OECD

INFORMATION NOTE

Compliance Risk Management

Use of Random Audit Programs

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CTPA

TABLE OF CONTENTS

TABLES

FIGURE

ABOUT THIS DOCUMENT

Background

Sharing knowledge within and beyond the OECD

With globalisation comes the increasing need for tax administrations around the world to cooperate to help each country administer their revenue system. The work of the Organisation for Economic Cooperation and Development (OECD) and other international organisations aims to find ways to ensure the correct tax is paid in the correct jurisdiction. OECD members need to continue to explore ways of sharing experience and contributing to ongoing research.

Focus on issues of risk management

In July 1997, the Committee on Fiscal Affairs approved the Practice Note titled *Risk Management*. In addition to providing a generalised description of risk management, the Note acknowledged that a number of national revenue authorities had started to use risk management principles in order to better allocate scarce resources to achieve an optimum tax compliance strategy—one aimed at achieving the best overall tax compliance outcome for the resources employed. The note went on to describe, in brief, the concept of revenue risk management in a tax administration context, discussed some practical considerations in undertaking revenue risk assessments, and provided a brief description of a model for the application of risk management in a tax administration context—described as the 'Revenue Risk Management Cycle'.

Recent years have witnessed major reforms in public sector administration as governments strive to improve the efficiency and effectiveness of their operations. Central to these reforms has been the establishment of sound corporate governance practices, including the application of modern risk management approaches. As a result, national revenue authorities in a number of countries have given considerable attention to the development of sound compliance risk management practices, resulting in their further evolution. During meetings of the CFA's Forum on Strategic Management in early 2002, it was agreed that further work should be carried out by country tax officials to share experiences and to provide more comprehensive guidance on compliance risk management practices, particularly for small/ medium enterprises (SMEs).

The Forum on Tax Administration Compliance Sub-group

In May 2002, tax officials from a number of OECD countries convened in London—as the Forum on Tax Administration's Compliance Sub-group—to consider what actions could be taken to exchange experiences in the area of compliance risk management and to agree on a strategy for documenting guidance on this important topic. The scope of the Sub-group's work was to be domestic compliance issues affecting medium and small businesses. At that meeting, a number of task groups were established and a series of subjects were identified for consideration and research. At around this same time, the FTA's work in the area of electronic commerce suggested that there would also be value in undertaking a study of country experiences with the development of Internet search tools

for compliance risk management purposes. It was therefore decide to bring this study within the work programme of the Compliance Sub-group, given its focus on compliance risk management matters.

The work of the Compliance Sub-group has now culminated in the development of a number of products that, following approval by the CFA, will be disseminated to all OECD countries. These products, all relating to Compliance Risk Management, are:

Guidance Note: *Managing and Improving Tax Compliance*
Information Note: *Catalogue of Compliance Research Projects*
Information Note: *Catalogue of Compliance Strategies*
Information Note: *Audit Case Selection Systems*
Information Note: *Use of Random Audit Programs*
Guidance Note: *Progress with the Development of Internet Search Tools*

Purpose

This note examines how random audits are used in the context of an overall programme of compliance improvement for small and mid-size business taxpayers. It was prepared by a study team comprised of officials from revenue authorities in Canada, Ireland, United Kingdom and United States.

Caveat

Each Revenue authority faces a varied environment within which they administer their taxation system. Jurisdictions differ in respect of their policy and legislative environment and their administrative practices and culture. As such, a standard approach to tax administration may be neither practical nor desirable in a particular instance.

The documents forming the OECD Tax Guidance Series need to be interpreted with this in mind. Care should always be taken when considering a country's practices to fully appreciate the complex factors that have shaped a particular approach.

Inquiries and further information

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SUMMARY

This note examines how random audits are used in the context of an overall programme of compliance improvement for small and mid-size business taxpayers.

To better understand how random audits are being conducted, the study team prepared a survey questionnaire that was sent to revenue authorities in 28 OECD countries. Fourteen authorities responded to the questionnaire, representing a 50 percent response rate.

The majority of respondents indicated that random audits are a relatively recent phenomenon, with most authorities having begun their programmes during the last ten years. Typically, audits conducted as part of a random audit programme are comprehensive (as opposed to targeted) in scope, include fewer than 3,000 taxpayers per study and are performed annually in conjunction with a regular audit programme.

Validating an existing risk assessment system was the most frequently cited use of the data collected from random audits. Other uses include: compliance measurement, workload selection, identification of emerging issues, taxpayer profiling and programme evaluation.

The survey respondents mentioned several problems of random audits. These include: opportunity costs (i.e. devoting scarce staff resources to audit taxpayers with little or no unreported income), costs for training and personnel, timeliness of research findings, a negative public perception, internal agency acceptance and reliability of resulting compliance measures. Offsetting these perceived disadvantages are the following advantages: improved risk identification, enhanced efficiency in the allocation of agency resources, statistically valid compliance measures, insight into new forms of economic activity (e.g. Internet commerce) and evaluation of the "indirect" effects of enforcement actions on taxpayer compliance behaviour.

This report also contains case studies of the random audit programs of national revenue authorities in Canada, Ireland, UK and USA that summarise each authority's experience and best practices.

INTRODUCTION

Use of random Audit Programs

1   Most revenue authorities prefer to be selective when choosing which tax returns to audit[1]—selecting only those returns believed to be the most non-compliant. However, sometimes returns may be chosen at random. Random selection means every tax return has an equal probability of being audited, regardless of how tax officials perceive a particular individual's compliance status. A tax agency may initiate a programme of random audits for a variety of reasons. For example, a government may wish to ensure that all taxpayers have some chance of being subject to audit to ensure fairness in its enforcement programme. Other reasons might be to update existing audit selection methods, better allocate agency resources or to identify emerging compliance issues.

2   The purpose of this report is to describe how public revenue authorities in various OECD countries use random audits in the context of an overall programme of tax compliance. The OECD's Forum on Tax Administration (FTA) Sub-group on Compliance commissioned this report, which emphasises random audits of small and midsize businesses (SMBs) in accordance with the Sub-group's draft charter. A study team consisting of tax administrators and researchers from Canada, the Republic of Ireland, the United Kingdom (UK) and the USA prepared this report with input contributed by ten other countries.

Study Approach

3   To better understand how random audits are used, a survey questionnaire was prepared by the study team and sent to revenue authorities in 28 OECD countries. Fourteen authorities responded to the questionnaire, representing a 50 percent response rate. Tabulations of these responses appear throughout this report.

4   In addition to the survey findings, the four Study Team members contributed case studies on each nation's random audit programme. The purpose of the case studies is to give the reader a more in-depth look at how each country conducts random audits, including an overview of methodology and programme objectives. It is hoped these case studies prove useful to countries currently weighing the decision to conduct random audits. Countries that already use random audits might find these case studies to offer some new insights that would help them run their existing programmes more effectively.

Overview of report

5   Chapter two compares and contrasts the uses of random audits by OECD member nations. Such uses include: measuring and tracking compliance with tax laws,

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[1] The term "audit" is often used to describe an official examination of a taxpayer's tax return or other statement on which he declares his tax liability. The term is usually associated with reporting compliance, since it is a technique for determining the accuracy of what is reported on a tax return.

developing and validating workload selection models, supporting requests for additional staffing and other resources, identification of emerging compliance issues and as a general deterrence measure. Chapter three discusses methodological issues in conducting random audits. In particular, the following topics are covered: audit scope (targeted vs. comprehensive), sampling method (simple random vs. stratified) and requirements for specialized training and/or quality control measures to reduce detection error and improve accuracy.

6   The disadvantages and advantages of random audits are discussed in chapters four and five, respectively. Chapter six contains the four case studies of audit programs in Canada, Ireland, UK and the USA. The concluding chapter summarizes the report's main findings.

7   Following the report is an annotated bibliography of research papers that use findings from random audit studies. Appendix A displays the survey questionnaire sent to OECD member nations exclusively for this study. Appendix B lists country-specific web sites that contain information on tax compliance issues.

Definitions of Terms Used

8   Some terms used throughout this report are defined below:

- *audit*: for the purpose of this study, an "audit" includes not only person-to-person contacts with taxpayers, but also inquiries conducted by correspondence and automated contacts generated by a mismatch between what was reported on a return and third-party information about the same income or transaction. Again, for purposes of this study, automated corrections of taxpayers' arithmetic should not be considered as "audits."

- *compliance*: the extent to which taxpayers fulfil their tax obligations. In many countries, taxpayers have three basic obligations: (1) to file their tax returns timely; (2) to report accurately on those returns whatever is required to determine their tax amount; and (3) to pay their tax liability in a timely manner. These obligations are often referred to as *filing* compliance, *reporting* compliance, and *payment* compliance.

- *random audit*: a process for selecting tax returns for audit such that all tax returns have the same probability of being chosen. The process used may be simple random selection, stratified random selection, cluster sampling or a hybrid procedure that combines one or more of these.

- *small and midsize business (SMB)*: a small and midsize business is any for-profit commercial entity other than those that exceed a given (high) asset or revenue threshold. It is expected, for example, that the typical multi-national corporation would not be considered a small business. Small businesses include sole proprietor, partnership and corporate forms of organization. They also include individual return filers who have income from self-employment, even if self-employment income is not their primary source of income.

- *simple random selection*: the selection of individuals to represent an entire population by a process that ensures that each person has the same probability of being selected. Each individual represents the same number of people in the population. For example, select 10,000 taxpayers to represent a population of 100 million tax return filers; each taxpayer selected represents 10,000 people.

- *stratified random selection*: apply random selection to selected sub-groups or *strata* of the population. The strata will be groups that the researcher wants to study. For example, select 1,000 taxpayers randomly from each of

10 income groups in order to draw conclusions about the characteristics of the taxpayers within each group. If the top income group has only one million returns, then a taxpayer within that group will represent 1,000 instead of 10,000 returns.

- *audit gap*: this is the difference between the amounts of tax due if every tax return in the population were subject to an audit and the amount of tax voluntarily reported by taxpayers. The audit gap is a subset of the tax gap.

- *tax gap*: as used in this report, "tax gap" is defined as the difference between the theoretical total amount of tax due and the amount of tax voluntarily reported by taxpayers. The theoretical total amount of tax due includes the audit gap plus any further tax adjustments for auditors' inability to find all unreported filer income as well as non-filer income. Generally, tax gap estimates exclude illegal sources of income (e.g. drug smuggling).

1 USES OF RANDOM AUDITS: A COMPARATIVE ANALYSIS

9   The purpose of this chapter is to compare the similarities and differences in random audit programs among OECD countries. Our source for comparative statistics is a survey of revenue authorities in OECD member countries conducted in July 2002 by the FTA Compliance Sub-group. A survey questionnaire (Appendix A) was drafted by the study team and sent to revenue authorities in 28 OECD member countries. Fourteen questionnaires were returned for an overall response rate of 50 percent.[2]

Revenue authorities with SMB Random Audit Programs

10   Eleven of the fourteen revenue authorities responding to the survey reported some prior experience with random audits. However, Finland and Germany both indicated that state and local governments are primarily responsible for conducting audits in those countries. Consequently, these two nations could provide only partial responses to the survey. The Netherlands carries out random audits but only on non-business taxpayers. Since this study's primary focus is SMB random audit programs, data from The Netherlands survey is excluded as well[3]. Table 1 shows which countries have current/prior experience with random audits with SMB taxpayers. All of the countries that conduct random audits do so in conjunction with a regular, or operational, audit programme.

Table 1. OECD Countries Reporting Small and Midsize Business (SMB) Random Audit Programs

Current or Previous SMB Audit Programme	Audits Non-SMB Taxpayers or Performs Sub-National Audits	Do Not Perform SMB Audits
Australia	Finland*	Denmark
Austria	Germany*	France
Canada	Netherlands**	Japan
Ireland		
New Zealand		
Sweden		
United Kingdom		
USA		

*Audit programme is at state or local level
**Audit programme covers non-SMB taxpayers only

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[2] The 14 returned questionnaires do not constitute a random sample and are not intended to be representative of the collective experience of all 30 OECD member nations with regard to the use of random audits.

[3] Unless otherwise noted.

SMB Thresholds

11   Table 2 displays the threshold values each country uses to classify SMB taxpayers. Most countries use turnover (gross sales or gross receipts) as their primary indicator. A few nations also use employment or assets, in addition to turnover. The Netherlands currently uses two definitions to classify businesses. A firm is considered a large business if it has assets in excess of USD8.73 million or turnover equal to or exceeding USD17.5 million or 250 or more employees[4]. Alternatively, a business is "large" if it meets or exceeds two of the three criteria shown under Definition 2[5]. The USA classifies businesses based on asset size; businesses with USD10 million in assets are "large" and are the responsibility of IRS' Large and Mid-Size Business Division. Business taxpayers with assets under USD10 million are handled by IRS' Small Business and Self-Employed Division.

Table 2. Threshold Values for Defining SMB Taxpayers

(Monetary values in USD millions / Local Currency)

Country	Assets	Turnover (Gross Receipts)	Wages	Employ-ment	Conversion Rate (for 1USD)
Australia		59.08/100			1.69259 AUD
Austria		6.71/6.25		100	0.93145 EUR
Canada		9.80/15; income 163.40/250 GST			1.53 CAD
Finland		18.3/20			0.93145 EUR
France		0.81/0.75 sales; 0.24/0.225 services			0.93145 EUR
Japan		0.82/100			121.3 JPY
Netherlands – 1 (exclusive)	9.66/9	19.32/18		250	0.93145 EUR
Netherlands – 2 (2 of 3)	2.68/2.5	4.83/4.5		50	0.93145 EUR
New Zealand		54.99/100			1.81851 NZD
Sweden			2/17.09		8.54480 SEK
UK*	813/500	236/145			0.61489 GBP
USA	10				

*The UK uses a number of factors to decide whether a business should be treated as 'large', including trade sector, international aspects, tax planning history and a combination of turnover, profits, assets and expenditure. The figures for turnover and assets in the table are not simple thresholds but the minimum levels which would influence the overall assessment.

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[4] See definition 1 in Table 2.

[5] See Table 2.

Reasons for Discontinuing Random Audits

12   Countries that previously conducted random audits but had stopped doing so also were asked why they had halted a programme that had been underway. The USA recounted that their Taxpayer Compliance Measurement Programme (TCMP) was discontinued in the early 1990s due to a combination of budgetary and policy reasons. A proposed three-fold expansion of the TCMP sample size from 50,000 to 150,000 returns raised concerns among political representatives about the cost and intrusiveness of the Internal Revenue Service (IRS) in taxpayers' financial affairs. Australia's "Project-Based Audit" (PBA) programme that ran from 1988 to 1994 was ended because the programme had achieved its goal of increasing knowledge of compliance behaviour for different market segments of SMB taxpayers. Sweden's National Tax Board (Riksskatteverket) ended its TCMP programme for SMBs in 1996 (following four years of operation from 1992-1995) because variable skill levels among tax auditors made it difficult to obtain reliable results.

Duration and Frequency of Random Audit Programs

13   Table 3 displays the years each country has performed random audits and the frequency of occurrence. As Table 3 shows, most countries began only recently, but most conduct random audits every year.

Table 3. Duration and Frequency of Random Audit Programs

Country	Duration	Frequency
Australia	1988-1994	1 time per industry
Austria	1980's-2002	Annual
Canada	1999-2002	Annual
Germany (state-level audits)	1970's-2002	Annual
Ireland	1993-2002	Annual
New Zealand	1999	1 time
Sweden*	1992-1995, 2001	Annual
UK	1996-present	Annual
USA (TCMP)	1963-1988	3 years

*Audit programme in 2001 covered specific issues only

Uses of Random Audits

14   Revenue authorities use random audits for a variety of purposes. For example, random audits may be used to measure evasion activity among different groups of taxpayers in order to develop or validate a return selection system. They also may be used to identify emerging evasion trends or to profile new forms of economic activity (e.g. Internet commerce). A third use of random audits is to evaluate the effect of enforcement activities and policies. Finally, random audits may serve as a general deterrent to evasion, if no other means exist to distinguish compliant from non-compliant returns.

15   Table 4 lists the uses cited most often by the survey respondents. Some countries gave more than one response. The following sections describe these uses in more detail.

Table 4. Uses of Random Audits

Country	Validate Risk Assess-ment Models	Workload Selection	Compliance Measure-ment	Profiling Taxpayers	Identify Emerging Issues	Programme Evaluation /Resource Justification	General Deter-rence
Australia	✓		✓	✓	✓		
Austria	✓	✓					
Canada	✓	✓	✓	✓		✓	
Germany							✓
Ireland	✓	✓		✓		✓	✓
New Zealand	✓						
Sweden	✓		✓	✓	✓		
UK	✓	✓	✓	✓	✓		✓
USA	✓	✓	✓		✓		
Frequency	8	5	5	5	4	2	3

Validate Risk Assessment Models

16   Validation of an existing risk assessment model was the most frequently mentioned use for random audits among survey respondents. Typically, this implies auditing a small random sample of tax returns and comparing the results to an audited sample of returns selected by an existing risk scoring system. Agencies expect to have larger tax adjustments, on average, from the sample of high-risk returns than returns selected at random. If this is not the case, then further refinements of the methodology for selecting returns are indicated. Nearly all countries mentioned using random audits for risk assessment model development and validation.

Workload Selection

17   A second and related use cited by the survey respondents is workload selection. One approach involves regularly screening a large proportion of all tax returns each year and selecting a subset of the screened returns for more intense examination. This process may require that screeners focus their attention on one or two specific return items to identify potential audit candidates. Austria's "Out-Door Control" audit programme is an example of this approach. Every year, the Austrian Federal Tax Ministry (Bundesministerium für Finanzen) reviews a sizable fraction of all Austrian SMB tax returns. These reviews emphasize income and employment tax issues over less visible items such as business expenses and personal deductions.

18   Alternatively, a tax agency may perform comprehensive (line-by-line) audits on a representative sample of taxpayers and use the findings to develop future return selection formulas. At present, only the USA has used the results of random audits in this manner (e.g., the Discriminant Function or DIF system). Section 6.4 describes in detail the USA's experience in this regard.

Compliance Measurement

19   Of the three broad categories of compliance (lodgement or filing, payment, and reporting), random audits typically are used to measure reporting compliance. However, countries differ in the ways they measure reporting compliance. For example, some countries develop ratio measures to compare relative levels of compliance for different market segments of taxpayers. Other nations use random audit studies to estimate an audit gap; i.e. the difference between the total amount of tax reported by taxpayers and the total amount recommended if all tax returns

were audited. In the USA, the TCMP studies were used to estimate the tax gap during the 1970s and 1980s. The tax gap includes the audit gap plus additional revenues missed by auditors during taxpayer examinations, as well as non-filers and the "informal" sector. The informal sector is defined as legal, but unreported, person-to-person economic transactions. Tax gap measures generally exclude illegal activities in the underground economy.

20   All of these measures (ratio, audit gap, tax gap) may be used to baseline the taxpayer population. Base lining, in the present context, means developing quantitative measures of non-compliance for different groups of taxpayers. Revenue authorities may go further and use estimates of the audit gap or tax gap to fine-tune existing revenue estimation models to account for evasion activity. Finally, performing re-audits (back-to-back audits) of taxpayers allows tax administrators to gauge the effectiveness of audits for improving compliance. These topics are discussed in the following sections.

Ratio Measures

21   Many survey respondents indicated they use random audits to develop ratio measures of taxpayer compliance. For example, the UK's Inland Revenue (IR) estimates the percentage of noncompliant taxpayers and the percentage of significantly noncompliant taxpayers using random audit data. These estimates are made for the entire population as well as for selected groups of self-assessed taxpayers. Canada's Revenue Agency (CRA) estimates the percentage of incorrect credit and deduction items using random audits. Other countries that generate ratio measures for SMB taxpayers include Austria (VAT tax), Australia (Goods and Services Tax or GST), Ireland, New Zealand and Sweden. Once these ratios are estimated, countries may use this information to improve their existing return selection systems.

Audit Gap

22   As defined above, the audit gap is the difference between the total amount of tax reported by taxpayers and the total amount of tax recommended if all tax returns were subject to audit. This measure is used mainly to compare the potential revenue "yield" among different groups of taxpayers thus giving tax authorities the means to identify the least compliant tax returns. The audit gap also may serve as an indicator of overall reporting compliance. In the early years of its TCMP audits, the USA also estimated an audit gap. In Sweden, planning is currently underway to measure changes in compliance levels starting in 2004.

Tax Gap

23   The tax gap encompasses the audit gap plus any additional sources of undetected income, including non-filers and income missed by auditors during examination. It provides the most complete and comprehensive measure of non-compliance. The USA is the only nation to date that has attempted to quantify the tax gap using random audit data. Over the years, the USA has modified its tax gap estimation procedure by gradually adding more and more components. The last TCMP in 1988 added the non-filer component. However, the largest component of unreported tax liability comes from income sources that auditors did not detect during examination. In its 1976 TCMP study, the IRS determined that for every dollar of underreported income detected by examiners without the aid of information documents, another $2.28 went undetected. Therefore, subsequent tax gap

estimates applied a multiplier of 3.28 to sources of income not covered by third party reporting.

Base lining

24   As defined above, 'base lining' refers to establishing quantitative measures of non-compliance for different groups of taxpayers. Once initially established, these measures can be used to guide enforcement programmes or to track future compliance trends. Several nations have designed their random audit programs specifically for the purpose of base lining taxpayer behaviour. Australia's 'Project-Based Audit' (PBA) programme is a prime example of this kind of use.

25   The PBA programme was established to provide an understanding of compliance levels across industries and within market segments. All SMBs with a turnover of up to $AUS 100 million (USD55 million) were included in the study that lasted from 1988 to 1994. A key finding of the PBA study was the insight that there were underlying issues in many industries and market segments that could not be addressed by an audit-based compliance strategy. These 'systemic' non-compliance issues required systemic solutions. An example is the high level of non-disclosure of income in cash-based industries. Rather than audit every taxpayer – clearly an impossible task – the Australian Tax Office (ATO) introduced the Reportable Payment System (RPS) to improve reporting compliance in the targeted industries.

Revenue Estimates

26   Estimates of future tax revenues are an integral part of the planning and budget process for most central governments. While there are many reasons why revenue forecasts may differ from reality, forecasts that fail to take into account taxpayer non-compliance will consistently exhibit an upward bias. For example, an estimate of additional tax revenues from increasing the marginal income tax rate that failed to account for underreporting would likely overestimate actual revenues received.

Re-Audits

27   Performing re-audits (or back-to-back audits) of the same taxpayers initially selected at random may provide tax authorities with data to evaluate the effectiveness of targeted enforcement measures. Examples of this particular application are relatively rare.[6]

Profile Taxpayers

28   While base lining refers to quantifying, often for comparative purposes, the level of taxpayer non-compliance for different groups of taxpayers, profiling is a more in-depth effort to understand the underlying causes of non-compliance for a specific group of taxpayers. Profiling studies may use random audit data or tax return information or both in combination. An example of a profiling study that uses both kinds of data is the recent research on claimants of the Earned Income Tax Credit

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[6] For an example see Erard, Brian, "The Influence of Tax Audits on Reporting Behavior." In *Why People Pay Taxes: Tax Compliance and Enforcement*, edited by Joel Slemrod. Ann Arbor: University of Michigan Press, 1992.

(EITC) in the USA. The first EITC compliance study was completed in 1994 and was followed by studies in 1997 and 1999.[7] The 1994 study established a baseline of non-compliance for this group of taxpayers. The focus of the more recent studies has been to better understand what taxpayer characteristics are associated with non-compliance behaviour. A secondary purpose of these studies has been to evaluate the effectiveness of compliance improvement strategies, particularly those involving professional tax preparers.

Identify Emerging Issues

29   Several survey respondents cited the identification of emerging compliance issues as an important use of random audits. Over time, changes in tax laws and in the structure of economic activity may give rise to new sources of tax evasion activity. Although tax authorities have many ways to learn about potential new non-compliance issues (e.g. professional tax preparers, operational audits), random audits offer another means of gathering information on new forms of evasion activity. Many countries use random audits for identifying emerging issues (e.g. Australia's PBA programme, the USA's EITC compliance studies). In the UK, IR analysts using the results of random audits have found a particular pattern of return completion among self-employed taxpayers who report all their business expenses as "other" expenses. Random audits showed that this group of taxpayers had the highest rate of amended returns among the self-employed population.

Programme Evaluation/Resource Justification

30   Many nations use the findings of their random audit programs for a variety of administrative purposes. Several of these specific uses cited by survey respondents are discussed next.

Programme Benchmarks

31   Tax authorities in many countries use random audits as a benchmark to compare against the results of a programme of targeted audits. Again, this may be part of an ongoing evaluation of an existing audit selection programme or the targeted taxpayers could have been selected based on other criteria (e.g. tips from industry insiders). In either case, the group of returns selected at random serves as a "control" group, against which results of the "trial" group can be compared.

Support Changes in Resource Allocation

32   Random audits may help tax authorities to change the way their resources (staff, data processing equipment) currently are allocated. A key result of Australia's PBA programme was the realization that taxpayer audits would be largely ineffective against a systemic problem of underreporting of cash transactions. Thus, a decision was made to direct resources to implementing a cash reporting system for the identified industries rather than solely increasing the number of operational audits. Another recent initiative in the USA to begin matching income reported on

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[7] See Internal Revenue Service, *Compliance Estimates for Earned Income Tax Credit Claimed on 1997 Returns*, September 2000 and Internal Revenue Service, *Compliance Estimates for Earned Income Tax Credit Claimed on 1999 Returns*, February 28, 2002.

Partnership returns to individuals' tax returns also was supported, in part, by the results of random taxpayer audits.

33   Random audit studies also may provide the data to determine if the current allocation of resources on a geographic or industry basis is appropriate. For example, resource decisions made in years past may no longer be appropriate given changes in the demographic composition and geographic distribution of the taxpayer population. Similarly, staffing decisions based on industry makeup may need to be periodically revised to reflect structural changes in the economy (e.g. from a manufacturing-based to a service-based economy). Random audits give decision makers a tool to determine if the present alignment of resources is appropriate for current conditions.

Support Requests for Additional Resources

34   Tax administrators seeking increases in their programme's resources often use the results of random audits to support their budget requests. For example, the USA's IRS uses the findings of past TCMP studies to demonstrate how much additional revenue could be recovered by the addition of each new revenue officer or tax examiner. While the availability and use of random audit data in this manner does not guarantee that elected officials will accept agency budget proposals, such data strengthen the merit of the request.

General Deterrence

35   Two nations, Ireland and the UK, cited the importance of using random audits as a general deterrence to evasion. Both of these nations believe that random audits are a way to ensure that no taxpayer is exempt (or believes himself or herself exempt) from the possibility of being audited. In this way, a minimum level of policing of the tax system is maintained for the entire taxpaying population. In Germany, random audits also are used primarily as an enforcement tool by state-level (*Lander*) tax authorities.

Policy Changes

36   Finally, random audits provide data that allow revenue authorities to identify policy changes for improving tax compliance or reducing taxpayer burden. An example of the former in the USA is the so-called "TINS for Tots" programme begun in the 1980s that required filers to include a Social Security identification number for all children claimed as dependents. IRS officials noted a marked decline in the number of claimed dependents in the first year the new requirement took effect. In Ireland, random audits recently have helped to guide the design of a new Code of Practice for Revenue Auditors[8].

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[8] See Irish Revenue, 2002, *Code of Practice for Revenue Auditors*, http://www.revenue.ie/.

2 METHODOLOGICAL ISSUES

37   This chapter discusses various aspects of implementing random audit studies. Specifically, we examine the different types of random audits (targeted versus comprehensive), sample size, sampling techniques (simple random versus stratified random) and personnel training and quality control considerations.

Types of Random Audit

Comprehensive vs. Targeted Audits

38   In general, there are two types of random audits: comprehensive and targeted. Table 5 shows that most survey respondents state that they conduct comprehensive audits. The term 'comprehensive audit,' as defined in questionnaire, implies a line-by-line review of all items on the tax return. This kind of audit requires examiners to spend a significant amount of time per taxpayer verifying each reported item. As a result, this means that most comprehensive audit studies involve a comparatively small number (less than 3,000) of returns.

39   Targeted audits, on the other hand, are audits wherein examiners focus on a limited subset of issues on each return. Perhaps these issues are the only ones for which information is desired (e.g. the USA's EITC compliance studies). Alternatively, the decision to conduct targeted audits of limited scope might reflect an administrative priority to encompass a larger share of the total taxpayer population (e.g. Austria's 'out-door control' audit programme).

40   In their response, the USA's IRS pointed out that their National Research Programme (NRP) combines both comprehensive and targeted audits in a 'mixed' approach to measuring non-compliance. Most taxpayers in the NRP sample of 49,251 returns will be subject to some kind of targeted audit depending on return characteristics, such as total income and presence of business-related income. Another, smaller group of about 2,000 taxpayers will be subject to a comprehensive audit in order to serve as a means to calibrate the findings from the targeted audits.

Table 5. Type of Random Audit

Audit Type	Frequency
Comprehensive	6
Targeted	2
Mixed	1

Sample Size

41   Table 6 below displays the random audit sample size in the nations responding to the survey. In most cases, random audits represent only a small fraction of total audits performed by national revenue authorities. An exception is Austria's 'out-door control' programme which covers a comparatively large share of total SMB taxpayers in that country. However, these audits appear to be somewhat limited in scope to issues relating to business income and employment taxes. In its TCMP programme, the USA randomly audited about 50,000 individual tax returns every three years, or about 16,700 returns on an annualized basis.

Table 6. Random Audit Sample Size

Country	Sample Size
Australia	< 1 000
Austria	12.5% of population
Canada	< 2 200
Germany (state-level audits)	Varies by state
Ireland	< 1 000
New Zealand	250
Sweden	< 3 000
UK	< 7 500
USA	50 000

42   Based on survey responses, most countries are interested in obtaining statistically valid results for a specific point in time (e.g. Australia, Canada). Even in the USA's TCMP studies, the number of business returns audited only provided for a statistically valid measure of compliance in a specific year and were not designed to allow for comparison of period-to-period changes in compliance. The same is true also in Sweden where cost is cited as an overriding factor in determining sample size. Sweden reports the confidence level of its random audits in any given year varies between ± 2-4 percent. The UK reports that its relatively large sample of roughly 6,300 taxpayers makes it possible to detect a 1.7 percent shift in compliance level from year to year with 95 percent confidence. Austria also reports a high level of confidence (95 percent) in its random audit programme for businesses subject to the VAT. However, such precision is clearly the exception rather than the rule.

Sampling Methodology

43   A majority of nations employ a stratified sampling methodology to select random samples. Table 7 summarizes the responses given to question 10 on the survey questionnaire. Six of nine nations who responded to this question use stratified sampling, two employ a simple random sampling and one country (UK) has adopted a mixed strategy – using simple random selection for the so-called Individual and Company audit programme and a stratified approach for its Employer random sample audits.

Table 7. Sample Selection Method

Method	Frequency
Simple	2
Stratified	6
Mixed	1

44   A simple random selection occurs if everyone in the population has an equal chance of being selected. However, this may result in a sample with a large number of similar returns (e.g. low-income wage earners) that sheds little light on the full range of non-compliance issues. Recently, Ireland decided to switch from a simple random strategy to a stratified approach which ensures that a number of higher earners are included in the selection. Low-income taxpayers typically have fewer opportunities to underreport income compared to high-income taxpayers who often have more complicated tax situations that can create opportunities to evade.

45   Theoretically, a stratified approach can reduce sample size for a specified level of statistical precision varying the sampling rate among different groups of taxpayers depending on observed variance characteristics.

Training and Quality Control

46   Most survey respondents reported that they have not developed separate training and quality control procedures for random audit cases. On the contrary, nearly all countries stated that Field Staff are used to conduct the random audits and that examiners do not receive any special training. Several nations do mention, however, that either a Research or Headquarters Office performs both the return selection and data analysis functions.

47   Only the USA indicated that it is developing specialized training for auditors for its NRP programme. In the NRP study of individual taxpayers (including sole proprietors), IRS examiners receive training on the use of case building tools, the classification of NRP returns for type of audit to be performed (targeted or comprehensive), and examination procedures. These training sessions encompass several days. Although NRP is in the process of conducting its first audits of business taxpayers, the IRS has tested its case building and classification procedures as part of its overall quality control programme.

3 DISADVANTAGES OF RANDOM AUDITS

48   While random audits offer many advantages to tax authorities (discussed in Chapter 5), they are not without problems of their own. This chapter outlines some of the potential negative issues officials will want to consider before deciding to implement a random audit programme.

Costs

49   Survey respondents cite three types of costs associated with random audit programs that act to hinder their adoption. These are: opportunity costs, costs associated with training and quality control activities and resource costs.

Opportunity costs

50   Opportunity costs are the additional revenues that could have been recovered if, instead of auditing randomly selected returns, examiners had devoted their attention to returns with characteristics indicative of high non-compliance. The choice of whether to dedicate a portion of total examination time to random audits may be seen as a trade-off between short-term and long-term gains. In the short-term, it is likely that random audits will reduce total auditor 'yield.' However, over time changes in taxpayer compliance behaviour can mean that existing return selection rules will generate a growing number of 'no change' returns, thus lowering overall revenue protected.

Costs of Training and Quality Control

51   Since nearly all countries stated they do not institute special training procedures or quality control measures for their random audit programs, this may not be a significant issue. However, the surveyed countries were not asked if the anticipated cost, including opportunity cost, was a reason for not undertaking special training. These additional training costs must be planned for and included in the agency's budget. At present, only the USA reports incurring training costs for its NRP study. However, these added costs do not represent a significant share of the IRS's total budget.

Resource Costs

52   These costs refer to labour and support required to implement a random audit programme. Among the survey respondents, only Canada and the USA provided rough estimates of the full-time equivalent (FTE) costs of conducting random audits. In 1999, Canada reported that 68 FTEs (about one percent of all CRA examination staff) were used to audit 1,344 tax returns (746 self-employed returns and 598 GST/HST returns). Of the 68 FTEs, 65 FTEs represent Field Audit Staff

and the remaining 3 FTEs are staff devoted to sample selection, statistical analysis and programme management. Using the 68 FTE figure, this works out to an average of about 20 random audits per FTE. The USA estimates that its NRP study will use 1,500 FTEs (about seven percent of all IRS examination staff) to collect data for a sample size of 49,251 individual tax returns (including self-employed and small business). This works out to approximately 33 random audits per FTE. It should be noted that the USA plans to use a combination of targeted and comprehensive audits (as well as including non-business returns that are generally less complicated to audit) that might explain the difference in estimated output per FTE between the two countries. Based on these two examples alone, other countries might expect the resource cost per completed examination to range between 0.03 and 0.05 FTE. It should be noted that both of these figures represent costs in the first year of programme implementation. It is likely that auditors' productivity will improve as they gain more experience.

Timeliness of Results

53   A common complaint noted by many of the survey respondents was the long lag time between the time when a random audit study is conducted and when research findings are released. The situation in Canada is not atypical of other countries' experience. The CRA began planning for its first year of random audits in 1997 and completed the audits in 1999. Currently (2002), the CRA is in the process of analysing and reporting on the results of the 1999 study. Thus, from inception to near completion a period of six years has elapsed. The experience in the USA is comparable to that in Canada. Examination of tax returns for the 1988 TCMP study was completed in 1991 and results first reported in 1994.

54   Such a long time lag between inception and completion of a single study can reduce the usefulness and relevance of the study findings. Tax laws can change significantly in the span of a few years meaning that issues that once were important compliance concerns may no longer exist. To the extent this problem can be alleviated by reducing sample size or devoting more staff time to analysing results, the length of time to complete a study can be reduced. However, due to the unavoidable necessity to conduct audits from a preceding year(s), the concern over timeliness of results is unlikely to completely disappear regardless of study execution.

Public Perception

55   Experience suggests there is a strong, positive correlation between the size of a random audit programme and its visibility to the public. This can have both positive and negative consequences for tax administration. On the one hand, theoretical models of tax evasion predict that raising the probability of detection will result in improved compliance as taxpayers seek to avoid being audited and assessed additional taxes and penalties. On the other hand, taxpayers might perceive a large programme of random audits to be an overly aggressive posture on the part of a tax agency. The resulting taxpayer complaints could lead political representatives to curtail an agency's enforcement budget for both random and operational audits.

56   The second scenario described above is a close description of what happened in the USA in the 1990s. In 1994, the IRS proposed an expansion of its TCMP programme from 50,000 to 150,000 tax returns. The goal of the expanded survey was to provide data at a more detailed industry and geographic level. However, lawmakers' concern over the perceived intrusiveness of the expanded study (among

other factors) led the IRS to abandon the plan. The last TCMP study of individual taxpayers was for the 1988 tax year.

57   The USA's experience demonstrates the importance of public perception to the acceptance and eventual success of a random audit programme. The IRS's new NRP programme, designed to minimize the level of intrusiveness on taxpayers, seems to have achieved this goal. Senator Charles Grassley, the Iowa Republican and ranking GOP member of the Finance Committee, has been a sharp critic of IRS random audit programs in the past. Now he says random audits are needed. Senator Grassley stated, "The information from these audits will allow the IRS to target its limited resources on examining those taxpayers who are most likely to be up to not good."[9] The General Accounting Office (GAO), Congress' investigative arm, also has stated, "IRS appears likely to meet the objectives the agency has set for NRP. IRS has designed NRP to meet the agency's need for up-to-date reporting compliance data, including overall compliance rate information, data to support updating audit selection formulas, and information on specific pockets of non-compliance. At the same time, IRS has included several features in NRP that will meet the important goal of minimizing NRP's intrusiveness and the burden on taxpayers whose returns are in the NRP sample."[10]

Agency Acceptance

58   In addition to the public's perception, acceptance of a random audit within an agency is also a critical issue. Sweden reports that auditors in that country's tax agency prefer conducting 'normal' audits because they are perceived as being more productive from a revenue standpoint. Most nations report similar concerns on the part of audit staff to taking time away from their 'regular' work to perform random audits.

59   Perhaps the best approach to 'smoothing the way' for agency acceptance of random audits is to point out the long-term benefits of collecting data on different groups of taxpayers in order to minimise the number of 'no change' cases.

Reliability of Compliance Measures

60   Finally, several countries have questioned the usefulness of compliance measures based on random audit studies due to the inability of auditors to uncover all underreported income. Sweden cites the high variability of auditor skill levels in detecting evasion for ending its TCMP programme in 1995.[11] To account for examiners' inability to detect all unreported income, the USA developed a series of multipliers to apply to different sources of income not covered by third-party reporting.[12] In the USA study, auditors typically found only $1 for every $3 dollars not reported.

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[9] *Wall Street Journal*, June 20, 2002.

[10] U.S. General Accounting Office, *New Compliance Research Effort is on Track, But Important Work Remains*, GAO Report 02-769, June 2002, http://www.gao.gov/new.items/d02769.pdf.

[11] Sweden conducted a small random audit of business taxpayers in 2001 targeted to specific issues.

[12] See Internal Revenue Service, *Federal Tax Compliance Research: Individual Income Tax Gap Estimates for 1985, 1988, and 1992*, IRS Publication 1415 (Rev. 4-96), Washington, D.C., 1996.

61   The small sample size (less than 3,000 cases) of most random audit studies also limits their usefulness as a tool for tracking changes in evasion activity over time. Even countries that have conducted comparatively large surveys (e.g. USA) point out that the quantitative measures derived from the data collected are not designed to monitor evasion from one time period to another. The UK reports that its random audit programme is sufficiently sensitive to yearly variation in the proportion of noncompliant returns, but not for such measures as the audit gap or, more comprehensively, the tax gap.
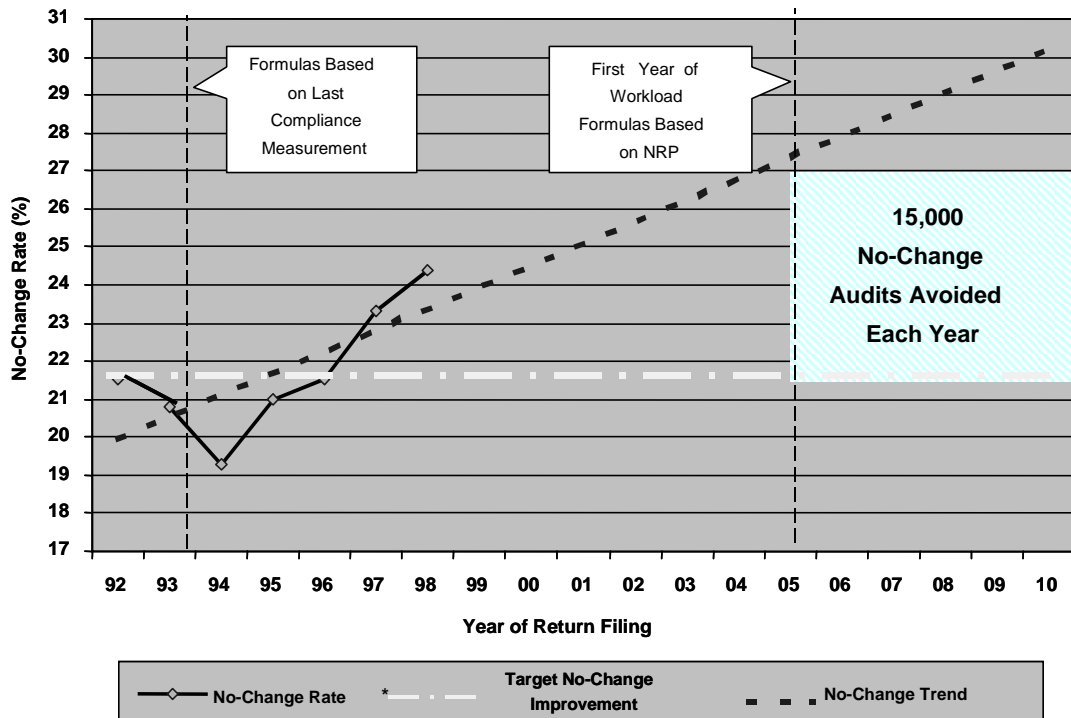
4 ADVANTAGES OF RANDOM AUDITS

62   Despite their limitations, a programme of random audits can provide a number of benefits to revenue authorities. This chapter describes the many advantages of random audits and how they can be used to support a comprehensive programme of compliance improvement.

Improve Risk Identification

63   As previously mentioned, many OECD countries use random audits to validate and update their existing return selection systems. The countries that cited this as a reason for conducting random audits were: Austria, Australia, Canada, Ireland, Sweden, UK and USA. By continually monitoring their ability to identify high-risk taxpayers, revenue authorities in these countries aim to ensure that operational audits are focused on the least compliant taxpayers.

64   In the USA, the consequences of not updating return selection systems are beginning to become all too apparent. As Figure 1 shows, the percentage of no-change operational audits has been trending upward in recent years. Contributing to this trend is the DIF return selection system's reliance on data from the 1988 TCMP study. Although efforts are made to update the DIF formulas for inflation and other structural changes in the economy, these changes cannot make up for 15 years of changes in tax laws and characteristics and behaviour of the taxpaying population. By updating DIF with the results of NRP, the IRS anticipates a reduction of 15,000 no-change audits each year beginning in 2005. This will result in fewer compliant taxpayers being subjected to a time-consuming and costly (both for the tax agency and the taxpayer) audit while redirecting scarce agency resources to those taxpayers that are least compliant.

Figure 1. NRP Goal: Reduce No-Change Operational Audits

Figure 1. NRP Goal: Reduce No-Change Operational Audits

Chart labels:
- Y-axis: No-Change Rate (%), from 17 to 31
- X-axis: Year of Return Filing, from 92 to 10
- Text box: Formulas Based on Last Compliance Measurement
- Text box: First Year of Workload Formulas Based on NRP
- Shaded area: 15,000 No-Change Audits Avoided Each Year

Legend:
- No-Change Rate
- Target No-Change Improvement
- No-Change Trend

Improve Resource Allocation

65   In addition to improving examiner productivity (with respect to yield per case audited), random audits can help to inform agencies about alternative organizational structures or enforcement measures that would better address particular compliance concerns. For example, the new cash reporting system implemented in Australia resulting from that country's PBA programme illustrates how alternatives to traditional enforcement measures might result from a better understanding of causes of evasion. In the USA, the IRS has developed a Post of Duty (POD) model that uses a measure of taxpayer compliance as one factor in determining where to locate future taxpayer walk-in sites and service centres. Another IRS research effort currently underway is the Strategic Compliance Planning Model (SCPM). SCPM is a complex operations research model designed to assist IRS management in allocating its enforcement budget among operating divisions, activities, enforcement occupations (revenue agent, revenue officer, etc.) and locations. SCPM's focus is on business results--IRS programmes and areas with known and measurable effects on revenue and where IRS can decide what to work. SCPM also requires that the IRS be able to distinguish or categorize workload so that the revenues from different grouping can be ranked. In order to categorize workload based on expected revenues, SCPM will use random audit data from the NRP study to supplant or replace data based on old TCMP surveys and results of operational audits.

Statistically Valid Results

66   Another important benefit of random audits is the production of scientifically valid data that may be used to defend the integrity of return selection systems, assist in gauging the impacts of compliance improvement programmes and support agency requests for additional resources. This has several ancillary benefits. First, scientifically supportable survey data should enhance the public's confidence in the tax agency's return selection process. In the end, this should aid in promoting improved compliance due to the perception that taxpayers are receiving fair treatment. Second, compliance measures based on random audit data may be used to evaluate the effectiveness of compliance improvement programmes. While taking into account the limitations of small random samples, the inclusion of quantitative measures will give administrators information to make better-informed decisions. Third, when the results of random audit studies are used to develop and maintain return selection systems, the revenue recommended from operational audits should be better able to withstand taxpayers' legal appeals. A recent example in the USA is a study of restaurant tip income. Using a random sample of tips from credit card transactions, the IRS developed a methodology to determine if a restaurant has paid sufficient payroll taxes based on reported gross receipts (turnover). The IRS has been successful, so far, in defending its methodology in several legal challenges.

Insight into Commercial Operations of New Market Segments

67   From time to time, it may be useful to perform random audits of firms in emerging sectors of the economy to learn how these firms operate. The results obtained in such studies can aid in the development of audit technique guides to help train new revenue agents and examiners. For example, the growing volume of commercial transactions over the Internet might prompt tax authorities to carry out a programme of random audits of Internet-based retailers to identify these firms' income sources and types of expenditures and to determine if these firms are complying with relevant tax laws.

68   The PBA audit programme in Australia is an example of this type of use. The PBA programme was intended to provide the ATO with compliance information on 146 industries that covered approximately 50 percent of all small and medium business taxpayers. The programme undertook over 3,800 scoping audits over a period from 1988 to 1994. The sample size for each industry was about 30 cases. The sample number was selected more to provide a guide to the non-compliance issues and reasons for those issues than for a robust assessment of compliance levels. As such, the key purpose of the PBA programme was to provide insight into how these industries operated and how best to address specific compliance issues.

Indirect (or "Ripple") Effect on Taxpayer Compliance Behaviour

69   Many experts believe taxpayers tend to overestimate the increased probability of detection for small changes in the audit rate. However, quantifying these "indirect" or "ripple" effects of enforcement activities has proven to be a most difficult and challenging task. Several studies have attempted to measure the indirect effects of audits with mixed results. Tauchen, Witte, and Beron (1989) performed a cross-sectional study based on 1979 TCMP data and concluded that the impact of audits is weak at best. Dubin, Graetz, and Wilde (1990) using panel data at the state-level for 1977-1986 found a large and significant deterrent effect of audits. Erard (1992) examined the influence of tax audits on subsequent year behaviour using IRS data sources on taxpayers who were the targets of an operational audit in

one year and, purely by chance, were the subjects of a TCMP audit two years later. He found no conclusive evidence that a prior audit experience improved taxpayer compliance in a subsequent year. Finally, a study by Plumley (1996) attempted to quantify the impact of a range of IRS enforcement and taxpayer service activities including taxpayer audits, criminal investigations, document matching and tax return preparation assistance. Following Dubin, Graetz, and Wilde (1990), Plumley uses state-level panel data for the period 1982-1991. Similarly, he also finds a large and significant indirect deterrence effect of audits.

5 SELECTED CASE STUDIES

70   This chapter presents an overview of the random audit programs in Canada, Ireland, UK and the USA. The purpose of these case studies is to provide the reader with greater details about how such programmes are conducted in different countries and what their experience has been.

Canada Revenue Agency[13] Random Audit Programme

Introduction

71   Canada Revenue Agency (CRA) conducts random audits of small and medium businesses through its core audit programme. This programme is designed to gather information concerning compliance of small and medium enterprises with the tax legislation administered by CRA. The main taxes administered by CRA are Income Tax and Goods and Services Tax / Harmonized Sales Tax (GST/HST). This is a value added tax administered for the Federal Government and some provinces. Under the core audit programme, businesses are selected for audit using statistical sampling methodologies. Detailed information concerning non-compliance is captured and analysed (e.g. details of assessments, reasons for non-compliance). Funding for the random audit programme has been limited to a maximum of 80 full time equivalents (FTEs) or person-years. Actual utilization has been approximately 70 FTEs annually. Each year, CRA conducts between 1,100 and 2,200 random audits.

Uses of Random Audits

Compliance Measurement

72   The information obtained from these audits can be used to estimate compliance rates within the populations sampled and to gain valuable insight into non-compliance. This information will also enable us to compare compliance rates among segments of the population and to track compliance trends over time.

Selection

73   Improve Risk Assessment Systems – Information gathered through the core audit programme is used to validate and refine automated risk assessment systems.

74   Profiling – By focusing random audits on a sector basis, the CRA is able to gather information concerning specific population groups that can be used to refine its audit strategies and programmes.

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[13] Since renamed the Canada Revenue Agency following the shift, in December 2003, of responsibility for customs administration to another agency.

Resource Justification

75   Results from the core audit programme provide information concerning compliance rates and trends that can be used to substantiate the need for additional resources or to identify the need to shift existing resources in order to maximize the CRA's ability to enhance compliance.

Policy Changes

76   Analysis of results from the first year of the programme is nearing completion. It is anticipated that once this and subsequent years' data are analysed, changes to some of CRA's policies will be further investigated.

Taxpayer Behaviour

77   Some of the detailed information collected through the random audit programme will enable CRA to gain insights into client behaviour. For example, auditors are asked to code audit adjustments to identify the reason for non-compliance (e.g. intentional by taxpayer, intentional by tax preparer, technical, lack of knowledge, etc.).

Methodological Issues

Types of Random Audits

78   All random audits are conducted as full scope audits. However, as in any audit the auditor must use professional judgment in determining the extent of audit work in each area. Auditors are reminded to consistently go beyond the accounting records and supporting records. Where the reliability of the accounting records is suspect and/or the apparent lifestyle is inconsistent with the revenues indicated, auditors use indirect or investigative approaches.

Sampling Method

79   When selecting the sample, the CRA uses the resources of its internal statistical expertise. Based on the requirements set out by the core audit programme management, the statistician chooses a sample from the CRA's client database using a stratified systematic sampling method. The population is stratified by industry sectors and revenue ranges. Sample audits are selected from each stratum. The weighted average of the sample audits are an estimate of the average of the total population.

80   The CRA's annual sampling plan normally covers one or two population groups. The desired precision and confidence levels for population estimates determine the sample size for each population. Attempts are also made to achieve a reasonable degree of precision for subsets of the population groups although the ability to do this is somewhat limited by the cost of conducting audits and resource limitations.

81   The sample size and industry coverage has varied for each of the four years the CRA has conducted the random audit programme. Table 8 below provides a summary of the audit sample populations selected for audit for each year of the programme.

**Table 8. Summary of Random Audit Sample Population by
Programme Year**

Programme Year	Description of Audit Population
1999 (first year of random audit programme)	The sample was comprised of the following: • 746 Income Tax returns of self-employed individuals in the Business Services Sector, and • 598 GST/HST returns in the Business Services Sector.
2000	The sample was comprised of the following: • 503 Corporate Income Tax returns in the Business Services sector, and • 838 GST/HST returns from all of the 18 industry sectors.
2001	The sample was comprised of the following: • 2200 Income Tax returns of self-employed individuals in all of the industry sectors.
2002 (not yet complete)	The sample was comprised of the following: • 1095 Corporate Income Tax returns in all of the industry sectors.

Quality Control

82   There are no special quality controls for the random audits. All audits are performed as part of the normal workload of compliance audit programs. These audits must therefore meet the same standards as all other audits conducted under other compliance programmes. All audits are subject to the Compliance Programmes Branch Quality Assurance Reviews conducted on selected audits to examine the quality of audit activities delivered against established standards. It is anticipated that in the near future the core audits will be subject to a special review by the CRA's internal Quality Assurance Programme.

83   There is, however, a requirement to complete additional forms for these audits. The forms are designed to capture specific audit adjustment information. Separate forms have been developed for each type of tax – i.e. GST/HST, income tax for individuals and corporations. The first page contains identification and business profile data. The subsequent pages contain information re adjustments with a detailed breakdown by specific type of adjustment (e.g. type of income / expense adjusted). Each adjustment amount is also coded with respect to the reason why they occurred. Some examples of reasons for adjustments would include intentional, clerical error or lack of knowledge. To ensure a complete picture of compliance, all adjustments are recorded even where the amounts are small and no re-assessment is raised.

84   These forms are subject to review by the local offices for accuracy and completeness before they are forwarded to CRA's headquarters. The core audit staff conduct a thorough review of the forms to ensure complete and accurate data. They also perform a reconciliation of the audits selected and completed. Reasons for non-completion are investigated to ensure that selected businesses are audited wherever possible.

Value / Benefit

85   Random audits assist the CRA to refine its automated risk assessment systems. For the first year's programme results (1999), it analysed a sample of audits with high tax at risk and low assessments and low tax at risk and high assessments and identified 11 recommendations for development and/or enhancement of audit issues (risk criteria) in our automated risk assessment systems. As the random audit programme for that year focused on a specific sector, it identified adjustments to refine the audit process for businesses in this sector.

86   By focusing random audits on a sector basis, the CRA will be able to gather sufficient data to develop profiles of specific sectors and refine its risk assessment methodologies to take into account sectoral differences thereby allowing more accurate identification of risk in specific files in comparison to similar businesses in the same sector.

87   Understanding why audit adjustments occur will support the CRA with the information it needs to adopt appropriate strategies to enhance compliance e.g. through changes to forms, instructions, taxpayer information sessions, increased audit and enforcement, etc.

88   At the present time, the CRA is in the process of analysing and reporting on the first year's results of our random audit programme. It encountered a number of problems in the analysis process (see below). As a result, it has not yet published any estimates of tax non-compliance.

Negatives / Challenges

89   Due to the limited number of random audits performed every year, negative public perception has not been a problem for CRA.

90   The CRA has encountered some difficulty in determining a proper definition of technical compliance because it does not consider all adjustments as non-compliance. It has therefore settled on using individual thresholds to measure a client's non-compliance.

91   The CRA administers various taxes (e.g. income tax, commodity taxes). Thus, clients' tax liabilities are calculated in very different ways. It has been difficult to make meaningful comparisons of technical non-compliance between these different populations.

92   The CRA also experienced difficulty obtaining the commitment to the core audit programme by field audit staff. Since the core audit programme selects the businesses to be audited using a random sampling methodology, tax assessments and revenue recoveries resulting from these audits may be lower than for targeted audits in our regular programmes. Therefore, the programme has to be marketed to the field staff by stressing that the programme's value is in the detailed information that is gathered rather than the immediate revenue recovery. Additionally it has been difficult to explain the programme's relevance because it takes a long time to analyse and report on the findings on these audits.

93   A number of problems were identified in the data recorded on the forms that required follow up and correction. From an administrative point of view, data gathering and transmission to HQ in the most efficient and accurate way possible has proved to be troublesome. The CRA is continuously researching new ways to

make this aspect of the programme more efficient and increase the integrity of the data.

94 As described under 'Sampling Method' (paragraphs 79-81 above), businesses are selected using a stratified systematic sampling methodology. Because of inaccuracies and limitations in the CRA's information systems (e.g. businesses classified in the wrong industry), some businesses do not actually fall within the stratum from which they were selected. This has complicated the interpretation of results and determination of population estimates, etc.

Ireland's Random Audit Programme

95 In Ireland, a random audit programme has been in operation since 1993. Experience has shown that there are a number of advantages to the organisation from using random audits. Some of these are as follows:

- identifying tax at risk that is not discovered as a result of other audit programs;

- testing the effectiveness of selection procedures in other programmes by comparing the results with the random programme;

- creating awareness among the taxpayer and agent population that any taxpayer has a chance of being selected for audit irrespective of turnover, trade, profession, tax paid, etc. This, in itself, encourages compliance among the taxpaying population. There seems to be a fair amount of evidence that the audit programme in general has a positive effect on the compliant behaviour of taxpayers who are not audited.

96 In Ireland, audit activity has a strong focus on specialising on different vocational groups. These groups are as follows:

- construction and property development;

- farming and agri-business;

- professions;

- financial services;

- manufacturing and major retail enterprises;

- transport and light industry;

- hotels, publicans, services;

- wholesalers and retailers;

- investment and rental income.

97 Experience has shown that business knowledge attained by specialisation is critical to the auditor's ability to maximize detection of tax evasion. An additional audit output flows from the insights into commercial practices and associated tax risks which auditors gain in the course of their work.

98 The random audit programme has been running for the last nine years. However, the potential yield has been small. This is due to the fact that a high proportion of self-employed taxpayers are represented by persons with small and part-time businesses, e.g. farmers, non-farm sole proprietors and pensioners in receipt of rents and/or investment income. Because of this, and the low number of random audits undertaken, it has been difficult to extrapolate the results to the general taxpayer population. Indeed, this was not one of the aims of the programme when

it was launched. Also, as a result of the relatively small number of random audits previously undertaken the question of using the results to obtain a measure of the tax gap or the audit gap did not arise.

99   In order to address the issues raised above, it was decided to change the random audit programme in 2001 by:

- increasing the random audit level from 2% of all audits in 2001 to 6% in 2002;

- selecting a proportion of the audits from particular income categories.

100   It is considered that taking 6% will enable the selection of cases to be stratified by reference to certain broad categories of case size and type. The results of the programme will be used to measure the effectiveness of the targeted selection systems and to assist in trying to measure shadow economy activity.

101   Overall, the random audit programme is seen as complimenting other programmes and can often reinforce some of the feedback from these other programmes.

102   Ireland is constantly trying to improve its risk assessment procedures and consequently reduce the number of audits with a nil yield. One advantage of the random audit programme is that it enables the benchmarking of the results against the targeted selection programme. This has two main outcomes:

- it gives a certain degree of comfort regarding the effectiveness of the selection procedures; and

- it assists in identifying emerging issues in certain trades / professions which have not been subject to many audits, and may not be selected using normal selection criteria.

103   Therefore, the random audit programme can produce some interesting results and has led to looking at some areas that targeted techniques may not have picked up. It thereby helps to improve the audit selection techniques.

104   Another benefit from the audit programme has been its usefulness in helping to build up profiles of different trades and professions. These profiles are used to give the auditors an understanding of how these businesses operate and the issues to be aware of when conducting revenue audits. These profiles are updated regularly and have been acknowledged as a very useful training tool. Insights gained on random audits can be used to update these profiles and to draft new profiles on these businesses.

105   Each year a percentage of cases, which were audited 4 to 5 years previously and resulted in a positive yield, are audited again. Obviously, experience has shown that for a certain group of taxpayers the completion of a revenue audit can give rise to an expectation (however unjustified) of not receiving another revenue audit for a considerable period of time, if at all. This expectation can, of course, have negative consequences for these taxpayers' compliance behaviour. The re-audit programme is designed to counter this by checking that the taxpayers are now complying with their tax obligations. The random audit programme reinforces the effectiveness of the re-audit programme. The possibility that a taxpayer who has been audited previously and was found to have been non-compliant can now be chosen for audit again under the re-audit and random audit programs is seen by us as a necessary and useful check on the type of taxpayer more prone to non-compliance.

106   One area of interest on all audit programs is the feedback regarding policy and legislative changes that may be required to increase the effectiveness of our audits

in general. One of the results so far of the targeted and random programmes (and a clear illustration of how they can compliment each other) was the need to have a review of the Revenue Code of Practice for audits. This has resulted in the implementation of a new Code of Practice this year, which contains substantial changes to the way the voluntary disclosure, and mitigation of penalties schemes operate.

107   Another area where the random audit programme provided useful information was in judging the effectiveness of the audit programme in dealing with persistent offenders. The feedback from all audit programs indicates that to continue to audit non-compliant taxpayers was not the most effective strategy. A different approach would have to be adopted. The new Code of Practice sets out the steps to be taken in dealing with these cases, such as the referral of these cases to Prosecution Division.

108   There is strong commitment to the Random Audit Programme. Nevertheless, it is recognised that because the tax base has a high proportion of small cases there is a higher probability of a small case being selected for random audit. This is seen as its biggest disadvantage. However, by changing the selection criteria in 2001, it is expected that this problem will be overcome.

The UK Random Audit Programme for Self Assessment Taxpayers

109   Nine million individuals in the UK receive a tax return. These include the self-employed and other individuals with complex affairs. The Income Tax Self Assessment (ITSA) regime started with the issue of returns in April 1997. The ITSA allowed the use of random audits for individuals for the first time. The programme was designed with four primary purposes in mind:

- to provide a basic level of policing across the self assessment population;
- to provide measures of non-compliance.
- to facilitate research for understanding customer populations and the risks present - thereby improving risk assessment;
- test our existing assumptions on compliance in different parts of the population.

110   To achieve these aims some 6,800 taxpayers are picked for random audit each year.

Compliance Measurement

111   The ITSA random enquiry programme is designed to produce measures of the probability of a customer being non-compliant. With a sample size of 6,800, the estimate of the probability of non-compliance is a precise one - accurate to +/- 1%. This sample is also large enough to produce estimates of compliance for the main taxpayer types within ITSA. Table 9 shows our estimates of compliance for 1997/8 returns.

Table 9. ITSA Estimates of Yield by Taxpayer Type

Taxpayer Type	Proportion of Completed Audits by Range of Yield (%)				
	£0	£1 - 250	£251 −500	£501 - 1000	£1001+
Sole Trader	51	14	10	8	17
Employee	80	11	4	3	3
Pensioner	88	7	2	1	2
Director	82	9	3	3	3
Other	77	8	7	4	5
Partnership	53	7	10	8	22
Total	68	11	6	5	10

112   From the sample, an overall monetary estimate of the level of non-compliance is produced. However, the Inland Revenue (IR) found that monetary estimates of non-compliance were very sensitive to the value of the largest settlements. This means that the estimate is not very precise. But it can also mean that the projected estimate of tax at risk can fluctuate considerably during the course of the programme as more enquiries are settled - it is inevitably the case that the more non-compliant cases tend to take longer to settle. For 1997/98 returns, the IR estimated that GBP2.5bn (+/- 9%) tax was at risk. This was an increase on earlier estimates from that programme of GBP1.8bn (+/-10%) and confirmed the view that the figures for tax at risk have to be treated with great caution. Measures of the percentage of non-compliant taxpayers are much more stable and reliable.

113   It is important to understand what random enquiry programmes measure. It is not the tax-gap since (i) random enquiries only cover registered taxpayers and (ii) not all enquiries will discover all non-compliance. To emphasise this point, the IR used the term "audit-gap" to describe levels of non-compliance uncovered by random enquiries.

114   There is a growing push for the department to produce outcome-based performance measures. For compliance that means that in the Public Service Agreements negotiated with Treasury, the IR can no longer simply use performance measures based on the results of targeted enquiries. There has to be a measure of the outcome of compliance work. The random audit programme provides a statistically defensible outcome measure of the effect of our compliance work.

Use of ITSA Random Audits to Improve Risk Assessment

115   The data from the random audit programme helps case selection in a number of ways:

- improvement to risk assessment systems;
- identification of issues;
- a benchmark against which to judge the quality of selection of cases for targeted audits.

116   The IR uses results from the ITSA random audit programme to help improve identification of risk and to feed that information through to risk assessment systems and programmes. This is done in a number of ways. For example:

- **Analysis of compliance levels by Sub-groups of the population**: The Sub-groups can be generated by top-down analysis - the construction industry for example - or by statistical techniques such

as cluster analysis. A comparison is then made of the levels of risk found in random audits for each group against the output from risk systems and levels of coverage through targeted enquiries. For the self employed this approach has led to changes to the risk rule system that is applied to all returns and the identification of issues that would probably be missed by normal risk assessment - for example returns that have been manufactured to pass standard business ratio tests.

- **Identification of statistically generated rules that predict high-risk taxpayers**: The IR uses rule induction, a statistical technique, to develop rules that identify the high-risk taxpayers from amongst the self-employed random audit sample. These rules have been used to help to centrally select some taxpayers for enquiry. The rules that are generated are easy to interpret. This means that Inspectors can use the rules to interrogate their taxpayer population. So, the generation of rules in this way can be seen as a way of spreading good practice in the use of the interrogation tool.

117   Analysis of random audits has revealed specific compliance issues. For example, the IR has found a particular pattern of return completion amongst the self-employed where taxpayers put all their business expenses into the "other" box in the profit and loss account. Random audits showed that this group of taxpayers had the highest rate of amended returns amongst the self-employed population. Qualitative research is now underway to better understand the makeup and behaviour of this particular group.

Use of Random Audit Data to Develop Understanding of Taxpayer Behaviour

118   Random audit data has provided us with an evidence base from which theories about taxpayer behaviour can developed and/or confirmed. At a basic level, random audit data to test hypotheses about the compliance levels of different groups have been used. The random audit sample is also being used as a tool to help focus research into the relationships between compliance and attitudes to the department and taxation. Analysis of the audit data suggested some disparate taxpayer types with varying relationships with the department. This work acted as the basis of a qualitative research exercise - conducted by an external market research company. Part of the power of this work is that whilst the IR cannot attribute individuals' attitudes to the result of the enquiry, it can start to understand the link between attitudes and compliance for broad groups.

Other Uses of Random Audit Data

119   The IR started the ITSA random audit programme with the three basic aims stated above. As it acquires data from several years' programmes, it is finding that random audits provide hard evidence that can be used to help answer a whole range of questions. These include testing the impact of suggested policy changes and helping to evaluate the effects of previously implemented policy. For example, data from random audits has been used to assess the compliance risk resulting from changing the reporting requirement on ITSA returns and a proposal to contract the ITSA population.

Methodological Issues

120   The ITSA sample is a simple random sample generated by computer. The audits themselves are carried out as normal "full" operational audits. A full audit is not a

line-by-line audit but should cover all risks present in a return other than those that are trivial or highly unlikely or remote. Specifically, a full audit will address:

- business income;
- business expenses;
- employment income - wages, benefits in kind etc;
- personal deductions;
- other non-business income - dividends, capital gains etc.

121 A taxpayer should not be able to tell the difference between a random audit and an operational audit. They are not told that the audit is a random one.

122 As the random audits are normal operational audits, there is no special training or personnel selection. Data is collected via the same system that is used to report settlements of operational audits. Embedding the random audit programme within the primary operational programme in this way does reduce the costs of the exercise. The main cost is the opportunity cost involved in getting auditors to do less productive work (in terms of yield generated) than they would achieve selecting cases for themselves. To manage that risk, the IR has adopted a departmental rule that none of its random enquiry programmes will exceed 10% of the operational audit programme.

123 The main drawback with analysis of the programme is the length of time it takes from selection of cases for audit to final analysis. For example, some audits selected in April 1997 as part of the 1996/7 ITSA random audit programme were still being worked in autumn 2002. This means that there are distinct disadvantages in using random audits as a performance-measuring tool. To counteract this, the IR has developed methods for forecasting the eventual results for completed programmes. As it gathers data for several completed programmes these techniques will become more reliable.

Random Audit Programs in the USA

124 The IRS has performed random audit studies since the 1960's. However, the focus of these studies has changed over time, often in response to the public's (and their elected representatives') perception of the level of intrusiveness posed by random audits. Viewed in an historical context, the IRS can identify three distinct time periods characterised by different kinds of random audit programs. Each of these programmes is described in the sections that follow.

Taxpayer Compliance Measurement Programme (TCMP): 1963-1988

125 The primary purpose of the TCMP was to provide the necessary data to develop the discriminant formula (DIF), which is the mathematical procedure used by the IRS to select returns having a high examination potential for its regular field and office examination programmes. A secondary purpose of the TCMP, though of no less interest to Congress and the general public, was to provide estimates of the tax gap; i.e. the difference between the amount of tax people voluntarily pay and the amount of tax they should have paid.

126 The TCMP was a series of individual income tax surveys, beginning in 1963 and conducted every three years thereafter until 1988, which consisted of thorough

line-by-line audits of representative samples of individual income tax returns. Other TCMP surveys examined other types of taxpayers, such as small corporations and non-filers (see Table 10). The typical sample sizes used by TCMP were 50,000 individual returns and 20,000 small corporation returns. Returns were selected using stratified random procedures. However, sample sizes were too small to develop compliance measure for industry segments.

127   At the level of the individual taxpayer, TCMP examinations were explicitly conceived as being thorough and comprehensive across the universe of all returns filed. All taxpayers had a possibility of being selected for TCMP examination. No taxpayer was considered "examination-proof" simply because of a low DIF score. A basic axiom of the programme was that every effort must be made to preserve the sample integrity, so that in particular TCMP inclusion is <u>not</u> discretionary with field examiners. The administrative exclusion of an individual returns, once selected for TCMP required an explicit decision at the National Office level. Reasons for such an exclusion were: inability to locate the taxpayer; or taxpayer was already under investigation for alleged fraud, was seriously ill, or was out of the country. The exclusions actually made were by no means sufficiently numerous or important to bias the samples or legal-source income compliance estimates based on them.

Table 10. Last Completed TCMP Survey

Type of TCMP Survey	Tax Year
Small Corporations	1987
Estate Returns	1971
Exempt Organisations	1988
Fiduciary Returns	1975
Employee Plans	1982
Partnerships	1982
S Corporations	1984
Individuals (incl. Sole proprietors)	1988

128   The TCMP provided a broad-based and internally consistent longitudinal profile of the compliance characteristics of the vast majority of U.S. taxpayers. It is safe to say that no intuitive guess by even the most experienced tax administrator could furnish similarly reliable historical information about the fundamental characteristics of U.S. taxpayer compliance, with detailed breakdowns by line item of types of non-compliance observed. The TCMP was able to detect non-compliance not only in the area of income offsets (e.g. adjustments, deductions, credits, or business expenses), but was also effective in detecting unreported income in many cases.

129   Against these advantages, TCMP random audits had several limitations. First, TCMP audits by definition exclude non-filers. Beginning in the 1970's, efforts were made to estimate under-reporting by non-filers.[14] Perhaps the most comprehensive effort to document non-filer underreporting was undertaken in concert with the 1988 TCMP study, which involved an investigation of a stratified random sample 23,286 potential non-filers. This sample represented a population of 88 million individuals for whom there was no record that a 1988 individual income tax return

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[14] See Internal Revenue Service, *Income Tax Compliance Research: Supporting Appendices*, IRS Publication 1415 (Rev. 7-88), Washington, D.C., 1988.

had been filed.[15] A second disadvantage of the TCMP was the lack of information on informal and illegal sectors of the economy. In separately conducted survey research studies, the IRS was able to estimate the size of these sectors of the economy.[16] Finally, TCMP random audits were perceived by the public as costly and highly intrusive – even more so than operational audits – since operational audits tend to focus on specific issues whereas TCMP audits required taxpayers to verify the information provided on each line of the tax return. This negative perception on the part of the public (and elected representatives) led to the termination of TCMP audits in the 1990's.

Targeted Studies: 1988-2002

130   The Earned Income Tax Credit (EITC) programme is a refundable tax credit available to qualified low-income workers. In the 1990s, the rapid growth of the number of EITC claimants had many legislators concerned about potential misuse of the EITC. For example, the number of EITC claimants grew from 6.5 million claimants in 1985 to 19.3 million claimants in 1995, an increase of nearly 200 percent, whereas the total taxpayer population increased by only 16 percent (from 101.7 million returns to 118.2 million returns). In light of this trend, members of Congress authorized the IRS to investigate the level of potential misreporting among EITC claimants.

131   To date, three EITC compliance studies have been completed for tax years 1994, 1997 and 1999. The IRS' Criminal Investigation Division conducted the 1994 study.[17] In that study, a random sample of tax returns with EITC claims was reviewed for accuracy. The sample was selected from all ten IRS Service Centres. The results from the study suggested a nationwide EITC over claim rate of approximately 26 percent.[18]

132   The EITC Compliance Studies for tax years 1997 and 1999[19] were conducted by the IRS' Research Division and consisted of stratified random samples of tax returns in those two years. IRS District Examination staff audited each tax return in the sample to determine the accuracy of the EITC claim and other tax return items. The auditors used standard examination procedures in conducting the audits. In addition to the standard reports and documents prepared during an audit, the examiners also completed a check sheet for the study, indicating the reasons for any changes to the EITC and providing other information for analysis. These examinations served operational objectives as well as research objectives. Because of the examinations, taxpayers with errors were assessed additional tax that was owed or received refunds of taxes that had been overpaid.

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[15] Details of the 1988 nonfiler study can be found in Internal Revenue Service, *Federal Tax Compliance Research: Individual Income Tax Gap Estimates for 1985, 1988, and 1992*, IRS Publication 1415 (Rev. 4-96), Washington, D.C., 1996.

[16] See Internal Revenue Service, *Income Tax Compliance Research: Estimates for 1973-1981*, Washington, D.C., July 1983 and Internal Revenue Service, *Income Tax Compliance Research: Supporting Appendices*, IRS Publication 1415 (Rev. 7-88), Washington, D.C., 1988.

[17] See Internal Revenue Service, *Study of EITC Filers for Tax Year 1994*, April 1997, Unpublished.

[18] The overclaim rate is calculated as the amount of EITC overclaimed (as determined by examination) divided by the total amount of EITC claimed (including the overclaim amount).

[19] Department of the Treasury, Internal Revenue Services, *Compliance Estimates for Earned Income Tax Credit Claimed on 1997 Returns*, 2001; Department of the Treasury, Internal Revenue Service, *Compliance Estimates for Earned Income Tax Credit Claimed on 1999 Returns*, February 28, 2002.

133   Table 11 displays the sample sizes and over claim rates estimated from the weighted sample data. Lower and upper bounds on EITC over claim rates were estimated for both 1997 and 1999 to reflect different assumptions about compliance characteristics of claimants who were selected for audit but did not appear for the examination. The upper bound estimate assumes that the entire EITC claim amount is disallowed while the lower bound estimate assumes that these "no-show" claimants have compliance characteristics similar to the average claimant. Although the EITC over claim rate between the years 1994 and 1999 indicates a range between 24 and 32 percent, this difference is not statistically significant assuming a 95 percent confidence level.

Table 11. EITC Random Audit Studies

Feature	TY 1997	TY 1999
Sample size (case numbers)	2,221	3,332
Overclaim rate* (%)	23.8 - 25.6	27.0 - 31.9

*(Amount overclaimed/total amount claimed) X 100. Difference between TY97 and TY99 is not statistically significant at the 95% confidence level.

134   As of this writing, the IRS has no plans to conduct another standalone EITC Compliance Study. The emphasis has once again shifted to a focus on measuring compliance for the entire taxpayer population.

National Research Programme: 2002-

135   In 2002, the IRS launched its National Research Programme (NRP), which comprises a renewed effort to collect random audit data for a representative sample of the entire taxpayer population. The NRP shares the same strategic goals as the IRS' TCMP programme (i.e. reduce the number of "no-change" operational audits and provide an overall measure of taxpayer compliance). However, the NRP hopes to accomplish these goals in a less intrusive manner than TCMP. In particular, the following set of guiding principles characterize the NRP approach to compliance measurement:

- minimise taxpayer burden as data are collected;

- involve the Business Operating Divisions as partners in the design and implementation of the programme, and as customers of the results; and

- solicit external stakeholder ideas and support in the design of the programme.

136   While TCMP compliance studies relied on intensive examinations of every taxpayer, the NRP has developed a case building approach that will first determine if a return is accurately filed and, if it is not, to determine what issues need examination. Historically, IRS auditors generally obtained some case building information during their examination. The NRP method is designed to collect these supplemental items more efficiently and in time for their use in classifying the returns. The classification process will result in returns being placed in one of three groups:

- returns that are determined to be compliant;

- returns that exhibit likely non-compliance that can be verified through minimal contact with the taxpayer; and

- returns that exhibit likely non-compliance that requires face-to-face contact for verification.

137 The classification personnel will identify the issues of non-compliance in the last two of these outcomes. The IRS will take no further action with the taxpayers in the first group (except data collection).[20] The classification of returns used in NRP is a feature not encountered in any other known compliance measurement effort.

138 Sample size is a major consideration in collecting compliance data since it directly impacts the number of taxpayers audited. Some statisticians have suggested that the IRS could measure reporting compliance with small samples. However, very small samples are unlikely to allow the IRS to identify pockets of non-compliance, and provide the appropriate amount of information to support the development of corrective actions. It is not enough, for example, to know that; overall, individuals report 83.1 percent of their income tax liability. If, however, the IRS knows where the non-compliance is concentrated, and if or how the mix of non-compliance is changing over time, then it may be possible to take corrective action. Using primarily the data from the 1988 TCMP study, NRP and the Office of Research developed and investigated a variety of sample designs before making a final selection.

139 The NRP approach, while sound theoretically, is a new means of measuring taxpayer reporting compliance, and several internal (and external) stakeholders expressed concern about the reliability of the data resulting from the study. Both the Treasury Office of Tax Analysis and the IRS Office of Research wondered if the study might have a systematic bias due to the adoption of return classification procedures designed to reduce burden on taxpayers. The concern was that NRP reporting compliance rates would be artificially under- or overstated because NRP will accept more return information as accurate than did TCMP.

140 The IRS decided that it needed some means of comparing the NRP study results with what might have been detected by comprehensive line-by-line audits. NRP has termed this comparison a "calibration" of the study results. The calibration sample will provide the IRS with some insights as to the accuracy of the case building/classification methodology; the bias (if any) introduced by the reduced burden on taxpayers in the NRP approach, a basis for correcting any bias in the NRP measures, and indications of where future NRP studies might be improved. The calibration sample is comprised of 1,683 tax returns.

141 Finally, since the return classification approach used by NRP is new to IRS personnel, a new training programme had to be developed for those individuals who will be involved in this aspect of the study. NRP also developed a training programme for the managers who would oversee the study. The overall goal of the training is to produce high-quality classification and examination of the returns in the NRP sample.

142 The first NRP examinations began in calendar year 2002 and will continue into 2003. However, the data from these will not become incorporated into workload selection formulas until 2005.

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[20] The exception to this rule involves a sub-sample of taxpayers that will be a part of a calibration sample.

6 CONCLUSIONS

143   This report has described how random audits are used in the context of a comprehensive programme of tax compliance in a number of OECD countries. A survey questionnaire was sent to tax officials in 28 OECD countries to collect information on existing random audit programs. A 50 percent response rate was achieved. While the survey responses revealed that countries use random audits for a variety of purposes, most nations concur that a well-designed random audit programme can provide valuable information to assist tax administrators in carrying out their primary duty of revenue collection.

144   This report finds that random audits are a relatively new tool for most OECD members – most nations have only begun to carry out such studies in the last decade. Typically, random audit studies are comprehensive in scope (i.e. not focused on a specific issue), are relatively small (under 3,000 sample cases), are conducted annually and are performed in conjunction with a regular audit programme. Most countries use existing operations staff to perform the examinations and rely on standard quality control measures to ensure data consistency and accuracy.

145   The survey respondents cited several disadvantages of random audits. These include: costs for training and personnel, timeliness of study results, negative public perceptions, internal agency acceptance, reliability of compliance measures and opportunity costs (i.e. devoting scarce examination resources to auditing low yield returns). However, devoting a fraction of staff to performing random audits must be seen as an investment in the long-run effectiveness of enforcement systems.

146   Balanced against the disadvantages are the following advantages. These would include: improving risk identification, improved resource allocation, statistically valid results, insight into new market segments and evaluation of the "indirect" effects of enforcement actions on taxpayer compliance behaviour.

147   Finally, four case studies of random audit programs in Canada, Ireland, UK and USA are provided to give the reader more insight into each country's experience and best practices.

AN ANNOTATED BIBLIOGRAPHY OF RANDOM AUDIT STUDIES

Andreoni, James, Brian Erard and Jonathan Feinstein.

"Tax Compliance," *Journal of Economic Literature* 36 (June 1998): 818-860.

This survey article summarizes the major theoretical and empirical advances in research in the area of tax compliance over the previous three decades and suggests topics for future research. The authors discuss, among other issues, the role of audit probability as a factor influencing taxpayers' compliance behavior.

Christian, Charles W.

"Voluntary Compliance With The Individual Income Tax: Results From the 1988 TCMP Study," *The IRS Research Bulletin*, IRS Publication 1500 (Rev.9-94), (1993/1994): 35-42.

Presents estimates of taxpayer reporting compliance based on random audit data from the 1988 TCMP study. Also analyzes the variation in both the frequency and magnitude of noncompliance across return characteristics and describes the principal reasons reported by tax examiners for recommending assessments.

Clotfelter, Charles T.

"Tax Evasion and Tax Rates: An Analysis of Individual Returns," *The Review of Economics and Statistics* 65 No. 3 (August 1983): 363-373.

This study investigates the relationship between marginal tax rates and tax evasion using random audit data from the 1969 TCMP study. This paper was the first to apply econometric tools of analysis to TCMP data. The author reports a positive correlation between marginal tax rates and the amount of tax underreported.

Cox, Dennis.

"Raising Revenue in the Underground Economy," *National Tax Journal* 37 No. 3 (1984):283-288.

Using data from the 1979 TCMP survey, this study examines the relationship between marginal tax rates and voluntary reporting rates and, unlike Clotfelter (1983), finds no clear indication that evasion increases with rising marginal tax rates.

Dubin, Jeffrey A., Graetz, Michael J. and Wilde, Louis L.

"The Effect of Audit Rates on the Federal Individual Income Tax, 1977-1986", *National Tax Journal* 43 No. 4 (1990): 395-409.

This paper analyzes empirically the effects of audit rates and other factors on filing compliance and self-reporting of income. Although this study uses panel data and not random audits per se, it finds a positive and significant relationship between audit rates and income underreporting.

Erard, Brian.

"The Influence of Tax Audits on Reporting Behavior." In *Why People Pay Taxes: Tax Compliance and Enforcement*, edited by Joel Slemrod. Ann Arbor: University of Michigan Press, 1992.

This study examines the effect of tax audits on subsequent year reporting behavior. Using data from both operational audits and TCMP studies, the author concludes that audits do not have a significant influence on taxpayer reporting behavior in subsequent years.

Erard, Brian, and Jonathan S. Feinstein.

"The Role of Moral Sentiments and Audit Perceptions in Tax Compliance," *Public Finance/Finance Publiques* 49 (Supplement 1994): 70-89.

The authors develop an extension of the conventional expected utility model of tax evasion that accounts for taxpayer guilt and shame in explaining reporting behavior. They test the extended model using TCMP random audit data and conclude that guilt and shame are important factors contributing to taxpayer misperceptions of audit probability.

Erard, Brian, and Chih-Chin Ho.

"Searching for Ghosts: Who Are the Nonfilers and How Much Tax Do They Owe?" *Journal of Public Economics* 81 (2001): 25-50.

This paper estimates the number and income characteristics of 'ghosts,' i.e. individuals who fail to comply with the legal income tax filing requirements. The authors use data from IRS' TCMP Phase IX Nonfiler Survey for tax year 1988. This survey includes information for a stratified random sample of approximately 23,000 cases from a population of 83 million individuals for whom there was no record of a 1988 individual income tax return.

Feinstein, Jonathan S.

"An Econometric Analysis of Income Tax Evasion and Its Detection," Rand Journal of Economics 22 No. 1 (1991): 14-35.

This article presents an econometric analysis of income tax evasion and its detection based on individual-level data drawn from the Internal Revenue Service 1982 and 1985 Taxpayer Compliance Measurement Programmes. The empirical analysis explores the effects of income, the marginal tax rate, and various socioeconomic characteristics on filer evasion behavior, and it assesses the variability in detection rates among IRS examiners.

Fratanduono, Richard J.

"Trends in Voluntary Compliance of Taxpayers Filing Individual Tax Returns," *Trend Analysis and Related Statistics*, IRS Document 6011 (Rev. 3-86), (1986): 15-26.

This paper examines trends in voluntary reporting compliance among individual taxpayers in the **USA**. Analysis of aggregated TCMP data for tax years 1965, 1969, 1973, 1976, 1979 and 1982 indicates a small increase in overall compliance, although unreported income from small farm and non-farm businesses continues to be a major area of noncompliance.

Internal Revenue Service.

Income Tax Compliance Research: Estimates for 1973-1981, Washington, D.C., 1983.

This report contains the IRS's estimates of income tax compliance in the **USA** for the period 1973 to 1981. Preliminary estimates of tax evasion due to illegal activities are provided.

Internal Revenue Service.

Federal Tax Compliance Research: Gross Tax Gap Estimates and Projections for 1973-1992, IRS Publication 7285 (3-88), Washington, D.C., 1988.

This report contains the IRS's estimates of the gross income tax gap and voluntary compliance rates for 1987 and projection to 1992 as well as revised estimates for earlier TCMP years.

Internal Revenue Service.

Federal Tax Compliance Research: Individual Income Tax Gap Estimates for 1985, 1988, and 1992, IRS Publication 1415 (Rev. 4-96), Washington, D.C., 1996.

This report contains the IRS's revised estimates of the gross income tax gap and voluntary compliance rates for 1985, estimates for 1988 and projections to 1992. Appendix A of this report describes the TCMP survey of nonfilers for tax year 1988.

Internal Revenue Service.

Compliance Estimates for Earned Income Tax Credit Claimed on 1997 Returns, September 2000.

This IRS report examines EITC overclaims for tax year 1997.

Internal Revenue Service.

Compliance Estimates for Earned Income Tax Credit Claimed on 1999 Returns, February 28, 2002.

This is a sequel to the 1997 EITC Compliance Study that examines EITC overclaims for tax year 1999.

Plumley, Alan H.

The Determinants of Individual Income Tax Compliance: Estimating The Impacts of Tax Policy, Enforcement, and IRS Responsiveness, Internal Revenue Service, Publication 1916 (Rev. 11-96), Washington, D.C., 1996.

This paper presents an econometric analysis of the impact of a variety of potential determinants of voluntary compliance with individual income tax filing and reporting obligations. Although the paper does not analyze random audit data per se, it does investigate the relationship between the audit rate and reporting compliance.

Rice, Eric M.

"The Corporate Tax Gap: Evidence on Tax Compliance by Small Corporations." In *Why People Pay Taxes: Tax Compliance and Enforcement*, edited by Joel Slemrod. Ann Arbor: University of Michigan Press, 1992.

This study is the first analysis of the corporate income tax noncompliance using 1980 TCMP data on small and medium-size corporations. The data set is a stratified random sample of 30,000 corporations with assets of less than $10 million.

Tauchen, Helen V., Witte, Ann Dryden Witte and Beron, Kurt J.

"Tax Compliance: An Investigation Using Individual TCMP Data", NBER Working Paper
No. 3078.

Analyzing data from the 1979 TCMP of individual taxpayers, the authors find
evidence that both audits and tax code provisions affect compliance.
However, they note these effects are significant for only the low and high
income groups.

APPENDIX A. QUESTIONNAIRE TO TAX ADMINISTRATIONS IN OECD COUNTRIES ON THE USE OF RANDOM AUDITS

[Primary interest is on random audits of small and mid-size business taxpayers. However, if your organization has no experience with random business audits data will be solicited concerning random audits of non-business taxpayers, if available.]

1   Has your organisation ever performed random audits of small to mid-size business taxpayers? Non-business taxpayers?

2   What asset threshold or revenue range does your organization use to define small and mid-size businesses (Proprietor, Partnership, and Corporation)?

3   If your organisation **<u>considered</u>** using random audits and chose not to what was the main reason for the decision? Please provide a brief explanation.

        a. Budgetary
        b. Policy
        c. Reliability of estimates
        d. Other

4   If your organization **<u>discontinued use of</u>** random audits what was the main reason for discontinuing? Please provide a brief explanation.

        a. Budgetary
        b. Policy
        c. Reliability of estimates
        d. Other

5   How does your organisation measure tax non-compliance? Explain in detail or provide references.

6   The attached materials provide a broad definition of three aspects of compliance – filing compliance, reporting compliance, and payment compliance. Does your organization use similar definitions? Please indicate relevant details of how you*r* organization defines these three types of non-compliance.

7   Does your organization project estimates of filing, payment and reporting non-compliance? If yes, please provide the latest non-compliance estimates for each of the measures and explain how the estimates are derived

[The following questions refer both to current and past random audit programs.]

8   How many years has your organization performed random audits? In what years were the random audits conducted?

9   What is the sample size and industry coverage? How is the sample size determined? Does this sample size allow you to measure period-to-period changes in the level of compliance? At the industry level? At what level of confidence?

10   How is the sample selected? Provide details of sampling methodology.

        a. Simple random selection
        b. Stratified sampling

      c.   Cluster sampling
      d.   Hybrid

11   How frequently are random audits performed?

      a.   Annual
      b.   Bi-annual (every two years)
      c.   Other (Explain)

12   Who conducts the random audit studies within your organization? Is this the same group that conducts operational audits?

13   Does your organization provide specialized training for personnel involved in carrying out the random audits? Describe the nature of the training.

14   Describe any quality control measures used by your organization with regard to the random audit programme.

15   How are results of random audits used?

      a.   Workload selection
      b.   Compliance measurement
      c.   Identify emerging enforcement issues
      d.   Purely an enforcement tool (operational audits)
      e.   Supporting development of risk assessment
      f.   Other (Explain)

16   What data are produced from the results of the random audits? Are there summary measures that you use to express the findings from these audits? If so, describe each measure. Are the measures expressed as:

      a.   Monetary values
      b.   Ratios
      c.   Other (Explain)

17   If random audits are used for compliance purposes, what types of compliance do you measure?

      a.   Filing compliance
      b.   Payment compliance
      c.   Reporting compliance
      d.   All of the above

18   What issues do the random audits address (business returns)?

      a.   Business income (Proprietor, Partnership, Corporation)
      b.   Business expenses
      c.   Employment taxes
      d.   Value-added / Consumption tax
      e.   Personal deductions
      f.   Non-business income of proprietors (wages, dividends, capital gains, etc.)
      g.   All of the above
      h.   Other (Explain)

19   Are random audits comprehensive (line-by-line) or targeted to specific issues? If the latter, how are the issues selected? Does issue selection influence sampling strategy? If audit issues change from survey to survey, describe how this affects your organizations ability to develop consistent compliance measures over time.

20   How are projected costs for the random audit programme developed and reported? What are the estimated costs to the taxing authority for your programme?

21   If your organization has performed random audits in the past what problems were encountered in carrying out the programme?

22   Does your organization publish estimates of tax compliance based on random audits? Are these results in print format? Posted on the Internet? Provide a list of report references and hyperlinks to published materials.

APPENDIX B. LINKS TO RELATED WEB SITES

Country/ Organization	Link	Site Description	Language
Austria	http://www.bmf.gv.at/	Austrian Federal Ministry of Finance	German/English
Australia	http://www.ato.gov.au/	Australian Tax Office	English
Canada	http://www.CRA-adrc.gc.ca/menu-e.html	Canada Customs and Revenue Agency	English/French
Denmark	http://www.skm.dk/english/?viewCat=76	Danish Ministry of Taxation	Danish/English
Finland	http://www.vero.fi	Finnish Ministry of Finance	Finnish/English/Swedish
France	http://www.minefi.gouv.fr/	French Ministry of the Economy, Finance and Industry	French/English/ German/Spanish
Germany	http://www.destatis.de/e_home.htm	German Federal Statistical Office	German/English
Germany	http://www.bundesfinanzministerium.de/	German Federal Ministry of Finance	German
Ireland	http://www.revenue.ie/	Irish Revenue	Irish/French/German/ Spanish/English
Japan	http://www.mof.go.jp/english/index.htm	Japanese Ministry of Finance	Japanese/English
Netherlands	http://www.minfin.nl/	Dutch Ministry of Finance	Dutch/English
New Zealand	http://www.treasury.govt.nz/	New Zealand Treasury	English
OECD	http://www.oecd.org/	OECD Home Page. Contains links to all 30 OECD member government web sites.	English/French
OECD	http://www.itdweb.org/	International Tax Dialogue Web Site	English/French
Sweden	http://www.rsv.se/	Sweden's National Tax Board (RSV)	Swedish/English/French/ Others
UK	http://www.inlandrevenue.gov.uk/	Inland Revenue	English/Welsh
USA	http://www.irs.gov/	Internal Revenue Service	English/Spanish