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Public Economics

Industrial Economics
Department
The World Bank
September 1988
WPS 76

The Shadow Price of a Tax Inspector

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To make sure that tax collectors do not abuse their powers and that taxpayers obey the law, governments can analyze the tax administration's methods of selecting and inspecting tax returns.

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The effects of tax evasion on tax rates and government revenues have focused fresh attention on the question of tax administration. Because of the difficulties of measuring the consequences of good or bad administration, policymakers cannot rely on a wide range of specific information on this subject.

An economist faced with widespread tax evasion is likely to recommend harsher penalties for violations of the tax law. The argument is that compliance and high penalties go hand in hand. But stiffer penalties only work when the administrators are honest; if they are not, the recommendation may backfire as high penalties increase the power of the tax inspector, and provide incentive for corruption.

Using this model, which shows the process of auditing tax returns as a decision tree, governments can verify that the additional power is not abused and that the administration is efficient. The main idea is to introduce economic considerations into the process of selecting and inspecting tax returns. By calculating the investment in the inspector's time at each stage (the taxpayers is likely to appeal), and the increase in revenue that will result, it is possible to calculate the minimum amount of tax evasion that justifies continuing with the audit — the shadow price of a tax inspector.

The administration can recommend that auditors only pursue a file if the tax increase is high enough to justify continuing the process. By equalizing the return per unit of time, the administration gives the same treatment to all taxpayers. If the guidelines are followed, the productivity of the inspectors will improve as well.

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On the Shadow Price of a Tax Inspector

The administrative aspects of taxation have been largely ignored by public finance economists. Many textbooks in public finance do not mention the term administrative cost and in others only a small section of the text is devoted to administrative and compliance costs.[1] One reason for this lack of attention is apparently the belief that in a modern state the feasibility of collecting taxes is not an issue, and the real question is to discover the optimal tax structure, i.e. the one that minimizes the efficiency cost of taxation.[2]

The recognition that tax evasion is widespread, and that it may affect observed variables, such as effective tax rates and estimated elasticities (Slemrod, 1988), together with the understanding that the existence of tax evasion is an indicator of an administrative failure to enforce the tax law, have contributed to a recent interest among economists in tax administration. Moreover, several estimates of the administrative and compliance costs (see among others, Sandford, 1973, Slemrod and Sorum,

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1/ See the discussion in Corden (1974), pp 64-66. Musgrave (1959) and Johansen (1965) ignore administrative costs, while Due (1968) Musgrave and Musgrave (1980) offer some estimates. Atkinson and Stiglitz (1980) are well aware of the neglect of this topic by economists; however, a discussion is missing. Prest (1970) offers a chapter discussing the issues of administrative efficiency.

2/ The literature that deals with administrative cost is mainly concerned with developing countries. See, for example, Due (1970), Shoup (1959) and Surrey (1958).

1984) showed that the magnitude of these costs is in the range of five to ten percent of the tax revenue.[3] As evidence of the renewed interest in the subject is that many recent papers dealing with tax reform stress properties such as administrative ease, simplicity and the degree to which the tax law is enforceable. One problem with integrating these concerns into tax analysis is that it is not clear how to translate these properties into a meaningful quantitative measures that can be compared with other characteristics of tax laws, such as deadweight loss and distributional impact.

The major obstacles in analyzing tax-administrative issues quantitatively are due to the following characteristics of the subject:

a) Tax administrations deal with the analysis of information. Hence, outputs are not well defined and even if they can be defined it is difficult to quantify them. One role of the tax administration is to uncover the tax base. This may depend on the physical properties of the tax base, such as its size (it is easier to tax houses than diamonds), its distribution among the population (market structure), and the existence of readily accessible sources of information on its distribution.

3/ Since the government can require taxpayers and third parties to do some of the administrative work, directly or indirectly (e.g. withholding or reporting), we can view compliance costs as a substitute to administrative costs. Sandford and Godwin (1987) estimated the administrative cost of direct taxes in the U.K. for 1983/84 to be 1.72 percent of revenue, while Sandford (1973) estimated compliance costs for direct personal taxes to be between 2.5 to 4.4 percent of revenue. Slemrod and Sorum (1984) estimated the compliance cost of individual income taxes in the U.S. to be between five to seven percent of revenue.

b) Any solution to the problem of optimal tax administration includes three sub-problems of optimization: the optimization carried out by the taxpaper, the selection of optimum tax rates by the government given the set of taxable commodities, and the optimization with regard to how to enforce the tax law (administrative costs). This property has limited the models which include tax administration based on simple utility functions (Yitzhaki, 1979; Slemrod and Yitzhaki, 1987), or alternatively, rely on "reduced form" functions, where the investigator assumes that the function he deals with is a result of an optimization process by the taxpayer (Mayshar, 1986; Usher, 1986).

c) Administrative cost functions are not well behaved. Usually they are characterized by increasing returns to scale and by discontinuities. The returns to scale problem arises because a necessary condition for calculating the tax liability is to find out the tax base, and finding out the tax base has to be done for any tax rate, while tax revenue is an increasing function of the tax rate. The discontinuity in the administrative cost function can be demonstrated by the following example. Consider two commodity taxes denoted by t_1 and t_2. Setting $t_1 = t_2$ results in a general sales tax that may be relatively easy to administer because the tax administration needs only to know total sales revenue. If t_1 is not equal t_2, then it is necessary to know the sales of each commodity separately.

d) Tax administration involves problems of joint production and externalities. It is easier to collect taxes on imported goods if the borders are well guarded for security reasons. A tax on housing or vehicles is easier to administer than a tax on other kinds of property because tax authorities can rely on existing registration of ownership. A precondition for a successful VAT is the reliance of private business on a bookkeeping system. Otherwise, business books would probably not reflect business' activity. Another example of reliance on externality is the deduction at source. In this case the tax administration (free) ride on the process of calculating wages, which should be done in any case.

e) The difference between a simple tax law and a complicated one may depend on the exact words of the tax law and by laws. It is much easier to administer a tax law when the definition of the tax base is not ambiguous and when alternative actions of the taxpayer result in the same tax.

f) Data on the tax administration process are rarely published and even when published they are produced with the supervision of tax administrators, who may be concerned parties.

The complexity of the problem, and the difficulty of measuring the consequences of good or bad administration, contributed to the lack of quantitative literature dealing with the problem of tax administration.[4] Furthermore, since the exact works of tax laws and sources of information may differ among countries, deriving general rules that on one hand are not

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4/ See Prest, 1970 for an excellent discussion of administrative efficiency.

vague, and at the same time applicable seems quite impossible.[5] Consequently, any quantitative model of tax administration will suffer from many deficiencies and will unavoidably treat only some aspects of tax administration.

The existence of tax evasion introduces another sort of a problem. An economist who is faced with a situation of widespread tax evasion and who is aware of the costs of not enforcing the tax law may tend to recommend the increase of the penalty for violations of the tax laws. This recommendation follows from the existing literature which shows that the higher the penalty rate, the lower the incentive to evade taxes (Allingham and Sandmo, 1972). A critical assumption behind this suggestion is that the tax administration is an honest one. If this is not the case (Virmani, 1987), or if there are elements of corruption in the tax administration, such a recommendation may backfire. Increasing penalties increases the power of the tax inspector, creating an increased incentive for corruption. Because tax evasion is a widespread phenomena in many countries (Tanzi, 1982), and economists are expected to recommend the increase of penalties and investigative power of tax administrations, a model for analyzing the performance of the tax administration is called for, to provide an instrument for verifying that the additional power is not abused.

5/ It is interesting to note that administrative considerations may lead to contradicting conclusions even when dealing with the same tax. It is generally agreed that in the case of developed countries, a uniform VAT is easier to administer than other broad base taxes. On the other hand, many economists suggest that administrative considerations in developing countries encourage the exemption of the retail sector from VAT. Differences in market structure and the ability of administration to administer the law may explain this divergence of opinion.

The aim of this paper is to present a simple model for analyzing the efficiency of a tax administration agency. The model can be used by the tax collecting agency for allocation of resources, or by an outsider, who wants to insure optimal allocation of resources in the agency.[6] It is assumed that the tax law and by-laws, the penalties and tax rates are given. It is also assumed that the tax administration has two targets: to maximize revenue in the short run, and to see to it that the tax law is obeyed by all taxpayers. It is further assumed that the allocation of resources between the two targets is made outside of the model, and so the model is concerned only with the target of maximization of the revenue in the short run. The tax collection agency is assumed to face a budget constraint.[7]

As we explained before, this kind of modeling is not general in its nature and it is constructed for the specific tax administration we are dealing with. However, the principles of the analysis can be used in modeling other tax administrations.

The structure of the paper is the following: the next section describes the process of administering the tax law as a decision tree. The third section presents some uses of the decision tree, while the fourth section addresses some problems of estimation. In the fifth section the decision tree approach is implemented using Israeli data.

6/ Similar goals are examined in papers by Wertz (1979), Dubin and Wilde (1987).

7/ Note that this assumption is not in conflict with the argument that the tax administration should not maximize revenue (Slemrod and Yitzhaki, 1987). In the latter case, the concern is about the optimal size of the administration. The concern of this paper is the objective of the tax administration, for a given budget.

2. Administering the Law

The aim of this section is to suggest a simple way of introducing economic considerations into the process of selecting and inspecting tax returns. At this stage a very simple version of the model is presented. At a later stage we show how this simple form can be extended to include more complicated considerations.

The administration accomplishes its target of maximizing revenue by examining tax returns. For simplicity of presentation it is assumed that the administration is composed of one type of administrator--the tax inspector. Because of the budget constraint, this work force is not capable of examining all tax returns. Thus the first question to be posed is which tax returns should be selected for examination? It is clear that in order to maximize the revenue the administration should choose to audit tax returns with the highest return per time invested in auditing. The question is how to identify those returns.

It is assumed that there are fixed setup costs each time an administrator has to study a tax return. These setup costs are a function of characteristics of the tax return. Thus the time invested in studying the tax return is not (strictly) related to the presence of evasion found. In other words it is assumed that the setup cost in studying each return every time that someone has to deal with it, is the most important factor, and that the connection between the time invested in studying the tax

return and evasion found is negligible with respect to these setup costs.[8]

Having studied the tax return, the tax inspector has to decide whether to accept the return or to reject it. If he accepts the return, then there is no change in the tax liability, and he can inspect another tax return. If, on the other hand, he rejects the return (for example he does not allow a specific deduction), then the change in tax revenue depends on the reaction of the taxpayer. The taxpayer whose return was rejected has to decide between two alternatives. The first is to agree with the tax inspector and to pay the additional required taxes. In this case, there is an increase in the tax owed and the case is closed. The other alternative facing the taxpayer is to appeal. If the taxpayer appeals then an inspector has to study the return and has to decide whether to agree with the first inspector (which may be he himself), or to agree with the taxpayer. If he agrees with the taxpayer then case is closed. If he disagrees the taxpayer may (again) agree or disagree. The number of stages until the process terminates depends on the tax law and by-laws.

From the point of view of the administration, this process can be described as a decision tree as depicted in Figure 1. Each stage at which a study of the tax return is required and a decision whether to continue

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8/ There are two arguments which justify this assumption. Because the output of tax enforcement is not well defined (a thorough investigation may produce the same results as a light investigation), a convenient method of controlling the work-force is to set an expected time required for each action. The second argument which justifies the constant time assumption is the nature of the work. There are several items to be checked, and the time needed in order to check them is not related to whether the taxpayer evades taxes. This component of the audit can be viewed as a setup cost.

has to be made is described by a diamond while the reaction of the taxpayer is described by the branches of the tree. The additional tax collected is described by a circle. The actual decision tree should describe the appeal process as required by the law and by-laws.[9] In the example given in Figure 1 it is assumed that it takes one day to examine a tax return. No evasion is found in 50 percent of the tax returns inspected, hence the increase in the tax is zero. The other 50 percent of tax returns examined were rejected. In half of the cases rejected by the tax inspector, the taxpayers agreed with the inspector and the net result is an average of $100 increase in taxes per tax return. The other half of the taxpayers appealed. To examine an appeal the administration has to spend an additional day of work. Thirty percent of the appeals ended up with a tax increase of $20 while in 70 percent of the cases the increase in taxes and penalties is $100.

Assume now that we can classify tax returns according to some characteristics which affect the time needed for studying the tax return. For example: the complexity of the return, the sector to which it belongs, the declared income of the taxpayer, and whether the return was prepared by a professional preparer.

9/ An alternative way to present the process is as a game between the tax administration and the taxpayers in which the two sides have to choose their strategies independent of each other (Greenberg, 1984, Graetz, Reinganum and Wilde, 1986 or as a game with a principal (tax administration) and agents (taxpayers), Reinganum and Wilde, 1985). We prefer to model the administration and to assume that the taxpayer does not react strategically. This assumption is made in order to simplify the analyses.

These properties can be used for grouping of tax returns. This kind of classification of tax returns already exists in many tax administrations for internal purposes. Assume also that the time invested in each stage can be estimated. (Section 4 addresses this issue). By analyzing data from actual cases the increase in the revenue at each stage and the probabilities of different reactions of taxpayers can be estimated. Hence, the components of the decision tree for each group of taxpayers can be estimated.

3. Some Possible Use of the Decision Tree

Assume that we have already estimated the components of the decision tree for several types of taxpayers. This section addresses some of the issues that can be analyzed using this tool.

The final increase in tax revenue at each end of the decision tree is conditional in the sense that its expected value from the point of view of the administration depends on the probability that the route leading to that end is used. By solving backward the decision tree, the expected increase in taxes for a given unit of time can be calculated for each type of tax return.[10] [11] In the example presented in Figure 1 the

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10/ One can argue that the actual route that the taxpayer and the administration followed on the decision tree reflects the quality of the data. A taxpayer would not appeal if he is presented with hard evidence on evasion and the inspector would not continue to disagree with the taxpayer if he is convinced that there is no tax evasion.

11/ The calculation of the expected return is based on the formula for conditional expectation. See, for example, Howard, 1960.

administration is expected to invest 1.25 days in auditing each return (one day in each tax return and another day in 25 percent of the tax returns) while the expected increase in taxes is \$44. Hence the return per day of work is \$35. Denote the expected return per unit of time invested in auditing tax returns of type i by R_i. Following are some uses of R_i.

a) Sampling: Assume that the probability that a tax return is included in the sample of audited tax returns is set to be an increasing function of R_i. This will create a dynamic sampling policy that will concentrate the effort of the tax administration into classes of taxpayers with high return per audit time. To see this assume now that an inspector found evasion in a specific tax return, belonging to group i. Then in the following year more tax returns of this type will be included in the sample. If this discovery is typical to these tax returns then the share of tax returns of group i in the sample will continue to grow. If, on the other hand, evasion found is not typical to these tax returns, or alternatively, if other taxpayers in group i change their reporting practice due to this discovery, we should expect R_i to decline and then the proportion in the sample of this type of tax returns declines too. Hence the administration can use the return per audit of type i, as an input in a dynamic sampling policy.

b) Maximizing expected revenue (without changing the auditing process): Assume that in a certain year the administration wants to maximize revenue in the short run. Then the administration should concentrate on tax returns with the highest return per unit of time. The return on the margin determines the shadow price, for the administration, of an inspector's time. The shadow price describes the increase in revenue to be expected if the number of inspectors increases. It is important to

note that this shadow price does not reflect the social return, although its reciprocal multiplied by the wage rate of an inspector reflects the social marginal administrative cost per dollar of tax revenue.

The extension of this model to include several types of inspectors changes this part of the model to a linear programming problem. In this case, each type of investigation requires several inputs, with fixed proportions. Then the shadow price for the administration of each type of inspector can be calculated.

c) Maximizing tax revenue (with changes in auditing process): Let us return to the assumption of one type of inspector. Assume that step (b) was performed and the marginal return for a unit of inspector's time is already known. Now, let us return to the decision tree. Knowing the probabilities of taxpayers to appeal and the expected investment in inspectors' time needed for completion of the process enable us to calculate, for each stage of the inspection process and for each type of tax return, the minimum amount of expected tax evasion that justifies a continuation of the auditing process. This minimum required amount of expected evasion is the shadow price for pursuing an investigation at a given stage of inspecting a tax return. (Note that actually we have to solve a simple dynamic programming model, and the shadow price is the alternative return that the administration could get by investigating another tax return).

Assume that the administration informs the inspectors of this shadow price. Its recommendations would be of the following type: If you are investigating a specific file at a specific stage, then if you expect the tax increase to be lower than the recommended increase that justifies a continuation of the auditing process, please move on to another file. In

this way the tax administration informs the inspectors that there are tax returns to be inspected that may be more promising than the tax return in their hand.[12]

This kind of a policy has certain advantages. Some inspectors may be giving up too easily while others are too persistent. By equalizing the return per unit of time, the administration gives the same treatment to otherwise identical taxpayers, hence making the implementation of the tax law more even. Furthermore, if this kind of guideline is followed the marginal productivity of inspectors will be equalized, hence increasing revenue collected.

It is worth mentioning that if the decision at the first stage was correct and if the taxpayer does not come with new information, this guideline increases the persistence of the administration. Because less additional work is required toward the bottom of the decision tree, the minimum required increase in tax revenue that will justify continuation of

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12/ As argued by Boyd, 1986, the cost of detecting a tax evader is higher than the cost of detecting honest behavior. Therefore the larger the number of tax evaders, the smaller the probability of inspection for a given budget constraint. This situation may cause instability in the system because the decline in the probability of inspection may lead to an increase in the number of evaders. It is easy to see that this argument holds in this model. If an inspector suspects evasion a tax return will stay in the system, causing other inspectors to investigate it. This use of inspectors' time reduces the number of tax returns that can be inspected. Thus the number of tax returns inspected declines. Therefore, the termination of the inspection process for a tax return with an insignificant evasion as early as possible, increases the probability of investigation on the whole, and therefore increases the deterrence factor of the tax administration.

the investigation decreases as we move along the decision tree. Note also that the use of these guidelines by inspectors will change the expected revenue for different tax returns and it may change the shadow price of inspectors. Hence the decision tree should be updated periodically.[13]

d) Control of the system, or how to define a good inspector: One of the problems in tax administration, as in other bureaucracies, is to insure that the guidelines are followed. Inspectors can be required to audit a certain number of tax returns, but counting returns cannot be very helpful, since the quality of audits may differ. It is therefore important to design a feedback system that can indicate whether the guidelines were followed. Alternatively, if a good inspector is someone who follows the guidelines, the same question can be posed as how to define a good inspector.

We can get an answer to this question by recalculating the return that inspectors achieved. A good inspector is one whose predictions about the revenue increase in the tax return inspected were correct. The reason is that, for this inspector, we will find that when he continued to pursue an investigation he got the minimum required return. Hence we can grade

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13/ Since it is assumed that the target of administration is to maximize revenue, the possibility of an overpayment on the part of the taxpayer is ignored. However, if we define changes in tax revenue in absolute terms (that is a tax increase is considered as identical to a tax reduction), one can change the objective of the tax administration to be minimizing errors on tax returns. Other possibilities should include different rules for tax increase and tax decrease. These possibilities are ignored in this paper which is concerned with self-employed taxpayers, where overpayment do not seem to be a relevant issue.

tax inspectors (or groups of tax inspectors) according to the return per time invested. However, if such a method is utilized, one has to control for other factors that can affect the return, such as region, and other differences that might affect the population of taxpayers.[14]

The remainder of this paper concerns topic (a) above. We restrict its focus in order to concentrate on a relatively straight-forward policy which does not require any change on behalf of the behavior of tax administration.

3. How to Estimate the Amount of Time Needed at Each Stage

There are two basic ways to estimate the average time spent on auditing at each stage and for each group of taxpayers. The direct way assumes that the tax authorities determine the steps and the procedures for evaluating a tax return, and the time recommended for each step.[15] This method can be defined as the direct method. An indirect method uses regression analysis where the dependent variable is the days of work of inspectors while the independent variables are the kind of activities performed. Formally, let T_k be the number of days performed in period k

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14/ Following the same logic we end up paying inspectors as tax farmers, that is according to their return. This kind of approach may backfire because it may lead to an improper behavior, such as framing the taxpayers. (As an example, imagine a policeman whose aim is to maximize revenue from traffic tickets). He may consider hiding the stop sign to increase the number of violators.

15/ This is the method used in Israel. See Steuerle, 1986 and Hoffman et al., 1979 for a similar procedure in the U.S.

while the n_{ijk} are the numbers of audits of returns of type i at stage j that were performed during the same period. Then a regression of the type:

$$T_k = \Sigma_i \Sigma_j t_{ij} n_{ijk} + \epsilon$$

where ϵ is an error term can be estimated so that the estimators of t_{ij} represents the mean time consumed by each activity.[16] Note that the direct method offers actually the 'normative' time required for each activity while the indirect method represents the 'actual' time spent on each activity.

4. An Illustration With Data From Israel

According to the Israeli income tax laws and by-laws, there are three major stages in which disagreement between the taxpayer and the tax administration can be settled. Because a typical decision tree is complicated we describe here only the basic components of the estimation process.

The data consist of tax returns for the fiscal year 1982 that were audited during fiscal year 1984 in one regional tax office. Since data were extracted from tax files,[17] only three types of decision trees were estimated: Corporations (COR hereafter), self-employed individuals who

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16/ The variance of the dependent variable, which represents the number of working days in a given period of time is small relative to the variances of the independent variables. Hence, the regression should be run without a constant term. Therefore, it is impossible to estimate separately 'tea time' and other personal activities.

17/ Data needed for the estimation of the decision tree for several tax laws exists in the computer of tax administration. Unfortunately, we did not have access to this data set.

used single-sided bookkeeping method (SES), and self-employed individuals who rely on double entry bookkeeping. Observations were collected until each stage of the decision tree includes at least 25 observations. In cases where it was impossible to have 25 observations, data from other fiscal years, adjusted for inflation, were used. The probability of appeal at each stage is estimated as the percentage of taxpayers who appealed at each stage and the final increases in tax liabilities are the average differences between the declared tax of the taxpayer and the final assessment. The audit time at each stage is taken to be the time used by the tax administration to monitor its work-force.

The following table summarizes the return per day of auditing for each type of tax return. The highest return is for auditing tax returns of self employed individuals who use double entry bookkeeping while the lowest return is for auditing corporations. The low return for auditing corporations is unexpected. There are two contributing factors which may explain this outcome. Large corporations are audited in a separate center, hence they are not covered by our sample. Furthermore, in fiscal year 1982, the year of our sample, a new "inflation-proof" corporate tax law was enacted to deal with taxation of capital income. Due to the high rate of inflation and the new and complicated tax law, accountants were apparently able to find "loopholes" in the tax law so that tax collection from corporations almost collapsed. Hence, the return for auditing a corporation that year reflected the ability of accountants to outperform tax inspectors. Apparently, in a period of high inflation, investing time in auditing corporations does not yield the expected return and, therefore, in this period it is worth to divert some of the work-force to audit other files.

The data were collected from one district. It is reasonable to assume that using a larger base for data collection could increase both the variance of return per day of audit and the maximum return per day of audit. The larger the variance of the return per day of audit the higher will be the gain from selecting tax returns for audit according to their expected return per day of audit. It is worth stressing that no change in the audit process is required.

The maximum return per day of audit can be used to calculate the return for a marginal increase in the budget of the tax administration. Ignoring capital cost, the labor cost of a day of audit is estimated to be around 40 New Israeli Shekels per day ($57 by using the exchange rate in the middle of the period). Therefore, on the margin, each dollar spent on administration yields approximately $10 in tax revenue. This outcome is similar to the estimates for the return on a dollar invested in auditing tax returns in the U.S. which, according to various estimates, ranges from seven to 27 times (Malanga, 1986) and it reflects marginal administrative costs of ten cents on a dollar of tax revenue.

Having found that the marginal administrative cost of raising revenue is relatively low, one may be tempted to recommend an increase in administration. However, marginal administrative costs are only one of the inputs needed for addressing the issue of the optimal size of a tax administration. As argued in Yitzhaki (1979) and Slemrod and Yitzhaki (1987), the social cost of taxation is the sum of administrative cost and efficiency loss due to taxation. If tax rates and administration are optimally chosen, then at the margin the administrative cost of raising a dollar of revenue should be equal to the savings in efficiency loss caused by a decrease of a dollar in tax revenue. This argument is based on the observation that an increase in administrative costs means that productive

resources are spent in order to raise tax revenue, and a larger administration is a substitute for higher tax rates. (Assuming, of course, that we are on the increasing side of the Laffer curve).

Assume that tax rates are optimally chosen. Then the marginal cost of public funds is at least 1.2 (that is for each dollar of governmental outlay, one has to add .1 for administrative cost and .1 for efficiency loss. In addition, one has to add compliance costs). If taxes are not optimally chosen, which is probably the case, then the marginal cost of public funds can be lower or higher than 1.2. However, since efficiency losses are hidden, while administrative costs are under the scrutiny of the budgeting process of the government, we conjecture that it is reasonable to assume that the marginal excess burden is higher than the marginal administrative costs. In this case 1.2 is a lower bound of the social cost of public funds.

Table 1: The Expected Return Per day

Type of Tax Return	Return Per Day 1/
Self-employed, single-sided bookkeeping (SEO)	158
Self-employed, double-entry bookkeeping (SED)	416
Corporations (COR)	64

1/ The return is calculated in New Israeli Shekels. The exchange rate in the middle of the period of investigation is US$1 = NIS0.71.

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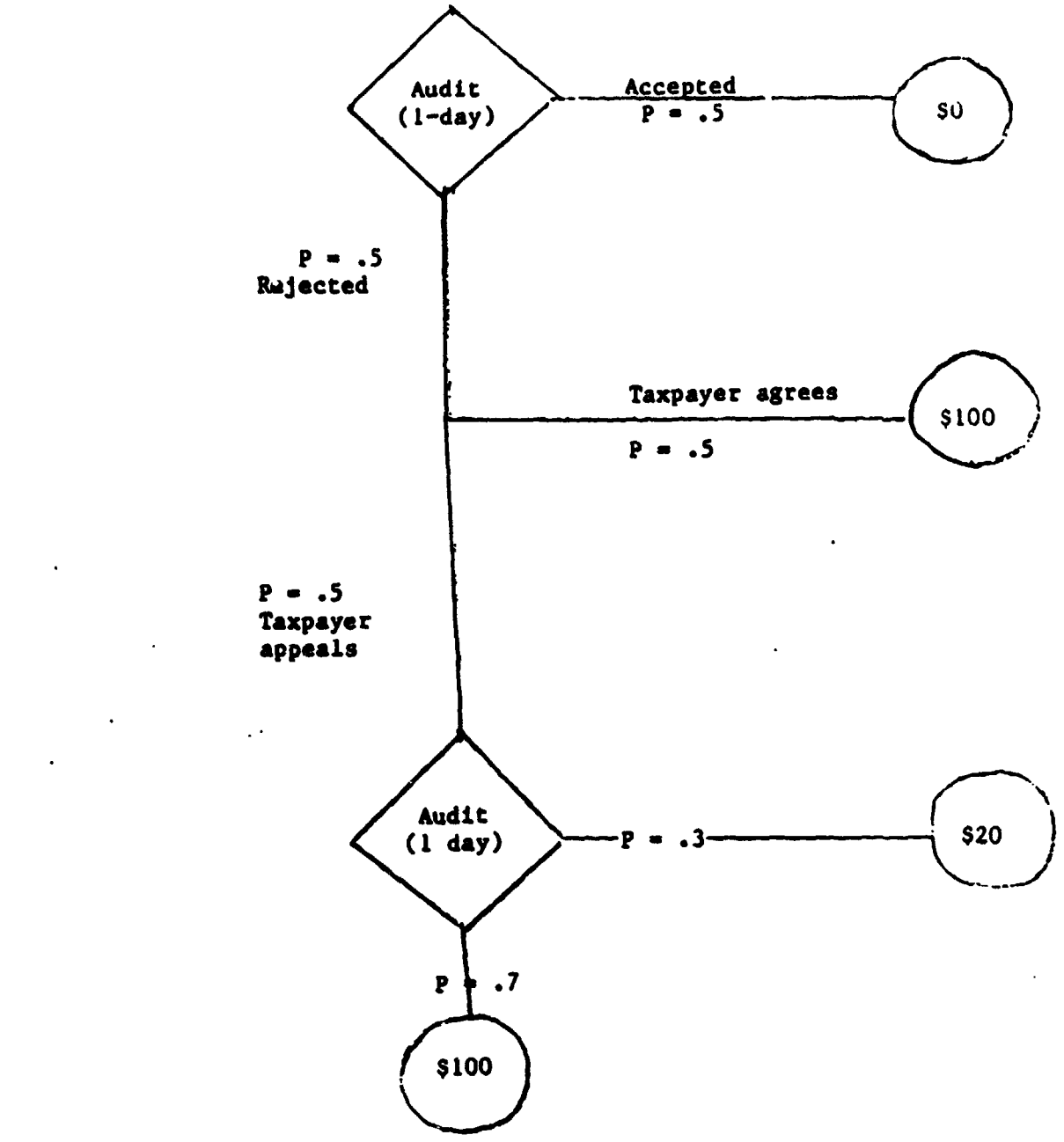
Figure 1: TAX AUDITING AS A DECISION TREE



◇ Administration

○ Additional taxes

P = probability

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