to improved stock control.²⁵ This form of managerial benefits does not appear to be commonly perceived by business taxpayers;²⁶ however the widespread use of integrated accounting software incorporating a stock management function could facilitate the systematic monitoring of trading stock in small businesses.

In many respects, record keeping associated with tax compliance may also be an incentive to develop credit management routines. For example, a comprehensive and up-to-date record of purchases will allow the firm to claim discounts more frequently. Likewise, a well kept sales transaction ledger will make it easier to follow customer payments and reduce losses from bad debts. A majority of Australian SMEs surveyed in 2004 had in-house computer based record keeping systems and in almost all cases, a record of invoices was a feature of that system.²⁷

²² C Evans, S Carlon and D Massey, *Record Keeping: Its Effect on Tax Compliance* (CPA Australia, 2005), Appendix E.

²³ B Tran-Nam and J Glover, 'The GST recurrent compliance costs/ benefits of small business in Australia: A case study approach', (2004) 10(4) *New Zealand Journal of Taxation Law and Policy* 344.

²⁴ M Drever and J Hartcher, 'Issues relating to cash flow management for SMEs after the introduction of GST' (Paper presented at the Small Enterprise Association of Australia and New Zealand 16th Conference, Ballarat, 28 Sept–1 Oct 2003), 8.

²⁵ Sandford, Godwin, Hardwick and Butterworth, above n 8, 93.

²⁶ Only 8 per cent of UK business taxpayers, 12.6 per cent of New Zealand taxpayers and 15 per cent of Australian small business taxpayers agreed that improved stock control was a benefit of complying with GST. Sandford, Godwin, Hardwick and Butterworth, above n 8, 92; Sandford and Hasseldine, above n 9, 77; Evans, Ritchie, Tran-Nam and Walpole, above n 3, 133.

²⁷ Evans, Carlon and Massey, above n 22.

2.3.2 Savings on other costs

Where tax compliance encourages taxpayers to prepare their accounts internally or at least to do their own bookkeeping, there will be potential savings on accountancy and audit fees.²⁸ Strictly speaking, savings on other costs should not qualify as managerial benefits as they do not result in additional information that will lead to better business decisions. However, since the costs associated with hiring an external accountant are essentially related to the acquisition of accounting or managerial information, it can be contended that savings on these costs constitute a managerial benefit.

The essence of Sandford's proposition was that, where businesses keep their records in-house for tax compliance purposes, they will not have to hire an external accountant to prepare their financial reports, or at least they will save on accountant time. This proposition assumes that the entity would still prepare accounts either for external parties or for internal purposes even if it did not have to comply with tax laws. Prior research in Australia indicates that assistance with tax related matters was the main reason why a majority of small business taxpayers sought the services of an accountant.²⁹ In other words, only a small percentage of small businesses would use the service of an accountant if there was no tax compliance, and therefore there seems to be a limited number of cases where savings on accountancy fees would be realised as a result of tax compliance.

Nevertheless, savings may also be realised where business taxpayers are obtaining additional services for which they would otherwise have to pay, had they not hired an accountant for tax compliance reasons. Empirical evidence suggests that many accountants or other tax advisers were providing a variety of business services incidentally to tax related activities.³⁰ In Australia, accountants often assist their clients with compliance tasks for third parties other than the Australian Tax Office (ATO). Many accountants also offer general business advice, financial planning and business plans,³¹ and are an important source of support in the selection and installation of computer software as well as the training of internal staff.³²

Even where accounting practitioners charge their clients for these additional services, it is reasonable to expect that the fees would have been higher if the services had been provided separately from tax compliance activities. The main reason for this is that the accountant will be able to perform different tasks for the same client with increased productivity. Economies will be achieved because in most cases a common base of information (accounting records) is used to provide different services and also because the practitioner is familiar with the client's financial affairs.

2.4 Benefits derived from accounting information usage

Improvements to the AIS and to internal controls are likely to generate additional information for the manager. Yet, managerial benefits will only materialise for the business if that information is effectively used by the decision maker. In the extreme

²⁸Sandford, Godwin and Hardwick, above n 2.

²⁹Evans, Ritchie, Tran-Nam and Walpole, above n 3, 120.

³⁰CPA Australia, above n 11.

³¹J Breen, N Sciulli and C Calvert, 'The role of the external accountant in small firms' (2004) 12(1) *Small Enterprise Research* 5, 11.

³²Evans, Carlon and Massey, n 22.

situation where the AIS generates an abundance of information but that information is not used in business decisions, no benefit will result. Three factors are likely to influence the extent to which the business will derive managerial benefits from the improved accounting information: the quality of the information, the effectiveness of usage in decision making and the impact of business decisions on business performance.

2.4.1 Attributes of tax-based accounting information

Taxation reporting requirements represent by far the widest reporting imperative for small businesses in Australia and elsewhere. In many cases, this means that accounts are prepared for the specific purpose of calculating taxable income rather than for monitoring accounting profit.³³ In view of the fact that the rules for determining taxable income in Australia diverge significantly from generally accepted accounting principles (GAAP),³⁴ it is worth considering whether tax-based information meets the necessary attributes of managerial accounting information.

Managerial accounting information will only be useful if it results in the reduction of uncertainty for the decision maker. In order to fulfil this purpose, managerial accounting information must possess fundamental attributes such as reliability, relevance, timeliness, accuracy, sensitivity and conciseness.³⁵ Brown, Fuller and Kirby claimed that tax-based information may be useful for management purposes as the tax return provides the four elements (sales, net profit, total assets, and total equity) necessary for a basic ratio analysis.³⁶ The same authors also argued that tax based accounts are reliable enough when the preparer is a professional accountant or a competent tax professional.³⁷ However, findings from other research indicate that lenders may be reluctant to use tax based reports as a performance evaluation tool mainly because the information available from the tax return is often out of date. This reluctance would suggest that tax based information may not be appropriate for decision making.³⁸ Notwithstanding these differences between accounting and tax rules, 37.5 per cent of small businesses in Australia used their tax based financial statements for internal management purposes and 28 per cent for reporting to lenders and bankers.³⁹

³³ R McMahon, PG Gerhardy, K H Hall, D H Forsaith and A M J Stranger, 'Financial reporting imperatives and the financial management of smaller enterprises in Australia' (1994) 18(3) *Accounting Forum* 17; Evans, Ritchie, Tran-Nam and Walpole, above n 3.

³⁴ M. D'Ascenzo and A. England, 'The tax and accounting interface' (Paper presented at the 15th Australasian Tax Teachers Association Conference, Wollongong, 2003); J Freedman, 'Aligning taxable profits and accounting profits: accounting standards, legislators and judges.' (2004) 2(1) *eJournal of Tax Research* 71.

³⁵ G Nichols, 'On the nature of management information' (1969) 50(8) *Management Accounting* 9, 11.

³⁶ L Brown, F Fuller and F Kirby, 'DuPont and the IRS: Useful information from the tax return' (1999) 12(1) *The Journal of Bank Cost & Management Accounting* 57.

³⁷ *Ibid.*, 60.

³⁸ J Coker and R Hayes, 'Lenders' perceptions of income-tax-basis financial reporting by small business' (1992) 30(3) *Journal of Small Business Management* 66; A J Berry, S Faulkner, M Hughes and R Jarvis, 'Financial information, the banker and the small business' (1993) 25(2) *The British Accounting Review* 131.

³⁹ Evans, Ritchie, Tran-Nam and Walpole, above n 3, 116.

2.4.2 Owner-managers' perception of accounting information usefulness

The effectiveness of accounting information usage depends in large part on the perception that the decision maker has of the usefulness of that information. Even where accounting information possesses all the required qualities and attributes to make it useful, usage can only be effective if owner-managers recognise that the information will assist them in running their business.

The literature provides somewhat contradictory evidence about how small business owner-managers perceive accounting information. A few studies found that "accounting" or "financial reporting" was often seen by owner-managers as a necessary activity which had to be carried out in order to meet external requirements. In addition, many small business owners had a general perception that financial statements were costly to produce⁴⁰ and provided little useful information because they were often "ancient history".⁴¹

On the other hand, it seemed that this negative perception about accounting and financial reporting was balanced by the recognition that having a record keeping system was important,⁴² and that good records could help to manage the business.⁴³ Only one out of three small business owner-managers surveyed in 2005 considered that the time dedicated to record keeping exceeded the benefits.⁴⁴ However, owner-managers of the smallest firms generally felt more comfortable dealing with day-to-day cash based systems than with accrual based systems and intangible concepts such as net profit.⁴⁵

Research findings also suggest that perception about accounting and accounting information usage may be influenced by owner-managers characteristics such as education, knowledge of accounting or business experience.⁴⁶ It was found for example, that entrepreneurs with greater strategic awareness and greater desire for growth were more likely to use managerial information in their decision making.⁴⁷

⁴⁰ N Marriott and P Marriott, 'Professional accountants and the development of a management accounting service for the small firm: barriers and possibilities' (2000) 11(4) *Management Accounting Research* 475.

⁴¹ E Edwards, 'What financial problems?' (1992) 74(2) *Management Accounting* 54.

⁴² Ibid, Marriott and Marriott, above n 39, Evans, Ritchie, Tran-Nam and Walpole, above n 3.

⁴³ CPA Australia, above n 11, 17.

⁴⁴ Evans, Carlon and Massey, above n 22, 9.

⁴⁵ L. Perren, A. Berry and M. Partridge, 'The evolution of management information, control and decision making processes in small growth-orientated service sector businesses: exploratory lessons from four cases of success' (1998) 5(4) *Journal of Small Business and Enterprise Development* 351; R Jarvis, J Curran, J Kitching and G Lightfoot, 'The use of quantitative and qualitative criteria in the measurement of performance in small firms' (2000) 7(2) *Journal of Small Business and Enterprise Development* 123.

⁴⁶ N Lybaert, 'The information use in a SME: Its importance and some elements of influence' (1998) 10(2) *Small Business Economics* 171; M Simpson, N Tuck and S Bellamy, 'Small business success factors: the role of education and training' (2004) 46(8/9) *Education & Training* 481.

⁴⁷ Lybaert, *ibid*, 188.

2.4.3 Accounting information and business performance

Ultimately, accounting information usage will only be beneficial to the firm if it contributes to business performance. Small business performance is generally considered from the two aspects of business survival and growth.⁴⁸

There is only mixed evidence in the literature about the existence of a correlation between quality of record keeping and business survival. Although some authors found that poor record keeping and absence of financial controls were predictors of business failure,⁴⁹ the Productivity Commission in Australia reported that only 20 per cent of cases of bankruptcy could be traced to non-existent or poor quality accounting records.⁵⁰

The relationship between accounting practices and business growth is even more difficult to establish because of the impossibility of tracing growth to specific factors. A number of studies have suggested that a correlation may exist between certain management accounting practices and financial effectiveness;⁵¹ however other authors argue that the correlation may only be apparent as it may be mitigated by other factors such as business size.⁵²

Although there is no conclusive evidence so far to support the proposition that sophisticated accounting practices lead to improved business performance, there is at least some indication that poor record keeping and absence of finance management may be an important contributor to business failure. Even where accounting information is not contributing directly to business decisions, it can be argued that it can be useful to the business where it contributes to the decision makers' learning and appreciation of their business environment.⁵³

3. METHODOLOGY

General approach

This research adopted a mixed methodological design including a major quantitative phase followed by a minor qualitative phase. While the possibility of developing testable hypotheses justified a dominant quantitative component, it was believed that the investigation of some aspects of the topic would be better addressed by qualitative analysis. For instance, compliance with tax obligations may be generating forms of managerial benefits that have not been identified by previous research. Moreover, the examination of the subjective attributes of managerial benefits called for an in-depth

⁴⁸ Jarvis, Curran, Kitching and Lightfoot, above n 44; J Maes, L Sels and F Roodhooft, 'Modelling the link between management practices and financial performance. Evidence from small construction firms.' (2005) 25(1) *Small Business Economics* 17.

⁴⁹ R Lussier and S Pfeifer, 'A cross-national prediction model for business success' (2001) 39(3) *Journal of Small Business Management* 228; S Perry, 'The relationship between written business plans and the failure of small businesses in the US' (2001) 39(3) *Journal of Small Business Management* 201.

⁵⁰ Productivity Commission, *Business Failure and Change: An Australian Perspective* (2000) <<http://www.pc.gov.au/research/staffres/bfacaap/>> 30/06/2005.

⁵¹ M Zaman and D Gadenne, 'A model for best financial and cost accounting practices of SMEs: an exploratory study' (Central Queensland University, 2001).

⁵² R McMahon, 'Business growth and performance and the financial reporting practices of Australian manufacturing SMEs' (2001) 39(2) *Journal of Small Business Management* 152.

⁵³ T Mock, 'Concepts of information value and accounting' (1971) 46(4) *The Accounting Review* 765.

investigation of the phenomenon including “how” and “why” type questions best addressed by a qualitative design.⁵⁴

3.2 Quantitative phase: survey

The quantitative component of this research consisted in two contemporaneous mail surveys of two separate samples. One sample was drawn from a population of tax complying entities (TCEs) with less than 20 employees in the Capricornia region of Queensland. The other sample included business entities referred to as tax compliance free entities (TFEs) drawn from the population of small businesses in Norfolk Island, an external territory of Australia.

The list of entities used as the sample frame for TCEs was derived from the *Yellow Pages* directory of businesses. The initial list comprised over 6,000 business names, which after culling for double entries and out-of-frame entities was reduced to 3,425 entities. After listing businesses alphabetically, a random selection of one unit out of two resulted in a gross sample of 1,712 entities.

Small businesses in Norfolk Island were chosen as the sample frame for TFEs, as residents of Norfolk Island are exempt from income tax by virtue of a special exception.⁵⁵ In addition, Norfolk Island like all other Australian external territories falls outside the jurisdiction of Australia for GST purposes.⁵⁶ As a result of this special status, businesses on Norfolk Island were only exposed to custom duties and financial levies which did not require any specific record keeping.⁵⁷ The list of entities for the Norfolk Island survey was drawn from the *Yellow Pages* directory which after eliminating double entries and out-of frame-entities comprised 298 units.

A mailed questionnaire was used to collect data for both surveys. The survey forms were different for TCEs and TFEs as questions relating to tax compliance were only relevant to the first group. However, both forms had sections with identical questions which allowed the merger of the data into a common database.

The mail out of questionnaires was completed in November 2006, and resulted in 289 usable responses in the TCE sample and 65 in the TFE sample. The response rates obtained for both surveys were 23 and 22 per cent respectively;⁵⁸ this result fell within the expected range for postal surveys of this type.⁵⁹

As a relatively low response rate was achieved, it was considered important to check whether a non-response bias could have an impact on the results.⁶⁰ Testing for non-response bias was conducted using wave analysis. This method assumes that late

⁵⁴ J W Creswell, *Research Design: Qualitative, Quantitative and Mixed Approaches* (second ed, Sage, 2003), 14.

⁵⁵ ITAA 1936 (Cth), Div 1A, s 24B- 24P.

⁵⁶ ANTS (Goods and Services Tax) Act 1999 (Cth), s 195-1.

⁵⁷ A local GST at the rate 9 per cent was being adopted by the Norfolk Island government at the time of the survey. The new tax took effect on 1st April 2007 after the survey had been completed.

⁵⁸ These response rates were calculated on the basis of the net samples (after deduction of out frame responses) which contained 1,250 units and 291 units for TCEs and TFEs respectively.

⁵⁹ Rametse and Pope obtained a response rate of 27 per cent for their survey on the compliance cost of GST in 2002; Evans, Carlon and Massey scored a response rate of 28 per cent for their survey of record keeping in small businesses. Response rates for postal surveys relating to small businesses accounting were generally in the 17–24 per cent range.

⁶⁰ Creswell, above n 54, 160.

respondents are almost non-respondents and tests whether there are any differences between the responses collected from the first wave of respondents and the wave of late respondents.⁶¹ Three screening questions in the TCE survey and two in the TFE survey were selected for this purpose. Differences between early and late respondents were tested using an independent-sample t-test. No non-response bias was detected for either the TCE or the TFE surveys.

3.3 Qualitative phase: case study

The case study methodology appeared to be the best approach for the qualitative phase of this research as it allowed the collection of contextualised and meaningful information through semi-structured interviews.⁶² The case study component involved the interviewing of 12 participants, 6 from the TCE cohort and 6 from the TFE cohort, selected among respondents who had volunteered to participate in interviews. The case study used a protocol which included a set of questions and propositions, and an interview schedule as this was expected to reinforce the reliability and stability of the data collection procedure.⁶³

Case study participants from the TCE cohort were selected according to two criteria: business size and 'expected managerial expertise'; the latter criteria was evaluated on the basis of responses to the survey questions relating to level of education and knowledge of accounting. In the case of the TFE cohort, participants were selected according to business size and level of internal accounting information.

Interviews of TFE participants were conducted in April 2007 and interviews of TCE participants in early May 2007. Interviews were of a semi-structured form with open questions giving the interviewer the possibility of probing answers. Interviews lasted 1 hour to 90 minutes, and were generally conducted at the business premises giving the possibility of field observations.

Responses were recorded manually by the interviewer as it was anticipated that audio recording might have been seen as a threat to the confidentiality of responses by some participants. The data collected from the interviews was entered into *Nvivo*, a computer assisted qualitative data analysis system, which facilitated the coding of the data and provided enhanced rigour in the analysis.⁶⁴

3.4 Research questions

The research investigated a number of aspects of managerial benefits which led to the formulation several hypotheses and descriptive questions; however this article focuses on the perception of managerial benefits by owner-managers in TCEs. Since the realisation of managerial benefits by the business is linked to the perception of accounting information by owner-managers, the research also sought to explore and contrast how accounting information was perceived in TCEs and TFEs.

⁶¹ C Evans, *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, 2003), 134.

⁶² C Sandford, 'Improving the methodologies' in C Sandford (ed), *Tax Compliance Costs Measurement and Policy* (Fiscal Publications, 1995) 375, 382.

⁶³ RK Yin, *Case Study Research: Design and Methods, Applied Social Research Methods Series* (3rd ed, 2003), 36.

⁶⁴ H Marshall, 'What do we code when we code data?' (2002) 2(2) *Journal of Qualitative Research* 56.

The main hypothesis relating to the perception of managerial benefits by TCE owner-managers (Hypothesis H₄) was formulated as follows:⁶⁵

H₄: TCEs owner-managers perceive that they are deriving managerial benefits as a result of complying with their tax obligations.

As in the Evans et al 1995 research, this study tried to identify the specific managerial benefits of tax compliance which were perceived or “recognised” by small business owner-managers. Yet, even where discrete managerial benefits were identified, it was necessary to ascertain whether respondents held a different opinion about the overall proposition that their business derived managerial benefits as a result of complying with tax. It was therefore resolved to measure this broad perception about managerial benefits and contrast it with the recognition of discrete benefits. Finally, this study sought to test Sandford’s findings that perception about managerial benefits was influenced by the owner-manager’s personal characteristics.

The objectives of the research led to the formulation of three secondary hypotheses which were formulated as follows:

H_{4a}: Specific managerial benefits are recognised by a majority of TCE owner-managers.

H_{4b}: A majority of TCE owner-managers perceive that they are deriving managerial benefits from tax compliance.

H_{4c}: Personal characteristics of TCE owner-managers, such as education, knowledge of accounting and business experience influence their perception of managerial benefits.

Managerial benefit perception, particularly the influence that owner-manager personal characteristics may have on this perception, was also investigated during the case study phase of the research. The protocol underlying the case study interviewing included the following proposition:

Proposition: In TCEs, managerial benefits perception is dependent on the level of education of the decision maker.

Finally in addition to the above hypotheses, the survey questionnaire incorporated a number of descriptive questions designed to collect information relating to the perception of accounting information by decision makers in both TCEs and TFEs.

⁶⁵ The research project included 6 hypotheses in total, numbered H₁ to H₆. For a complete list of research hypotheses see P Lignier, 'The Managerial Benefits of Tax Compliance: An Empirical Study of Small Businesses in Regional Australia' in M Walpole and C Evans (eds), *Tax Administration: Safe Harbours and New Horizons* (Fiscal Publications, 2008) 349, 358.

4. RESULTS

4.1 Perception of managerial benefits by owner-managers

4.1.1 Recognition of specific types of managerial benefits of tax compliance

Recognition of specific types of managerial benefits by owner-managers was measured by including attitudinal questions in the survey questionnaire. Respondents were invited to indicate their degree of agreement (rated along a five point Likert scale) with statements about six specific managerial benefits of tax compliance. The managerial benefits identified in the questionnaire were: improvement of record keeping; better knowledge of financial position; better knowledge of profitability; better monitoring of cash flows; better monitoring of trading stock; and better monitoring of debtors and creditors. A managerial benefit was deemed to be recognised where the respondent either agreed or strongly agreed with the statement.

The results (Table 2) indicate that four out of six types of managerial benefits were recognised by a majority of respondents. Thus, Hypothesis H_{4a} was generally supported by the survey data. Nearly three quarters of all survey respondents in the TCE group agreed that tax compliance improved the quality of their record keeping, about two thirds that they had a better knowledge of their financial position and profitability, and more than half that it helped them to monitor their cash flows. Almost 50 per cent of respondents agreed that tax compliance assisted them with monitoring their debtors and creditors, but less than a third recognised a managerial benefit in the form of better monitoring of trading stocks.

TABLE 2: PERCEPTION OF MANAGERIAL BENEFITS BY SMALL AUSTRALIAN BUSINESS OWNER-MANAGERS: COMPARISON BETWEEN STUDIES

Types of managerial benefits:	This study 2006: Percentage of respondents who agreed that this was a benefit of tax compliance	Evans et al 1995: * Percentage of small business taxpayers who agreed that this was a benefit of tax compliance
Better record keeping	72	50
Better knowledge of financial position.	66	37
Better knowledge of profitability	63	37
Better monitoring of cash flows	58	34
Better monitoring of trading stock	31	15
Better monitoring of debtors and creditors	47	N/A

*The Evans et al study results are for the small business taxpayer category.

Sources: Evans et al 1996, Tables 7.68 to 7.71.

The outcome of this study was compared with the findings of the survey of (small) business taxpayers by Evans et al in 1995 which included similar questions (Table 2). The comparison shows that the percentages of recognition were much higher (with an increase of 30 to 50 per cent) in the present study than in the Evans et al study for all types of managerial benefits. Despite this increase in perception, the distribution of percentages across the different types of managerial benefits follows roughly the same pattern: the improvement to records is the most frequently recognised benefit, while

improvement to stock monitoring is the least recognised, with the other benefits (except improvement to credit management which was not measured by the Evans et al study) having roughly the same percentage of recognition.

The higher level of managerial benefit recognition reported by the current study might be explained by the fact that at the time of the Evans et al survey, businesses did not have to comply with GST. As discussed earlier, empirical evidence from the UK suggests that compliance with consumption taxes like VAT or GST is likely to be a major source of managerial benefits.

Nevertheless, some of the difference in the results might also be attributable to the different sampling methods used for the two surveys. Evans et al surveyed a population of taxpayers across Australia, while this study focused on the small business population of a particular regional area. Differences in demographic characteristics (age of operators, business size and business age) between the sample of TCEs used in this study and the overall population of Australian small businesses may also have had an effect on the recognition of managerial benefits.

The low percentage of respondents who perceived that tax compliance improved their stock monitoring confirmed previous findings by Sandford et al in the UK and New Zealand that few business taxpayers recognised this specific form of managerial benefit.⁶⁶

4.1.2 Analysis by business size and activity sector

Small businesses constitute a heterogeneous group comprising entities ranging from micro-businesses with no employee to firms with 5 employees or more where the need for accounting information can be expected to be greater.⁶⁷ Similarly, as shown by previous research undertaken by Sandford et al, the perception of managerial benefits might also differ across activity sectors.

An analysis by business size (Table 3) shows that the percentage of owner-managers who perceived that tax compliance improved record keeping and financial knowledge varied only slightly across business size categories. The differences were more pronounced for managerial benefits related to improved controls: the level of recognition was much lower for micro-businesses (with no employee) businesses than for very small businesses (1 to 4 employees) and small businesses (5 employees and over). This outcome reflects the fact that internal management controls would be absent or undeveloped in most micro-businesses and therefore would be unaffected by tax compliance.⁶⁸

⁶⁶ See above n 26.

⁶⁷ D J Storey, *Understanding the Small Business Sector* (Thomson, 1994); M Gorton, 'Use of financial management techniques in the U.K.-based small and medium sized enterprises: Empirical research findings' (1999) 12(1) *Journal of Financial Management and Analysis* 56.

⁶⁸ The classification "micro-business", "very small business" and "small business" based on the number of employees was used by the Department of Trade and Industry (disbanded in 2007) in the UK. M Peel, N Wilson and C Howorth, 'Late payment and credit management in the small firm sector: Some empirical evidence' (2000) 18(2) *International Small Business Journal* 17, 21.

TABLE 3: PERCENTAGE OF RESPONDENTS WHO RECOGNISED SPECIFIC TYPES OF MANAGERIAL BENEFITS BY TCEs; BREAKDOWN BY BUSINESS SIZE CATEGORY

Managerial Benefits:	No employee (n= 46)	1-4 employees (n=116)	≥ 5 employees (n=119)	All TCEs (n=281)
Better record keeping	69	73	73	72
Better knowledge of financial position	61	65	68	66
Better knowledge of profitability	62	63	64	63
Better cash flow monitoring	43	61	61	58
Better monitoring of trading stocks	23	30	35	31
Better monitoring of debtors and creditors	32	48	50	47

*The percentage is calculated as the percentage of respondents who agreed or strongly agreed to the statements about specific managerial benefits

The analysis by activity sector (Table 4) reveals significant differences in managerial benefits perception between industry sectors, confirming earlier findings by Sandford et al.⁶⁹ Owner-managers of firms in the business services and personal services sectors perceived more managerial benefits from tax compliance more often, than those operating in the wholesale or in the tourism sectors. There is some overlap with the conclusions from the Sandford et al study which also found a low level of managerial benefit recognition in the wholesale sector. However, caution must be exercised when interpreting these results because of the small number of observations in some statistical cells. A combination of factors, such as nature of operations, size of the business, personal characteristics of the owner-managers could explain these variations in managerial benefit perception across activity sectors. Further research and further analysis are necessary to identify the reasons behind these differences.

TABLE 4: PERCENTAGE* OF RESPONDENTS WHO RECOGNISED SPECIFIC MANAGERIAL BENEFITS BY TCEs; BREAKDOWN BY ACTIVITY SECTOR

Managerial benefit:	Manufacturing & mining (18)	Construction (42)	Wholesale (11)	Retail (65)	Hospitality and tourism (32)	Finance & business services (46)	Personal services (16)	Other (36)	All sectors (283)
Better record keeping	73	74	60	70	55	85	81	69	72
Better knowledge of financial	72	60	60	67	60	76	69	69	66

⁶⁹ See Table 1 and discussion in the literature review section.

position									
Better knowledge of profitability	71	57	50	69	57	71	63	67	63
Better cash flow monitoring	72	56	44	57	56	58	53	64	58
Better monitoring of trading stocks	44	24	30	38	24	33	36	22	31
Better monitoring of debtors and creditors	72	44	40	47	44	49	23	50	47

*The percentage is calculated as the percentage of respondents who agreed or strongly agreed to the statements about specific managerial benefits.

4.1.3 General perception about benefits of tax compliance

Survey respondents in the TCE sample were invited to give their opinion (measured on a five point Likert scale) in relation to the following statement:

“Complying with tax obligations has benefits that compensate some of the costs”.

It is important to emphasise that the question referred to “benefits” of tax compliance and not just to “managerial benefits”. This choice of terminology was deliberate as it was believed that some respondents might have been confused by the use of the terminology “managerial benefits”. However, since the question was set in the context of the incidence of tax compliance on accounting and record keeping practices, it was expected that “benefits” would be understood by respondents as referring to managerial benefits, rather than cash flow benefits or tax deductibility benefits.

The results (Table 5) show that the percentage of respondents who agreed with the statement was higher than the percentage of those who disagreed.

TABLE 5: OWNER-MANAGERS’ PERCEPTION ABOUT BENEFITS OF TAX COMPLIANCE*

Opinion:	No employee (n=44)	1-4 employees (n=109)	≥ 5 employees (n=120)	All TCEs (n=273)
Agree that business derived benefits from tax compliance	48	31	45	40
Disagree that business derived benefits from tax compliance	30	36	22	29
Neutral or had no opinion	23	34	33	32
Total†	100	100	100	100

* Measured by the percentage of all TCE respondents who held a particular opinion about the following statement: “complying with tax has benefits that compensate some of the costs incurred by my business”.

†Totals may not be equal to 100% because of rounding.

About one third of respondents were neutral or had no opinion. However, since there were only 40 per cent of respondents who perceived benefits in tax compliance, Hypothesis H_{4b} was not supported.

A close examination of the results reveals noticeable variations in the percentages across size categories. More than 48 per cent of TCEs with no employees perceived that their business derived benefits from tax compliance, while the proportion was only 31 per cent in the “1 to 4 employees” category. The “5 employees and over” category has the lowest percentage of respondents who were of the opinion that no benefits were derived from tax compliance.

Prima facie, these results appear to contradict the findings for Hypothesis H_{4a} which showed that almost three quarters of small business owner-managers recognised at least one specific type of managerial benefit, and possibly over 60 per cent recognised at least three. In addition, the percentage of respondents perceiving that benefits were derived from tax compliance appeared to be higher among non-employing entities, while the level of recognition of specific managerial benefits was generally lower in that category.

In summary, there appears to be some ambivalence regarding the perception of managerial benefits by small business owner-managers. While a significant proportion of respondents seemed ready to recognise specific improvements to their accounting system as a result of tax compliance, only a minority acknowledge the fact that their business derived any benefit from tax compliance activities.

4.2 Influence of personal characteristics on managerial benefit perception

4.2.1 Analysis of survey data

The relationship between managerial benefit perception and the personal characteristics of owner-manager was statistically tested using quantitative data from the survey. Three personal characteristics expected to influence managerial benefit perception were selected for the purpose of testing Hypothesis H_{4c}: “Level of education” “Knowledge of accounting” and “Business experience”.

In view of the fact that attitudes of respondents towards specific types of benefits of tax compliance were not necessarily consistent with their overall perception about benefits of tax compliance, two separate models were developed to test the relationship between personal characteristics and managerial benefit perception. In the first model, the dependent variable was “Number of managerial benefits recognised”, in the second model the dependent variable was “perception about benefits of tax compliance”.⁷⁰

The results for the testing of the first model (Table 6) revealed significant relationships between two variables representing personal characteristics “Level of education” ($p < 0.01$) and “Knowledge of accounting” ($p < 0.05$) and the number of managerial benefits perceived. No significant relationship was found with “Business experience”. Therefore, Hypothesis H_{4c} seemed to be supported by the survey data when managerial benefit perception was measured by the number of managerial benefits recognised. In other words, the number of managerial benefits recognised seemed to be influenced by the level of education and the accounting knowledge of the owner-manager. Surprisingly, “Level of education” and “Number of benefits

⁷⁰ In the General Linear Model procedure used for testing this relationship, the independent variables (EDUC, ACCKNOW, BUSEXP) were treated as covariate in the model, i.e. they were assumed to have a combined effect on the dependent variable.

recognised” were negatively correlated (Pearson $r = -0.154$); this can be interpreted as meaning that owner-managers with a lower level of education were more likely to recognise specific managerial benefits than those who were “better” educated. “Knowledge of accounting” and “Number of managerial benefits recognised” were positively but weakly correlated (Pearson $r = 0.09$).

TABLE 6: RELATIONSHIP BETWEEN PERSONAL CHARACTERISTICS OF THE OWNER-MANAGER AND NUMBER OF MANAGERIAL BENEFITS RECOGNISED

Independent variable	Level of education	Knowledge of accounting	Business experience
Dependent variable:			
Number of managerial benefits recognised	F=8.526**	F=3.924*	F=0.376

Degrees of significance: * $p < 0.05$, ** $p < 0.01$.

The testing results for the second model (Table 7) revealed a significant relationship between “Knowledge of accounting” and “perception about benefits of tax compliance” ($p < 0.01$). However, no significant relationship was found with either “Level of education” or “business experience”. Therefore Hypothesis H_{4c} was also supported by the survey data when the dependent variable represented the perception about benefits from tax compliance. In other words, the overall perception about whether the business derived benefits from tax compliance was influenced by the owner-manager’s knowledge of accounting. Since the two variables were positively correlated (Pearson $r = 0.178$), owner-managers with better knowledge of accounting were more likely to perceive that tax compliance generated benefits for their business.

TABLE 7: RELATIONSHIP BETWEEN PERSONAL CHARACTERISTICS OF THE OWNER-MANAGER AND PERCEPTION ABOUT BENEFITS OF TAX COMPLIANCE

Independent variable	Level of education	Knowledge of accounting	Business experience
Dependent variable:			
Perception about benefits of tax compliance	F=3.227	F=8.910**	F=0.234

Degrees of significance: ** $p < 0.01$.

4.2.2 Analysis of interview data

The influence of personal characteristics on managerial benefits perception was also examined during the case study phase of the research. Four questions in the interview schedule used for TCE participants aimed to collect data about their perception of managerial benefits. The first two questions asked participants to describe the benefits (if any) of having a CAS, and the benefits (if any) of having an external accountant, which were seen as being indirect benefits of tax compliance. In the last part of the interview, participants were invited to identify the benefits (if any) for their business of complying with GST and the benefits (if any) of preparing an income tax return?

As described in the methodology section, the expected level of managerial expertise was one of the two selection criteria for TCE participants. “Expected level of managerial expertise” was rated either high or low on the basis of two personal characteristics measured by the survey questionnaire: “Knowledge of accounting” and “Level of education”. The six selected TCE participants included three participants with an expected low level of managerial expertise and three with an expected high level.

In order to facilitate the analysis of the relationship between expected level of managerial expertise and managerial benefit perception, the interview data was coded into a relational matrix (Table 8).⁷¹ The figure in each cell in the matrix reports the number of coded references relating to a question about managerial benefits. This number is used as a proxy measure for the level of perception of managerial benefits as answers to these questions would only be recorded where participants *did* identify managerial benefits.

TABLE 8: MATRIX OF RELATIONSHIPS BETWEEN EXPECTED LEVEL OF MANAGERIAL EXPERTISE AND MANAGERIAL BENEFIT PERCEPTION; TOTAL NUMBER OF CODING REFERENCES*

	Participants with expected low level of expertise	Participants with expected high level of expertise
Managerial benefits of using a CAS	6	3
Managerial benefits of having an external accountant	11	9
Managerial benefits of complying with GST	4	4
Managerial benefits of complying with income tax	4	6
Total number of references	25	22

* A coding reference corresponds to an identifiable answer (other than Yes or No) to a question about managerial benefits.

Overall, 25 references coded to managerial benefits were reported for participants with expected low managerial expertise, whereas 22 were reported for participants with expected high managerial expertise. In other words, it seemed that managerial benefits were more often identified by participants with lower managerial expertise than by those with higher expertise. However, further analysis of the numbers of coded references in the matrix revealed that the difference in the level of perception between the two groups of participants varied depending on the type of managerial benefits.

The benefits derived from using a CAS seemed to be more frequently perceived by owner-managers in the lower expertise category. This outcome was consistent with the expectation that the increased efficiency and the effectiveness brought by computerisation would be more easily perceived where the owner-manager felt unable

⁷¹ Matrix coding was a feature of the *Nvivo* software.

to perform the same activities without the assistance of a computer. The benefits of having an external accountant were also more frequently reported by the 'low expertise' group; however the difference was too small to be interpreted as meaningful.

The analysis of answers to direct questions about benefits of complying with GST and of preparing an income tax return did not reveal meaningful differences between the two groups.

In summary, the hypothesis that managerial benefit perception is influenced by the personal characteristics of owner-managers received some support from the analysis of the survey data. There is some indication that the perception of managerial benefits is negatively correlated with the owner-manager's level of education but positively correlated with her or his knowledge of accounting. The analysis of the qualitative interview data appears to confirm the hypothesis that the managerial benefits associated with the use of a CAS may be more readily recognised by owner-manager who have less managerial expertise.

4.3 Owner-managers' perception about accounting information

4.3.1 Relevance to managerial benefits

It was argued earlier in this article that the realisation of managerial benefits by the firm will largely depend on how accounting information generated by the AIS or the external accountant was perceived by the owner-manager. Benefits will only arise if the information is perceived as being useful and of good quality, and if it is used in business decisions.

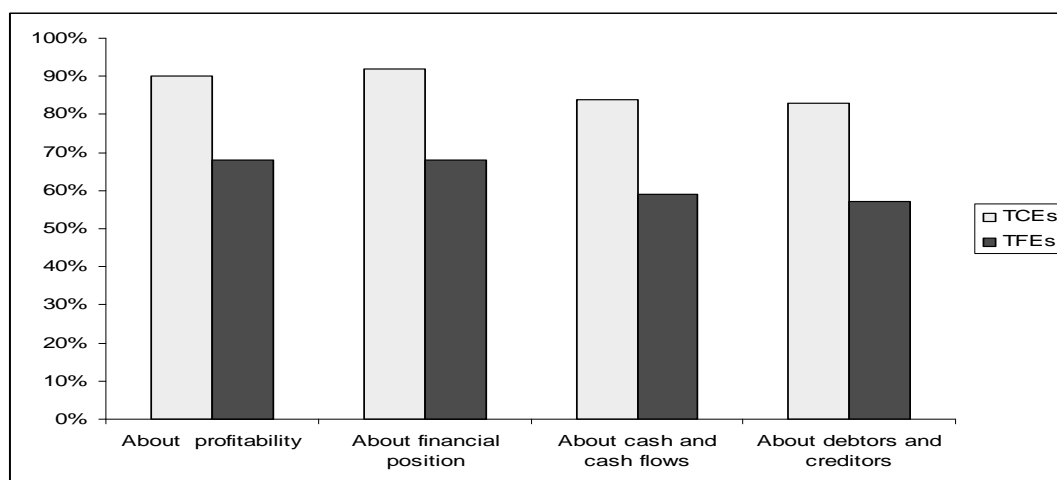
The perception that small business owner-managers have about accounting information was examined from three perspectives. Firstly, data relating to perception about accounting information quality and usefulness was collected by the survey and during the interviews. Secondly, the survey examined how owner-managers perceived the importance of accounting information. Thirdly survey respondents were asked to assign a value to the accounting information which they considered useful to the management of their business.

The joint investigation of entities free of tax compliance and entities exposed to the normal obligations imposed the Australian tax system, also gave the possibility of finding out whether tax compliance obligations had an effect on the perception of accounting information.

4.3.2 How is the reliability and usefulness of accounting information rated by owner-managers?

The analysis of survey data provided information on how TFE and TCE respondents rated the reliability and usefulness of accounting information with respect to different aspects of financial management (Figure 1).⁷²

⁷² Only entities with 4 employees or less were included in this report to eliminate the distortion that could have been brought in by the difference in size distribution between the two samples.

FIGURE 1: PERCENTAGE OF TCE AND TFE BELIEVING THAT THEIR RECORD PROVIDED RELIABLE AND USEFUL INFORMATION

The results reveal that the vast majority of respondents considered that their accounting records provided them with reliable and useful information.⁷³ However, the reliability and usefulness was generally rated more highly by TCE respondents than by TFE respondents.

Interviews also investigated owner-managers' perception about the quality of the accounting information produced by their AIS. Interviewees were invited to self-evaluate the reliability, accuracy and timeliness of the accounting information available to them. All but one participant considered that the information was very or reasonably reliable and quite accurate. About half of all interviewees thought that the information was not always timely; however most participants did not see timeliness as a critical attribute of information quality in comparison with reliability and accuracy. The emphasis on accuracy and timeliness seemed to be stronger in the case of TCEs than for TFEs as illustrated by the following comments collected during the interviews:

"The information is reliable and accurate and available when we need it."
TCE participant A

"Overall, we are satisfied with the quality of the accounts. I like to have my accounts ready by the first week of the following month so that I have a fair idea of where we're at." TCE Participant F

"Reliability is the most important. Precision and timeliness are not critical."
TFE Participant H

"I do not have high expectations of my accounts. I am happy to have the accounts as they are as they are good enough for the business." TFE participant J

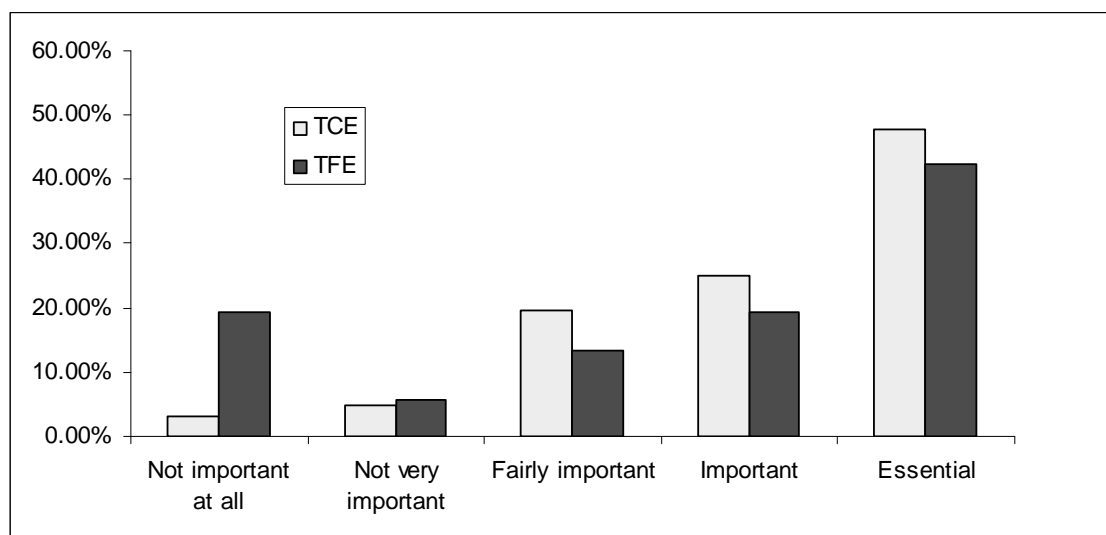
⁷³ Both survey forms included an identical question which aimed to measure respondents' attitudes regarding the reliability and the usefulness of the information provided by their accounting records.

One could not make any inference about the actual quality of accounting information from this perception as very few entities either on the mainland or in Norfolk Island had their accounts audited. Yet, it seems that in the case of TCEs, the fact that accounting data was also used for tax reporting purposes was an incentive to ensure that records were accurate and up-to-date.

4.3.3 How important is accounting information to owner-managers?

Survey respondents were also invited to rate the importance of accounting (financial) information for running their business. Business size was expected to be one of the factors influencing this perception. Since the TCE sample contained a higher proportion of entities in the “5-19 employees” category, the comparison was limited to the “4 employees or less” cohort in both samples in order to avoid any bias in the interpretation.

FIGURE 2: PERCEPTION ABOUT THE IMPORTANCE OF ACCOUNTING INFORMATION BY TCEs AND TFEs WITH 4 EMPLOYEES OR LESS



The results reveal that overall a majority of respondents in both TCEs and TFEs considered accounting information as “important” or “essential” (Figure 2). There is also an indication that TFEs did not rate the importance of accounting information as highly as TCE: 24 per cent of TFE respondents considered that accounting information was not very important or not important at all, while less than 10 per cent of TCE respondents shared the same opinion. A Chi-square test confirmed that the difference in the distribution of ratings was statistically significant ($p < 0.01$).

The importance of accounting information for TCE owner-managers was confirmed during the interviews when most participants declared that they would still prepare accounting reports even if they did not have to comply with tax. However, some participants would not incur the expense of an external accountant:

“If we didn’t have tax, keeping records of our debtors would be the only thing I would do. I would prepare accounts in-house only; [...] there would be no point in having an accountant.” TCE participant A

“If we didn’t have tax, I would probably do it all [the accounting] in house. But I admit that I would be a bit concerned about the accuracy of the records as nobody would check the work. At least the accountant does.” TCE Participant E

4.3.4 Perceived value of accounting information in TCEs

Although many TCE owner-managers regard the cost of preparing accounting information as essentially tax compliance costs, they would still be prepared to incur at least some of the costs involved if they saw any value in the information regardless of whether tax compliance obligations existed. The following question was included in the TCE questionnaire with the purpose of measuring the perceived value of accounting information generated as a result of tax imposed record keeping:

“If you did not have to comply with tax obligations, would you be prepared to incur some of the costs to obtain important financial information that would help you run your business. If so, how much would you be prepared to spend per financial year?”

The distribution of valuation per business size categories is shown in Table 9.

TABLE 9: AMOUNT TCEs WOULD BE PREPARED TO PAY TO OBTAIN ACCOUNTING INFORMATION IF THERE WERE NO TAX COMPLIANCE OBLIGATIONS (IN PERCENTAGE)

Amount spent per year	No employee (n= 49)	1-4 employees (n=115)	≥ 5 employee (n=125)	All TCEs (n=289)
Nothing	41	35	21	30
Less than \$500	16	25	10	17
Between \$500 and \$1,000	18	11	11	13
Between \$1,000 and \$2,500	20	18	20	19
Between \$2,500 and \$5,000	2	7	19	11
More than \$5,000	2	4	19	10
Total*	100	100	100	100

* Percentages may not add up to 100 because of rounding

Overall, 70 per cent of TCE respondents stated that they would be prepared to incur costs to obtain accounting information which they would use for internal management purposes. This result may be interpreted as meaning that 70 per cent of small business taxpayers assigned a positive value to the accounting information generated by their record keeping system.⁷⁴ The average amount that a firm was prepared to spend was \$2,017.

A breakdown of responses by business size category reveals that the perception of the value of accounting information was largely influenced by business size. More than 40 per cent of micro-businesses assumedly saw no value in obtaining accounting information, on the other hand almost 80 per cent of small businesses with 5 employees or more were prepared to incur costs to obtain useful managerial

⁷⁴ It is assumed that the amount owner-managers would be prepared to pay for accounting information where there was no tax compliance represents the value they assign to the useful accounting information they are obtaining now.

accounting information with nearly 40 per cent prepared to spend more than \$2,500 per year.

5. DISCUSSION

5.1.1 *Research objectives*

As stated in the introduction of this article, this study had the broad aim of filling the knowledge gap on managerial benefits of tax compliance. This article discusses how managerial benefits are perceived by owner-managers. Among its different objectives, the research attempted to find answers to four broad issues relating to the perception of managerial benefits. Firstly, it sought to identify which specific types of managerial benefits of tax compliance were recognised by small business owner-managers. Secondly, it sought to establish whether overall small business taxpayers believed they were deriving managerial benefits from tax compliance and if so, which tax requirement(s) they thought was (were) generating benefits. Thirdly, it sought to determine whether discrepancies existed between benefits actually realised and benefits perceived. Fourthly, it sought to investigate whether some personal attributes of owner-managers influenced the level of perception of managerial benefits.

5.1.2 *Recognition of specific types of managerial benefits and overall perception about benefits of tax compliance*

The analysis of survey responses shows that a significant majority of respondents agreed or strongly agreed that tax compliance was improving their record keeping and their knowledge of their financial affairs (Hypothesis H_{4a}). These findings largely confirm the outcomes of a recent study carried out by CPA Australia. The improvements to credit management and cash flow monitoring were recognised by roughly one half of all respondents with a lower degree of recognition among owner-managers of entities with no employees. Improvements to stock control were only recognised by about 30 per cent of respondents.

These outcomes reveal a significant increase in the recognition of specific types of managerial benefits compared to what they were 12 years previously, at a time when small businesses in Australia were exposed to income tax obligations, but not to GST obligations. Indeed, data collected during interviews suggest that the introduction of GST played a part in the increase of managerial benefit perception. This again would confirm Sandford's prediction that this particular tax (or VAT, its British equivalent) was likely to generate significant managerial benefits for small businesses, because it compels owner-managers to keep detailed and up-to-date records of their transactions. It also appears that the requirement of regular reporting imposed by GST legislation, gives many small businesses the opportunity to prepare a straightforward internal report providing them with a snapshot of their financial situation. In contrast, evidence collected during the case study suggests that the end-of-year financial report that accompanies the tax return does not receive a lot of attention from owner-managers because it is perceived to be out of date.

Although specific types of managerial benefits were recognised by a significant proportion of small business taxpayers, barely half of all respondents perceived that their business derived benefits from complying with their tax obligations (Hypothesis H_{4b}). This apparent inconsistency between recognition of discrete benefits and overall perception about tax compliance benefits could be explained by owner-managers'

reluctance to accept the idea that *any* benefit may arise out of tax compliance. There was also the possibility that, while owner-managers recognised the fact that their record keeping and knowledge of their financial affairs had improved since they had to report for tax (mainly GST), they did not readily attribute these improvements to tax compliance. Finally, improvements to accounting records may not be seen as a *benefit*, mainly because many owner-managers saw record keeping as a necessity (of tax compliance) rather than an advantage for the management of their business.

However, the latter argument could be refuted on the ground that more than 80 per cent of respondents to the TCE survey stated that they would still keep accounting records even if tax compliance obligations were removed. This is supported by the findings that more than 70 per cent of respondents indicated that they would be prepared to incur cost to acquire useful accounting information. It also emerged from survey responses that besides tax calculation, accounting information was often used for internal management purposes.

5.1.3 Managerial benefits perceived and realised

Sandford anticipated that discrepancies might exist between perception and realisation of managerial benefits. Some benefits might be perceived but not realised, and conversely some actual managerial benefits might not be perceived. Besides managerial benefit perception, this study also investigated the actual realisation of managerial benefits by TCEs.⁷⁵ The comparison between the actual realisation of specific managerial benefits and their perception by owner managers is presented in Table 10.

TABLE 10: REALISATION OF SPECIFIC TYPES OF MANAGERIAL BENEFITS AND PERCEPTION BY OWNER-MANAGERS

	Actual Benefit	Perceived benefit
Improvements to record keeping system	Strong evidence	Strong perception
Improvements to cash flow monitoring	Some evidence	Moderate perception
Improvements to stock control	No evidence	Weak perception
Improvements to credit management	Some evidence	Moderate perception
Savings on accountant costs	Some evidence	Weak perception
Better knowledge of financial affairs	Strong evidence	Strong perception
Better decision making	Some evidence	Weak perception

By and large, owner-managers recognised the specific types of managerial benefits actually realised by their businesses. Similarly, benefits that were perceived by a majority of owner-managers seemed to be actually realised. The two areas where perception diverged from actual realisation of managerial benefits related to savings on accountant costs and improvements to decision making.

⁷⁵ For more details about the findings on actual benefits see Lignier, above n 65.

Although the relationship with the accountant was valued by many owner-managers, this was not generally perceived as a managerial benefit of tax compliance, possibly because the benefits were obscured by the fact that the main reason for hiring an accountant and paying accountancy fees was taxation. The second area of discrepancy was related to improvements in decision making. Survey responses seemed to indicate that owner-managers in TCEs were using accounting information more effectively than their counterparts in TFEs, but interviews showed that owner-managers in both TCEs and TFEs believed most business decisions were made without the support of accounting information.

However, it must be noted that while many interviewees claimed that they did not use accounting reports when making decision, they often added the comment “it is all in my head”. This would suggest that even though it was impossible to link decision making with specific accounting reports, the availability of accounting information was clearly contributing to the owner-manager’s knowledge about the business.

5.1.4 Influence of owner-manager characteristics

In their 1981 VAT study, Sandford et al only considered the influence of the accounting training of small business owner-managers on managerial benefits perception. The outcome of their investigation was summarised as follows:⁷⁶

“The more the training the less the benefit perceived.”

The authors explained this finding by the fact that the impact of the introduction of VAT would be higher on owner-managers whose record keeping was initially the worst than on those who were already qualified accountants.⁷⁷

The analysis of quantitative and qualitative data collected by this research suggests that managerial benefits perception may be influenced by the owner-manager’s knowledge of accounting, but also by the level of basic education. While it was found that owner-managers with a lower level of basic education tended to perceive more managerial benefits than those with more advanced school education, it appears that knowledge of accounting was positively related with managerial benefit perception. In other words, the more accounting training the owner-manager had received, the more managerial benefits were perceived.

The computation of correlation coefficients shows that the positive relationship between “Knowledge of accounting” and “Managerial benefit perception” was strong and significant while the negative relationship between “Level of education” and “Managerial benefit perception” was not statistically significant.⁷⁸ This would indicate that accounting knowledge was a far more important predictor of managerial benefit perception than the basic level of education.

⁷⁶ Sandford, Godwin, Hardwick and Butterworth, above n 8, 95.

⁷⁷ Ibid.

⁷⁸ Pearson r between “Knowledge of accounting” and “Managerial benefit perception” was 0.178 ($p < .01$). Pearson r between “Level of education” and “Managerial benefit perception” was -0.080 (not significant). These coefficients measured the individual relationships between each factor and the dependent variable whereas the model described in Section 4.2.1 assumes a combined effect of the factors.

Factors such as time lag, cultural factors and the fact that the Sandford study only considered the impact of VAT could explain the discrepancy between the findings. Bearing in mind that the number of observations in this research was relatively small, there is clearly a need for more investigation of this aspect of managerial benefits.

6. CONCLUSION

Although some evidence about managerial benefits had been collected by earlier research, the findings of this study are important as it is the first research that systematically investigated the managerial benefits of tax compliance in small businesses and their perception by owner-managers. The major outcome of this research in relation to managerial benefit perception is that a large majority of small business taxpayers believed that, as a result of tax compliance requirements their record keeping had improved, and that they had a better knowledge of their financial affairs. Comparisons with the findings of previous research undertaken in Australia before the introduction of GST reveal an increased perception of these managerial benefits. Data collected from interviews also confirm that compliance with that particular tax was seen as a major incentive to upgrade the quality of accounting records. In spite of this increased awareness of specific benefits of tax compliance, only a minority of owner-managers perceived that despite the costs incurred, compliance with tax obligations generated some benefits for their business.

As in all research, this study has strengths as well as limitations that must be acknowledged.

The major limitation relates to the representativeness of the sample of small business chosen for the survey. Although the choice of a narrow sampling frame for the population of TCEs allowed useful comparisons with the TFE sample, it necessarily limited the possibility of generalisation to the general population of Australian small businesses.

Another limitation was the small size of the sample of useful responses which did not allow data analyses at sub-sample level to produce significant results. This was particularly the case when investigating the influence of personal characteristics on managerial benefit perception.

The findings of this research need to be confirmed by a large scale study which would include a wider cross-section of small businesses drawn from different areas of Australia. Such a large scale research would allow the investigation of the influence of business size and activity sector on managerial benefit perception. There is also a need of further investigation of the influence of personal characteristics on managerial perception since the findings of this research were not fully conclusive and seemed to deviate from the conclusions established by previous research. Finally, additional research is necessary to explore the extent to which tax based information is effectively used by small business owner-managers in decision making.

Are JCT Analyses of Tax Change Proposals Useful to Individual Taxpayers?

Robert F. Gary, William D. Terando and Marvin L. Bouillon*

Abstract

This article examines whether taxpayers may rely on Joint Committee of Taxation (JCT) studies to assess how a proposed tax change will impact their circumstances by evaluating the impact of a proposed tax law change to broaden the individual income tax base and lower individual income tax rates by performing a microeconomic analysis on their explicit tax burdens before and after the proposed change in tax law. Our results indicate that JCT studies do not fully reveal the impact of proposed tax law changes on individual explicit tax burdens. Finally, we provide a simple methodology to determine the distributional impact of tax proposals on individuals using publically available information.

1. INTRODUCTION

The 2008 election cycle has generated numerous proposals from various Members of Congress to reform and simplify the U.S. individual income tax system.¹ Each proposal is then subject to a macroeconomic analysis by the Joint Committee on Taxation (JCT) to estimate its impact on the aggregate economy (as well as specific sectors) and predict behavioral responses of affected taxpayer groups.^{2, 3} The JCT utilizes three different models to perform this task: (1) a macroeconomic equilibrium

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Data are available from public sources identified within this article.

¹ These proposals also emanate from candidates for public office and various tax organizations such as the Americans for Tax Reform, the Americans for Fair Taxation, and the Citizens for Tax Justice.

² Joint Committee on Taxation. 2003. *Overview of Work of the Staff of the Joint Committee on Taxation to Model the Macroeconomic Effects of Proposed Tax Legislation to Comply with House Rule XIII.3.(h)(2)*. JCX-105-03 (December 22): 1. House Rule XIII.3.(h)(2) generally requires that a macroeconomic analysis be included in bills reported by the Committee on Ways and Means that amend the Internal Revenue Code of 1986. In addition, as required by the Congressional Budget Act of 1974 (as amended), the JCT is also required to generate tax revenue estimates associated with each proposed tax law change (Joint Committee on Taxation. 2005. *Overview of Revenue Estimating Procedures and Methodologies Used by the Staff of the Joint Committee on Taxation*. JCX-1-05 [February 22]: 2).

³ Other countries have similar committees that support the legislative body on tax matters (e.g., the Australian Senate establishes committees as necessary, such as the Senate Select Committee on a New Tax System; the Canadian House of Commons has the Standing Committee on Finance; New Zealand's House of Representatives has the Select Committee on Finance and Expenditures).

growth model (MEG), (2) an overlapping generations lifecycle model (OLG), and (3) a dynamic stochastic general equilibrium model with infinitely lived agents (DSGE). Each model, however, provides limited range regarding the various individual taxpayer groups that may be impacted by a proposed tax law. In fact, only the DSGE model directly considers the impact of a tax law change on individual taxpayers by distinguishing between two types of individuals: savers and spenders.⁴ While this latter feature allows for an analysis of the differential impact of any tax proposal on low and high income taxpayer households, its definitional vagueness makes it difficult for individual taxpayers to map these results to their own particular circumstances.⁵

Upon request by Members of Congress, the JCT may also generate an individual distributional analysis of a proposed tax law change.⁶ However, unlike the macroeconomic analyses referred to above, distributional analyses are rarely produced as they are significantly costly to generate both in terms of JCT staff resources and money.⁷ In addition, requests made by Members of Congress are treated as confidential, and the responses are released only to the Member making the request unless the Member decides to make the information public.⁸ Therefore, even in the event a distributional analysis is generated by the JCT staff it is highly unlikely that its results will be communicated with individual taxpayers to allow them to evaluate how a proposed tax law change will impact their own explicit tax burdens.

The purpose of this article is two-fold. First, we investigate whether JCT macroeconomic analyses provide sufficient information to allow taxpayers to determine how proposed tax law changes will impact their explicit tax burdens. We focus on the sufficiency of these studies since they contain the information that is most likely to be released to the public for each tax law change being considered.⁹ Second, as our results indicate that the JCT macroeconomic analyses do not provide adequate information to inform taxpayers, we provide an alternative methodology to

⁴ Joint Committee on Taxation. 2006. *Background Information about the Dynamic Stochastic General Equilibrium Model Used by the Staff of the Joint Committee on Taxation in the Macroeconomic Analysis of Tax Policy*. JCX-52-06 (December 14): 1.

⁵ Joint Committee on Taxation. 2008. *Inside the JCT Revenue Estimating Process*. (January 30): 10. The JCT utilizes an Individual Tax Model for revenue estimates that incorporates 180,000 actual tax returns from all categories of taxpayers. However, the results are aggregated and reported as a single amount in each year for each proposed change to current tax law.

⁶ The JCT distributional analysis provides the dollar change in federal taxes as well as the average tax rates under present law and the proposal for nine income brackets. In addition, this analysis provides the change in federal taxes to the following filing statuses: single, married filing jointly, and head of household.

⁷ Joint Committee on Taxation. 2005. *Overview of Revenue Estimating Procedures and Methodologies Used by the Staff of the Joint Committee on Taxation*. JCX-1-05 (February 22): 22.

⁸ *Id.* at 2. The JCT does not operate under the Freedom of Information Act as this act applies only to the executive branch and “includes any executive department, military department, Government corporation, Government controlled corporation, or other establishment in the executive branch of the Government (including the Executive Office of the President), or any independent regulatory agency;” (Freedom of Information Act, 5 U.S.C. §552(f)(1)). Only four distributional analyses (all concerning one piece of legislation) and two macroeconomic analyses issued from 2005-2008 are posted on the JCT web site (<http://www.jct.gov/pubs.html>).

⁹ The JCT is a Nonpartisan House-Senate Committee of the U.S. Congress. Therefore, its analysis should be objective, timely, and developed from a complete understanding of the proposed tax legislation. In addition, since this analysis is already provided to Congress, it can be made publicly available with little additional cost.

estimate the distributional effects of proposed changes in tax law on individual taxpayer explicit tax burdens. This methodology utilizes Statistics of Income (SOI) data to estimate average taxable income amounts for representative tax filers. The SOI data is based on a sample of tax returns, selected before audit, of individuals that filed tax returns using Forms 1040, 1040A and 1040EZ (including electronic returns). While our study is based on the United States tax system, our findings are generalizable to other taxing jurisdictions that have publically available data that allows for a similar analysis that the U.S. SOI data provides (e.g., Canada, the United Kingdom and Ireland).¹⁰ Other countries (e.g., Australia; New Zealand) provide income tax return statistics that are not stratified into various income brackets, therefore not allowing for the analysis documented in this study.

We evaluate the impact of a proposed tax law change to broaden the individual income tax base and lower individual income tax rates by performing a microeconomic analysis on their explicit tax burdens before and after the proposed change in tax law. We select this proposed tax law change for our study because of the differential predictions that the related JCT macroeconomic analysis (JCT study) makes regarding the impact of the proposal on individual taxpayer consumption patterns and explicit tax benefits. The JCT study estimates the impact of a proposal to reduce marginal tax rates on individuals by 32 percent and eliminate the alternative minimum tax (AMT) and most personal credits. It also broadens the individual tax base by eliminating most above-the-line deductions, itemized deductions and personal exemptions. Overall, the conventional JCT revenue estimate finds that the proposal is approximately revenue neutral over a ten year budget window. Each model's simulation results predict that the proposed tax legislation will increase real gross domestic product (GDP), business investment, and employment. The MEG and OLG simulations predict that short term individual consumption will increase due to the proposal's lower marginal tax rates (MTRs) while the DSGE simulation predicts that short term individual consumption will decrease due to a redistribution of individual tax liabilities from high wage earners to low wage earners.¹¹

Overall, our results indicate that JCT macroeconomic studies do not fully reveal the impact of the proposed tax legislation on individual tax return filers. We show that the proposed tax law change will differentially impact two filing groups: those that pay taxes under current tax law (taxable filers) and those that do not (nontaxable filers). For the taxable filer subgroup, the proposed tax law change will redistribute explicit tax costs from high to low income taxpayers. This disparity can be reduced, but not eliminated, if the preferential tax rate on capital gains (and qualified dividends) is also eliminated in conjunction with the adoption of this proposal. In contrast, we illustrate that the proposed tax legislation will increase the explicit tax costs to all nontaxable filers by either reducing their expected tax refunds or forcing them to pay taxes to the federal government. Finally, we show that repealing the preferential tax rate on capital

¹⁰ The Canada Revenue Agency publishes *Final Statistics - Sample Data* that reports detailed profiles of Canadian taxfilers based on a stratified random sample of individual tax returns (<http://www.cra-arc.gc.ca/gncy/sts/fnl-eng.html>). HM Revenue & Customs in the United Kingdom publishes *Income Tax Statistics and Distributions* (http://www.hmrc.gov.uk/stats/income_tax/menu.htm). The Office of the Revenue Commissioners of the Irish Tax & Customs publishes *Statistical Reports* that provide income distribution statistics (<http://www.revenue.ie/en/about/publications/statistical-reports.html>).

¹¹ Joint Committee on Taxation. 2006. *Macroeconomic Analysis of a Proposal to Broaden the Individual Income Tax Base and Lower Individual Income Tax Rates*. JCX-53-06 (December 14): 1.

gains (and qualifying dividends) will have little impact on this subgroup since most nontaxable filers do not generate substantial amounts of preferential income. Our contribution to the literature is to point out the shortcomings of JCT macroeconomic analyses regularly performed for proposed tax law change legislation. In addition, this article presents an alternative methodology using publicly available information to help taxpayers estimate the distributional impact of tax law change proposals.

The remainder of this article is presented as follows. The next section describes the functions of the JCT. The third section discusses the proposed tax law change legislation and the JCT study. The fourth section describes our methodology while the fifth section contains the results that estimate the impact of the potential change in tax law on individual explicit tax costs. A summary of significant findings concludes the article and is included in the final section.

2. JCT

The JCT is a Committee of the U.S. Congress originally established under the Revenue Act of 1926 and is currently authorized under the Internal Revenue Code (IRC) of 1986.¹² The JCT is composed of ten members: five from the Senate Finance Committee and five from the House Ways and Means Committee. The members of the JCT choose the Chief of Staff of the JCT, who is responsible for selecting the remainder of the staff on a nonpartisan basis. The independence and neutrality of the JCT staff serve to facilitate exchanges of information with the Internal Revenue Service (IRS), Treasury, other governmental agencies, interest groups (and their representatives) and taxpayers.¹³

The duties of the JCT are: (1) investigating the operation, effects, and administration of internal revenue taxes, (2) investigate measures and methods for the simplification of taxes, (3) make reports on the results of those investigations and make recommendations, and (4) review any proposed refund or credit of taxes in excess of \$2,000,000. In performing these tasks, the JCT has developed the important function of providing technical expertise (usually in the form of legal analysis) to Congress on such specialized tax topics as international taxation, pensions, insurance, trusts and estates, tax administration, tax exempt bonds, excise taxes, and mergers and acquisitions.¹⁴

In addition to these functions, the Congressional Budget Act of 1974 requires that the JCT provide revenue estimates for all tax legislation considered by either the House or the Senate.¹⁵ Such analyses are the official Congressional estimates for proposed tax legislation.¹⁶ In conjunction with revenue estimates, the JCT is required by House Rule XIII.3.(h)(2) to: (1) perform macroeconomic analysis of the effects of tax

¹² I.R.C. §8001-§8005 and §8021-§8023 of the I.R.C. of 1986, and predecessor sections of the I.R.C. of 1954, the I.R.C. of 1939, and preceding Revenue Acts back to the Revenue Act of 1926.

¹³ Joint Committee on Taxation. About the Joint Committee on Taxation. Available at: <http://www.house.gov/jct/aboutjct.html>.

¹⁴ *Id.*

¹⁵ §201(g), as amended by the Balanced Budget and Emergency Deficit Control Act of 1985 (Gramm-Rudman-Hollings), P.L. 99-177, 99 Stat. 1037.

¹⁶ *Id.*

proposals on both the aggregate economy and specific sectors and (2) provide predictions as to the behavioral responses of affected taxpayers.¹⁷

Towards this end, the JCT estimates the impact of tax legislation proposals on GDP, real business and residential capital stock, equipment, labor supply and consumption using three different macroeconomic analyses: the MEG, OLG, and DSGE analysis.¹⁸ The MEG analysis uses an open economy model that allows international capital flows to affect investment and net exports to affect domestic consumption. This model is based on the assumption that the amount of output is determined by the availability of capital and labor, and in the long run, prices adjust so that demand equals supply. The supply of labor over time is determined by the size of the working age population and its willingness to work in response to changes in after-tax wages. Population and age profile projections are calibrated to the Census Bureau middle series projections. The path of Federal Government expenditures on Social Security and Medicare programs is calibrated between low and intermediate projections derived from the Congressional Budget Office (CBO) forecast.¹⁹ The model is “myopic” in the sense that individuals do not anticipate changes in the economy (or government finances) but rather make decisions based on observed characteristics of the economy. In addition, consumption decisions are determined according to the lifecycle theory which implies that individuals attempt to smooth their consumption patterns over their lifetimes.²⁰

The OLG analysis includes sectors for both business and housing and assumes that individuals make consumption and labor supply decisions to maximize their lifetime wellbeing given the resources they anticipate will be available to them. The model assumes that they have complete information about economic conditions (such as wages, prices, interest rates, tax rates and government spending) over their lifetimes. The OLG model does not allow for unemployment or the international trade of goods and services. However, it does account for adjustment costs that are related to changes in the rate of investment. In addition, the movement of assets between sectors attempts to proxy for international cash flows through interest rate adjustments. Unlike the MEG model, the OLG model treats the purchase of housing as a consumption decision (thus making investment in real estate less responsive to changes in after-tax prices) and assumes that prices adjust to changes in economic conditions so that supply always equals demand and resources are always fully utilized (after accounting for the cost of adjusting the capital stock).²¹

Similar to the OLG model the DSGE model assumes that the economy always operates at full employment. In contrast to both the MEG and OLG models, the DSGE

¹⁷ Joint Committee on Taxation. 2003. *Overview of Work of the Staff of the Joint Committee on Taxation to Model the Macroeconomic Effects of Proposed Tax Legislation to Comply with House Rule XIII.3.(h)(2)*. JCX-105-03 (December 22): 5.

¹⁸ Joint Committee on Taxation. See n 11 at 7. The JCT uses three macroeconomic simulation models when analyzing tax change proposals because no one model can provide complete information about the broad array of anticipated effects of tax policy on the economy as a whole and its various sectors. Even with this multiple model approach, the JCT cannot account for all the possible effects that a particular proposal might have on the economy.

¹⁹ Congressional Budget Office (CBO). 2005. *The Long-Term Budget Outlook*.

²⁰ Joint Committee on Taxation. See n 11 at 4.

²¹ *Id.* at 5.

model is a closed economy in the sense that individuals do not have perfect information regarding future fiscal policy. Government in the DSGE model can also operate at permanently increasing debt levels due to tax cuts as long as the economy grows at a faster rate than debt loads, thus maintaining fiscal solvency. The model has one production sector and no distinction is made between residential and production capital.

In addition, upon request by a Member of Congress, the JCT may perform a distributional analysis. A distributional analysis is a study of how a tax change's aggregate costs and economic burdens are shared by taxpayers, taking into account their different incomes, consumption, etc. The JCT distributional analysis model the incremental changes in the distribution of tax costs and tax burdens that are expected to follow from a proposed change in law, when compared with current law and are designed to supplement the JCT macroeconomic analyses. The JCT provides the distributional effects of a proposal across a five year window for three filing statuses and nine income brackets. Complexity is increased as the JCT utilizes an expanded income concept which includes both taxable and tax exempt income. In addition, the JCT also predicts the tax impact of anticipated changes in taxpayer demographics and behavior.²² The JCT distributional analyses are more time consuming and costly to prepare than macroeconomic analyses because: (1) it is possible to determine the changes in total taxes paid without knowing how these tax changes are allocated among filing statuses and income groups, (2) data on the income levels of the affected taxpayers are not always available, and (3) in some cases, no reliable method is available to allocate to individuals the taxes paid by businesses. Unlike macroeconomic analysis, the distributional effect(s) on individual taxpayers of proposed tax law changes may not be available for two reasons. First, the JCT staff may decline a Member's request for a distributional analysis in cases where the effects of a proposal on different income groups cannot be predicted with reasonable accuracy.²³ Second, requests made by Members of Congress are treated as confidential, and the responses are released only to the Member making the request unless the Member decides to make the information public.²⁴

3. PROPOSED TAX LAW CHANGE AND JCT STUDY

3.1 Proposed Tax Law Change

In 2006 a proposal to modify the individual income tax system by broadening the tax base and reducing statutory tax rates was introduced into Congress. As shown in Figure 1, the tax legislation proposes to broaden the individual tax base in the following ways. First, it eliminates most personal deductions for adjusted gross income (AGI) except for retirement savings deductions (individual retirement account

²² Joint Committee on Taxation. 2008. *Reading JCT Staff Distribution Tables: An Introduction to Methodologies and Issues* (December 9).

²³ Joint Committee on Taxation. 2000. *Background Information Relating to the Joint Committee on Taxation*. JCX-1-00 (January 12).

²⁴ Joint Committee on Taxation. See n 7 at 2.

(IRA) payments and Keogh plan payments) and self-employment taxes.²⁵ In addition, all itemized deductions and personal/dependency exemptions would be eliminated.²⁶

FIGURE 1: SUMMARY OF PROPOSED TAX CHANGES

Current Tax Law	Proposed Tax Legislation
Gross income	Gross income
- <u>“For” AGI deductions</u>	- <u>Modified “For” AGI deductions^a</u>
= AGI	= Modified AGI
- Itemized deductions or Standard deduction ^b	- <u>Standard deduction^b</u>
- <u>Exemption amount^c</u>	
= Taxable income	= Modified taxable income
<u>x Tax rate^d</u>	<u>x Tax rate^d</u>
= Current-law tax due	= Proposed-law tax due
+ AMT ^e	
- <u>Nonrefundable credits</u>	- <u>Reduced nonrefundable credits^f</u>
= Tax due before refundable credits	= Modified tax due before refundable credits
- <u>Refundable credits</u>	- <u>Reduced refundable credits^g</u>
= Tax due	= Modified tax due

Notes:

^a The proposal eliminates the following deductions for AGI: certain employee fringe benefits, educator expenses, certain business expenses of reservists, performing artists, etc., health savings accounts, moving expenses, self-employed health insurance, penalty on early withdrawal of savings, alimony paid, student loan

²⁵ Under the proposal, the following deductions for AGI would be eliminated: educator expenses, certain business expenses of reservists, performing artists, etc., health savings accounts, moving expenses, self-employed health insurance, penalty on early withdrawal of savings, alimony paid, student loan interest, tuition and fees, and domestic production activities. As a result, only business, rental, retirement savings, and self-employment tax deductions remain under the proposed tax law.

²⁶ The JCT study states [page 2]: “[t]he largest categories of deductions repealed are present-law deductions for home mortgage interest expenses, state and local taxes, and charitable contributions. In addition, the exclusions for certain employee fringe benefits, such as employer contributions for health and life insurance as well as special tax incentives for specific activities (childcare, adoptions, and expenditures on personal residences to increase home efficiency) would be repealed.

interest, tuition and fees, and domestic production activities. As a result, only business, rental, retirement savings, and self-employment tax deductions remain under the proposed tax law.

- ^b The proposal eliminates itemized deductions but retains the standard deduction.
 - ^c The proposal eliminates the personal and dependency exemption.
 - ^d Under the current tax law the short term ordinary tax rates are 10, 15, 25, 28, 33 and 35 percent. The proposed tax law reduces these rates to 7.55, 11.55, 19.10, 21.40, 25.20 and 26.80 percent.
 - ^e The proposal eliminates the AMT.
 - ^f The proposal eliminates all nonrefundable personal credits. Therefore, only the foreign tax credit, the general business credit, the empowerment zone and community renewal credit, and the nonconventional source fuel credit remain under the proposal.
 - ^g The proposal eliminates refundable personal tax credits with the exception of prepaid federal taxes, the earned income credit and the credit from regulated investment companies.
-

Additionally, the proposed tax legislation reduces the ordinary tax rates by approximately 32 percent relative to 2007 ordinary tax rates (10, 15, 25, 28, 33 or 35 percent). Specifically, the new rates would be 7.55, 11.55, 19.10, 21.40, 25.20, and 26.80 percent. The preferential tax rate on capital gains (and qualified dividends) would remain in effect but the AMT would be repealed. In addition, the proposal would eliminate most personal nonrefundable and refundable tax credits (except for the earned income credit and prepaid federal income taxes).²⁷

3.2 JCT Macroeconomic Study

The impact of the proposed tax legislation on GDP, real business and residential capital stock, equipment, labor supply and consumption is estimated by the JCT staff using the MEG, OLG, and DSGE analyses. Each simulation model is run for three time periods: 2007 to 2011 (short-run), 2012 to 2016 (medium-run), and 2034 (long-run). The simulation results show that, in general, the base broadening provisions and lower MTRs provide additional incentives for work and investment, which is expected to increase real GDP, business investment, and employment. This analysis also suggests that housing investment is likely to decline due to the elimination of the property tax and home mortgage interest expense deductions. The extent of these declines, however, are expected to be dependent upon the sensitivity of individual labor choices to the changing ordinary tax rates, as well as how the new tax regime impacts Federal government borrowing and interest rates.²⁸ Finally, both the MEG and OLG simulation results suggest that taxpayers' short-run consumption will increase due to an overall reduction in their MTRs. In contrast, the DSGE model simulation results suggest that short term consumption will decrease primarily

²⁷ As a result, only the foreign tax credit, the general business credit, the empowerment zone and community renewal credit and the non-conventional source fuel credit would remain under the proposal.

²⁸ Joint Committee on Taxation. See n 11 at 1.

because of a redistribution of individual explicit tax costs from high income to the low income wage earners. However, consistent with the other two models, this model predicts that individual consumption will increase over the two longer term periods.

4. METHODOLOGY

While the MEG and OLG analysis fail to incorporate any alternative individual taxpayer grouping variables into their models, the DSGE includes one variable to distinguish between two types of individuals: savers and spenders. Spenders are assumed to be those individuals in the lower portion of the income distribution (40th percentile of filers with positive income) with savers comprising the balance of the income distribution. While this feature allows for an analysis of the differential impact of a proposed tax law change on the explicit tax costs and consumption patterns of relatively low and high income individual households, it does not allow for more discrete individual taxpayer group partitions based on factors such as income level, filing status, itemizing deductions vs. taking the standard deduction, etc.²⁹

We evaluate the range limitations inherent in the JCT macroeconomic studies by performing a microeconomic analysis on their explicit tax burdens before and after the proposed change in tax law. Whether individual tax costs will increase or decrease under the proposed tax legislation relative to the current law is an empirical issue. We utilize the SOI data obtained from the Fall 2007 Statistics of Income Bulletin as provided by the Internal Revenue Service (IRS) for the 2005 tax year to estimate average taxable income amounts for representative tax filers.³⁰ The SOI data is based on a sample of tax returns, selected before audit, of individuals that filed tax returns using Forms 1040, 1040A and 1040EZ (including electronic returns). We estimate the tax due for each representative filer by applying the 2007 ordinary tax rates to the estimated current law taxable income amounts. Next, we estimate the total current year tax due amount by adding any AMT tax owed by each representative tax filer (obtained from SOI data) and reducing the total tax due by all nonrefundable and refundable tax credits (except for prepaid federal income taxes) available under current law (obtained from the SOI data).³¹

²⁹ *Id.* at 6.

³⁰ Internal Revenue Service (IRS). 2007. *Statistics of Income Bulletin*.

³¹ Taxable income for each filing status and AGI bracket is calculated by taking the mean AGI and subtracting either the mean itemized deductions or the mean standard deduction and then subtracting the mean exemption amount. These SOI data are obtained from Table 1.2 – *All Returns: Adjusted Gross Income, Exemptions, Deductions, and Tax Items, by Size of Adjusted Gross Income and by Marital Status, Tax Year 2005*. The data provided in the IRS SOI tables do not explicitly state the amount of capital gains income that receives preferential treatment, nor the tax rate. Therefore, we estimate the maximum amount of income that might receive preferential treatment by adding mean qualified dividends and mean taxable net capital gains and subtracting the mean investment interest expense deduction. These SOI data are obtained from Table 2.1 – *Returns with Itemized deductions: Sources of Income, Adjustments, Itemized Deductions by Type, Exemptions, and Tax Items, by Size of Adjusted Gross Income, Tax Year 2005* or Table 1.4 – *All returns: Sources of Income, Adjustments, and Tax Items, by Size of Adjusted Gross Income, Tax Year 2005* for returns with itemized deductions or using the standard deduction, respectively. Then, the amount of preferential income is subjected to a tax rate of either five or 15 percent. The remaining taxable income is then subjected to individual rates using the 2007 tax brackets. The mean alternative minimum tax is also obtained from either Table 2.1 or Table 1.4 and added to the sum of the preferential tax and individual tax to determine the tax liability before credits. Table 3.3 – *All Returns: Tax Liability, Tax Credits, and Tax Payments, by Size of Adjusted*

Next, we estimate each representative tax filer’s modified taxable income by considering the impact of the base broadening provisions associated with the proposed tax legislation to convert “current law” taxable income to “proposed law” taxable income.³² We then estimate each representative tax filer’s tax due under the proposed legislation by applying the proposed ordinary tax rates to their modified taxable income amount. We then reduce this amount by any nonrefundable/refundable tax credits allowed under the proposal to estimate the modified tax due under the proposed tax legislation.³³ Finally, we evaluate the impact of the proposed tax law change by comparing the estimated current law tax due to the proposed law tax due for each hypothetical taxpayer. Table 1 describes how the SOI data is used; Panel A provides the calculations for taxable income, preferential income calculations are in Panel B, while the calculations for total income taxes are in Panel C.³⁴

TABLE 1: CALCULATIONS UTILIZING THE INTERNAL REVENUE SERVICES (IRS) STATISTICS OF INCOME (SOI) DATA

Current Law - Standard Deduction		Current Law - Itemized Deductions		Proposed Tax Law	
Variable	IRS SOI Table	Variable	IRS SOI Table	Variable	IRS SOI Table

Panel A: Determination of Taxable Income

Adjusted Gross Income	1.2 ^a	Adjusted Gross Income	1.2 ^a	Adjusted Gross Income	1.2 ^a
				+ “For” AGI deductions eliminated	1.4 ^b
				<hr/> Revised AGI	
- Standard Deduction	1.2 ^a	- Itemized Deductions	1.2 ^a	- Standard Deduction	1.2 ^a
- Exemption Amount	1.2 ^a	- Exemption Amount	1.2 ^a		
<hr/> Taxable Income		<hr/> Taxable Income		<hr/> Taxable Income	

Panel B: Determination of Preferential Income

Net gain from sales of capital assets	1.4 ^c	Net gain from sales of capital assets	1.4 ^c	Net gain from sales of capital assets	1.4 ^c
+ Capital Gain	1.4 ^c	+ Capital Gain	1.4 ^c	+ Capital Gain	1.4 ^c

Gross Income, Tax Year 2005 is used to obtain SOI data for tax credits. First, the mean nonrefundable credits are subtracted from the tax liability before credits. This amount is set to zero if the result is negative. Then, the mean refundable credits are subtracted to determine the total income tax.

³² We determine the mean gross income for each filing status and AGI bracket by adding the mean “for” AGI deductions to the mean AGI. We then subtract the “for” AGI deductions remaining in the proposal to determine the modified AGI. These SOI data are obtained from Table 1.4.

³³ The SOI data for mean credit amounts remaining in the proposal are obtained from Table 3.3.

³⁴ All supporting calculations are available from the authors upon request.

Distributions + Qualified Dividends	1.4 ^c	Distributions + Qualified Dividends - Investment Interest Expense	2.1 ^d 2.1 ^d	Distributions + Qualified Dividends	1.4 ^c
<hr/>		<hr/>		<hr/>	
Preferential Income		Preferential Income		Preferential Income	

Panel C: Determination of Income Tax

Capital Gains Tax + Ordinary Income Tax + Alternative Minimum Tax	1.4 ^c	Capital Gains Tax + Ordinary Income Tax + Alternative Minimum Tax	2.1 ^d	Capital Gains Tax + Ordinary Income Tax + Alternative Minimum Tax	1.4 ^c
- Nonrefundable Credits	3.3 ^e	- Nonrefundable Credits	3.3 ^e	- Nonrefundable Credits ^f	3.3 ^e
<hr/>		<hr/>		<hr/>	
Tax before Refundable Credits (≥ 0)		Tax before Refundable Credits (≥ 0)		Tax before Refundable Credits (≥ 0)	
- Refundable Credits	3.3 ^e	- Refundable Credits	3.3 ^e	- Refundable Credits ^f	3.3 ^e
<hr/>		<hr/>		<hr/>	
Income Tax (Refund)		Income Tax (Refund)		Income Tax (Refund)	

Notes:

^a Adjusted gross income, the standard deduction, itemized deductions, and the exemption amount are obtained from the Internal Revenue Service (IRS) 2007 Statistics of Income (SOI) Bulletin Table 1.2 – *All Returns: Adjusted Gross Income, Exemptions, Deductions, and Tax Items, by Size of Adjusted Gross Income and by Marital Status, Tax Year 2005*.

^b The tax change proposal eliminates most above-the-line deductions with the exception of retirement savings deductions and self-employment taxes. Therefore, we add back all “For” AGI deductions with the exception of individual retirement account (IRA) payments, Keogh plan payments, and self-employment taxes to determine a revised AGI amount. These data are obtained from the Internal Revenue Service (IRS) 2007 Statistics of Income (SOI) Bulletin Table 1.4 – *All returns: Sources of Income, Adjustments, and Tax Items, by Size of Adjusted Gross Income, Tax Year 2005*.

^c Taxable net gain from the sales of capital assets, capital gain distributions, qualified dividends, and the alternative minimum tax are obtained from the Internal Revenue Service (IRS) 2007 Statistics of Income (SOI) Bulletin Table 1.4 – *All returns: Sources of Income, Adjustments, and Tax Items, by Size of Adjusted Gross Income, Tax Year 2005*.

^d Qualified dividends, the investment interest expense deduction, and the alternative minimum tax for itemized returns are obtained from the Internal Revenue Service (IRS) 2007 Statistics of Income (SOI) Bulletin Table 2.1 – *Returns with Itemized deductions: Sources of Income, Adjustments, Itemized Deductions by Type, Exemptions, and Tax Items, by Size of Adjusted Gross Income, Tax Year 2005*.

^e The Internal Revenue Service (IRS) 2007 Statistics of Income (SOI) Bulletin Table 3.3 – *All Returns: Tax Liability, Tax Credits, and Tax Payments, by Size of Adjusted Gross Income, Tax Year 2005* is used to obtain SOI data for tax credits.

^f The proposal eliminates most personal nonrefundable and refundable credits except for prepaid federal income taxes and the earned income credit. The foreign tax credit, the general business credit, the empowerment zone and community renewal credit and the non conventional source fuel credit would remain under the proposal.

We increase the precision of different taxpayer groups examined by performing this analysis for taxpayers in each of the following AGI income ranges³⁵:

- Under \$5,000,
- \$5,000 to under \$10,000,
- \$10,000 to under \$15,000,
- \$15,000 to under \$20,000,
- \$20,000 to under \$25,000,
- \$25,000 to under \$30,000,
- \$30,000 to under \$40,000,
- \$40,000 to under \$50,000,
- \$50,000 to under \$75,000,
- \$75,000 to under \$100,000,
- \$100,000 to under \$200,000,
- \$200,000 to under \$500,000, and
- \$500,000 to under \$1,000,000.

We also expand the range of alternative taxpayer groups that might be impacted by the proposed change in tax law by separately considering two distinct filing groups: those that had an explicit tax burden upon filing (taxable filers) and those who did not (non taxable filers). For each subgroup, we perform this analysis separately for representative tax filers that itemized deductions or claimed the standard deduction. In addition, this analysis is stratified into the following filing status subgroups: Single, Unmarried Head of Household (HofH) and Married Filing Jointly (MFJ).³⁶

The SOI data for each variable in each AGI bracket is presented as a total dollar amount. In addition, the number of returns is provided, so that the mean amount for each return in that AGI bracket can be determined.³⁷ This SOI data is provided for

³⁵ These AGI ranges correspond to the ranges used in the SOI Bulletin. As the proposal impacts “For” AGI deductions, modified AGI’s are calculated to determine the impact of the proposal (See Figure 1).

³⁶ Single, HofH and MFJ returns comprised 98 percent of the total returns filed for the 2005 tax year [Internal Revenue Service (IRS). 2007. *Statistics of Income Bulletin*]. Distributional analyses performed by the JCT only include nine different income brackets, and make no distinction between taxpayers that itemize and those that take the standard deduction, or between taxable and nontaxable filers.

³⁷ The IRS SOI data does not provide sufficient detail to determine either the median or mode.

both all returns filed and taxable returns filed. Therefore, by subtracting the taxable return amount from the total return amount (both the dollar amount and the number of returns), the mean nontaxable return amount can also be determined. This methodology is used to determine the mean amount for each variable listed in Table 1.

5. RESULTS

5.1 Selected Descriptive Statistics

Over 134 million individual tax returns were filed with the IRS for the 2005 tax year.³⁸ Selected descriptive statistics are provided in Table 2 and suggest the tax filer population consists of two distinct groups: taxable and nontaxable filers. As shown in Panel A, Column A, approximately 67.4 percent of all tax filers incurred positive explicit tax costs before considering prepaid federal income taxes (taxable filers). Of this group, most are associated (96.1 percent of the 67.4 percent) with individuals with AGIs of \$200,000 or less. Conversely, as shown in Column B, approximately 32.6 percent of the tax filer population did not incur any explicit tax costs or were owed a tax refund (nontaxable filers). Approximately 99.7 percent of this group consists of individuals with AGI levels of \$75,000 or less and comprises more than half of the total population of tax filers for individuals with AGI levels of \$40,000 or less. After considering the distinct differences in the characteristics of tax filers within these two subgroups, we will analyze the impact of the proposed tax legislation on each group separately.

TABLE 2: SELECTED DESCRIPTIVE STATISTICS OF 2005 TAX FILTERS^a

Panel A: Filer Types

AGI Range:	Type		Taxable Filer Percentage ^d (%) C
	Taxable	Nontaxable	
	Filers ^b	Filers ^c	
	(%)	(%)	
	A	B	
\$0-5k	0.6	9.2	6.2
\$5k-10k	2.8	6.3	30.6
\$10k-15k	4.3	4.4	49.4
\$15k-20k	4.5	3.8	53.8
\$20k-25k	4.4	2.9	60.2
\$25k-30k	4.4	2.1	67.0
\$30k-40k	8.3	2.1	79.7
\$40k-50k	6.9	1.0	87.8
\$50k-75k	13.0	0.6	95.3
\$75k-100k	7.7	0.1	98.7

³⁸Internal Revenue Service (IRS). 2007. *Statistics of Income Bulletin*.

\$100k-200k	8.0	0.0	100.0
\$200k-500k	2.0	0.0	100.0
\$500k-1M	0.4	0.0	100.0
> \$1M	0.2	0.0	100.0
<i>Total</i>	<i>67.4</i>	<i>32.6</i>	

Panel B: Standard Deduction Filers vs. Itemizers

AGI Range:	Taxable Filers ^b (%)		Nontaxable Filers ^c (%)	
	Standard ^e	Itemizers ^e	Standard ^e	Itemizers ^e
	A	B	C	D
\$0-5k	98.5	1.4	96.9	3.1
\$5k-10k	99.3	0.7	93.0	7.0
\$10k-15k	95.2	4.8	86.9	13.1
\$15k-20k	89.4	10.6	85.6	14.4
\$20k-25k	84.6	15.4	81.3	18.7
\$25k-30k	79.0	21.0	75.7	24.3
\$30k-40k	70.5	29.5	61.5	38.5
\$40k-50k	58.5	41.4	40.7	59.3
\$50k-75k	42.2	57.8	16.6	83.4
\$75k-100k	23.9	76.1	2.7	97.3
\$100k-200k	10.4	89.6	10.3	89.7
\$200k-500k	5.8	94.2	17.7	82.2
\$500k-1M	8.0	92.0	19.6	80.4
> \$1M	8.2	91.8	16.6	83.3

Notes:

^a This table is developed using data taken from the Fall 2007 SOI Bulletin for the 2005 tax year.

^b Represents individual taxpayers that owed federal income taxes for the 2005 tax year (prior to considering prepaid income taxes).

^c Represents individual taxpayers that did not owe federal income taxes (or expected a tax refund) for the 2005 tax year (prior to considering prepaid income taxes).

^d Computed as follows: percentage of taxable filers divided by the sum of the percentage of taxable and non taxable filers.

^e Standard represents the percentage of individual filers that claimed the standard deduction on their 2005 tax returns. Itemizers represent the percentage of individual filers that itemized deductions on their 2005 tax returns.

The breakout between tax filers that claimed the standard deduction or who itemized deductions is shown in Panel B of Table 2. As shown in Columns A and B, more than half of the taxable filers with AGI levels less than \$50,000 claimed the standard deduction on their 2005 tax returns while the majority of filers with AGI levels in excess of \$50,000 itemized deductions. Similarly, the majority of nontaxable filers with AGI levels less than \$40,000 claimed the standard deduction on their 2005 tax return, while the majority of filers with AGIs in excess of \$40,000 itemized deductions (Columns C and D).

5.2 Results: Taxable Returns

The microeconomic results for the taxable filers' subgroup are presented in Table 3. The estimated current law tax due (before prepaid federal income taxes) is shown in Column A for representative filers claiming the standard deduction and Column B for representative filers that itemized deductions. The proposed law tax due (before prepaid income taxes) is shown in Column C. The next column indicates whether the proposed tax law change increases (decreases) each representative tax filers explicit tax costs relative to their current law tax amounts (standard deduction or itemizer). We do not consider representative filers with AGI levels less than \$5,000 or greater than \$1 million since they comprise a relatively small percentage of this tax filer population.³⁹ Consistent with the DSGE model simulation result predictions, our results suggest that representative filers with the highest AGIs (over \$200,000) will enjoy a reduction in their explicit tax costs under the proposed tax legislation at the expense of representative filers at the lower AGI levels. More specifically, taxpayers with the lowest AGIs (less than \$25,000) will generally experience an increase in their explicit tax costs.⁴⁰ The impact to taxpayers with AGIs between \$25,000 and \$200,000 depends somewhat on their filing status and whether they use the standard deduction (or itemize) but generally we show they will also experience an increase in their explicit tax costs.

³⁹ After this adjustment, our analysis addresses approximately 98.8 percent of the total population of taxable filers.

⁴⁰ Similar results were obtained using the 2004 SOI data.

TABLE 3: ESTIMATED TAX DUE COMPARISONS FOR TAXABLE FILER SUBGROUP

AGI Range:	Tax Due: Current Law		Tax Due: Proposed Tax Law			
	Standard ^b A	Itemizers ^b B	Tax Due ^b C	Eliminate		
				Increase (+) Decrease (-) (C-A , C-B)	Pref. Tax Rates ^b D	Increase (+) Decrease (-) (D-A , D-B)
Panel A: Single						
\$5k-10k	\$ 176	\$ 245	\$ 204 ^e	(+,-)	\$ 209	(+,-)
\$10k-15k	427	176	546 ^{d,f}	(+,+)	552	(+,+)
\$15k-20k	958	465	1,127 ^{d,f}	(+,+)	1,117	(+,+)
\$20k-25k	1,644	911	1,709 ^f	(+,+)	1,697	(+,+)
\$25k-30k	2,341	1,516	2,285 ^f	(-,+)	2,270	(-,+)
\$30k-40k	3,292	2,348	3,131 ^{c,f}	(-,+)	3,114	(-,+)
\$40k-50k	4,975	3,565	4,837 ^f	(-,+)	4,870	(-,+)
\$50k-75k	8,550	6,118	7,776 ^{d,f}	(-,+)	7,828	(-,+)
\$75k-100k	14,535	11,304	12,596 ^{d,f}	(-,+)	12,756	(-,+)
\$100k-200k	27,426	21,786	22,269 ^{d,f}	(-,+)	22,750 ^h	(-,+)
\$200k-500k	73,703	60,601	55,878 ^{d,f}	(-,-)	60,081 ⁱ	(-,-)
\$500k-1M	190,870	155,042	144,270 ^{d,f}	(-,-)	161,708 ⁱ	(-,+)
Panel B: Head of Household						
\$5k-10k	\$ 19	\$ (3)	\$ 498 ^{d,f}	(+,+)	\$ 503	(+,+)
\$10k-15k	93	10	468 ^{d,f}	(+,+)	474	(+,+)
\$15k-20k	374	90	759 ^{d,f}	(+,+)	766	(+,+)
\$20k-25k	813	540	1,315 ^{d,f}	(+,+)	1,339	(+,+)
\$25k-30k	1,439	899	1,887 ^{d,f}	(+,+)	1,917	(+,+)
\$30k-40k	2,271	1,537	2,719 ^{d,f}	(+,+)	2,751	(+,+)
\$40k-50k	3,559	2,569	3,862 ^{d,f}	(+,+)	3,916	(+,+)
\$50k-75k	5,663	4,060	6,381 ^{d,f}	(+,+)	6,433	(+,+)
\$75k-100k	11,646	8,178	11,169 ^{d,f}	(-,+)	11,272	(-,+)

\$100k-200k	22,448	17,219	19,314 ^{d,f}	(-,+)	19,795 ⁱ	(-,+)
\$200k-500k	71,001	57,641	54,291 ^{d,f}	(-,-)	58,493 ⁱ	(-,+)
\$500k-1M	188,092	150,862	142,153 ^{d,f}	(-,-)	159,591 ⁱ	(-,+)
Panel C: Married Filing Jointly						
\$5k-10k	\$ (3)	\$ (3)	\$ (3)	(0,0)	\$ (3)	(0,0)
\$10k-15k	(6)	(6)	247 ^{d,f}	(+,+)	253	(+,+)
\$15k-20k	94	22	590 ^{d,f}	(+,+)	598	(+,+)
\$20k-25k	390	159	857 ^{d,f}	(+,+)	866	(+,+)
\$25k-30k	846	455	1,273 ^{d,f}	(+,+)	1,302	(+,+)
\$30k-40k	1,565	913	2,214 ^{d,f}	(+,+)	2,246	(+,+)
\$40k-50k	2,776	1,892	3,379 ^{d,f}	(+,+)	3,432	(+,+)
\$50k-75k	5,019	3,963	5,361 ^{d,f}	(+,+)	5,445	(+,+)
\$75k-100k	8,333	6,840	9,088 ^{d,f}	(+,+)	9,190	(+,+)
\$100k-200k	19,835	15,648	17,689 ^{d,f}	(-,+)	17,997 ^g	(-,+)
\$200k-500k	64,073	52,680	49,787 ^{d,f}	(-,-)	53,989 ⁱ	(-,+)
\$500k-1M	183,450	151,832	138,618 ^{d,f}	(-,-)	156,056 ⁱ	(-,+)

Notes:

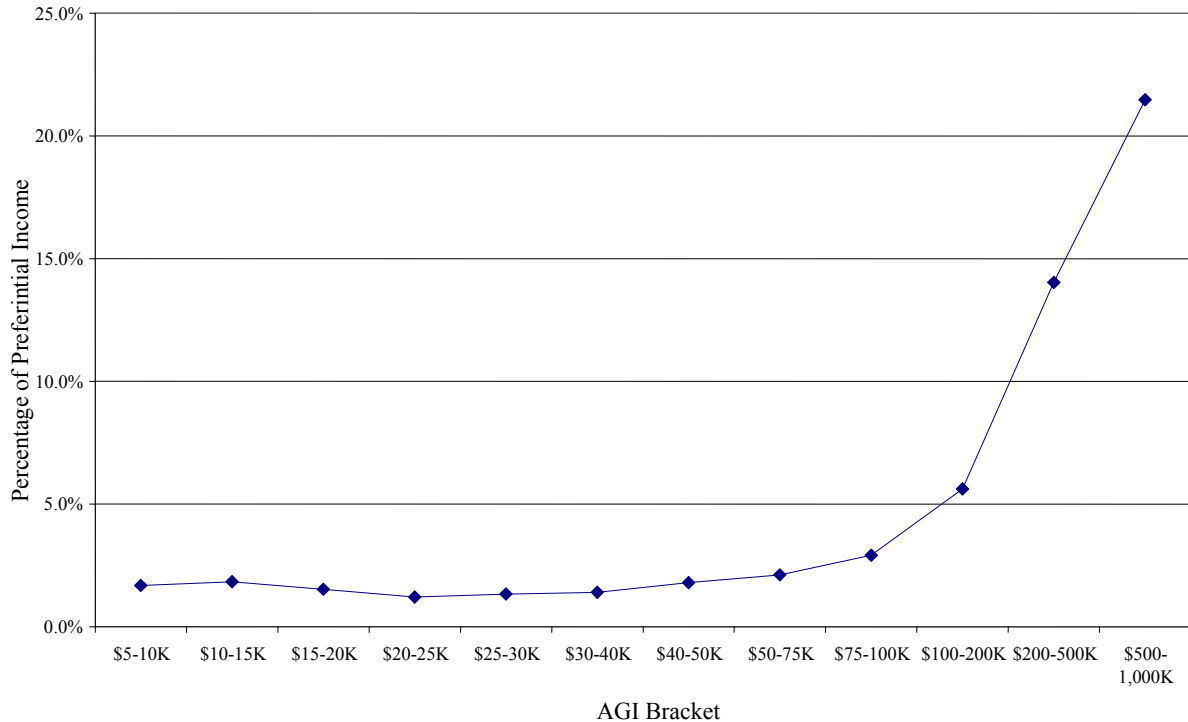
- ^a This table is developed by using data taken from the Fall 2007 SOI Bulletin for the 2005 tax year. Supporting calculations are available from the authors upon request.
- ^b Represents estimated tax due (before prepaid income taxes) for the following taxable filer subgroups: (1) individual filers that claimed the standard deduction (itemized) under the current law, (2) individual filers under the proposed tax law and (3) individual filers under the proposed tax law assuming that the preferential tax rate on capital gains (and qualifying dividends) was also eliminated.
- ^c The tax due under the proposal is significantly different from the current tax due for taxpayers using the standard deduction at the 0.05 level using a two-tailed Chi-squared test.
- ^d The tax due under the proposal is significantly different from the current tax due for taxpayers using the standard deduction at the 0.01 level using a two-tailed Chi-squared test.
- ^e The tax due under the proposal is significantly different from the current tax due for taxpayers itemizing deductions at the 0.05 level using a two-tailed Chi-squared test.
- ^f The tax due under the proposal is significantly different from the current tax due for taxpayers itemizing deductions at the 0.01 level using a two-tailed Chi-squared test.

- ^g The tax due without preferential treatment for capital gains is significantly different from the tax due under the proposal at the 0.1 level using a two-tailed Chi-squared test.
- ^h The tax due without preferential treatment for capital gains is significantly different from the tax due under the proposal at the 0.05 level using a two-tailed Chi-squared test.
- ⁱ The tax due without preferential treatment for capital gains is significantly different from the tax due under the proposal at the 0.01 level using a two-tailed Chi-squared test.
-

We further investigate this result by examining the gross income composition for 2005 individual tax filers. As shown in Figure 2, tax filers with gross income levels less than \$100,000 generate relatively low percentages (less than 3 percent) of preferential type income (long term capital gains and qualifying dividends). Meanwhile, tax filers with gross income levels in excess of \$100,000 report increasing (by gross income) relative percentages of preferential type income. This result suggests that the explicit tax cost redistribution effect noted above may be due to the proposals failure to repeal the preferential tax rates afforded to long term capital gains/qualifying dividends. We examine whether this is the case by re-estimating each representative filer's explicit tax cost (before prepaid income taxes) under the proposed tax law assuming that the preferential income tax rates is also repealed.⁴¹ The result as presented Column D of Table 3, show that the additional repeal of the preferential income ordinary tax rates reduces (but does not eliminate) the explicit tax redistribution effect by increasing the tax costs of representative tax filers with AGI levels of \$200,000 or more. As expected, any repeal would have a negligible effect on representative filers with AGI levels of \$200,000 or less due to their relatively low use of preferential income investment vehicles.

⁴¹ It is beyond the scope of this study to forecast the behavioral changes of taxpayers due to a capital gains tax rate change as we perform a static distributional analysis. We suggest that this change be considered in conjunction with the proposal for two reasons. First, while the proposal is obviously designed to simplify the tax system, the preferential rates for capital gains vastly complicates this system (Burman, Leonard. 1999. *The Labyrinth of Capital Gains Tax Policy: A Guide for the Perplexed*. Washington, DC: Brookings Institution, 49). Second, the proposal eliminates the tax benefits of increasing consumption by eliminating deductions for mortgage interest on residences, sales taxes, and property taxes in addition to decreasing the lock-in effect on capital gains by eliminating deductions for charitable contributions. Further reduction in the lock-in effect could be accomplished by the elimination the step-up of basis on inherited capital assets. Therefore, the elimination of the preferential treatment of capital gains should not increase consumption, but only shift investments from current tax-favored investments into other investments that may be more efficient. Efficiency can also be enhanced by decreasing the lock-in effect as discussed above.

FIGURE 2: PREFERENTIAL INCOME AS A PERCENTAGE OF GROSS INCOME. MARRIED FILING JOINTLY – ALL RETURNS



5.3 Results: Nontaxable Returns

The microeconomic results for the nontaxable return filers’ subgroup are presented in Table 4. Consistent with Table 3, the estimated current law tax due (before prepaid federal income taxes) is shown in Column A for representative filers that claimed the standard deduction and Column B for representative filers that itemized deductions. The proposed law tax due (before prepaid income taxes) is shown in Column C. The next column indicates whether the proposed tax law change increases (decreases) each representative tax filers explicit tax costs relative to their current law tax cost amounts (standard deduction or itemizer). Based on the descriptive statistics for this subgroup as provided in Table 2, we only present information for nontaxable representative filers with AGI levels of \$75,000 or less.⁴²

⁴² This allows us to consider approximately 99.6 percent of the nontaxable filer population.

TABLE 4: ESTIMATED TAX DUE COMPARISONS FOR NONTAXABLE FILER SUBGROUP^a

AGI Range:	Tax Due: Current Law		Tax Due: Proposed Tax Law			
	Standard ^b	Itemizers ^b	Tax Due ^b	Increase (+) Decrease (-)	Eliminate Pref. Tax Rates ^b	Increase (+) Decrease (-)
	A	B	C	(C-A, C-B)		(C-A, C-B)
Panel A: Single						
< \$5k	\$ (188)	\$ (188)	\$ (156)	(+,+)	\$ (156)	(+,+)
\$5k-10k	(961)	(961)	(789) ^{d,f}	(+,+)	(786)	(+,+)
\$10k-15k	(1,985)	(2,199)	(1,493) ^{d,f}	(+,+)	(1,487)	(+,+)
\$15k-20k	(1,894)	(2,452)	(793) ^{d,f}	(+,+)	(801)	(+,+)
\$20k-25k	(1,530)	(2,388)	79 ^{d,f}	(+,+)	73	(+,+)
\$25k-30k	(581)	(1,984)	\$1,196 ^{d,f}	(+,+)	1,188	(+,+)
\$30k-40k	0	(1,454)	2,778 ^{d,f}	(+,+)	2,760	(+,+)
\$40k-50k	0	0	5,013 ^{d,f}	(+,+)	5,049	(+,+)
\$50k-75k	0	0	7,580 ^{d,f}	(+,+)	7,679	(+,+)
Panel B: Head of Household						
< \$5k	\$ (188)	\$ (188)	\$ (156) ^{c,e}	(+,+)	\$ (156)	(+,+)
\$5k-10k	(961)	(961)	(354) ^{d,f}	(+,+)	(351)	(+,+)
\$10k-15k	(2,199)	(2,199)	(1,659) ^{d,f}	(+,+)	(1,653)	(+,+)
\$15k-20k	(2,452)	(2,452)	(1,151) ^{d,f}	(+,+)	(1,145)	(+,+)
\$20k-25k	(2,164)	(2,388)	(299) ^{d,f}	(+,+)	(289)	(+,+)
\$25k-30k	(1,606)	(1,984)	780 ^{d,f}	(+,+)	795	(+,+)
\$30k-40k	(630)	(1,454)	2,270 ^{d,f}	(+,+)	2,303	(+,+)
\$40k-50k	0	0	3,738 ^{d,f}	(+,+)	3,796	(+,+)
\$50k-75k	0	0	5,755 ^{d,f}	(+,+)	5,854	(+,+)
Panel C: Married Filing Jointly						
< \$5k	\$ (188)	\$ (188)	\$ (156) ^{c,e}	(+,+)	\$ (156)	(+,+)
\$5k-10k	(961)	(961)	(950)	(+,+)	(950)	(+,+)
\$10k-15k	(2,199)	(2,199)	(1,900) ^{d,f}	(+,+)	(1,894)	(+,+)

\$15k-20k	(2,452)	(2,452)	(1,418) ^{d,f}	(+,+)	(1,412)	(+,+)
\$20k-25k	(2,388)	(2,388)	(658) ^{d,f}	(+,+)	(654)	(+,+)
\$25k-30k	(1,984)	(1,984)	326 ^{d,f}	(+,+)	340	(+,+)
\$30k-40k	(1,386)	(1,454)	1,879 ^{d,f}	(+,+)	1,913	(+,+)
\$40k-50k	0	0	3,337 ^{d,f}	(+,+)	3,394	(+,+)
\$50k-75k	0	0	4,869 ^{d,f}	(+,+)	5,027 ^g	(+,+)

Notes

^a This table is developed by using data taken from the Fall 2007 SOI Bulletin for the 2005 tax year. Supporting calculations are available from the authors upon request.

^b Represents estimated tax due (before prepaid income taxes) for the following nontaxable filer subgroups: (1) individual filers that claimed the standard deduction (itemized) under the current law, (2) individual filers under the proposed tax law and (3) individual filers under the proposed tax law assuming that the preferential tax rate on capital gains (and qualifying dividends) was also eliminated.

^c The tax due under the proposal is significantly different from the current tax due for taxpayers using the standard deduction at the 0.1 level using a two-tailed Chi-squared test.

^d The tax due under the proposal is significantly different from the current tax due for taxpayers using the standard deduction at the 0.01 level using a two-tailed Chi-squared test.

^e The tax due under the proposal is significantly different from the current tax due for taxpayers itemizing deductions at the 0.1 level using a two-tailed Chi-squared test.

^f The tax due under the proposal is significantly different from the current tax due for taxpayers itemizing deductions at the 0.01 level using a two-tailed Chi-squared test.

^g The tax due without preferential treatment for capital gains is significantly different from the tax due under the proposal at the 0.1 level using a two-tailed Chi-squared test.

Our results indicate that most representative nontaxable filers expect to receive tax refunds under the current law due to the utilization of the earned income credit. Consistent with the predictions of the MEG/OLG simulation models, we show that the proposed tax legislation will increase explicit tax costs across the board to this subgroup by reducing their expected refunds. We also show that some representative filers will be forced to incur positive explicit tax costs to the federal government (before considering prepaid federal income taxes). More specifically, this involves typical taxpayers in the following AGI groups: single filers with AGIs greater than \$20,000; HofH filers with AGIs greater than \$25,000; and MFJ filers with AGIs greater than \$30,000. This latter result is important because it suggests that the proposed tax legislation will negatively impact a group of taxpayers that typically can least afford to pay taxes. Consistent with taxable return group, we also estimate the impact of repealing the preferential tax rates on long term capital gains (and

qualifying dividends) on nontaxable filers. As expected, this additional repeal would not appreciably impact this subgroup since, on average; they do not significantly rely on these investment vehicles as an income source.⁴³

6. SUMMARY AND CONCLUSIONS

This study examines whether individual taxpayers can rely on the JCT proposed tax law change studies for their own tax purposes. Overall, our results indicate that the JCT macroeconomic studies do not fully reveal the impact of proposed tax legislation on individual tax return filers. More specifically, we show that the proposed tax legislation entitled *Macroeconomic Analysis of a Proposal to Broaden the Individual Income Tax Base and Lower Individual Income Tax Rates* will differentially impact two filing groups: those that pay taxes under the current tax law (taxable filers) and those that do not (nontaxable filers). For the taxable filer subgroup, we show the proposed tax legislation will result in a redistribution of explicit tax costs from high to low income taxpayers. We also show that this disparity can be reduced, but not eliminated if the preferential tax rate on capital gains (and qualified dividends) is eliminated in conjunction with the adoption of the proposal. In contrast, we illustrate that the proposed tax legislation will increase the explicit tax costs to all nontaxable filers by either reducing their tax refunds or forcing them to pay taxes to the federal government. Finally, we show that repealing the preferential tax rate on capital gains (and qualifying dividends) will have little impact on this subgroup since most nontaxable filers do not generate substantial amounts of preferential income.

The JCT study reports that all three macroeconomic simulations predict an increase in short run real GDP under the proposal, partially attributable to the decrease in marginal tax rates.⁴⁴ However, we believe that these analyses do not adequately take into account the increase in average tax rates for most of the low and middle income filers, resulting in higher explicit tax burdens and leaving less disposable income. Therefore, these groups of filers will, by necessity, reduce consumption which should result in a reduction in real GDP. Our contribution to the literature is to point out the shortcomings of JCT proposed tax law change studies. In addition, this article presents a simple methodology to determine the distributional impact of tax proposals on individuals using publically available information.

Similar to JCT distributional studies, our methodology allows individual taxpayers to estimate the distributional impact of a proposed tax law change on individual explicit tax burdens. In contrast to JCT distributional studies that attempts to incorporate both taxpayer behavioral changes to the proposal and compliance issues, our analyses predicts the static impact to taxpayers prior to behavioral changes. In addition, our methodology allows for the estimation of the impact of a proposed tax law change on taxable and nontaxable filers as well as individual taxpayers who itemize or take the standard deduction.⁴⁵ Since the JCT is not legally required to perform a distributional analysis for each proposed tax law change or make any report it does produce

⁴³ Average filers with AGIs of less than \$100,000 have less than 3% of preferential income (see Figure 2).

⁴⁴ Joint Committee on Taxation. 2006. *Macroeconomic Analysis of a Proposal to Broaden the Individual Income Tax Base and Lower Individual Income Tax Rates*. JCX-53-06 (December 14): 10.

⁴⁵ Joint Committee on Taxation. 2008. *Reading JCT Staff Distribution Tables: An Introduction to Methodologies and Issues* (December 9) provides additional detail on the methodology used to develop JCT distribution tables.

available to the public, our methodology provides individual taxpayers a cost effective means of estimating the distributional effects of proposed tax legislation on their explicit tax burdens using publically available data.

Our methodology is applicable to other countries that have publically available tax return statistics that is stratified into various income brackets. Some countries (e.g., Australia; New Zealand) that do not provide this type of data may want to consider the benefit of supplying this data so that individuals can determine the impact of proposed tax legislation on their own particular circumstance.⁴⁶

⁴⁶ We thank an anonymous reviewer for this suggestion.

Antecedents to e-File Adoption: The U.S. Citizen's Perspective

Ludwig Christian Schaupp and Lemuria D. Carter *

Abstract

In the United States, congress set a goal for 80% tax and informational returns to be filed electronically in 2007(IRS, 2004). Although e-file adoption has grown incrementally the past, 80% has not been reached. This study proposes a model of e-filing adoption that incorporates risk perceptions and optimism bias to explain e-file diffusion. To test the model we surveyed 260 taxpaying U.S. citizens. Results of a multiple regression analysis are consistent with our predictions; effort expectancy, performance expectancy, social influence, perceived risk, and optimism bias significantly influence intention to e-file. Implications of results for practice and research are discussed.

1. INTRODUCTION

The United States (U.S.) government is one of the largest users of information technology (IT) systems in the world (Office of Management and Budget, 2006). A considerable percentage of the government's IT investment is allocated to e-government initiatives. E-government in the U.S. provides its citizens with convenient access to government information and services. The electronic filing of income tax returns (the e-file program) is an invaluable application that assists tax filers with the process of collecting their personal tax information and provides them with the ability to electronically transmit their return. Electronic filing of personal income taxes (e-file) has the potential of improving the overall process of tax filing for the individual filer while at the same time reducing the cost to both taxpayers and tax collection agencies (Fu et al., 2006).

The use of Internal Revenue Service (IRS) endorsed e-file systems has continued to grow over the last couple of years with 52.9 million individual returns being filed in 2003 and approximately 68 million in 2005 (IRS, 2004). In 2008, 90 million taxpayers in the U.S. used e-file to submit their federal tax returns (IRS, 2004). However, despite the numerous IRS endorsed e-file systems that are available, this still only accounts for about 50% of the total number of returns. Congress set a goal of having 80% of all tax and informational returns filed electronically by 2007 (IRS, 2004). However, the goal of 80% has fallen well short and the problem of

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underutilization continues to plague the IRS. The mission statement for e-file services is to ease taxpayer burden and increase compliance through innovative e-government solutions with the use of technology (IRS, 2004). The future vision of the IRS is one in which any exchange or transaction that currently occurs in person, over the phone or in writing can be accomplished electronically.

Throughout the Information Systems (IS) literature, the prediction of usage has always been a focus. With the growing interest in e-government and increased pressures to get to 80% utilization it raises the question of how to increase citizens' adoption of e-file. The literature frequently addresses this question by identifying predictors of behavioral intentions. Behavioral intention to use is defined as an individual's intention to use a specific IS for some purpose either presently or sometime in the near future. There is a large body of previous research which suggests that many usage studies were anchored in behavioral intention to use and have reported a strong link between behavioral intention and actual usage (Chau and Hu, 2001). Previous research has also noted that for survey research, analysis of intention to use is more appropriate than actual usage (Agarwal and Prasad, 1999). Intention to use has been used as a dependent variable in a number of empirical studies and continues to be developed and tested by IS researchers in numerous contexts, including e-filing (Fu et al., 2006). Intention to use has heightened importance in an e-filing context where citizen use is voluntary and essential to desired outcomes.

Building on previous technology acceptance studies along with studies of risk perceptions, the authors develop a model aimed at further understanding U.S. taxpayers' intention to use an e-file system to complete their taxes. Specifically, a survey is conducted to examine taxpayers' intentions to use an IRS endorsed e-file system, by addressing the following research question:

How do adoption factors and risk perceptions impact U.S. taxpayers' intention to use an e-file system?

Three adoption factors are explored in this study: performance expectancy, effort expectancy and social influence. According to the Unified Theory of Acceptance and Use of Technology (UTAUT), these three factors have a significant impact on intention to use a technology (Venkatesh et al., 2003). The risk perceptions of interest are perceived risk and optimism bias. Perceived risk is acknowledged in the literature as an important predictor of intention to use e-services (Fu et al., 2006, Pavlou, 2003, Warkentin and Gefen, 2002). Optimism bias - which is used in risk analysis (Sjoberg and Fromm, 2001), accident analysis (Dejoy, 1989), social psychology (Weinstein, 1980b), and behavioral medicine (Weinstein, 1982) literature - offers insight into how individuals handle risky situations.

The remainder of the article proceeds as follows: section 2 presents the theoretical foundations of the proposed research model. In section 3, we depict the research model and hypotheses. Section 4 describes the methodology used to test the model. The results are presented in section 5. We provide a discussion of the findings, an agenda for future research, and limitations in section 6. Finally, concluding comments are presented in section 7.

2. THEORETICAL DEVELOPMENT

How and why individuals choose to adopt new technologies has forever been the focal point of IS research. Within this broad area of research there is a core of literature that focuses on intention. UTAUT is the most predominant and comprehensive theory existing in the literature to date. The UTAUT model is derived from eight theoretical models: the theory of reasoned action (TRA), the technology acceptance model (TAM), the motivational model, the theory of planned behavior (TPB), a model combining the technology acceptance model and the theory of planned behavior, the model of PC utilization, the innovation diffusion theory, and the social cognitive theory. The goal of UTAUT is to understand intention/usage as the dependent variable (Venkatesh et al., 2003).

In addition to technology adoption factors, the literature also identifies perceived risk as an important predictor of intention (Fu et al., 2006). The proposed model combines adoption factors, perceived risk and optimism bias to explain citizens' intention to use e-filing in the United States.

2.1 Technology Adoption

Information technology diffusion has been explored extensively in the literature (Davis, 1989, DeLone and McLean, 1992, DeLone and McLean, 2003, DeLone and McLean, 2004, Doll and Torkzadeh, 1988, McKinney et al., 2002, Seddon, 1997, Szanja, 1996, Wixom and Todd, 2005). The UTAUT model integrates the eight theoretical models noted above and is made up of core determinants of usage intention (performance expectancy, effort expectancy, social influence, and facilitating conditions) and was empirically tested in four different organizational settings over a period of six months (Venkatesh et al., 2003). Four core determinants, performance expectancy, effort expectancy, and social influence were found to significantly predict intention. The UTAUT model is well suited for the context of this study in that the goal is to understand intention/usage as the dependent variable (Venkatesh et al., 2003), as is the case in the present study. UTAUT has also been utilized in prior e-government research investigating e-government service adoption (Al Awadhi and Morris, 2008). Therefore, it is in this setting that the use of the UTAUT model is best suited for an investigation into the use and adoption of an IRS e-file system.

Performance expectancy is defined as the degree to which individuals believe that using the system will help them improve their job performance (Venkatesh et al., 2003). Five variables comprise the performance expectancy construct: perceived usefulness, extrinsic motivation, job-fit, relative advantage, and outcome expectations (Venkatesh et al., 2003). Recent literature has shown that there are similarities between constructs: usefulness and extrinsic motivation (Davis, 1989), usefulness and job-fit (Thompson et al., 1991), usefulness and relative advantage (Davis, 1989, Moore and Benbasat, 1991, Plouffe et al., 2001) usefulness and outcome expectations (Compeau and Higgins, 1995, Davis, 1989), and job-fit and outcome expectations (Compeau and Higgins, 1995). Performance expectancy has been found to be the strongest predictor of intention in previous model tests (Agarwal and Prasad, 1999, Compeau and Higgins, 1995, Thompson et al., 1991, Venkatesh, 2000, Venkatesh et al., 2003).

Effort expectancy is the degree of ease associated with the use of the system (Venkatesh et al., 2003). The UTAUT model identifies three constructs from the eight

models which make up the concept of effort expectancy: perceived ease of use, complexity, and ease of use (Venkatesh et al., 2003). The similarity among these three variables has also been documented in prior literature (Moore and Benbasat, 1991, Plouffe et al., 2001, Thompson et al., 1991, Venkatesh et al., 2003). The effort expectancy construct has been found to be significant in both voluntary and mandatory usage contexts, but only in the initial usage of the technology (Venkatesh et al., 2003). It became insignificant after periods of extended and sustained usage which is consistent with previous research (Agarwal and Prasad, 1999, Thompson et al., 1991, Venkatesh et al., 2003). It has been noted that effort oriented constructs are usually found to be more salient in the early stages of a behavior (Venkatesh et al., 2003). This initial stage is when process issues are hurdles that need to be overcome by users and later are forgotten, giving way to concerns about specific features of the system (Szajna, 1996, Venkatesh et al., 2003).

Social influence is the degree to which an individual perceives that others who are deemed important to them believe that they should use the system (Venkatesh et al., 2003). Social influence is comprised of subjective norms, social factors, and image. The construct name "social norms" has been used in prior literature and is similar to "subjective norm" within the Theory of Reasoned Action (Thompson et al., 1991). It has also been noted that the social influence construct contains the explicit or implicit notion that people's behavior is influenced by the way in which they believe others will view as a result of having used the technology (Venkatesh et al., 2003). None of the social influence constructs were found to be significant in voluntary contexts; however, all of them were found to be significant when usage was mandatory (Venkatesh et al., 2003). These effects in a mandatory context could be attributed to compliance that causes social influence to have a direct effect on intention (Venkatesh, 2000). In contrast, social influence in voluntary contexts, as in this study, functions by influencing perceptions about the technology.

Facilitating conditions are the degree to which an individual believes that an organizational and technical infrastructure exist to support the system (Venkatesh et al., 2003). Facilitating conditions are comprised of three root constructs: perceived behavioral control, facilitating conditions, and compatibility. Each of these root constructs is operationalized to include aspects of the technological and/or organizational environment that are meant to remove barriers to use (Venkatesh et al., 2003). The authors found that when both their performance expectancy constructs as well as their effort expectancy constructs are present in the model, facilitating conditions becomes a non-significant construct in predicting usage intention. Facilitating conditions has a direct effect on actual system usage not behavioral intention (Venkatesh et al., 2003).

2.2 Perceived Risk

According to the literature, risk perceptions have a significant impact on use intentions (Fu et al., 2006). Perceived risk is defined as the citizen's belief that he will incur a loss while pursuing a given outcome (Warkentin and Gefen, 2002). Perceived risk is composed of behavioral and environmental uncertainty. Behavioral uncertainty exists due to the impersonal nature of the Internet. Since it is such a remote medium, online service providers could behave opportunistically and take advantage of the user. Environmental uncertainty arises due to the unpredictable nature of Internet-based technology. The Internet is beyond the control of the consumer (Pavlou, 2003).

Perceived risk reduces users' intentions to exchange information and complete e-commerce transactions (Pavlou, 2003). The literature suggests that perceived risk has the same effect on e-government adoption (Carter and Belanger., 2005, Fu et al., 2006, Warkentin and Gefen, 2002). In light of uncertainties that surround Internet-based transactions and the potential consequences of not successfully submitting an electronic tax return, we posit that perceived risk will significantly impact one's intention to use an e-file system.

2.3 Optimism Bias

Optimism bias is defined as "a systematic error in perception of an individual's own standing relative to group averages, in which negative events are seen as less likely to occur to the individual than average compared with the group, and positive events as more likely to occur than average compared with the group (Weinstein, 1980a)." This concept suggests that although people identify situations as risky; they do not think they are as susceptible to the risk as the average person. Many people believe that their knowledge and abilities minimize their susceptibility to risk. Optimism bias has been explored in several fields. For instance, it has been used to explain why some individuals drive under fatigue (Dejoy, 1989). Research shows that most people agree it is dangerous to drive when tired; however, the same people believe their driving abilities make them less likely to have an accident while fatigued than the average driver. Regarding information technology (IT), previous literature asked respondents to rate the risk of certain hazards (e.g. identity theft) to the general public and to them individually. Participants scored the risk to the general public higher (Sjoberg and Fromm, 2001). The authors found that participants were aware of technology related risks. However, risks of technology were mostly seen as issues of concern for other people.

Regarding, e-government adoption, prior literature has found that despite high perceptions of risk citizens were still willing to adopt e-government services (Carter and Belanger., 2005). Citizens acknowledged the risk of completing electronic transactions; however, they were still willing to use e-government services. Optimism bias may explain this phenomenon. Perhaps citizens who believe they are more competent than the average Internet user are not deterred by the perceived risk of e-government transactions. Optimism bias is tested by asking participants to compare their ability to perform some task to the ability of the average citizen. We adapted survey items to assess e-filing optimism bias. Participants in this study were asked to rate their ability to perform several tasks (verify the authenticity of tax forms downloaded from the IRS website, recognize a fake website, complete a transaction with the IRS using an e-file system, etc.) compared to the average Internet user's ability.

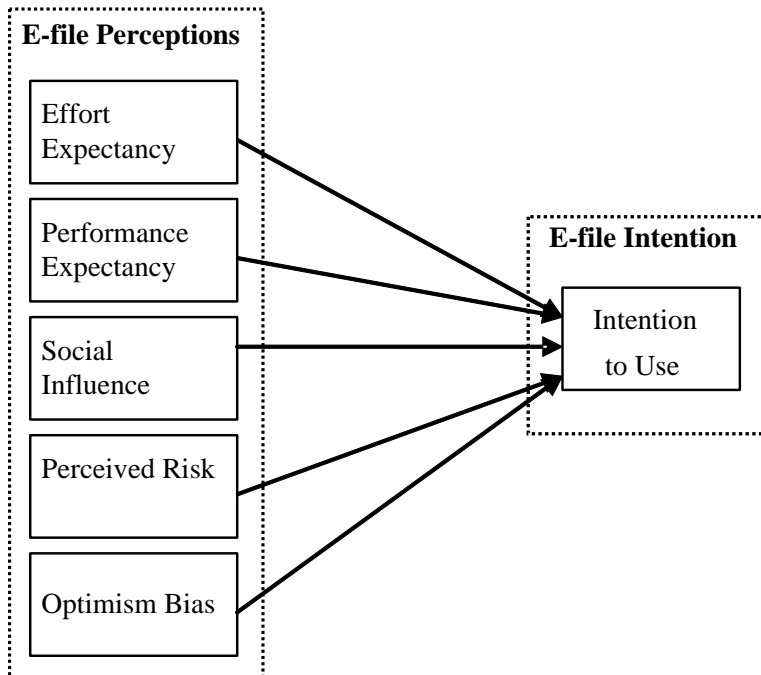
3. RESEARCH MODEL & HYPOTHESES

Based on the aforementioned literature, we posit that citizens will identify e-filing as a risky transaction; however, due to optimism bias and adoption factors, citizens still will be willing to use an e-file system. The following research hypotheses (see Table 1) and research model are proposed (see Figure 1).

TABLE 1. RESEARCH HYPOTHESES

No.	Hypothesis
H1.	Effort Expectancy (EE) will have a positive effect on intention to use.
H2.	Performance Expectancy (PE) will have a positive effect on intention to use.
H3.	Social Influence (SI) will have a positive effect on intention to use.
H4.	Perceived Risk (PR) will have a negative effect on intention to use.
H5.	Optimism Bias (OB) will have a positive effect on intention to use.

FIGURE 1: PROPOSED RESEARCH MODEL



4. METHODOLOGY

To obtain study participants, an e-mail announcement was sent to members of master’s level accounting and EMBA courses. Respondents were also encouraged to recruit other potential subjects at their workplace. Each survey participant was provided a link to a Web-based survey that they could access. The questions were aimed at assessing their perceptions of the dependent and independent variables. Demographic questions were last, as fatigue effects would have less influence on them. All surveys were confidential and no identifying personal information was required. The results were analyzed using multiple linear regression.

4.1 Sample

The survey was completed by 260 respondents. The response rate was quite good with 55% responding. 53 % of the respondents were female and the ages ranged from 21 – 84; 83% of the sample was in the 25-45 age group. 69% were Caucasians. 93% have completed an e-commerce transaction and 71% have completed an e-government transaction. 64% of the respondents used an e-file system last year to file their taxes.

4.2 Instrument Development & Validity

To investigate users' intentions to use an IRS endorsed e-file system, a questionnaire based data gathering technique was utilized (Moore and Benbasat, 1991). Questions were compiled from validated instruments in the IT adoption literature to represent each construct (see appendix), and wording was modified to fit the e-filing context being studied. The resulting items for each construct were then included in a random order on the survey instrument. Effort expectancy, performance expectancy, social influence, perceived risk, and intention to use questions were measured on a 7-point Likert-type scale, ranging from 1 (strongly disagree) to 7 (strongly agree). Optimism bias questions were also measured using a 7-point Likert-type scale; anchored by 1 (much less able than the average Internet user), 4 (average ability), 7 (much more able than the average Internet user). Constructs showed internal consistency levels exceeding Cronbach's alpha (Nunnally, 1978) of 0.70.

TABLE 2. RELIABILITY ANALYSIS

Construct	# Items	Reliability
Effort Expectancy (EE)	6	.845
Performance Expectancy (PE)	3	.767
Social Influence (SI)	4	.783
Perceived Risk (PR)	5	.782
Optimism Bias (OB)	5	.890
Intention to Use (USE)	5	.892

Factor analysis using principal components with varimax rotation was used to evaluate construct validity (table 3). As can be seen from table 3, most items loaded properly on their expected factors except for PE2 which was below the .40 cut-off. This item was dropped from further analysis. Cross loading items EE1 and EE 2 were also dropped from further analysis.

TABLE 3. FACTOR LOADINGS

Item	EE	PE	SI	PR	OB	USE
EE1					.681	
EE2					.662	
EE3	.438					
EE4	.620					
EE5	.687					
EE6	.402					
PE1		.718				
PE2		.389				
PE3		.453				
SI1			.845			
SI2			.752			
SI3			.602			
SI4			.760			
PR1				.655		
PR2				.632		
PR3				.539		
PR4				.480		
PR5				.446		

OB1					.744	
OB2					.746	
OB3					.667	
OB4					.665	
OB5					.583	
USE1						.894
USE2						.912
USE3						.889
USE4						.608
USE5						.855

TABLE 4. FINAL REGRESSION VARIABLES

Construct	# of Items	Mean	Standard Deviation
Effort Expectancy (EE)	4	5.196	0.965
Performance Expectancy (PE)	2	5.372	0.985
Social Influence (SI)	4	3.984	1.101
Perceived Risk (PR)	5	3.782	1.094
Optimism Bias (OB)	5	4.830	0.932
Intention to Use (USE)	5	5.091	1.248

4.3 Data Analysis

The research model was tested using multiple linear regression analysis. Regression analysis is used to relate a dependent variable to a set of independent variables. The goal of this study is to determine the relationship between use intentions (dependent variable) and citizens' perceptions of electronic filing systems (independent variables). The model includes five independent variables (effort expectancy, performance expectancy, social influence, perceived risk, and optimism bias) and one dependent variable (intention to use).

5. RESULTS

The model explains a notable percent of the variance in citizen adoption of e-filing systems; adjusted R Square equals .727. Since the overall model was significant (F=138.957 p=.000), we tested the significance of each variable. All of the hypotheses were supported. Effort expectancy, performance expectancy, social influence, perceived risk, and optimism bias all have a significant impact on intention to e-file (see table 5).

TABLE 5. HYPOTHESES TESTING

Hypoth.	Coeff.	t-val.	Sig.	Supported
H1(EE)	.132	1.664	.097	YES*
H2 (PE)	.592	8.763	.000	YES***
H3 (SI)	.315	7.814	.000	YES***
H4 (PR)	-.155	-3.686	.000	YES***
H5 (OB)	.198	3.411	.001	YES***
*p < 0.10, **p < 0.05, ***p<.001				

6. DISCUSSION

This study's overall purpose was to investigate users' intention to file their taxes online via an IRS endorsed e-file system. The study's research question focused on building an integrated model that identifies the impact of adoption factors and risk perceptions on U.S. taxpayers' intention to use an IRS endorsed e-file system.

6.1 Determinants of Use

To investigate the research question, we proposed a model of e-file adoption to be investigated. The results provide support for the research model. Five independent variables (effort expectancy, performance expectancy, social influence, perceived risk, and optimism bias) were investigated and all were shown to be significant predictors of intention to use an e-file system.

Effort expectancy was shown to be a significant predictor of intention to use in this study. This finding is not unexpected, having been identified as a predictor of intention to use in previous IT adoption literature (Venkatesh et al., 2003). This highlights the necessity for an e-file system to be easy to use in order to accommodate individuals that are not considered to be as computer savvy. This will be imperative to achieve the 80% e-file adoption goal set forth by Congress. This is perhaps the most important aspect of an e-file system in order to initially capture the non-traditional technology user. In this study, the sample was comprised primarily of experienced users of technology, which is a likely explanation as to why effort expectancy was found to be the least significant construct. Prior literature suggests the effort expectancy construct to be salient in the early stages of usage only (Venkatesh et al., 2003). One could also argue that with the act of filing taxes the importance is in conducting the transaction, not in the ease of use.

Performance expectancy was also shown to be a significant predictor of usage. This finding was also expected in this study. Performance expectancy has also been identified as a significant predictor of use in the IT adoption literature (Venkatesh et al., 2003). This finding should also not be unexpected. The ultimate goal of using an e-file system from the user perspective is whether or not the accomplished their task of filing their taxes.

Social influence was also shown to be a significant predictor of intention to use in this study. This finding is not unexpected, having been identified as a predictor of intention to use in previous IT adoption literature (Venkatesh et al., 2003). This finding provides evidence that indeed referent others' opinions influence users feelings about filing their taxes via an IRS endorsed e-file system. Whether it is recommending a good restaurant or doctor, we often rely on friends and acquaintances to make suggestions. The findings of this study suggest that the significance of social influence is the same in e-file adoption. Prior research has shown that for all but the simplest of decisions, people follow others and stick with what they know (Reeson and Dunstall, 2009).

Perceived risk had a negative impact on intention to use an e-file system. Yet, optimism bias had a positive impact on usage intent. High levels of perceived risk

reduce one's intention to use an e-file system. However, citizens who believe they are more competent interacting with electronic systems are more likely to use an e-file system despite the risks. These results are promising for e-service adoption research. Future studies should explore the role of optimism bias in conjunction with other intention predictors such as Internet self-efficacy (ISE). The results of this study suggest that beyond confidence in one's ability to use the Internet (ISE) a belief that one's abilities are better than the average Internet user encourages use of e-services despite risk. This use is motivated by the belief that "since I am more Internet savvy than the average user, I am not as susceptible to Internet risks as the average user." Future research should also integrate trust of the Internet and trust of the government into the proposed adoption model. Research suggests that trust is necessary when risk is present. It will be interesting to see how trust impacts adoption when optimism bias is accounted for.

One surprising finding was that in this study 71% of respondents reported having conducted some kind of e-government transaction previously, however, only 34% of respondents said they had e-filed their taxes. This is surprising given that around 50% of all returns in the U.S. are e-filed presently and with an experienced user base such as the subjects were in this study it would seem logical that they would at least be on par with the national average. This is especially surprising given the fact that so many of the respondents, 71%, had conducted some type of e-government transaction prior.

Based on the results of this study, the IRS should attempt to influence citizen perceptions of the usefulness (performance expectancy) of e-filing in order to increase adoption. Multiple linear regression allows us to analyze the magnitude of the coefficient for each independent variables. According to Table 5, performance expectancy has the highest impact on the intention to use; its coefficient is .592. This suggests the IRS should highlight the advantages of filing taxes electronically, such as quicker returns, as compared to traditional methods. An emphasis on the relative advantages of e-filing should have a notable impact on citizen adoption. The second most prominent factor is social influence; its coefficient is .315. This finding suggests the IRS should highlight characteristics of e-file adopters that citizen can relate and aspire to. For instance, the IRS could come up with slogans like "E-filing: how professionals submit their taxes" or "e-filing: it's earth friendly."

6.2 Limitations

There are some limitations to this study that should be noted. The most notable is the diversity of the subjects that were evaluated. While valid results were produced from testing, there was limited diversity in the sample. Future research should attempt to validate the findings of this study by testing a more diverse array of survey participants within the same context to increase the variance on some variable dimensions. Another limitation is that the data for this study was collected through surveys, therefore allowing a potential of self-report bias from respondents. Although the model explains 73% of the variance in intention to use, it does not include several adoption constructs explored in the literature. Future studies could include trust and self-efficacy for a more comprehensive view of the phenomenon.

7. CONCLUSION

Acknowledging the limitations of this study, this research has still made several significant contributions to the field of information systems research. This study is a first step towards understanding the role of UTAUT and optimism bias on e-file system adoption. In particular, it shows that the Unified Theory of Acceptance and Use of Technology in conjunction with risk perceptions explain a significant percent of the variance in intention to use. It introduces optimism bias as a viable explanation for the adoption of electronic services despite the inherent risks of remote transactions. It also serves as a building block for future studies by providing a parsimonious (five constructs) yet powerful (adjusted R-square=.727) tool for predicting use intentions.

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9. APPENDIX (SURVEY ITEMS)

Effort Expectancy

- 1) Learning to use an Internet tax-filing method would be easy for me.
- 2) I would find an e-file system easy to use.
- 3) It would not be easy for me to become skillful at using an e-file system.
- 4) It would be easy for me to input and modify data when I use an e-file system.
- 5) Instructions for using an e-file system will be easy to follow.
- 6) Using an e-file system would make filing my taxes clearer and more understandable.

Performance Expectancy

- 1) Using Internet Tax filing will speed the tax filing process.
- 2) The advantages of Internet tax filing will outweigh the disadvantages.
- 3) Overall, using Internet tax filing will be advantageous.

Social Influence

- 1) People who influence my behavior think that I should use an e-file system.
- 2) People who are important to me think that I should use an e-file system.
- 3) I use an e-file system to file my taxes because of the number of people around me who use it also.
- 4) People around me who use the e-file system to file their taxes have more prestige.

Perceived Risk

- 1) Use of an Internet tax-filing method may cause my personal income tax information to be stolen.
- 2) I will feel uneasy psychologically if I use Internet tax-filing methods.
- 3) I do not think it is safe to use Internet tax-filing methods because of the privacy and security concerns.
- 4) Providing personal information (i.e. social security number) to an IRS-endorsed e-file system is risky.
- 5) It is riskier to file taxes online than through the mail.

Intention to Use

- 1) I predict that I will use an e-file system in the future.
- 2) Filing taxes via e-file is something that I would do.
- 3) I would use the Internet to file my taxes.
- 4) I will experiment with an e-file service and then decide whether or not to use it in the future.
- 5) I intended to use an Internet filing method for my income tax return next year.

Optimism Bias

Please rate your ability to perform the following tasks compared to the average Internet user:

- 1) Submit personal information to the IRS using an e-file system.
- 2) Complete a transaction with the IRS using an e-file system.
- 3) Download forms and documents from the www.irs.gov website.
- 4) Verify the authenticity of tax forms downloaded from the IRS website.
- 5) Recognize a fake website.

Sustaining Growth in Developing Economies through Improved Taxpayer Compliance: Challenges for Policy Makers and Revenue Authorities

Margaret McKerchar and Chris Evans¹

Abstract

The existing body of literature on taxpayer compliance has developed over some 30 years or more and has predominantly emanated from developed economies. However, policy makers and revenue authorities in developing economies face quite different challenges and constraints. These include limited administrative resources and expertise, weak tax administration, widespread evasion, corruption and coercion, low taxpayer literacy and morale, and negative attitudes towards government. This article explores these challenges and constraints in developing economies. It identifies strategies to improve taxpayer compliance and the necessary steps to implement them in order to achieve sustainable economic growth.

1. INTRODUCTION

Taxes, and tax systems, are fundamental components of any attempts to build nations, and this is particularly the case in developing or transitional nations. As Brautigam has noted, “[t]axes underwrite the capacity of states to carry out their goals; they form one of the central arenas for the conduct of state-society relations, and they shape the balance between accumulation and redistribution that gives states their social character”.² In short, taxes build capacity (to provide security, meet basic needs or foster economic development) and they build legitimacy and consent (helping to create consensual, accountable and representative government).

A key component of any tax system is the manner in which it is administered. “No tax is better than its administration, so tax administration matters – a lot”.³ And an essential objective of tax administration is to ensure the maximum possible compliance by taxpayers of all types with their taxation obligations. Unfortunately, in many developing countries, tax administration is “usually weak and characterised by

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² Brautigam, D., 2008, ‘Introduction: Taxation and State-Building in Developing Countries’, in Brautigam, D., Fjeldstad, O-H and M. Moore (Eds) *Taxation and State-Building in Developing Countries: Capacity and Consent*, Cambridge University Press, Cambridge, pp. 1-33, p. 1.

³ Bahl, R. and R. Bird, 2008, ‘Tax Policy in Developing Countries: Looking Back – and Forward’, *National Tax Journal*, June, pp. 279-301, p. 296.

extensive evasion, corruption and coercion. In many cases overall tax levels are low, and large sectors of the informal economy escape the tax net entirely”.⁴

A considerable body of literature and much ‘best practice’ knowledge and experience currently exists in respect of both tax administration and taxpayer compliance. This is understandable given the fundamental contribution that taxation makes to the achievement of the many goals (including economic and social) of governments and their constituents. However, the reality is that much of this literature, knowledge and experience has emanated from developed countries and the extent to which they apply to developing economies is uncertain. Given this gap of knowledge, together with the fact that tax administration is one of the most important but least studied aspects of fiscal reform in developing economies,⁵ there appears considerable scope for further research.

The purpose of the article is to identify the most appropriate and effective strategies to improve taxpayer compliance in developing economies. This is an ambitious task as taxpayer compliance in itself is a complex phenomenon that takes place in a dynamic environment with many factors at play including tax policy and tax administration.

The balance of the article is presented in three parts. Following on from this introduction, Part 2 of the article presents an overview of the taxpayer compliance literature and presents findings on how behaviour is influenced by a range of strategies commonly adopted by revenue authorities. The underlying challenges for policymakers are also considered. The intent of this part is to be both broad and general in its approach and not be necessarily constrained by domestic, economic or other considerations. In Part 3 of the article strategies for improving taxpayer compliance that are considered most appropriate to developing economies are identified and discussed. Some concluding comments on tax policy, tax administration and tax compliance are made in the fourth and final section of the article, in addition to the identification of areas where further research may be fruitful.

2. FACTORS AFFECTING COMPLIANCE

2.1 Obligations and managing risk

The fundamental goal of any revenue authority is to collect taxes and duties payable according to the law. However, when it comes to the obligations imposed on them by law, taxpayers are not always compliant. A compliant taxpayer is one who fulfills every aspect of their tax obligations including:

- registering with the revenue authority as required;
- filing the required returns on time;
- accurately reporting tax liability (in the required returns) in accordance with the prevailing legislation, rulings, return instructions and court decisions;
- paying any outstanding taxes as they fall due; and

⁴ Brautigam, D., note 2, p. 3.

⁵ Bird, R. and M. Casanegra de Jantscher (Eds), 1992, *Improving Tax Administration in Developing Countries*, IMF, Washington DC., p. vii.

- maintaining all records as required.⁶

A non-compliant taxpayer is one who fails to satisfy any one or more of these aspects and poses a risk to revenue collection. Research has shown that non-compliance may be as a result of a deliberate decision by the taxpayer, or it may be unintentional.⁷ Further, there is a range of possible compliance outcomes driven by a variety of factors including demographic (including age, gender and level of education), personal (including attitudes, experiences, morale and financial circumstances) and aspects of the tax system itself (including tax rates, penalties, audit probabilities, enforcement strategies, complexity and costs of compliance). As many of these factors are not constant, it is to be expected that compliance behaviour can change over time and a compliant taxpayer one year may be non-compliant the next.

From the perspective of the revenue authority, the ideal is to have all taxpayers fully compliant at all times. If this were the case, the tax gap (the difference between what a revenue authority theoretically should collect and what it actually does collect) would not exist. The ideal is obviously not attainable. But to be able to work towards this ideal, the revenue authority needs to be able to identify and understand the various types of compliance outcomes and then develop and apply appropriate strategies to modify (or reinforce) taxpayers' behaviour accordingly. As the revenue authority normally has limited resources at its disposal, it needs to be strategic if it is to be efficient and effective in managing its risks. This will require the authority to identify and prioritise its risks, to tailor and target specific activities to each identified risk, and to allocate resources accordingly. This is commonly referred to as a risk management approach to compliance and is widely adopted in many jurisdictions, and in particular, where taxpayers are required to self-assess their tax liability.⁸

The 2004 OECD report notes that "the benefits of pursuing a risk management approach are well established. For a revenue authority they include:

- a structured basis for strategic planning;
- a focus on the underlying drivers (not symptoms) of non-compliance, and promotion of diversity in the treatment of major tax compliance risks, rather than the adoption of a 'one size fits all' approach;
- better outcomes in terms of programme efficiency and effectiveness (e.g. improved compliance with tax laws leading to increased tax collections and improved taxpayer service);
- a defensible approach that can withstand external scrutiny (e.g. by external audit officials); and

⁶ Roth, J., Scholz, J. and A. Witte (Eds) 1989, *Taxpayer Compliance Volume 1: An Agenda for Research*, University of Pennsylvania Press, Philadelphia, p. 21.

⁷ McKerchar, M., 2003, *The Impact of Complexity Upon Tax Compliance: A Study of Australian Personal Taxpayers*, Research Study No. 39, ATRF, Sydney.

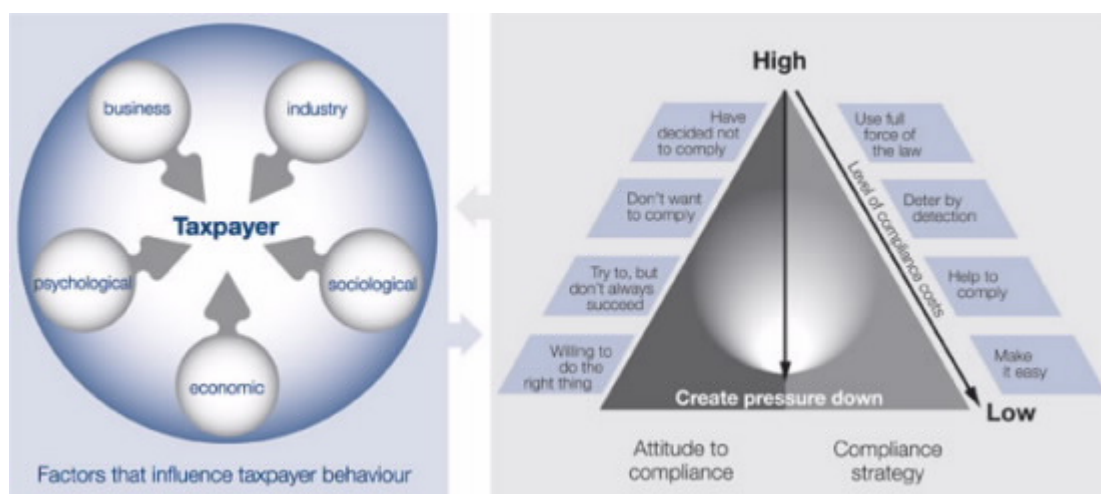
⁸ For example, the Australian Taxation Office, the New Zealand Inland Revenue Department and the OECD have adopted compliance models which are based on a risk management approach and this approach is endorsed by the OECD. See OECD, 2004, *Compliance Risk Management: Managing and Improving Tax Compliance*. OECD, Paris available at <http://www.oecd.org/dataoecd/44/19/33818656.pdf> accessed 18 August 2008.

- a stronger foundation for evidence-based evaluation.”⁹

The Australian compliance model (see Figure 1)¹⁰ is typical of the models currently being operated by revenue authorities in many developed countries. The models are based on the premise that the revenue authority can influence behaviour through its responses and interventions. The focus is upon the causes rather than the symptoms of non-compliance, requiring an understanding of the business, industry, sociological, economic and psychological factors that drive taxpayer behaviour.

The model’s core principle is to make compliance (including access to entitlements and benefits) as easy as possible for those who want to comply. At the other end of the spectrum, the full force of the law is applied when taxpayers willfully seek to abuse the system.

FIGURE 1: THE AUSTRALIAN TAXATION OFFICE COMPLIANCE MODEL



The underlying assumption in the risk management approach is that all risks can be identified and measured to some extent. The reality is likely to be quite different. The discussion that follows serves to illustrate that there are many dimensions to compliance behaviour and that it is a complex and multi-dimensional problem. A standard solution to the problem has thus far proved to be elusive and it continues to pose a formidable challenge to tax administrators globally.¹¹

⁹ OECD, note 8 at p. 8.

¹⁰ Australian Taxation Office, *Compliance Program 2008-09*, Commonwealth of Australia, Canberra, available at <http://www.ato.gov.au/corporate/content.asp?doc=/content/00155156.htm&page=12&H12> accessed 29 August 2008.

¹¹ Brooks, N., 2001, 'Key Issues in Income Tax: Challenges of Tax Administration and Compliance', paper presented at Asian Development Bank 2001 Tax Conference, 8 September 2001, p.6; and more generally, Freedman, J. (Ed.), 2008, *Beyond Boundaries: Developing Approaches to Tax Avoidance and Tax Risk Management*, Oxford University Centre for Business Taxation, Oxford.

2.2 Understanding compliance behaviour

Over the last thirty years or so, a considerable body of literature has developed in the area of taxpayer compliance from which has emerged two significant and widely accepted findings. Firstly, taxpayer non-compliance is a continual and growing global problem that is not readily addressed. Secondly, despite a great deal of research emanating from a wide variety of disciplines, there is not a great deal of consensus about why people do, or do not, pay their taxes or otherwise comply with their tax obligations. Nonetheless, strategies to improve compliance need to be embedded in sound theory, so an understanding of the compliance literature is an important starting point for the revenue authority seeking to improve the efficiency of its collections.¹²

Models and theories of compliance behaviour tend to reflect one of three schools of thought commonly referred to as economic deterrence, social psychology, and fiscal psychology (the latter representing an evolution of the other two).

Economic deterrence models

Economic deterrence models¹³ in general are based on the theory that behaviour, in a wide range of contexts including tax evasion, is responsive to punishment or sanctions. Economic deterrence models tend to have a narrow, theoretical view of behaviour, reducing its dimensions to numerical measures and assigned probabilities from which outcomes can be predicted using calculus. In order to determine behaviour in this manner, economic deterrence models tend to rely upon a wide range of fundamental assumptions that are generally unrealistic. For example, that all people respond to a change in any one variable in an identical and predictable manner; that all taxpayers have a full knowledge of the probability of being audited; and that all taxpayers have the same level of risk preference. Although empirical testing has been limited, the theoretical principles of economic deterrence have been widely adopted by tax administrations in developing enforcement strategies that rely principally on penalties and the fear of getting caught.

There is evidence to support the relevance of deterrence strategies to addressing non-compliance, but it appears that their impact may not be captured by a single mathematical expression. For example, the fear of getting caught, or the probability of detection, has been found to be an effective strategy to induce truthful reporting where the assumption that taxpayers were risk neutral was relaxed.¹⁴ Further, in an Australian study it was found that individual tax evasion behaviour was not solely determined by the monetary value of expected gains, but that 'moral' factors also

¹² It is noted that while most of the research has been conducted in the context of income tax, there is no reason to suggest that the theories are not equally applicable to compliance in respect of other forms of taxation. For a recent study on the compliance behaviour of VAT taxpayers in Ethiopia see Yesegat, W., 2008 "Estimating VAT Administrative Costs in Ethiopia", in Walpole, M. and C. Evans (Eds), *Tax Administration: Safe Harbours and New Horizons*, Fiscal Publications, Birmingham, UK, pp. 377-400.

¹³ For example, see Becker, G., 1968, 'Crime and Punishment: An Economic Approach', *Journal of Political Economy*, Vol. 76, pp. 169-217; Allingham, M. and A. Sandmo, 1972, 'Income Tax Evasion: A Theoretical Analysis', *Journal of Public Economics*, Vol. 1, pp. 323-338.

¹⁴ See Reinganum, J. and L. Wilde, 1985, 'Income Tax Compliance in a Principal-Agent Framework', *Journal of Public Economics*, Vol. 26, pp. 1-18.

influenced this decision.¹⁵ These results suggest that the economic deterrence models have relevance to compliance behaviour, but that there are other influences to be considered.

Social psychology models

Social psychology models are concerned with the prediction and understanding of human behaviour, or how people make decisions, using a range of methodological approaches including compositional modeling, attribution theory and equity theory.

Compositional modeling is characterised by the view that individuals undertake deliberate and reasoned action according to their personal preferences.¹⁶ This approach assumes that people consider the implications of their actions before they decide, or form an intention, to engage or not engage in a given behaviour. Further, this approach assumes that intention directly translates into behaviour, without any further influences. The model then seeks to explain how intention is formed.

According to the theory of reasoned action, an individual's intention is a function of two basic determinants, one personal in nature and the other reflecting social influence. The personal factor is the individual's attitude toward the behaviour and is assumed to be either positive or negative. The second determinant of intention is the subjective norm, or the person's perception of the social pressures to perform or not perform the behaviour in question. Generally, individuals will intend to perform a behaviour when they evaluate it positively and believe that others (whose opinion they value) think they should perform it. In testing this theory in the context of tax evasion it was found that the intention to comply could be improved by directly communicating to taxpayers their personal and social responsibilities.¹⁷

Attribution theory is based on the assumption that individuals rationally interpret and analyse events in order to understand causal structures.¹⁸ People have internal (personal) and external (situational) attributes. In judging the behaviour of others, people will generally attribute the outcome as being caused by their own internal attributes. In judging their own behaviour, people tend to believe the cause is due to external attributes. For example, *he* is a tax evader because he is a bad person; *I* am a tax evader because the government wastes my taxes (and that's not *my* fault).

These social psychology models highlight the importance of equity theory in the study of compliance and taxpayer behaviour. Equity theory proposes that individuals are more likely to comply with rules if they perceive the system that determines those rules to be equitable. Where there are perceived inequities, individuals will adjust their inputs to the exchange until equity is restored. Based on equity theory,

¹⁵ Baldry, J., 1987, 'Income Tax Evasion and the Tax Schedule: Some Experimental Results', *Public Finance*, Vol. 42 No. 3, pp. 357-383.

¹⁶ Azjen, I. and M. Fishbein, 1980, *Understanding Attitudes and Predicting Social Behaviour*, Prentice Hall, Englewood Cliffs, NJ.

¹⁷ Cialdini, R., 1989, 'Social Motivations to Comply: Norms, Values and Principles', in: Roth, J. and J. Scholz (Eds) *Taxpayer Compliance Volume 2: Social Science Perspectives*, University of Pennsylvania Press, Philadelphia, pp. 200-227.

¹⁸ Kelley, H., 1973, 'The Processes of Causal Attribution', *American Psychologist*, (February), pp. 107-128; Hite, P., 1987, 'An Application of Attribution Theory in Taxpayer Noncompliance Research', *Public Finance*, Vol. 42 No. 1, pp. 105-118.

addressing inequities in the exchange relationship between government and taxpayers would result in improved compliance.¹⁹

Fiscal psychology models

Fiscal psychology models draw on both the economic deterrence and the social psychology models and generally view tax enforcement as a behavioural problem, one that can be resolved by co-operation between taxpayers and tax collectors. To obtain this co-operation, the role of the tax system itself in providing the positive stimulus (such as decreasing penalties) is emphasised. This stimulus is then expected to generate a more positive attitude in taxpayers that will in turn impact on their compliance decisions.

The fiscal psychology models place considerable emphasis on taxpayer attitude. It has been held that tax mentality, feelings of tax tension, and tax morale were the three psyches that together made up a taxpayer's attitude. The more positive the taxpayer's attitude towards paying tax the greater the level of co-operation with the tax authority and the greater the willingness to pay tax.²⁰ However, fiscal ignorance may be a negative influence on a taxpayer's attitude.²¹ Further, there is evidence to suggest that the threat of sanctions is a negative influence on taxpayers in low socio-economic groups and that appeals to conscience are less effective than the threat of sanctions on taxpayers in high socio-economic groups.²² It has also been found that in the case of taxpayers with low moral reasoning, appealing to their sense of morality is unlikely to be effective.²³ However, research has found that carefully tailored persuasive communication strategies can impact on taxpayer reporting, at least in the short-term.²⁴

Based on studies in Switzerland, Belgium and Spain, trust in the legal system, government, or parliament; national pride; and pro-democratic attitudes all have a positive effect on tax morale and support the finding that higher legitimacy for political institutions leads to higher tax morale.²⁵ Further, there is evidence, based on a study of 30 developed and developing countries, that tax compliance is highest in

¹⁹ Adams, J., 1965, 'Inequity in Social Exchange', *Advances in Experimental Social Psychology*, Vol. 2, pp. 267-299; Thibaut, J., Friedland, N. and L. Walker, 1974, 'Compliance With Rules: Some Social Determinants', *Journal of Personality and Social Psychology*, Vol. 30 No. 6, pp. 792-801; Spicer, M. and L. Becker, 1980, 'Fiscal Inequity and Tax Evasion: An Experimental Approach', *National Tax Journal*, June, pp. 171-175.

²⁰ Schmolders, G., 1970, 'Survey Research in Public Finance - A Behavioural Approach to Fiscal Theory', *Public Finance*, Vol. 25 No. 2, pp. 300-306; Hasseldine, J. and K. Bebbington, 1991, 'Blending Economic Deterrence and Fiscal Psychology Models in the Design of Responses to Tax Evasion: The New Zealand Experience', *Journal of Economic Psychology*, Vol. 12, pp. 299-423.

²¹ Lewis, A., 1979, 'An Empirical Assessment of Tax Mentality', *Public Finance*, Vol. 2, pp. 245-257.

²² Schwartz, R. and S. Orleans, 1967, 'On Legal Sanctions', *University of Chicago Law Review*, Vol. 25, pp. 274-300.

²³ Kaplan, S., Newberry, K. and P. Reckers, 1997, 'The Effect of Moral Reasoning and Educational Communications on Tax Evasion Intentions', *JATA*, Vol. 19 No. 2, pp. 38-54.

²⁴ Hasseldine, J., Hite, P., James, S. and M. Toumi, 2007, 'Persuasive Communications: Tax Compliance Enforcement Strategies for Sole Proprietors', *Contemporary Accounting Research*, Vol. 24 No. 1, pp. 171-194.

²⁵ Torgler, B. and F. Schneider, 2007, 'What Shapes Attitudes Toward Paying Taxes? Evidence from Multicultural European Countries', *Social Science Quarterly*, Vol. 88 No. 2, pp. 443-467.

the countries characterised by high control of corruption and low size of bureaucracy.²⁶

In a study by Song and Yarborough²⁷ it was assumed that a high level of tax ethics (on the part of taxpayers) was a prerequisite for a fair and successful tax administration, particularly one that was based largely on voluntary compliance. They argued that voluntary compliance was determined by three major factors: the overall legal environment, the citizen's tax ethics, and other situational factors operating at a particular time and place. It was found that people with higher income levels and high levels of education had higher ethics. However, the extent to which ethics (which could be aligned with intention under the theory of reasoned action) determines actual behaviour is unclear.

A study into the extent to which unfairness was the basic cause of dissatisfaction with the tax system in the State of Oregon found that fear of informal sanctions (from peers, from community and from the stress of getting caught) was one of the most powerful predictors of conformity with tax laws.²⁸ A study into income tax evasion in Australia found that 86 per cent of evaders surveyed considered that the level of income tax in relation to the level of government services was excessive. Further, the burden of tax was regarded as not shared fairly and the rates of tax were perceived to be too high.²⁹

In a US study into income tax compliance,³⁰ the effects of audit rates, penalties, other tax administration policies and socio-demographic factors on tax compliance were examined. It was concluded that an increased probability of audit, increased use of first and second notices of taxes due and increases in criminal penalties all generally led to increased level of compliance. Further, education of taxpayers appeared to increase compliance.³¹ Results in respect of enforcement were mixed, but they did indicate that increased levels of activity in these areas were associated with decreased rather than increased compliance. Dubin³² studied the impact of criminal investigations (in the case of money laundering) on taxpayer compliance and found that they have a positive effect on general deterrence. For those taxpayers engaged in illegal activities, the threat of imprisonment was found to be a more effective deterrent than were monetary penalties. Further, Dubin argues that the media can play an important role in disseminating information to the public and thereby improving

²⁶ Picur, R. and A. Riahi-Belkaoui, 2006, "The Impact of Bureaucracy, Corruption and Tax Compliance", *Review of Accounting and Finance*, Vol. 5 No. 2, pp.174-180.

²⁷ Song, Y. and T. Yarbrough, 1978, 'Tax Ethics and Taxpayer Attitudes: A Survey', *Public Administration Review*, (September/October), pp. 442-452.

²⁸ Mason, R. and L. Calvin, 1984, 'Public Confidence and Admitted Tax Evasion', *National Tax Journal*, 37(December), pp. 489-496.

²⁹ Wallschutzky, I., 1985, *Taxpayer Attitudes to Tax Avoidance and Tax Evasion*, Australian Tax Research Foundation, Sydney.

³⁰ Witte, A. and D. Woodbury, 1985, 'The Effect of Tax Laws and Tax Administration on Tax Compliance: The Case of the US Individual Income Tax', *National Tax Journal*, Vol. 38, pp. 1-15.

³¹ For evidence of the importance of education in improving voluntary compliance in Malaysia at the time of introducing self assessment see Loo, E.C. and J.K. Ho, 2005, 'Competency of Malaysian Salaried Individuals in Relation to Tax Compliance Under Self Assessment', *eJournal of Tax Research*, Vol. 3 No. 1, pp. 47-64.

³² Dubin, J., 2004, "Criminal Investigation Enforcement Activities and Taxpayer Noncompliance", paper presented at 2004 IRS Research Conference, Washington D.C., June.

voluntary compliance. This concept is referred to by Alm *et al*³³ as the indirect deterrent effect of audit. Alm *et al* found that ‘unofficial’ communications have a strong indirect effect that increases compliance, but that “official” communications may not encourage voluntary compliance.

Smith and Kinsey developed a useful conceptual framework of tax compliance that incorporated three key points: in a complex tax system, compliance was as problematic as non-compliance; individuals have different opportunities for performing particular acts; and that tax behaviour did not necessarily involve conscious decisions.³⁴ It was argued that the assumption that had dominated earlier models, that non-compliance was a result of considered choices and conscious decisions by taxpayers, was neither appropriate nor needed. Some compliance may be unintentional, simply the result of indifference or habit. It was recognised that the strategies utilised to reduce intentional non-compliance may not be the most effective strategies to reduce unintentional non-compliance. This argument, viz. that compliance and non-compliance could not be understood as unitary phenomena, and therefore policy and enforcement strategies would be more effective if directed to address specific compliance behaviour, has continued to be reinforced in the literature.³⁵

Clearly, understanding taxpayer compliance remains a challenging and unresolved problem. A large part of the problem appears to have been the search for one overarching model of taxpayer compliance that allowed predictions to be made about the taxpaying population as a whole. Realistically, the later typology-type fiscal psychology models offer more guidance for revenue authorities seeking to improve voluntary compliance in a dynamic environment. That is, different strategies are more appropriate for different types of taxpayers, but that an understanding of the various types of taxpayers underpins the choice of strategies. Again, this approach is consistent with the tax risk management approach advocated by the OECD and is practised today by many leading tax administrations.³⁶ However, as noted by Kornhauser in the context of the United States, further behavioural research is still needed and together with educational efforts aimed at all segments of the population to improve taxpayer knowledge, attitudes and behaviour, holds much promise for improving voluntary compliance.³⁷ These needs are not unique to the United States and could be said to be equally applicable to any tax administration, and particularly those that rely on self assessment.

³³ Alm, J., Jackson, B. and M. McKee, 2004, ‘Audit Information Dissemination, Taxpayer Communication and Compliance: An Experimental Approach’, paper presented at 2004 IRS Research Conference, Washington D.C., June.

³⁴ Smith, K. and K. Kinsey, 1987, ‘Understanding Taxpaying Behaviour: A Conceptual Framework with Implications for Research’, *Law and Society Review*, 21(4), pp.639-663.

³⁵ See Kidder R. and C. McEwen, 1989, ‘Taxpayer Behaviour in Social Context: A Tentative Typology of Tax Compliance and Noncompliance’, in J. Roth and J. Scholz (Eds) *Taxpayer Compliance Volume 2: Social Science Perspectives*, University of Pennsylvania Press, Philadelphia, pp.47-75; and Kirchler, E., Hoelzl, E. and I. Wahl, 2008, ‘Enforced Versus Voluntary Tax Compliance: The “Slippery Slope” Framework’, *Journal of Economic Psychology*, Vol. 29, pp. 210-225.

³⁶ OECD, note 8.

³⁷ Kornhauser, M., 2007, ‘A Tax Morale Approach to Compliance: Recommendations for the IRS’, *Florida Tax Review*, Vol. 8 No. 6, pp. 599-640.

2.3 Challenges for policymakers

What emerges from the literature is that there are no quick fixes to improving taxpayer compliance. Instead, what is required is a concerted, long-term coordinated and comprehensive plan that uses a complimentary range of policy instruments underpinned by a solid legal base.³⁸ This highlights the importance of tax policy and other aspects of tax systems design that provide the framework within which the revenue authority has to perform its responsibilities. In reality it makes sense for policymakers to identify and address the underlying and systemic challenges of their tax systems before the respective revenue authorities considers how to manage their resources and discharge their responsibilities.

Simple policy (or at least as simple as possible) needs to have clearly articulated objectives and be integrated with other aspects of the tax system. In developing policy, the application of the policy must be considered and this will require consultation with its intended users and drafters. Policymakers need to consider the volume of legislation and the rate of change as complicating factors and seek to minimise them (for example, by moving away from 'black letter' law). Simple policy must then be translated into legislation, the purpose of which must be transparent and clearly communicated to the drafters. The drafters must then produce legislation that users (including taxpayers, tax administrators and the judiciary) can apply efficiently, consistently and with certainty. In doing so, both compliance and administrative costs can be minimised and simplicity best achieved.

In terms of practice, Arnold³⁹ described the integrated policy of the formulation of tax policy as having three major components – policy development, technical analysis and statutory drafting – and argued that the three functions are so closely interrelated that the entire process would suffer if performed by different parts of the government bureaucracy. However, the tax policy function should be separated from the tax administration and enforcement function (but there needs to be effective communication). Separation of policymakers and tax collectors results in a system of checks and balances which protects the interests of taxpayers and the government. There is a danger that policymakers are often so taken with the theoretical purity of their proposals that they do not pay sufficient attention to the compliance and administrative aspects of the proposals. Approaches to simplify tax law that have failed in developed economies (such as Australia, the United States and the United Kingdom) have done so because they did not adequately develop tax policy in the context of wider economic reforms.⁴⁰

In the case of developing economies undertaking tax reform, Bird and Casanegra de Jantscher argue the need to have a strategy or comprehensive plan that assigns clear priorities to the tasks that must be performed, tailored to the available resources. The scarcity of resources is a common constraint and reform strategies that require

³⁸ Brooks, note 11.

³⁹ B. Arnold, 1990, 'The Process of Tax Policy Formulation in Australia, Canada and New Zealand', *Australian Tax Forum*, Vol. 7, pp. 379-394.

⁴⁰ McKerchar, M., Meyer, K. and S. Karlinsky, 2006, 'Making Progress in Tax Simplification: A Comparison of the United States, Australia, New Zealand and the United Kingdom' in McKerchar, M. and M. Walpole (Eds), *Further Global Challenges in Tax Administration*, Fiscal Publications, Birmingham, UK, pp. 367-383.

substantial additional administrative resources are doomed to failure simply because the resources are unlikely to materialise fully or in a timely fashion. Instead, more efficient alternatives (such as eliminating unproductive tasks or simplifying procedures) need to be pursued.⁴¹ Further, Bird and Casanegra highlight the importance of a robust management information system together with the streamlining of systems and procedures in reforming tax administration.⁴²

This part of the article has identified broadly and generally many of the tax compliance issues affecting taxpayers, revenue authorities and tax policymakers today. This now leads to the identification of the full range of compliance challenges that developing economies are currently facing and underpin the development of suggestions to deal with those compliance challenges.

3 STRATEGIES TO IMPROVE TAXPAYER COMPLIANCE

3.1 Underlying propositions

What can be done to improve tax compliance in the context of developing economies? In the first place, there are a series of key high level and strategic propositions that must underpin the development of appropriate compliance strategies at the operational level. These propositions are summarised for convenience here.

Proposition 1: *the legitimacy and credibility of the revenue authorities need to be established and enhanced as part of a broader consensual revenue-bargaining arrangement between government and its citizens.*

This goes to the heart of good governance. Bird et al⁴³ conclude that a more legitimate and responsive state is likely to be an essential precondition for a more adequate level of tax effort in both developing and high income economies. This is also the key message from a number of other commentators, including Brautigam et al⁴⁴, who note that "...authority, effectiveness, accountability and responsiveness [are] closely related to the ways in which governments are financed. It matters that governments tax their citizens rather than live from oil revenues and foreign aid, and it matters how they tax them. Taxation stimulates demand for representation, and an effective revenue authority is the central pillar of state capacity."

The consensual relationship between the state and society is critical in a number of ways. "The attentions and political energies of a substantial fraction of citizens in taxation issues [are engaged] by raising taxes from them. The felt experience of paying taxes should not be confined to small numbers of companies and very rich

⁴¹ Bird and de Jantscher, note 5, p. 6.

⁴² Bird and de Jantscher, note 5, p. 9. It is noted that in developing countries tax administration is tax policy (Casanegra de Jantscher (1990, p. 179) cited at p. 1).

⁴³ Bird, R., Martinez-Vazquez, J. and B. Torgler, 2008, "Tax Effort in Developing Countries and High Income Countries" *Economic Analysis and Policy*, pp. 55-68.

⁴⁴ Brautigam, D., Fjeldstad, O-H and M. Moore (Eds), 2008, *Taxation and State-Building in Developing Countries: Capacity and Consent*, Cambridge University Press, Cambridge, at p. i.

people”.⁴⁵ And those taxes need to be raised as consensually and as transparently as possible.

Proposition 2: *the goals and objectives of tax reform need to be clearly articulated and the tax policy settings need to match those goals.*

It may be obvious that “good tax policy influences economic development”⁴⁶, but that does not detract from the importance of the statement. Having a clear vision of where the tax reform is supposed to lead and then getting the tax policy settings right is absolutely critical to the success of tax reform, and a precondition for enhanced compliance activity.

Mainstream thinking on the point suggests that tax reform in developing economies usually involves a broad simplification of the tax system incorporating simpler taxes, policies and processes. In short: fewer taxes; the use of broad based taxes with lower rates; a shift in emphasis from direct taxes to indirect taxes; a reduction in the number of tax incentives and tax expenditures; the elimination of multiple taxation by various tiers of government; and consolidation and centralisation of political and administrative responsibility for taxes and the administration of the tax system.

Proposition 3: *A risk management approach to taxpayer compliance is vital and should in turn underpin resource allocation decisions.*

Resources are not infinite and therefore risks to the revenue need to be prioritised and continually reassessed. Adopting a risk management approach means that the revenue authorities need to understand their taxpayers and create appropriate typologies. Different strategies are needed to address different types of compliance behaviour, and a variety of audit strategies will need to be developed according to risk assessment and resource availability. There is a need for on-going research to understand taxpayer morale and to monitor the impact of the various strategies that are employed. All of this has implications for the introduction of appropriate management information systems and infrastructure within the revenue authorities.

3.2 Compliance strategies

Based on these three propositions, the following, more specific, compliance strategies can begin to address the needs of revenue authorities in developing countries at the operational level and allow them to move away from their current sub-optimal performance levels. The strategies are grouped into four broad categories: creating a more effective tax administration; fostering voluntary compliance and enhancing taxpayer morale; strengthening and enforcing compliance; and tackling the shadow economy. Note that in practice the categories and strategies are not as discrete or

⁴⁵ Fjeldstad, O-H and M. Moore, 2008, ‘Tax Reform and State-Building in a Globalised World’, in Brautigam, D., Fjeldstad, O-H and M. Moore (Eds) *Taxation and State-Building in Developing Countries: Capacity and Consent*, Cambridge University Press, Cambridge, pp. 235-260, p. 255. The authors note that figures provided by the Tanzanian Revenue Authority relating to June 2005 show that in that country, with a total population of more than 35 million people, almost 70% of domestic taxes were raised from just 286 large taxpayers (p. 256).

⁴⁶ Bahl and Bird, note 3 at p. 288.

compartmentalised as suggested in the article – they are of necessity interdependent, with all feeding into each other and off each other.

3.2.1 Creating a more effective tax administration

An effective tax administration is obviously critical to enhanced compliance outcomes in the four key areas of service, education, verification and enforcement. Without this vital ingredient the major compliance risks relating to taxpayer notification and registration, return filing, correct reporting and accurate and timely tax payment cannot be overcome. There are a number of possible strategies that can help to achieve a more effective tax administration, including strategies related to: organisational and institutional reform; management strengthening; nuts and bolts reform; and building integrity and tackling corruption.

Organisational and institutional reforms

Autonomous revenue authorities

In recent years many developing countries have established their tax departments into autonomous or semi-autonomous revenue authorities (“ARAs”). It has been a noticeable world-wide trend, with some suggestions that the World Bank has, upon occasions, “been a persuasive salesman”.⁴⁷ As of March 2006 Fjeldstad and Moore note that there were about 30 ARAs in the developing world, largely in Africa and South America and including Uganda (1991), Kenya (1995), South Africa (1997), Ethiopia (2002) and Gambia (2005).

The defining feature of an ARA is some degree of autonomy whereby the revenue collection function is removed, either partly or wholly, from the Ministry of Finance. The management of the ARA therefore has significant independence in financial, personnel and operational matters, but is accountable for delivering agreed results, with continuation of appointment and renewal of contract for top management dependent upon revenue administration performance.⁴⁸ These independent revenue agencies, it is argued, are thus more able to provide better pay and other incentives to their staff while also imposing greater accountability for performance.⁴⁹ Taliercio argues that if one compares the pre- and post- reform state of affairs in countries where ARAs have been introduced, there is improvement in most cases along most dimensions of performance. Moreover, he suggests, the relatively more autonomous revenue authorities (such as Peru, Kenya and South Africa) have been more adept at increasing performance than the less autonomous ones (such as Uganda, Mexico and Venezuela).⁵⁰

Others are more circumspect. Gallagher notes that the jury is still out,⁵¹ while Fjeldstad and Moore suggest that many of the perceived advantages may have been

⁴⁷ Fjeldstad and Moore, note 45 at p. 249.

⁴⁸ Gill, J., 2003, “The Nuts and Bolts of Revenue Administration Reform”, World Bank, available at <<http://siteresources.worldbank.org/INTTPA/Resources/NutsBolts.pdf>> accessed 21 July 2008.

⁴⁹ Gallagher, M., 2005, “Benchmarking Tax Systems”, *Public Admin. Dev.* 25, pp. 125-144 at p. 130.

⁵⁰ Taliercio, R., 2004, “Designing Performance: The Semi-Autonomous Revenue Authority Model in Africa and Latin America”, Policy Research Working Paper 3423, World Bank, October.

⁵¹ Gallagher, note 49 p. 133.

short term and identify a number of conceptual and practical problems with ARAs that suggest they are not always the panacea that the World Bank may have suggested.⁵²

Organisational options

Regardless of whether the revenue authority is constituted as an autonomous or semi-autonomous body, the way in which it is internally organised can have a significant impact upon the effectiveness of the tax administration. “A well-designed organizational structure can provide a foundation for effective tax administration, which minimizes tax evasion opportunities and fosters voluntary compliance”.⁵³

Traditionally three separate models for the organisation of revenue authorities have been suggested both in the broader organisational theory literature⁵⁴ and in more specific literature relating to tax administration:⁵⁵

- product-based, relating to the type of tax (income tax, VAT etc) administered by the revenue authority;
- functional, relating to the different administrative functions performed by revenue authorities such as processing tax returns, or auditing, or collecting taxes; and
- client-based, relating to the different types of taxpayer according to criteria such as scale of operation (large, small etc), form of ownership or industrial/economic sector.

Sometimes, revenue agencies adopt a fourth approach, involving some combination of these three models, often referred to as a matrix approach. There are obvious advantages and disadvantages of each of the three principal approaches, as summarised in Table 1.

Developing countries have tended to move away from product-based structures built upon different types of tax to those which are based upon function, although often with elements of a client-based market segmentation approach also in evidence (for example, the introduction of large taxpayers units focusing upon the large companies which are often responsible for a disproportionate amount of revenue collections; or the introduction of industry-based organisational structures).⁵⁶ In this way they have been able to secure the advantages of improved accountability and control, enhanced compliance, better administrative efficiency, reduced corruption and more customised taxpayer service.

⁵² Fjeldstad and Moore, note 45 at pp. 249-255.

⁵³ Vehorn, C. and J. Brondolo, 1999, ‘Organizational Options for Tax Administration’, paper presented at 1999 Institute of Public Finance Conference, Zagreb, June.

⁵⁴ For example, Hodge, B., Anthony, W and L. Gales, 1996, *Organization Theory: A Strategic Approach*, Prentice Hall, New Jersey, 5th edition.

⁵⁵ Vehorn and Brondolo, note 53.

⁵⁶ Vehorn and Brondolo, note 53 at p. 21; Gallagher, note 49, at p. 133; and Fjeldstad and Moore, note 45, at p. 248.

TABLE 1 SUMMARY OF ADVANTAGES OF DIFFERENT ORGANISATIONAL MODELS

Criterion (Advantage)	Organisational model		
	Product-based/ type of tax	Functional	Client-based/ Type of taxpayer
Establishes clear accountability within organisation and control for each tax	Yes	Yes	Yes
Improves opportunity for compliance by taxpayers	Neutral	Yes	Neutral
Enhances quality of taxpayer service	Yes	No	Yes
Permits different administrative procedures for different taxes	Yes	No	No
Produces lower administrative costs and high staff productivity (less duplication)	No	Yes	No
Imposes lower compliance costs on taxpayers	No	No	Yes
Reduces opportunities for collusion and corruption	No	Yes	No

Based upon Vehorn, C. and J. Brondolo, 1999, 'Organizational Options for Tax Administration', a presented at 1999 Institute of Public Finance Conference, Zagreb, June.

Management strengthening:

Gill has noted that “[t]he quality and continuity of leadership of the [revenue administration] reform effort is a major determinant of success. Senior managers should be selected carefully.... Efforts should be made to minimize changes as these have a disruptive effort on the reform process”.⁵⁷ Those senior managers carry the main burden of “setting strategic goals; formulating operational policy; managing financial, human, information and physical resources effectively; supervising, monitoring and evaluating performance; improving coordination, anticipating and resolving operational problems; enforcing internal control systems; preventing corruption; improving mechanisms to redress taxpayer grievances; and interacting with external stake-holders”.⁵⁸

Unfortunately the importance of a strong and continuing management team – often necessarily supported by political champions and mentors – has been under-

⁵⁷ Gill, note 48 at p. 21.

⁵⁸ Gill, note 48 at p. 12.

emphasised in many countries, with the result that weak management teams and perverse management practices have been allowed to continue to the detriment of the development of a changed culture.

Nuts and bolts reform

In addition to the need for organisational change and management strengthening, there are many other more mundane, but nevertheless vital, changes that can help to create a more effective and efficient tax administration, thereby enhancing the revenue authority's capacity to enhance voluntary compliance and strengthening its ability to enforce compliance. These "nuts and bolts" reforms include strategies relating to areas such as taxpayer registration and verification.

Registration

A clean and up to date automated taxpayer registration system, involving a directory of all taxpayers in the country, along with unique identifiers (TINs), addresses and contacts details, legal residence, economic activities and links to other asset ownership such as land, vehicles and bank accounts, is an essential foundation for any compliance strategy. "The taxpayer registry is the backbone of all tax administrations",⁵⁹ and should have easy and automatic links to the rest of the tax administration's systems. It is the basis upon which the tax administration communicates with the taxpayer and advisers, maintains tax filing and tax payment records, and it also feeds naturally into the verification and risk profiling processes discussed later.

An efficient registration system also allows automated default systems to leverage off the central system. This may involve the automatic detection of "stop filers", non-filers and taxpayers who have not paid the full taxes shown as due in their tax returns.⁶⁰ For example, Gallagher notes that in many developing economies, seemingly unexplainable drops in fiscal revenues have resulted solely due to the fact that taxpayers have found that they can simply stop filing their VAT declarations with impunity. He therefore suggests that tax administrations should have automated notification and follow-up systems that immediately remind taxpayers of their responsibility to file and pay their tax obligations.⁶¹

Many developing economies (and most developed) have introduced unique Taxpayer Identification Numbers ("TINs") as a means of ensuring registration by taxpaying units (whether individuals or corporates). This is a strategy facilitated by the development and spread of digitalisation and communication technologies.⁶² The existence of a TIN "forms the basic building block for revenue administration IT systems, as it allows connecting taxpayers to their returns, payments and major taxable transactions with third parties".⁶³ Field surveys to detect unregistered taxpayers, as well as extensive publicity campaigns, have often accompanied the introduction of TINs.

⁵⁹ Gallagher, note 49, p. 139.

⁶⁰ Gill, note 48, p. 16.

⁶¹ Gallagher, note 49, p. 137.

⁶² Fjeldstad and Moore, note 45, pp. 247-248.

Verification

The verification process involves data gathering, analysis and matching, together with appropriate risk analysis and profiling, in order to establish which taxpayers are likely to be the greatest compliance risks, and where scarce resources should therefore be concentrated in the audit and investigation phase.

Verification activities need to vary according to the type of taxpayer and level of risk involved. Data collection, or intelligence gathering, should be from as wide a range of relevant sources as possible, including internal sources (central registry, tax returns, information about other taxes etc) and external or third party sources (such as financial institutions, government agencies, trade associations, other businesses and information from other taxpayers). Data analysis needs to be undertaken on an ongoing basis to inform and refine the understanding of the taxpayer base and the types of compliance behaviour exhibited.

One of the key aspects in ensuring compliance is the need to build and analyse risk profiles based upon the characteristics of the taxpayer concerned (past compliance behaviour, transaction patterns) and external factors such as data matching of third party information, understanding of industry norms, and even such factors as past behaviour of tax advisers used. Where inconsistencies and other risks are identified, audit or other appropriate action can be instigated.

Building integrity and tackling corruption

The integrity of its staff and systems is a vital component of any effective revenue administration, and yet – as Bahl and Bird point out – corruption and taxation have always been associated in history – and not just in developing countries.⁶⁴ It would be naïve to believe that corruption is not a serious issue in most developing economies – indeed Uche and Ugwoke noted in 2003 in relation to Nigeria that “[t]he major threat to the effective administration of VAT in Nigeria...is the widespread corruption and indiscipline which are deeply entrenched in all aspects of the country’s social and economic life”.⁶⁵

Corruption may be systematic – involving groups of employees acting together in a corrupt fashion and often led by senior staff – or individual; and may or may not involve external “clients”. Examples are not difficult to cite: charging for services that should be free; diverting cash; making false repayment claims; losing files; and receiving payments to complete tax returns or bribes to favorably settle audits. And corruption is not limited simply to tax activities – it can also include abuses of power such as theft or private use of goods like office equipment; fraudulent subsistence and travel allowance claims; and stealing time to pursue outside interests and/or employment.⁶⁶

⁶³ Gill, note 48 at p. 14.

⁶⁴ Bahl and Bird, note 3, p. 291, citing Webber, C. and A. Wildavsky, 1986, *A History of Taxation and Expenditure in the Western World*, Simon and Schuster, New York.

⁶⁵ Uche, C. and O. Ugwoke, 2003, “The Law and Practice of Value Added Tax in Nigeria”, *IBFD Bulletin*, June, pp. 265-272, p. 272.

⁶⁶ Child, D., 2008, ‘Key Steps to Address Corruption in Tax and Customs’, *U4 Brief No. 15*, Chr. Michelsen Institute, May, available at www.u4.no/themes/pfm accessed 18 August 2008.

The consequences of corruption are obvious. It is a cancer that destroys the organisation itself and undermines all other aspects of society. It erodes confidence in the tax system and encourages evasion. It increases the costs of doing business and distorts the level playing field that should be available. And to the extent that there is a political limit as to the amount of tax that people will bear in a developing countries (and that there is therefore a substitution effect between taxation and corruption), it reduces the amount of formal tax that can be collected.⁶⁷

A number of strategies to combat or address the issues of corruption in a revenue authority have been identified in the literature.⁶⁸ These include:

Corruption risk mapping

The preparation of “Corruption Risk Maps”, designed to guide procedural changes to reduce opportunities of corruption, is a useful starting point for any revenue agency determined to tackle problems of corruption. In Columbia this strategy was successfully employed, based upon an initial systematic study of important business processes, to address the vulnerable points in the systems and identify optimal strategies for dealing with each.⁶⁹

Recruitment policies and practices

Staff need to be carefully recruited on merit based selection principles, and remunerated at levels which are at least comparable to equivalent positions in banking and the accounting profession, have access to carefully developed in-house and external training possibilities and have realistic opportunities for career and income progression.

Ethical policies and practices

Staff must be aware of the importance of integrity at both the personal and organisational levels, and policy and practice must reflect this. It is not sufficient merely to introduce ethical “Codes of Conduct”, sets of internal disciplinary rules and instruments such as “Taxpayers’ Charters”; they also need to be shown to be “living” documents that inform everyday activity and decision-making. Other practical measures include asset declarations for all staff, and the availability of avenues for whistle blowing (including protection from disclosure after the event). Collier et al, in an Indonesian context, identified that the establishment of peer learning groups in the workplace considerably enhanced and reinforced ethical behavior and reduced corruption in a revenue authority when allied to internal training on the topic. The groups comprised a small number of trainees who maintained contact and reinforced communities of ethical practice in a variety of ways, including face to face meetings, and SMS and email groups, during and after the delivery of the training.⁷⁰

⁶⁷ Bahl and Bird, note 3, p. 291.

⁶⁸ See, for example, Bahl and Bird, note 3, p. 291, and Child, note 66.

⁶⁹ Gill, note 48, p. 13.

⁷⁰ Collier, K., Rokhman, A., Ayuandini, S. and P. Kurniawan, 2007, ‘Using ‘Workplace Learning Groups’ — A Peer-Learning Approach — in the Indonesian Tax Office to Encourage Workplace Learning and Support Cultural Change within the Organisation’. Paper presented at the *Researching Work and Learning Conference 5*, Cape Town, South Africa, December.

Internal controls and deterrence

Strong internal controls are an essential part of any strategy designed to address corruption in a revenue authority. Child notes that managers must be proactive and conduct desk and office inspections, and design procedures and systems that deter integrity lapses and make them easier to spot.⁷¹ Other examples include restricting access by taxpayers to designated taxpayer service areas so that they cannot access other revenue authority work spaces; restricting access by employees to scanned copies of original records to prevent tampering; creating audit trails of administrative decisions and changes made to taxpayer current accounts; and separating the functions of assessing and collection in order to reduce opportunities for corruption and collusion.⁷²

In addition, an effective internal investigation force, combined with severe penalties (including dismissal and prosecution) for malfeasance and a strong likelihood of detection, will inevitably reduce the incidence of corruption. “To the extent corruption follows an economic calculus, the expected value of the outcome of taking a bribe may be heavily influenced by the chances of getting caught and being heavily penalized”.⁷³

Statutory changes

Statutory changes to increase transparency, remove discretion and simplify the law can make a significant contribution to the enhancement of the integrity of the operation of the revenue authority. Where the structure of a particular tax is as transparent as possible, and obligations and liabilities are clearly stated, taxpayers will be less likely to be cheated. Bahl and Bird note that “[n]othing good can come of a situation in which tax administrators and tax payers negotiate over how large the tax liability should be. One problem in the practice of income taxation in developing countries is that, apart from withheld taxes, tax liabilities are, in fact, often negotiated”.⁷⁴

Minimise taxpayer/revenue agency interaction

The higher the level of contact and interaction between tax officials and taxpayers, the greater the scope for corruption and collusion. Therefore minimising that contact through the use of self-assessment, withholding taxes and the like can be an effective strategy. Gill identifies examples from Latvia and Russia where work processes were modified to reduce interaction between tax officials and taxpayers⁷⁵, and Bahl and Bird note that VAT and payroll taxes tend to score relatively high in this respect.⁷⁶

⁷¹ Child, note 66.

⁷² Gill, note 48, p. 13.

⁷³ Bahl and Bird, note 3, p. 291.

⁷⁴ Bahl and Bird, note 3, p. 291.

⁷⁵ Gill, note 48, p. 13.

⁷⁶ Bahl and Bird, note 3, p. 291.

Reduce compliance costs

Compliance costs for taxpayers in developing countries are four to five times higher than those in developed countries.⁷⁷ This therefore suggests that reducing compliance costs “lowers the amount of bribe a (rational) taxpayer might be willing to pay to avoid the declaration and payment process”.⁷⁸

One strategy that does not appear to have been successful in combating corruption is the privatisation or outsourcing of the tax collection function. Tax farming (the process where the right to collect tax is auctioned off to a private agent in exchange for a fixed sum payable in advance) and tax sharing (whereby private agents collect taxes, with the right to keep a share of the total collection) have often been introduced with the objective of reducing administrative costs and increasing the level and reliability of collections.⁷⁹ The examples of outsourcing of some local authority tax collection in Tanzania and Uganda suggest that they may sometimes have succeeded in increasing revenue collections, but that the levels of corruption have also increased.⁸⁰

3.2.2 Fostering voluntary compliance

In 2004 the OECD suggested that “[c]ompliance is most likely to be optimised when a revenue authority pursues a citizen-inclusive approach to compliance through policies that encourage dialogue and persuasion, combined with an effective mix of incentives and sanctions”.⁸¹ This section of the article focuses upon the voluntary aspects of this broad compliance strategy, while Section 3.2.3 turns to the sanction-based enforced elements.

Gill notes that voluntary tax compliance does not have a long history in many developing economies.⁸² Nonetheless, this has been an area where significant developments have taken place in recent years. There has been a “very substantial shift in the attitudes of tax administrations towards taxpayers”.⁸³ Based in large part on the literature on compliance explored in Section 2 of this article, tax administrations have come to recognise that that a cooperative and positive engagement with taxpayers and their advisers in a customer-service focused and user-friendly environment will be more productive and efficient than more traditional adversarial and antagonistic approaches.

⁷⁷ Evans, C., 2003, “Studying the Studies: An Overview of Recent Research into Taxation Operating Costs”, *eJournal of Tax Research*, Vol. 1 No. 1, pp. 64-92.

⁷⁸ Bahl and Bird, note 3, p. 291.

⁷⁹ Joshi, A and J. Ayee, 2008, ‘Associational Taxation: A Pathway into the Informal Sector’, in Brautigam, D., Fjeldstad, O-H and M. Moore (Eds) *Taxation and State-Building in Developing Countries: Capacity and Consent*, Cambridge University Press, Cambridge, pp. 183-211, p. 190.

⁸⁰ Bahigwa, G., Ellis, F., Fjeldstad, O-H. and V. Iversen, 2004, ‘Uganda Rural Taxation Study’, Report commissioned by DFID Uganda, Economic Policy Research Centre, Kampala; and Kobb, D. 2001, ‘Corruption in Tanzania: An Application of Tax Farming’ Mimeo, Tanga Tanzania and KKonsult USA.

⁸¹ OECD, 2004, note 8, p. 48.

⁸² Gill, note 48, p. 13.

⁸³ Fjeldstad and Moore, note 45, p. 248.

As a result, the strategies designed to foster voluntary compliance have taken two broad and mutually supportive directions: building positive taxpayer and tax community morale; and making compliance easier and cheaper for taxpayers.

Building positive taxpayer and tax community morale

Enhanced compliance, the literature tells us, is likely to occur where fiscal ignorance is tackled and reduced, where taxpayers feel that they are getting a fair deal from the exchange relationship with the state, where the environment is cooperative and where positive attitudes towards taxation are nourished. Taxpayers, and potential taxpayers, need to be aware of the general concept of taxation and why they should pay taxes.

Based upon this analysis, revenue authorities in many countries have undertaken community awareness campaigns. Some revenue authorities have been very creative in raising awareness of the value of the social exchange and contract between taxpayer and state, using TV skits; radio programs; competitions to create advertisements displayed on buses; school plays on tax issues; fairy tales spun around tax compliance; and the incorporation of tax themes in school curricula, in collaboration with Ministries of Education.⁸⁴ The South African Revenue Service widely advertises that “your taxes paid for this road/school/hospital”⁸⁵ while the Australian Taxation Office (“ATO”) used, for a long time, the slogan “Building a Better Australia”.

The focus is not just on the relationship between the tax authority and the taxpayer. The relationship between the tax authority and tax practitioners, industry associations, trade unions and other community groups can be just as important. The OECD recognises, correctly, the importance of building community partnerships, and that “[a]lliances with trusted intermediaries may be crucial to challenging community or industry attitudes and influencing taxpayer behaviour. Network alliances allow for the development of an integrated approach to addressing compliance issues and mutual support which greatly increase the chances of success of any given strategy”.⁸⁶

Making it easier and cheaper to comply

On the assumption that many, if not most, taxpayers wish to comply with their tax obligations (within cultural and social norms), efforts are being made in many revenue authorities to make it easier and cheaper for taxpayers to comply. The strategies that can help to achieve this can be broken down into three main groups.

Consultation/collaboration and co-design

This is a current mantra of the ATO, but it also adequately summarises the importance of any revenue authority ensuring that it adopts an “empathetic, user-based approach [that] ensures administrative solutions are designed around what works for the community”.⁸⁷ In order to make it easier and cheaper to comply, it is important that registration, reporting, filing, record-keeping and payment processes work, so far as possible, in harmony with the ways in which taxpayers and their advisers operate.

⁸⁴ Gill, note 48, p. 14.

⁸⁵ Fjeldstad and Moore, note 45, p. 248.

⁸⁶ OECD, 2004, note 8, p. 56.

⁸⁷ Australian Taxation Office, note 10, p. 6.

Research consistently shows that the burden of tax compliance is significant and that it falls more heavily on small businesses than on large businesses (compliance costs are regressive).⁸⁸ This has prompted authorities to increase efforts to simplify compliance requirements, including exploring ways of more closely aligning tax reporting to the natural systems businesses use for their own banking, accounting and financial reporting. Such initiatives have the potential to save businesses time and cost and improve the reliability of information received by the authority.⁸⁹

Thus, for example, where possible it makes sense to leverage monthly, quarterly and annual payments of tax by business taxpayers off naturally occurring internal business processes rather than imposing upon business an additional burden that is forced to exist independent of business need. But where that is not possible, it also makes sense to engage with business taxpayers and their professional advisers and associations to establish whether, with suitable business process re-engineering, outcomes that work to the benefit of both business and the revenue authority can be developed.

Many revenue authorities, including the ATO and the New Zealand Inland Revenue, seriously and positively engage with the tax community to identify and implement policies, systems and processes that can assist taxpayers in complying with their obligations in as easy and simple and inexpensive a manner as possible. The benefits of consultation, collaboration and co-design will always far outweigh the costs involved.

Making taxpayer obligations clear

The OECD has pointed out that “[i]f taxpayers do not understand what their obligations are, any intervention to enforce compliance will be perceived as unfair”.⁹⁰ It is therefore vital to make taxpayers’ obligations clear – in the sense of being transparent, easy to understand, simple and non-confusing. The OECD goes on to suggest that the following issues need to be considered:

- is the law clear? If not, is an amendment or additional legislation required?
- are the authority’s administrative requirements clear?
- are clear interpretative products, such as interpretive rulings, readily accessible?
- are there clear information products available, at relevant levels of detail, in the language of the taxpayer? Are these products accessible in the taxpayers’ channels of choice (e.g. web-based, paper-based, CD-Rom)?
- has there been adequate communication and marketing of the information available? Has this included publication in relevant industry or community vehicles?
- are effective support services available to meet taxpayers’ needs? (e.g. telephone enquiry services, web services, educational field visits etc)

⁸⁸ Evans, note 77.

⁸⁹ OECD, 2004, note 8, p. 49.

⁹⁰ OECD, 2004, note 8, p. 48.

- have opportunities been taken to remind those potentially at risk of what their obligations are?

These considerations point to the importance of the educational products and related customer service facilities provided by the revenue authority. The ATO notes that it aims to provide taxpayers and their advisers with the information they need to understand their rights and responsibilities. Information products (for example, pamphlets, web pages, seminars and workshops) are tailored to the needs of different taxpayer segments and industries, and taxpayers and their advisers are encouraged to approach the ATO for personalised advice through a variety of help lines and other formal and informal advice channels.⁹¹

In some jurisdictions, for example, particular attention is paid by the revenue authority to start up businesses, on the basis that making the tax obligations clear and “getting it right” for these businesses from the outset will repay huge dividends later.

Smoothing transactions and interactions

The third group of strategies designed to make it easier and cheaper for taxpayers to comply with their tax obligations relates to the capacity of the revenue authority to provide convenient and inexpensive ways for taxpayers to interact with, or undertake transactions with, the revenue authority. Making it easy and inexpensive to comply can, potentially, include all the initiatives an authority might take to improve service delivery. For example, in recent years, many authorities have sought to expand the range of electronic services (e-services) provided (particularly for filing and for payment of taxes) and have seen a rapid increase in the number of taxpayers and tax advisers taking advantage of the ease and convenience they provide.⁹²

Other service delivery initiatives designed to remove the “grit” from the system and ease interactions and transactions between revenue authorities and taxpayers have included:

- providing assistance (including assistance in minority ethnic languages) to taxpayers in completing and filing tax returns;
- opening customer friendly “one stop shops” for taxpayers;⁹³
- setting up telephone hotlines and help lines to answer questions and clarify doubts on legal and procedural matters; appointing floor walkers to assist taxpayers waiting in queues; improving waiting areas; keeping tax offices open for longer and more convenient hours on days when there are filing deadlines;⁹⁴

⁹¹ Australian Taxation Office, note 10, p. 6.

⁹² OECD, 2004, note 8, p. 49.

⁹³ Fjeldstad and Moore, note 45, p. 248.

⁹⁴ Gill, note 48, p. 14.

- providing the opportunity for reduced annual filing for those taxpayers where the revenue authority is already aware of all income and has already received all relevant tax through withholding or related measures;⁹⁵
- using pre-population and pre-filing techniques with returns and other forms to avoid the necessity for taxpayers to provide information that the revenue authority already possesses;⁹⁶

3.2.3 Strengthening and enforcing compliance

The overall strategy of a revenue authority should always be to encourage voluntary compliance wherever possible, and to facilitate such compliance by whatever means it can make available. But not all taxpayers are compliant, and many who are compliant some of the time are not compliant at other times. Taxpayers move up and down the compliance pyramid, or adopt different position on the compliance — non-compliance continuum, for a variety of reasons. The revenue authority must therefore also have a range of tools, graduated in severity, to deal with non-compliance. These must be applied — and be seen to be applied — as appropriate, in relation to the level of risk. The OECD has identified a number of strategies that progressively escalate the level of sanctions including:⁹⁷

- customised letters alerting taxpayers to the fact that information they have reported is unusual for their industry or appears not to include income of which the authority is aware from third parties. The taxpayer is encouraged to send more or more accurate information;
- walk-in (unannounced) visits to businesses. Such visits may provide the opportunity for a quick check of basic registration, record-keeping and reporting requirements;
- income/sales reviews. These focus on the income of a business, recording processes, business procedures, matching of purchases and sales and sales being made in cash or off the books;
- comprehensive audits. These are in-depth investigations seeking to identify the omission of income or overstatement of expenses, usually across more than one reporting period;
- serious evasion audits. Such audits may involve a range of compliance checks and lead to relatively higher penalties; and
- prosecution for cases of non-compliance involving large sums, persistent evasion or criminal activity. (Some commentators suggest that a dedicated tax fraud unit should be established to tackle such cases, as it requires special skills – including knowledge of the tax fraud legislation, knowledge of the

⁹⁵ Evans, C., 2004, 'Diminishing Returns: The Case for Reduced Annual Filing for Personal Income Taxpayers in Australia', *Australian Tax Review*, Vol 33 No 3, pp. 168-181.

⁹⁶ Highfield, R., 2006, 'Pre-Populated Income Tax Returns: The Next Big Thing in Reform of Australia's Personal Income Tax System', in McKerchar, M. and M. Walpole (Eds) *Further Global Challenges in Tax Administration*, Fiscal Publications, Birmingham, pp. 331-357.

⁹⁷ OECD, 2004, note 8, p. 57.

courts and appeals systems, and law enforcement expertise and ability to liaise with other governmental offices.⁹⁸ This appears to be a better idea than the introduction of a separate “Tax Police” – introduced in some Eastern European and South American regimes – which has a sub-optimal effect as it artificially splits tax law enforcement between two organisations.⁹⁹)

The essential point of these escalating levels of sanctions is “to heighten the risk perception and demonstrate the revenue administration’s capacity to detect and punish evasion”.¹⁰⁰ Gill goes on to note that this “is perhaps still the weakest area in revenue administrations in most developing countries”.¹⁰¹ It is therefore an area that deserves closer attention, by reference to specific further strategies that can ensure revenue authorities enforce compliance in the most efficient and cost-effective fashion.

Investigation

Audit and investigation can take many different forms, ranging from low profile queries resulting in no further action through to full scale investigation resulting in prosecution for fraud. Too much auditing implies inefficiency and harassment, whereas too little calls into question the enforcement efforts of the tax administration.¹⁰² Gallagher suggests that in developed economies about 1% of taxpayers are subject to audit of some kind in any year, although the figure is likely to be higher in developing economies. Gill considers that it is usually between 1% and 10%,¹⁰³ although Bird shows audit rates as high as 45% in Kyrgyzstan and 50% in Moldova and Turkmenistan.¹⁰⁴

The critical point is that cases for audit (which may involve up to 30% of the revenue authority’s professional and administrative staff) should not be selected on a random basis. Rather, audit selection should be based on unbiased risk assessment using automation and statistically determined parameters.¹⁰⁵ Gill notes that the development of “sophisticated systems for risk analysis and selection of cases for audit and investigation is another tool to improve the enforcement capacity of the revenue administration”.¹⁰⁶ He goes on to cite three main advantages:

- a systematic risk-based approach where suspicious characteristics are evident is more likely to find actual tax evasion compared to the situation where a random audit selection basis is used. It is therefore likely to be cost effective and the productivity of enforcement activities (measured in terms of tax and penalties) will increase;

⁹⁸ Gallagher, note 49, p. 135.

⁹⁹ Gill, note 48, p. 17.

¹⁰⁰ Gill, note 48, p. 15.

¹⁰¹ Gill, note 48, p. 16.

¹⁰² Gallagher, note 49, p. 140.

¹⁰³ Gill, note 48, p. 16.

¹⁰⁴ Bird, R., 1999, ‘Some Reflections on the Conference’ in Shapleigh, A., Andic, F. and S. Banta (Eds) *Transition Economies and Fiscal Reforms: Proceedings of the Conference on Central and Eastern Europe and the New Independent States*, June.

¹⁰⁵ Gallagher, note 49, p. 137.

¹⁰⁶ Gill, note 48, p. 16.

- secondly, an approach based upon risk analysis allows the revenue administration to be more selective in scrutinising cases, resulting in more intense scrutiny and better use of scarce audit and investigation resources; and
- finally, the fact that most cases are not investigated means less interaction between tax officials and the taxpayers – resulting in lower compliance costs and less opportunity for corruption.

Sanctions

Any revenue authority needs to have appropriate powers to enforce compliance, including a full range of penalties (monetary and imprisonment) that can be applied where taxpayers have not properly complied. Often the threat of punishment can be as effective a sanction as the punishment itself. In its 2004 study, the OECD notes that while the revenue authority's preferred strategy will be one of self-regulation or voluntary compliance (at the base of the pyramid), the greatest leverage the authority can exert towards that outcome comes from taxpayers knowing that the authority has the power and will use it (at the top of the pyramid) to punish those who do not comply.¹⁰⁷

According to Ayres and Braithwaite,¹⁰⁸ the threat of severe punishment is most effective when it is used in conjunction with a hierarchy of lesser sanctions. "That is, regulators will be able to speak softly when they carry big sticks (and crucially a hierarchy of lesser sanctions). Paradoxically, the bigger and more various are the sticks, the greater the success regulators will achieve by speaking softly." Sanctions are important, not so much as a deterrent, but as a mechanism to convince people that others are complying.

The OECD also notes that a "revenue authority must not only have powers of credible enforcement, but must also communicate effectively its use of these powers. This 'aura' of power helps give the authority as an institution its credibility and allows individual officers more freedom to be co-operative with individual taxpayers".¹⁰⁹

Strategies noted by the OECD that may help to achieve this outcome of making powers and activity highly visible include:

- encouraging media reports of successful prosecutions;
- publishing information that provides taxpayers with early warning of behaviour that may be regarded by the authority as non-compliant. This kind of 'alert' may, for example, provide reports of court or tribunal decisions or interpretive rulings by the authority on matters of law or administrative practice;
- sending 'leverage' letters advising taxpayers that the authority is aware of a specific risk and inviting a specific response. Such letters have dual utility: they prompt compliant behaviour from the potentially non-compliant

¹⁰⁷ OECD, 2004, note 8, p. 50.

¹⁰⁸ Cited in OECD, 2004, note 8, p. 50.

¹⁰⁹ OECD, 2004, note 8, p. 50.

(*deterrence*) and they support the perception among the compliant that their compliance is not in vain: wrongdoers are being pursued (*reinforcement*); and

- exercising vigilance in follow-through of known defaults in relation to basic obligations of registration, filing, reporting and payment. At some point, leniency in extending time to pay becomes counterproductive in promoting voluntary compliance.¹¹⁰

3.2.4 Tackling the shadow economy

The assumption thus far is that the taxpayers are within the tax system or are otherwise known to the tax authorities. This section considers the case of those not in the system – members of the shadow or cash or informal economy, often referred to as part of the “hard to tax”.

It has already been noted that the informal sector is likely to be large in most developing countries. It is also “complex and heterogeneous. It comprises large and small enterprises, urban and rural firms, owners as well as workers, and local activities as well as those that cross jurisdictional boundaries”.¹¹¹

Revenue authorities, in both developed and developing economies, are often tempted to give the informal sector low priority – it is, by definition hard to tax and, in terms of productivity, returns on effort may not be spectacular. Moreover, employees of revenue authorities in developing economies will tend to want to avoid the sector because it is likely to be “unrewarding in terms of income supplementation” and because working in that sector is likely to be “unpleasant, difficult or even dangerous”.¹¹² There is simply no incentive for employees to get involved.¹¹³ Even tax consultants and scholars, advising those in developing economies, have often considered seeking to tax the informal sector as too difficult, requiring considerable effort with few returns.¹¹⁴ It is not surprising that they have tended to concentrate on the easier pickings from the “low hanging fruit”, by focusing on the introduction of VATs, tax system simplification and reform of tax administration.

Nonetheless there are good public policy and other reasons for tackling the informal sector. Businesses that fail to meet their tax obligations pose a threat to those that do in the form of unfair price competition.¹¹⁵ The playing field is therefore not level, and such unfairness causes legitimate businesses to consider exiting the system in order to counter the threat. A thriving cash economy reduces revenue collections and undermines the community’s confidence in the tax system. Moreover, it is in the interests of the governments of developing economies to have as broad a tax base as

¹¹⁰ OECD, 2004, note 8, pp. 50-51.

¹¹¹ Joshi, A and J. Ayee, 2008, ‘Associational Taxation: A Pathway into the Informal Sector’, in Brautigam, D., Fjeldstad, O-H and M. Moore (Eds) *Taxation and State-Building in Developing Countries: Capacity and Consent*, Cambridge University Press, Cambridge, pp. 183-211, p. 184.

¹¹² Fjeldstad and Moore, note 45, p. 244.

¹¹³ Joshi and Ayee, note 111, p. 190.

¹¹⁴ Joshi and Ayee, note 111, p. 185.

¹¹⁵ OECD, 2004, note 8, p. 55.

possible, and to protect that revenue base. And spreading the tax net also contributes to the state-building capacity and the legitimacy of developing economies.¹¹⁶

Successful strategies to tackle the informal sector are therefore more difficult to find, but are typically built around the same essential risk analysis framework that more conventional voluntary and enforced compliance strategies follow. Thus revenue authorities focus on particular sectors or groups that are perceived to constitute more serious risks to revenue. For example, tax authorities in developed economies consider, as high risk, sectors where cash transactions are commonly used for payment. They are also mindful of emerging new risks such as internet trading which provides new opportunities for businesses to operate in the hidden economy without detection.¹¹⁷ The former is more likely to be of greater significance in the context of developing economies, but the latter cannot be ignored as the internet spreads.

The key components of prevention, detection and deterrence, evident in earlier sections on voluntary and enforced compliance, also underpin strategies designed to tackle the informal sector. These components are now examined, based in large part upon the RAND report to the UK's National Audit Office in April 2008, which is the latest detailed research on this topic.

Prevention

The RAND report notes that tax authorities are focusing more on encouraging people into the formal economy as a way of improving voluntary compliance in addition to the traditional detection and deterrence approaches. Thus, for example, the following examples of good practice are identified by RAND:¹¹⁸

- tracking the motivations of those in the hidden economy through surveys to feed into the overall risk assessment for compliance activities;
- targeted educational campaigns at specific sectors (e.g. home repair and maintenance or small businesses) and cooperating with trade associations to tackle industries with a high incidence of non-compliance;
- offering voluntary disclosure schemes;
- surveys tracking the attitudes of those in the hidden economy to assess the impact of media campaigns;
- community visits, workshops, and specific internet sites to encourage individuals into the formal economy; and
- schemes to displace the hidden economy such as the use of work 'vouchers'.

In addition, one strategy that has proved to be highly effective in the context of developing economies is the use of specific taxes and tax collection mechanisms which by their nature and design make evasion difficult. Obvious examples are the

¹¹⁶ Joshi and Aye, note 111, pp. 186-188; Fjeldstad and Moore, note 45, pp. 244-245.

¹¹⁷ RAND Europe, 2008, 'Comparing How Some Tax Authorities Tackle the Hidden Economy', a Report prepared for the UK National Audit Office, April.

¹¹⁸ RAND Europe, note 117, p. 9.

VAT, withholding taxes such as PAYE and PAYG, and presumptive taxes, which can be introduced broadly (for example the VAT) or with specific industries or population sectors in mind. For example, Indonesia has recently introduced a tax payable by residents traveling abroad by air or ship which acts as a final tax for those who do not declare any income in Indonesia or are otherwise not known to the Indonesian revenue authorities, but which is entirely creditable against the tax liability of those traveling residents who are already in the tax net. This is effectively a presumptive income tax (with international travel a proxy for high income), though with the added incentive that it is removed for those who are already paying income taxes in Indonesia.

One compliance strategy related to presumptive taxes that may be particularly useful in the context of developing economies is the associational taxation pathway into the informal economy proposed by Joshi and Ayee.¹¹⁹ Their research, based upon the experience of the Ghana Private Road Transport Union and its agreements with the Ghanaian government in the 1990s, suggests that a negotiated social contract between the state and trade associations, whereby the associations effectively act as taxation collectors from its members in the informal sector in exchange for access to legitimacy and power, can help to tackle the issue of the taxation of the informal sector. They note that “[t]he Ghana experience suggests that the collection of presumptive taxes might be an important step in the long path towards more standardised tax collection through public sector revenue agencies”.¹²⁰

Detection and deterrence

Key strategies relating to detection and deterrence, in addition to the risk assessment approaches already detailed in the section on strengthening and enforcing compliance above, include:

- using telephone hotlines and other information channels to enable the public to report their suspicions of people working in the hidden economy;
- the regular use of data matching to target specific sectors and activities in the hidden economy particularly where there is a high incidence of non-compliance;
- the wider use of external data in data matching to increase the rate of detection;
- the systematic use of sanctions and adjusting penalties for inflation to increase deterrence; and
- tracking the perceptions of people on sanctions to assess the deterrent effect.¹²¹

3.3 Compliance monitoring

Strategies designed to enhance voluntary and enforced compliance need to be carefully monitored to determine their effectiveness. Revenue authorities are

¹¹⁹ Joshi and Ayee, note 111.

¹²⁰ Joshi and Ayee, note 111, p. 197.

¹²¹ RAND Europe, note 117, pp. 9-10.

therefore increasingly concerned with developing appropriate compliance monitoring frameworks. As the OECD notes¹²², revenue bodies “require a comprehensive and robust set of outcome-related measures and indicators reflecting the results of their programs and strategies to achieve improved compliance with the tax laws”. A compliance monitoring framework is broadly defined as “an agency-wide strategy for monitoring compliance and evaluating the impacts of specific compliance improvement activities. To achieve its objectives, it embraces a comprehensive range of compliance measures and indicators and accompanying measurement methodologies for the key compliance obligations of the major taxes administered by the revenue body”.¹²³

Such monitoring frameworks, the OECD suggests, should therefore:

- encompass the major taxes administered at the aggregate level;
- explicitly report on the main compliance risk types;
- report on compliance impacts at the program and targeted risk level; and
- include a comprehensive set of measures and indicators, all of which have a multi-year focus (three to five years).

4. CONCLUSIONS

Effective tax reform designed to enhance tax compliance outcomes requires commitment by government and time. It is not a process to be rushed and caution is counseled, particularly in respect of getting the right balance of policy objectives.¹²⁴ Legitimacy and credible commitment has to be established by government and the revenue authority if taxpayers are to comply voluntarily and this political capacity can in turn impact on the extractive capacity (i.e. revenue collections) of government.¹²⁵ This commitment needs to be at all levels of government and public offices including the judiciary.¹²⁶ There is a need to ensure that commitment at all levels of government continues to build and this could be helped by co-ordination and the promotion of fiscal responsibility at sub-national levels and the implementation of a stable and transparent system of transfers.¹²⁷

¹²² National Audit Office, 2008, “Comparing How Some Tax Authorities Tackle the Hidden Economy”, NAO, London, April; OECD, 2008, *Monitoring Taxpayers’ Compliance: A Practical Guide Based on Revenue Body Experience*, OECD, Paris available at <http://www.oecd.org/dataoecd/51/13/40947920.pdf> accessed 18 August 2008 at p. 27.

¹²³ OECD, 2008, note 122 at p.22.

¹²⁴ Bird (1983) cited in Fjeldstad, O. and L. Rakner, 2003, “Taxation and Tax Reforms in Developing Countries: Illustrations from Sub-Saharan Africa”, Chr Michelsen Institute *Development Studies and Human Rights* R2003:6 at p.28.

¹²⁵ Fauvelle-Aymar, C., 1999, “The Political and Tax Capacity of Government in Developing Countries”, *Kyklos*, Vol. 52 No. 3, pp. 391-413; and Tyler, 2006, “Psychological Perspectives on Legitimacy and Legitimation”, *Annual Review of Psychology*, Vol. 57, pp.375-400.

¹²⁶ An effective judicial system is important when it comes to making tax policies work in developing countries. See Ebel, R. and R. Taliercio, 2005, ‘Subnational Tax Policy and Administration in Developing Economies’, *Tax Notes International*, March 7, pp. 919-936.

¹²⁷ Arowolo, O., 2007, “Moving Toward Responsible Tax Administration in Nigeria”, *Tax Notes international*, December 17, at p. vii.

The key lesson that this article has attempted to convey is that there is no single appropriate tax compliance strategy for any developing or transitional country that can be plucked off the shelf and implemented. Each country is unique. But there is a vast body of research and practical experience, culled from both developed and developing economies, which can help to inform and shape the compliance program that can work for developing countries. In order to manage and improve tax compliance, revenue authorities need to adopt an approach that encourages voluntary compliance within a co-operative and participative regulatory environment. Moreover, in choosing and applying appropriate risk-based treatment strategies, such countries would do well to heed the advice of the OECD that:¹²⁸

- compliance programmes need to provide a graduated response to compliance behaviour — making it easy for those who want to comply and applying credible enforcement to those who do not;
- treatment needs to address the underlying drivers of compliance behaviour;
- the most effective strategies are likely to be multi-faceted and systemic;
- the first step is often to ensure that taxpayers understand their taxation obligations and find it easy to comply;
- acting at all times with integrity and in a manner perceived to be fair and reasonable will encourage voluntary compliance;
- enhanced capacity to influence taxpayer compliance behaviour often comes through strategic alliances and partnerships with other agencies, industry bodies and tax advisers;
- strategies need to be applied in a way that demonstrates effective and efficient use of resources;
- sustainable improvement in compliance can only be achieved by influencing and changing social and personal norms.

¹²⁸ OECD, 2004, note 8, pp. 71-72.