

Do Budget Deficits Reduce Household Taxpayer Compliance? Preliminary Evidence Using the Feige Data

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Abstract

This study investigates the hypothesis that higher federal budget deficits act to increase the degree of federal personal income tax evasion in the U.S. Using annual data on aggregate personal income tax evasion for the period 1961-1997, 1997 being the most recent year for which all of the needed data are currently available, and allowing for such factors as income tax rates, IRS tax return audit rates, the Vietnam War, and the Watergate scandal, it is found that income tax evasion is an increasing function of the budget deficit. Important policy implications of this finding are provided in the Conclusion.

J.E.L. Classification Codes: H26, H62, K42

I. INTRODUCTION

Income tax evasion effectively consists of taxable income that is either unreported or underreported to the government tax collection agency, which is the IRS (Internal Revenue Service) for the case of the U.S. Studies of income tax evasion behavior essentially fall into three categories. First, there are the principally theoretical models of tax evasion behavior, such as Falkinger (1988), Allingham and Sandmo (1972), Klepper, Nagin, and Spurr (1991), Das-Gupta (1994), Pestieau, Possen, and Slutsky (1994), and Caballe and Panades (1997). Second, there are a number of studies that either (a) use questionnaires or (b) undertake experiments, such as Spicer and Lundstedt (1976), Friedland (1982), Spicer and Thomas (1982), Benjamini and Maital (1985),

Alm, Jackson, and McGee (1992), Baldry (1987), De Juan (1989), Thurman (1991), and Alm, McClelland, and Schulze (1999). Third, are those studies that use what is referred to as "official data" [e.g., Clotfelter (1983), Slemrod (1985), Pommerehne and Weck-Hannemann (1989), Erard and Feinstein (1994), Feige (1994), Cebula (1997; 2001), and Feinstein (1999).

It is widely believed that the "degree of federal (central government) personal income tax evasion in the economy as a whole" (hereafter, "DTE") is positively affected by income tax rates [Clotfelter (1983), Slemrod (1985), Pommerehne and Weck-Hannemann (1989), Feige (1994), Cebula (1997; 2001), Saltz (2001)]. Allegedly, the higher the income tax rate, the greater the benefit (in terms of a reduced tax liability) from not reporting taxable income, ceteris paribus. It is also widely accepted that the greater the risk associated with underreporting or not reporting income, the less the degree to which economic agents will choose either to not report or to underreport their taxable income [Friedland (1982), Spicer and Thomas (1985), De Juan (1989), Alm, Jackson, and McKee (1992), Errard and Feinstein (1994), Cebula (1997; 2001), Saltz (2001)].

This study seeks to add to the third category of this rich literature by investigating whether federal budget deficits in the U.S. impact on the incentive to evade income taxation. The U.S. federal budget was in surplus for the period FY1998-FY2001. However, given the recession of 2001, a sluggish economy following

that recession, tax cut legislation enacted in 2001, the "war on terrorism" declared in the aftermath of the terrorist attacks of September 11, 2001, and the tax cut statute enacted in 2003, federal budget deficits have reappeared. Krueger (2003) warns that federal budget deficits have re-emerged as a major problem and that that with the impending retirement of the first "baby boomers," the "red ink" is likely to continue "as far as the eye can see." Similarly, Comptroller General David Walker (2003, p. A12) has observed that "The days of surpluses are gone, and our and projected budget situation has significantly." Walker (2003, p. A12) adds that "The bottom line is, there is little question that deficits matter, especially if they are large, structural, and recurring in nature..." Indeed, Krueger (2003) envisions predicted future budget deficits as raising interest rates and crowding out private investment in new plant and equipment in years to come.

Krueger's concerns are not uncommon. Over the years, a number of economists and policymakers have taken the view that, among other things, budget deficits raise interest rates. For example, consider another distinguished economist, Michael Boskin (1987, p. 257), who has stated that "...it is very likely that deficits do contribute to high interest rates both directly through increased demand in credit markets and indirectly through uncertainty premia over their likely economic effects and how they will be resolved..." Moreover, to the extent that government budget deficits act to

raise intermediate and long term interest rates, it has previously been suggested that deficits lead to the crowding out of investment [Al-Saji (1992; 1993), Carlson and Spencer (1975), Cebula (1991)]. Indeed, the budget deficit issue is very much alive, as are the concerns over its potential effects on the economic future of the U.S. economy. The very recent scholarly contributions by Ott (2003), MacAvoy (2003), and Orcutt (2003) are evidence of this.

The present study, however, considers budget deficits from a different and perhaps less obvious (but no less dangerous) perspective, namely, "Do higher budget deficits themselves lead to increased tax evasion?" If the answer to this question is indeed "yes," then government budget deficits may be to some extent self-generating, implying that the need to have federal government budgetary restraint (fiscal responsibility) may be even greater than heretofore perceived or conceded. Section II of this study provides the basic model and identifies formally the key variables in the system; in so doing, the formal hypothesis surrounding the potential budget deficit/tax evasion linkage is provided. The subsequent section describes the data used to test the model and provides the empirical findings. A summary and policy implications are found in the concluding section.

II. THE MODEL

The economy consists of agents who generate economic value that is reflected in the form of taxable income. These economic

agents choose whether or not to report none, some, or all of their taxable income to the IRS. To the extent that said income is reported to the IRS, a tax liability may be incurred.

study, the relative probability that In this the representative economic agent will not report his/her taxable income to the IRS is treated as an increasing function of the expected gross benefits to the agent of not reporting income, eb, and a decreasing function of the expected gross costs to the agent of not reporting income, ec. Thus, it is hypothesized that, to degree paralleling the model in Cebula (2001), the probability of not reporting income to the IRS, pnr, is described for the representative economic agent by:

$$\label{eq:pnr} \text{pnr} = \text{f(eb, ec), f}_{\text{eb}} > 0\text{, f}_{\text{ec}} < 0 \tag{1}$$
 Since the values for pnr will vary across different sectors of the economy, pnr may be viewed as a weighted average of these various probabilities.

The gross benefits from *not* reporting income to the IRS are expected to be an increasing function of the federal personal income tax rate [Cagan (1958), Bawley (1982), Tanzi (1982; 1983), Clotfelter (1983), Slemrod (1985), Pyle (1989), Feige (1994)]. To reflect the federal personal income tax rate, most previous studies using official data have adopted either of two alternative measures: an average effective personal income tax rate (AEPT) or the maximum marginal personal income tax rate (MAXPT). In this study, unlike most of the previous related studies, *both* of these

measures are adopted *simultaneously*. Accordingly, it is hypothesized that:

eb =
$$g(AEPT, MAXPT)$$
, $g_{AEPT} > 0$, $g_{MAXPT} > 0$ (2)

It has previously been suggested [Feige (1994), Cebula (2001)] that the more the public distrusts and resents government policies and how government officials conduct themselves, the greater may be the subjective benefits taxpayers derive from tax evasion. For example, it has been specifically argued by Feige (1994, p. 129) that the public's dissatisfaction with government and hence its penchant for income tax evasion may have been increased by factors such as "...the Vietnam War and the subsequent Watergate episode and sharply rising tax [income] rates."

Based on Feige (1994, p. 129) then, it is first hypothesized here that there would have been an increase in personal income tax evasion, ceteris paribus, as a taxpayer response over the years of the Nixon/Nixon-Ford Administrations (1972-1976, which period is represented here by the dummy variable WATERGATE) during which the actual Watergate scandal occurred and was serving as the subject of nearly constant media attention. In addition, a second dummy variable reflecting the Watergate scandal is considered in the analysis, AFTERWATER. This binary variable is included in the analysis in order to test whether there was a longer term taxpayer reaction in the period that followed the Watergate scandal, one in which a taxpayer attitude of resisting (trying to evade) federal personal income taxation was greater due to a continuing,

generally diminished faith in the U.S. political system and/or politicians. Also following Feige (1994, p. 129), we hypothesize an adverse taxpayer reaction to the Vietnam War in the form of increased personal income tax evasion, ceteris paribus. This study allows for this phenomenon by including a separate dummy variable (WAR) for the years (1965-1972) during which the U.S. was significantly involved in Vietnam militarily, i.e., not merely or primarily in an "advisory" capacity. Accordingly, equation (2) can now be expanded to:

eb = h(AEPT, MAXPT, WAR, WATERGATE, AFTERWATER),

 $h_{AEPT} > 0$, $h_{MAXPT} > 0$, $h_{WAR} > 0$, $h_{WATERGATE} > 0$, $h_{AFTERWATER} > 0$ (2')

In addition, it is hypothesized in the present study that the public's dissatisfaction with government may be significantly impacted by the size of federal budget deficits (DEF). Such deficits may be viewed as wasteful, fiscally irresponsible, and indeed even unfair, the latter in part because households in general must as a rule in the long run live within budget constraints, whereas the federal government effectively faces no such constraint whatsoever. Moreover, the burden of the interest paid on federal deficits is borne principally by individual taxpayers through their federal personal income tax payments, a potential cause for further dissatisfaction with government deficits. Thus, taxpayers not only are by nature deprived of the financial (budgetary) freedom the federal government enjoys but also must foot the bill for the federal government's "budgetary

transgressions." Furthermore, to the extent that at least some portion of the income-earning public believes that budget deficits adversely affect the economy [see, e.g., Krueger (2003)], federal deficits may further contribute to the public's dissatisfaction with government. Thus, it is hypothesized here that the greater the size of the federal budget deficit, the greater the degree of taxpayer dissatisfaction with government and hence the greater the degree to which taxpayers have a desire to underreport or not report income to the IRS, ceteris paribus. Hence, (2') can be rewritten as:

eb= h (AEPT, MAXPT, WAR, WATERGATE, AFTERWATER, DEF), $h_{AEPT} > 0$, $h_{MAXPT} > 0$, $h_{WAR} > 0$, $h_{WATERGATE} > 0$, $h_{AFTERWATER} > 0$, $h_{DEF} > 0$ (2")

The expected gross costs of not reporting income to the IRS are hypothesized to be an increasing function of the risks thereof [Alm, Jackson, and McKee (1992), Pestieau, Possen, and Slutsky (1994), Erard and Feinstein (1994), Caballe and Panades (1997), Cebula (1997), Saltz (2001)]. In this study, to the representative economic agent, the expected penalty from not reporting or underreporting taxable income to the IRS, is enhanced by an increase in AUDIT, the percentage of filed federal income tax returns that is formally audited by IRS examiners/personnel. Indeed, the experience of an IRS tax audit would imply non-pecuniary ("psychic") costs as well as pecuniary costs (including outlays for legal or other representation, along with the value of one's own time) above and beyond any potential added taxes,

penalties, and interest assessed by the IRS. Thus, we have:

$$ec = j(AUDIT), j_{AUDIT} > 0$$
 (3)

Substituting from (2") and (3) into (1) yields:

pnr = b(AEPT, MAXPT, WAR, WATERGATE, AFTERWATER, DEF, AUDIT),

 $b_{AEPT} > 0$, $b_{MAXPT} > 0$, $b_{WAR} > 0$, $b_{WATERGATE} > 0$, $b_{AFTERWATER} > 0$, $b_{DEF} > 0$, $b_{AUDIT} < 0$ (4)

III. EMPIRICAL ANALYSIS

Based on the framework provided in (4) above, the following reduced-form equation is to be estimated:

 $(AURI/GDP)_t = a_0 + a_1 AEPT_{t-1} + a_2 MAXPT_{t-1} + a_3 WAR_t$

+ a_4 WATERGATE_t + a_5 AFTERWATER_t + a_6 DEFY_t + a_7 AUDIT_{t-1} + u (5) where:

 $(AURI/GDP)_t$ = the ratio of the aggregate unreported taxable income in year t to the GDP in year t, expressed as a percent; a_0 = constant term;

 $AEPT_{t-1}$ = the average effective federal personal income tax rate in year t-1, expressed as a percent; ¹

 $MAXPT_{t-1}$ = the maximum marginal federal personal income tax rate in year t-1, expressed as a percent;

 $WAR_t = a$ binary (dummy) variable for the years in which the U.S. was significantly and actively involved *militarily* in the Vietnam War: $WAR_t = 1$ for 1965-1972 and $WAR_t = 0$, otherwise;

 $WATERGATE_t$ = a binary variable for the years surrounding the Watergate scandal, beginning with 1972, when the Watergate breakin was discovered and made public and ending with 1976, when the Nixon/Nixon-Ford Administrations were effectively over:

 $WATERGATE_t = 1$ for 1972-1976 and = 0 otherwise;

AFTERWATER_t = a binary variable for the years subsequent to 1976: $AFTERWATER_t = 1$ for years prior to 1977 and = 0 for 1977 and thereafter;

 $DEFY_t$ = the ratio of the total nominal federal budget deficit in year t to the nominal GDP in year t, expressed as a percent; $AUDIT_{t-1}$ = the percentage of filed federal personal income tax returns in year t-1 that was subjected to a formal IRS audit involving IRS examiners;

u = stochastic error term.

The study period runs from 1961 through 1997, a time frame dictated by availability of all of the needed data. For example, quality data for the variable AUDIT are not available on a reliable basis prior to 1960, and the tax evasion series have not as yet been computed past 1997. The data are annual. The data for AEPT, MAXPT, and AUDIT were obtained from the IRS (1960-1997) and the IRS (2003). The WAR, AFTERWATER, and WATERGATE variables are binary (dummy) variables. The DEFY variable was obtained from the Council of Economic Advisors (2003, Table B-79), after multiplying the series by (-1). As is common practice in the empirical macroeconomics literature, the budget deficit is expressed relative to the size of the economy. The series adopted to measure the variable AURI/GDP were obtained from Tanzi(1982; 1983) and extended through 1997. The mean value for the AURI/GDP series was 4.89, with a standard deviation of +0.559.

The P-P (Phillips-Peron) unit root test indicates that the variables AURI/GDP and AEPT are both stationary in levels, whereas the variables MAXPT, DEFY, and AUDIT are stationary only in first differences. Accordingly, in the estimations, the variables MAXPT, DEFY, and AUDIT are expressed in first differences.

The variables $(AURI/GDP)_t$ and $DEFY_t$ are contemporaneous. To avoid simultaneity bias, an IV (instrumental variables) approach is adopted. The instrument adopted is the two-year lag of the annual percentage interest rate yield on ten year Treasury notes (TEN). The P-P test reveals that, like the DEFY variable, the TEN variable is stationary only in first differences. The choice of instrument is based on the finding that the DEFY variable (in first differences) and the two-year lagged TEN variable (in first differences) are highly correlated, whereas the two-year lagged instrument is not correlated with the error terms in the system. The data for TEN were obtained from the Council of Economic Advisors (2003, Table B-73).

The IV estimation of equation (5), adopting the Newey-West heteroskedasticity correction, is provided in equation (10): $(AURI/GDP)_{\rm t} = 2.08 + 0.15 \ AEPT_{\rm t-1} + 0.015 \ zMAXPT_{\rm t-1} + 0.29 \ WAR_{\rm t}$

+ 0.73 WATERGATEt + 0.19 ZDEFYt + 1.1 AFTERWATERt

$$(+5.18)$$
 $(+2.68)$ $(+7.85)$

$$-0.29$$
 zAUDIT_{t-1}, F-statistic = 15.03, DW = 1.95, Rho= 0.02 (6) (-1.32)

where terms in parentheses are t-values and z is the first-differences operator.

In equation (6), all of the estimated coefficients on the seven explanatory variables exhibit the hypothesized signs, with six statistically significant at beyond the five percent level. The F-statistic is significant at far beyond the one percent level. There is no concern regarding autocorrelation.

The estimated coefficient on the AEPT variable is positive and significant at the one percent level. Thus, the greater the average effective federal personal income tax rate, the greater the aggregate degree of income tax evasion by households. This finding is consistent with the conventional wisdom and with several previous studies, e.g., Clotfelder (1983), Slemrod (1985), Feige (1994), and Cebula (2001). The coefficient on the maximum marginal federal personal income tax rate is positive and significant at the four percent level. Thus, there is strong evidence that this particular measure of the federal personal income tax rate also positively affects tax evasion. The estimated coefficients on the WAR, AFTERWATER, and WATERGATE dummies are all positive and statistically significant at beyond the two percent level. Thus, it appears, as argued by Feige (1994), that the Vietnam War and the Watergate scandal may have acted to create an attitude among taxpayers that increased the degree of their personal income tax evasion. By contrast, the estimated coefficient on the AUDIT variable is negative but not

statistically significant, a finding consistent with the earlier studies by Cebula (1997) and Saltz (2001). Finally, the estimated coefficient on the deficit variable is positive and statistically significant at the one percent level. Thus, it appears, as hypothesized in this study, that for the U.S. the greater the federal budget deficit (expressed here as a percent of GDP), the greater the degree to which taxpayers engage in income tax evasion.

IV. CONCLUSION

This study has examined the hypothesis that, at least for the U.S., larger federal budget deficits create an incentive for resentful taxpayers to engage in a greater degree of federal personal income tax evasion. This potential impact of the federal budget deficit has not to date been formally investigated in the published literature.

The IV estimate reveals several conclusions. For example, the aggregate degree of personal federal income tax evasion over the 1961-1997 study period was an increasing function of the average effective federal personal income tax rate, the maximum marginal personal income tax rate, the Vietnam War, and the Watergate scandal.

Strong empirical evidence is also provided that the greater the federal budget deficit (measured in this study as a percent of the GDP), the greater the degree of personal federal income tax evasion. If this finding is valid, it implies that the greater the

federal budget deficit (relative to the size of the economy), the lower the Treasury's income tax revenues will be over time and hence the higher future federal budget deficits will become over time, ceteris paribus. Thus, a hidden danger in the recent reappearance of huge budget deficits is that future projections of those deficits may prove to be more downwards biased than previously believed. Given the potential long term implications of huge budget deficits for interest rates, capital formation, economic growth, global economic competitiveness, and living standards, the economic impacts of prolonged huge budget deficits could be traumatic to the U.S. economic outlook.

Endnote

1. Feige (1994, p. 135) states that "The average tax rate is simply the sum of total government tax receipts divided by AGI [aggregate]," where AGI is adjusted gross income. In the present investigation, variable AEPT is total federal government income tax receipts from individuals divided by their aggregate AGI.

References

- Allingham, M.G., and A. Sandmo. "Income Tax Evasion," Journal of Public Economics, 1, 1972, pp. 323-38.
- Alm, J., Jackson, B., and McKee, M. "Institutional Uncertainty and Taxpayer Compliance," American Economic Review, 82, 1992, pp. 1018-26.
- Alm, J., McClelland, G.H., and Schulze, W.D. "Changing the Social Norm of Tax Compliance by Voting," Kyklos, 52, 1999, pp.

- 141 71.
- Al-Saji, A. K. "Government Budget Deficits, Nominal and Ex Ante Real Long term Interest Rates in the U.K., 1960.1-1990.2," Atlantic Economic Journal, 21, 1993, pp. 71-7.
- Atlantic Economic Journal, 21, 1993, pp. 71-7.

 Al-Saji, A. K. "The Impact of Government Budget Deficits on Ex Post Real Long Term Interest Rates in the U.K.," Economia Internazionale, 45, 1992, pp. 158-63.
- Baldry, J.C. "Income Tax Evasion and the Tax Schedule: Some Experimental Results," <u>Public Finance/Finances Publiques</u>, 42, 1987, pp. 357-83.
- Bawley, D. The Subterranean Economy, New York: McGraw-Hill, 1982.
- Benjamini, Y., and Maital, S. "Optimal Tax Evasion and Optimal Tax Evasion Policy: Behavioral Aspects," in W. Gaertner and A. Wenig (Eds.), The Economics of the Shadow Economy, Berlin: Springer-Verlag, 1985.
- Caballe, J.; Panades, J. "Tax Evasion and Economic Growth," <u>Public</u> Finance/Finances Publiques, 52, 1997, pp. 318-40.
- Cagan, P. "The Demand for Currency Relative to the Total Money Supply," Journal of Political Economy, 66, 1958, pp. 303-28.
- Carlson, K. M.; Spencer, R.W. "Crowding Out and Its Critics,"

 Federal Reserve Bank of St. Louis Review, 60. 1975, pp. 1-19.
- Carson, C. "The Underground Economy: An Introduction," Survey of Current Business, 64, 1984, pp. 24-35.
- Cebula, R.J. "An Empirical Analysis of the Impact of Government Tax and Auditing Policies on the Size of the Underground Economy: The Case of the United States, 1973-94," The American Journal of Economics and Sociology, 56, 1997, pp. 173-86.
- Cebula, R.J. "Impact of Income-Detection Technology and Other Factors on Aggregate Income Tax Evasion: The Case of the United States," <u>Banca Nazionale del Lavoro Quarterly Review</u>, 55, 2001, pp. 401-15.
- Cebula, R. J. "A Note on Federal Budget Deficits and the Term Structure of Real Interest Rates," Southern Economic Journal,
- 57, 1991, pp. 1170-3.
- Clotfelter, C.T. "Tax Evasion and Tax Rates: An Analysis of Individual Returns," <u>Review of Economics and Statistics</u>, 65, 1983, 363-73.
- Council of Economic Advisors. Economic Report of the President, 2003. Washington, D.C.: U.S. Government Printing Office, 2003.
- Das-Gupta, A. "A Theory of Hard-to-Tax Groups," Public Finance/Finances Publiques, 49, 1994, pp. 28-39.
- De Juan, A. <u>Fiscal Attitudes and Behavior: A Study of 16-35 Year</u>
 Old Swedish Citizens, Stockholm, Sweden: Stockholm School of
 Economics, 1989.
- De Juan, A., Lasheras, M.A., and Mayo, R. "Voluntary Tax Compliant Behavior of Spanish Tax Payers," <u>Public Finance/Finances Publiques</u>, 49, 1994, pp. 90-105.

- Erard, B., and Feinstein, J.S. "The Role of Moral Sentiments and Audit Perceptions in Tax Compliance," Public Finance/Finances Publiques, 49, 1994, pp. 70-89.
 Falkinger, J. "Tax Evasion and Equity: A Theoretical Analysis,"
- Public Finance/Finances Publiques, 43, 1988, pp. 388-95.
- The Underground Economies: Tax Evasion Information Distortion, Cambridge: Cambridge University Press,
- Feige, E. L. "The Underground Economy and the Currency Enigma," Public Finance/Finances Publiques, 49, 1994, pp. 119-136.
- Feige, E. L. "Overseas Holdings of U.S. Currency and the Underground Economy," in S. Pozo, editor, <u>Exploring the Underground Economy</u>, Kalamazoo, MI: W.E. Upjohn Institute for Employment Research, 1996.
- Feige, E.L., "Revised Estimates of the Size of the Underground Economy: Implications of U.S. Currency Held Abroad," in O. Lippert and M. walker, editors, The Underground Economy: Global Evidence of Its Size and Impact, Vancouver, Canada: Fraser Institute, 1997.
- Feinstein, J.S. "Approaches for Estimating Non-Compliance: Examples from Federal Taxation in the United States," Economic Journal, Vol. 109, 1999, pp. F360-69.
- Friedland, N. "A Note on Tax Evasion as a Function of the Quality of Information about the Credibility of Threatened Fines: Some Preliminary Research," <u>Journal of Applied Social</u> Psychology, 12, 1982, pp. 54-9.
- Internal Revenue Service. Annual Report of the Commissioner and Chief Counsel of the Internal Revenue Service, Washington, D.C.: U.S. Government Printing Office, 1960-1997.
- Internal Revenue Service. Statistics of Income. Washington, D.C.: U.S. Government printing Office, 2003.
 Klepper, S., Nagin, D., and Spurr, S. "Tax Rates, Tax Compliance,
- and the Reporting of Long-Term Capital Gains," Public Finance/Finances Publiques, 46, 1991, pp. 236-51.
- Krueger, Alan B. "Big Federal deficits, Bigger Risks," New York Times, March 6, 2003.
- MacAvoy, P. " 'Don't Just Stand There...' Treasury Secretary William E. Simon and Fiscal Policy during Stagflation," Atlantic Economic Journal, 31, 2003, pp. 213-8.
- Orcutt, B. L. "Expenditure and Deficit Policy: A Retrospective Look at the Simon Agenda," Atlantic Economic Journal, 31, 2003, pp. 219-32.
- Ott, A.F. "Secretary William E. Simon's Contribution to Economic Policy," Atlantic Economic Journal, 31, 2003, pp. 211-2.
- Pestieau, P., Possen, U., and Slutsky, S. "Optimal Differential Taxes and Penalties," Public Finance/Finances Publiques, 49, 1994, pp. 15-27.
- Pommerehne, W. W., and Weck-Hannemann, H. "Tax Rates, Administration and Income Tax Evasion in Switzerland," Paper presented at the Conference of the Applied Econometrics

- Association, Rome, Italy, 1989.
- Pozo, S. Ed., Exploring the Underground Economy, Kalamazoo, MI: Upjohn, 1996.
- Pyle, D. Tax Evasion and the Black Economy, New York: St. Martin's Press, 1989.
- Saltz, I. S. "An Empirical Note on Tax Auditing and the Size of Underground Economy in the U.S., 1962-1980," International Review of Economics and Business, 48, 2001, pp. 119-24.
- Slemrod, J. B. "An Empirical Test for Tax Evasion," Review of
- Economics and Statistics, 67, 1985, pp. 232-67. Spicer, M. W., and Lundstedt, S. B "Understanding Tax Evasion, "Public Finance/Finances Publiques, 31, 295- 305.
- Spicer, M. W., and Thomas, J.E. "Audit Probabilities and the Tax Evasion Decision: An Experimental Approach," <u>Journal of Economic Psychology</u>, 2, 1982, pp. 241-45.
- Tanzi, V. The Underground Economy in the United States and Abroad, Lexington, MA: Lexington Books, 1982.
- Tanzi, V. "The Underground Economy in the United States: Annual Estimates, 1930-1980," IMF Staff Papers, 30, 1983, pp. 283-
- Thurman, Q. C. "Taxpayer Noncompliance and General Prevention: An Expansion of the Deterrence Model," Public Finance/Finances <u>Publiques</u>, 46, 1991, pp. 289-98.
- Walker, David. "GAO Grim on Deficit Outlook," Atlanta Journal and Consitution, September 18, 2003, pp. A1, A12.