U.S. FEDERAL TAXATION OF EXPATRIATES: AN EMPIRICAL INVESTIGATION OF THE EQUITY OF THE FOREIGN EARNED INCOME AND HOUSING EXCLUSIONS

By

Sarah Emmons Nutter

A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

Department of Accounting

1993

ABSTRACT

U.S. FEDERAL TAXATION OF EXPATRIATES: AN EMPIRICAL INVESTIGATION OF THE EQUITY OF THE FOREIGN EARNED INCOME AND HOUSING EXCLUSIONS

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Although both the U.S. Congress and the private sector use equity arguments to justify the foreign earned income and housing exclusions (IRC §911), no study has investigated the extent to which these provisions enhance equity. The purpose of this study is three-fold: to document descriptive characteristics of expatriate taxpayers, to empirically examine the equity effects of the IRC §911 provisions, and to investigate the impact of the Tax Reform Act of 1986 on taxpayer's elections of the IRC §911 provisions.

The coefficients of variation and residual variation are used to examine the horizontal equity effects of the IRC §911 provisions. The Suits index and the tax liability and residual progression coefficients are used to examine the vertical equity (progressivity) effects of the IRC §911 provisions. Adjusted expanded income is used as a measure of income and two alternative measures of taxes are used:

tax liability and effective tax rates computed on both a U.S. and worldwide basis.

The equity measures are computed for two tax regimes: one with the IRC §911 provisions and the other without the IRC §911 provisions using a unique database, the 1987 Statistics of Income foreign sample of taxpayers filing for the IRC §911 provisions. Foreign tax rates and foreign exchange rates are used to recompute the tax liability of the expatriates under a tax regime without the IRC §911 provisions in place.

Data from 86 countries are used to assess the use of the IRC §911 provisions across time. The countries included have data available in both the 1987 and 1983 Statistics of Income foreign sample, State Department estimates of expatriates, and an estimated foreign tax rate available.

The results are inconsistent with the hypothesis that horizontal equity increases with the inclusion of the IRC §911 provisions. The results of the tests examining the progressivity of the tax regimes are mixed. Using the Suits Index, the tax regime with the IRC §911 provisions is more progressive than the tax regime without the IRC §911 provisions in place. The results using the tax liability and residual progression coefficients indicate the opposite. However, both tax regimes are very progressive. The results indicate that the use of the IRC §911 provisions declined between 1983 and 1987.

This dissertation is dedicated to

my husband, David

my three sons, Neill, John, and Ian

my parents,

my family and good friends.

I couldn't have done this without

their love and support and God's blessings.

ACKNOWLEDGEMENTS

I am very grateful to my commitee members at Michigan State University for their professional expertise and personal encouragement throughout the course of my Ph.D. program and especially in the midst of the dissertation process: Chairman Edmund Outslay and Richard Weber from the Accounting Department, and Paul L. Menchik from the Economics Department. I appreciate the support of many members of the Statistics of Income Division and the timely use of library facilities provided by Ernst and Young. I am also very thankful for the support and encouragement of my good friend, Susan C. Kattelus, who always was there to encourage me through the low points.

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Chapter One

INTRODUCTION AND OVERVIEW

The ability of U.S. firms to compete internationally is a current concern of both the private and public sectors. Congressional hearings on the factors affecting international competitiveness of the United States were held in June and July of 1991 before the House Ways and Means Committee.[1] More recently, Robert Mattson from the I.B.M. corporation urged the government to "do no harm to competitiveness."[2] He argued that decisions to invest in the United States and abroad should be tax neutral and that tax legislators should work to improve the competitiveness of U.S. firms. One factor that affects the competitiveness of the United States in world markets is the taxation of U.S. expatriates[3] living and working abroad.

Residents of the United States, as in many other countries, are taxed on their worldwide income and allowed a credit for foreign income taxes paid on foreign source income. However, unlike many other countries, the United

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[1]For an analysis of the factors affecting international competitiveness see Joint Committee on Taxation [1991].

[2]The remarks were made on May 18, 1992, at the Spring Symposium of the National Tax Association.

[3]Expatriates are defined, within the context of this study, as U.S. citizens (resident aliens) who leave the United States to reside in a foreign country but retain their U.S. citizenship (status).

States taxes the worldwide income of its citizens and residents, including U.S. expatriates living in a foreign country.[4] The primary exception to this general rule is an income exclusion for a certain level of foreign earned income and excess housing costs.[5]

An exclusion for foreign earned income was initially included in federal income tax law in 1926. The stated goals of the provision were to equate the tax burden of U.S. citizens abroad with that of their domestic counterparts and to provide an incentive for U.S. participation in foreign trade [Sobel, 1985, 120]. Equity and incentive considerations continue to dominate current discussions of the foreign earned income and housing exclusions.

Controversy has surrounded the foreign earned income exclusion since its enactment. At the Congressional level, several attempts have been made to diminish or eliminate the exclusion with varying levels of success. For example, in 1976 Congress was concerned that expatriates were being treated more favorably than similarly situated domestic taxpayers. As a result, the exclusion level was reduced and

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[4]U.S. expatriates are required to file a tax return and pay taxes on their worldwide income. Most other industrialized countries exempt their citizens' foreign source income when they are residents of a foreign country [Maiers, 1981, 692].

[5]Section 911 of the Internal Revenue Code (here after referred to as IRC §911) contains the tax law governing the foreign earned income exclusion, housing exclusion, and housing deduction. The term "§911 provisions" encompasses all three of these components.

any excess foreign source income was taxed at the marginal rate that would have applied had the exclusion not been in effect.[6] In 1988, Senator Proxmire, citing a failure of the exclusion as an incentive, introduced legislation to repeal the exclusion.

The private sector has also been concerned with the tax treatment of U.S. expatriates. In July, 1990, at the First World Congress of U.S. Citizens Abroad,[7] the organization's tax committee presented Congressional members with a position paper indicating their concerns with the tax treatment of U.S. citizens abroad. The committee stated that U.S. citizens are returning home because of the "high overseas income tax bite", which includes both foreign and U.S. taxes. In the position paper, the tax committee argued that

> today American business faces stronger competition from expansive aggressive nations which support their offshore activities--exports, construction projects, direct investment, banking--in many ways, and in particular by encouraging their nationals to work abroad through continued exemption from taxation of foreign source earned income.[8]

Although Congress and various private interests have cited equity and incentive arguments in their discussions of

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[6]Reported in H.R. No. 658, 94th Cong., 1st Sess., (1976), reprinted in 1976-3 (Vol. 2) C.B. 695,892.

[7]Details of this conference were reported in the Daily Tax Reporter [July 9, 1990] and by Jones in Tax Notes [July 23, 1990, 503-4].

[8] Reported in the Taxation of Overseas Americans Policy Statement [p. 2].

the foreign earned income exclusion, research in this area has been very limited. A few studies[9] have investigated the incentive effects of the foreign earned income exclusion. To date, no study has investigated the equity effects of the foreign earned income and housing exclusions.

The purpose of this research is three-fold: to empirically document descriptive characteristics of expatriate taxpayers, to examine the equity effects of the IRC §911 provisions, and to investigate the impact of the TRA of 1986 on the use of the IRC §911 provisions using a unique data set of expatriate tax returns. Because no prior study has examined these issues, the results of this research provide initial evidence of the equity and incentive effects of the foreign earned income and housing exclusions. The findings are expected to contribute to the tax policy discussion of the taxation of U.S. expatriates by providing empirical data on the equity and incentive effects of the IRC §911 provisions.

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[9]The most rigorous of these was done by Mutti [1978] for the Office of Tax Analysis. Using multiple regression, Mutti used an economic model to investigate whether expatriates contributed to the overall level of U.S. exports. Other studies [such as Chase Econometrics Associates (1981)] relied on surveys of expatriates and U.S. multinational companies to examine the incentive effects of the foreign earned income exclusion.

Chapter Two

TAX TREATMENT OF U.S. CITIZENS LIVING ABROAD

This chapter describes the historical and current tax treatment of U.S. expatriates. This overview frames the environment within which the equity and incentive effects of the IRC §911 provisions are examined. A brief synopsis of the history of the U.S. tax treatment of expatriates is presented. Appendix A contains a more complete discussion of the history of the U.S. tax treatment of expatriates living and working abroad. The current tax treatment of U.S. expatriates is then described.

2.1 Historical Tax Treatment of U.S. Citizens Living Abroad

In 1926, Congress enacted legislation allowing U.S. citizens living and working abroad for at least six months during the taxable year (bona fide nonresidents) to exclude all foreign earned income.[1] The exclusion was controversial even at this juncture. The initial proposal by the House Ways and Means Committee (here after referred to as the House) was not well received in the Senate Finance Committee (here after referred to as the Senate). Although they

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[1]Earned income included wages and salaries, professional fees, and any other amounts received for personal services. For those engaged in a trade or business, a reasonable amount, not in excess of 20 percent of the net profits was considered earned income [Revenue Act of 1926, Ch. 27, §209(a)(1), 44 Stat. 9,20].

ultimately agreed, the Senate initially did not feel that any exclusion was necessary given that citizens employed abroad already were allowed a tax credit[2] for any taxes paid to the foreign country on the earned income. The necessity of the exclusion, given that the foreign tax credit exists, continues to be a key controversy in discussions of the exclusion.

Throughout its long history, Congress has alternatively advocated repealing or strengthening the foreign earned income exclusion. Although it remained in place in 1942 and 1953, the House was concerned about perceived abuses of the foreign earned income exclusion and recommended repeal. In 1951, the Senate strengthened the exclusion, noting that changes were needed to encourage citizens to go abroad and to place them on an equal footing with their foreign counterparts who were not taxed by their home countries.

In 1976, the House felt that the exclusion provided an unfair tax advantage to expatriates when compared with their domestic counterparts and proposed repeal of the exclusion. The Senate advocated retaining the exclusion to protect the competitive position of U.S. firms operating abroad. The foreign earned income exclusion was retained, but the foreign tax credit could no longer be claimed for foreign taxes paid on the excluded income.

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[2]The foreign tax credit [IRC §901] was incorporated into federal tax law in 1918.

The availability of the foreign earned income exclusion was severely restricted in 1978.[3] For most expatriates it was replaced with a series of complex deductions designed to take into account the special costs of living overseas. The goal of these provisions was to place expatriates in an equitable position when compared to their domestic counterparts.

In 1981, citing the need to simplify these tax provisions, Congress reinstated the foreign earned income exclusion and incorporated a new housing exclusion in an attempt to take into account the additional costs of obtaining housing abroad.

Congress has modified the form of the foreign earned income exclusion many times. The length of the qualifying period has varied. A limitation on the amount of foreign earned income that may be excluded has been included and altered many times. The test of nonresidency has become a test of residency, and a new test based on physical presence has been incorporated into the tax law. At various times the foreign earned income exclusion was available based on the type of occupation and the geographical location of the taxpayer.

Current federal tax law includes both a foreign earned

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[3]The 1978 Act limited the foreign earned income exclusion to individuals either working and residing in camps in hardship areas or working for qualified domestic charities in lesser developed countries.

income exclusion and a housing exclusion. Qualified U.S. citizens and resident aliens meeting either the physical presence or bonafide residence tests may take either or both of these exclusions. A more complete history of IRC §911 is provided in Appendix A. The current tax treatment of expatriates living abroad is described in the following section.

2.2 Current Tax Law Provisions

Qualified U.S. citizens or resident aliens living and working abroad may elect to exclude a certain amount of foreign earned income and an excess foreign housing cost amount[4] under IRC §911[5]. The election is made separately for each of the exclusions.

To qualify for the exclusions, an individual must have a foreign tax home[6] and satisfy either the bona fide

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[4]In general, self-employed individuals may elect to deduct rather than exclude the excess housing cost amount. They may still elect the exclusion for foreign earned income.

[5]Amounts paid by the United States or an agency thereof to an employee of the United States or an agency thereof are not included in foreign earned income [IRC §911(b)(1)(B)]. Thus, U.S. government employees (both civilian and military) generally do not qualify for the foreign earned income and housing exclusions.

[6]The definition of tax home [IRC §911(d)(3)] indicates that the meaning corresponds to the definition of home for purposes of IRC §162(a)(2), which relates to traveling expenses while away from home. The federal income tax regulations [§1.911-2(b)] describe an individual's tax home "to be located at his regular or principal (if more than one regular) place of business or, if the individual has no regular or principal place of business because of the nature

residence [IRC §911(d)(1)(A)] or physical presence test [IRC §911(d)(1)(B)]. Only U.S. citizens may use the bona fide residence test. The bona fide residence test is generally satisfied if the individual has established and maintained residence[7] in a foreign country for an uninterrupted period that includes an entire taxable year. An individual will not be considered a resident under IRC §911 if (s)he submits a statement to the taxing authorities of the foreign country indicating (s)he is not a resident and the foreign country does not subject him or her to foreign income taxation [IRC §911(d)(5)]. Under the physical presence test, an individual must be present in a foreign country during at least 330 full days during any period of 12 consecutive months.

In general, earned income is compensation received for personal services [IRC §911(d)(2)(A)]. Thus, wages, salaries, and professional fees qualify as earned income for purposes of the exclusion. Taxpayers engaged in a trade or business that uses both capital and services to produce income may treat as earned income any reasonable amount that does not exceed 30 percent of the taxpayer's share of the

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of the business, then at his regular place of abode in a real and substantial sense."

[7]"Residence" is not analogous to "domicile." A U.S. citizen may be a resident of West Germany and still maintain a permanent home or domicile in the United States. The intent of the taxpayer is critical in determining residence; the taxpayer must intend to work in the foreign country for an indefinite or extended period of time.

net profits of the trade or business [IRC §911(d)(2)(B)]. Earned income also includes employer-provided allowances or reimbursements such as cost of living allowances, overseas compensation differentials, quarters, education allowances, and the full rental value of property or facilities[8] provided by the employer. The earned income must be foreign earned income. In general, it will be foreign earned income if the personal services are performed in a foreign country [IRC §862(a)(3)]. The actual location of the employer and employee at the time compensation is received does not affect this determination.

The maximum amount of foreign earned income that may be excluded is $70,000, pro rated on a daily basis for the qualifying period [IRC §911(b)(2)(A)]. If both the foreign earned income and housing exclusion are elected, the foreign housing exclusion is calculated first. The foreign earned income exclusion is then limited to the excess of foreign earned income over the housing exclusion.

Qualified housing expenses are the reasonable housing costs paid or incurred during the tax year. In general, they include expenses such as utilities, insurance, and rent [IRC §911(c)(2)(A)]. The excess housing cost amount is equal to the individual's qualified housing expenses for the

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[8]For example the fair market rental value of employer-provided housing and automobile use qualify as earned income. However, to the extent the amounts are excluded from income as meals and lodging furnished for the convenience of the employer, they are unearned income.

tax year over a base level amount[9] pro rated on a daily basis [IRC §911(c)(1)]. To the extent these are employer-provided amounts,[10] the excess housing cost amount is allowed as a foreign housing exclusion. If the housing costs are not employer-provided amounts[11], they are allowed as a foreign housing deduction in computing adjusted gross income.

The foreign housing deduction is limited to the excess of foreign earned income over the sum of foreign earned income and housing exclusions [IRC §911(d)(7)]. Any excess housing amount that is not deductible may be carried over to the following tax year [IRC §911(c)(3)(C)].

Expatriate taxpayers have a number of alternative tax treatments available for their foreign source income. In addition to the foreign earned income and housing exclusions, these taxpayers may also claim a foreign tax credit for foreign income taxes paid or accrued on two types of foreign source income: (1) foreign earned income for

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[9]This base level is equal to 16 percent of the salary of a U.S. government service employee at a grade 14-step one level (GS-14 step one). For 1987, the base level was $7,109 or $19.48 per day.

[10]The employer-provided amount is foreign earned income paid to or on behalf of the employee. For example, salaries or other compensation, amounts paid to a third party for housing, and the fair rental value of employer provided housing would all be employer-provided amounts.

[11]Generally, an amount is considered to be an employer-provided amount unless it is attributable to self-employment [IRS Publication 54, p. 6].

which the foreign earned income exclusion is not claimed, and (2) foreign source income that does not qualify for the exclusions. The foreign tax credit is limited to the amount of U.S. federal income tax that would have been paid if the income had been U.S. source. Thus, if the U.S. tax rate is lower than the foreign tax rate, an excess credit will result. This excess credit may be carried back two years and forward five years. Alternatively, taxpayers may choose to deduct[12] foreign income taxes paid on income for which the exclusion is not elected rather than claim the foreign tax credit.

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[12]The foreign income taxes may be taken as a itemized deduction on Schedule A of Form 1040 or as a deduction on Schedule C of Form 1040.

Chapter Three

THEORETICAL FRAMEWORK AND PREVIOUS RESEARCH

Public finance theory provides a framework for examining the equity effects of the IRC §911 provisions. Although no studies have investigated the equity effects of the IRC §911 provisions, prior research using public finance theory to investigate equity issues provides a basis for the methodology used in this research. An overview of relevant public finance theory is followed by a discussion of the equity measures used in prior research.

3.1. Overview of theory

For more than two hundred years, the equity of tax regimes[1] has been a primary concern of public finance theorists. Early theorists, such as Adam Smith, identified criteria for "good taxation." One of the criteria identified as most important was equality (equity). In 1776, Adam Smith presented a rule of tax equity as his first maxim of taxation: "the subjects of the state ought to contribute towards the supply of government, as nearly as

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[1]For purposes of this study, a tax regime is defined as a given set of federal income tax rules. The term "current tax regime" encompasses all of the current existing federal income tax law relating to individuals. The IRC §911 provisions are part of the current tax regime.

possible, in proportion to their respective abilities"[2] [Musgrave, 1985, 16]. Equity considerations continue to be important criteria in the evaluation of taxes. Boadway and Wildasin [1984, 225] note that in the theory of public finance, equity is one of the two principal criteria by which taxes are judged.[3]

Overall, the equity criterion is concerned with assuring that each taxpayer contributes his or her "fair share" to the cost of government [Musgrave and Musgrave, 1976, 216]. Two notions of equity are generally employed to assess tax policy: vertical equity and horizontal equity. Normative public finance theory indicates that both horizontal and vertical equity are necessary components of an optimal tax system [Musgrave, 1990].

3.2 Horizontal Equity

The concept of horizontal equity requires that individuals who are the same in all relevant respects should be treated equally for tax purposes [Atkinson and Stiglitz,

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[2]At this time, income was felt to be the relevant measure of ability and proportional taxation was deemed to be the fair way to distribute the tax burden.

[3]The other principal criterion, efficiency, is concerned with minimizing the deadweight loss imposed by a particular tax. Policy makers have also been concerned with other criteria such as administrative costs and simplicity.

1980, 353].[4] This implies that taxpayers with equal abilities to pay taxes should bear equal shares of the tax burden. Given this definition of horizontal equity, inequity arises when the taxes of "taxpayers with equal abilities to pay" or similarly situated taxpayers are not the same. Thus, a dispersion measure that captures the variance of taxes within groups of similarly situated taxpayers would provide a measure of horizontal equity. A smaller dispersion would imply greater horizontal equity.

A stumbling block in measuring horizontal equity involves identifying "similarly situated" taxpayers with equal abilities to pay. In an ideal world, this identification would be made based on individual welfare or utility levels. Individuals with equal welfare before the tax is imposed should have equal welfare after the tax is imposed. In the empirical setting, an assumption has been made that individuals with the same income have the same level of welfare.[5] Thus, from an operational standpoint,

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[4]Some theorists have suggested a definition of horizontal equity that requires that a tax should not alter the rank-ordering of individuals [for example see Feldstein, 1976; Atkinson, 1980; Berliant and Strauss, 1985; and Plotnick, 1985]. Use of this "no-rank-reversals" criterion avoids the potential empirical difficulties that result from grouping taxpayers but becomes difficult to apply in an empirical setting. Empirical studies usually group taxpayers by some measure of income and use some measure of dispersion to examine the level of horizontal equity [for example see Anderson, 1985, 1988; Pierce, 1989; and Ricketts, 1990].

[5]This assumption can be traced back to Adam Smith and his first maxim of taxation [Musgrave, 1985].

horizontal equity has been defined to require that taxpayers with equivalent incomes pay equivalent amounts of tax [Enis and Craig, 1990].

The coefficient of variation is a measure of dispersion that has gained wide acceptance as a measure of horizontal equity [Anderson 1985, 1988; Grasso and Frischmann, 1992; Pierce, 1989; Ricketts, 1990]. Anderson [1985] indicates that the coefficient of variation has been accepted as a measure of horizontal equity because it is scale-free; allowing comparisons within and between groups of taxpayers with differing income and taxes. After grouping taxpayers by income, the coefficient of variation for each group is defined as:

$$(1) \qquad CV_j = (SD_j / T_j) \times 100$$

where,

CV_j = the coefficient of variation for income group j,

SD_j = the standard deviation of the taxes for income group j, and

T_j = the mean of the taxes for income group j.

The coefficient of variation provides a measure of the dispersion within each group: the smaller the dispersion, the greater the horizontal equity.

Grasso and Frischmann [1992] recently proposed the coefficient of residual variation (CRV) as another measure of horizontal equity. They use a regression-based approach

and model taxes as a function of income. Grasso and Frischmann [1992, 124] argue that using the CRV measure reduces the distortion in the measurement of horizontal equity that is caused by progressivity in the tax regime. The progressivity of the tax regime is measured by the regression coefficient. If the function is properly specified, any unexplained variation is included in the error term and is due solely to the horizontal inequity of the tax regime.[6]

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[6]Any functional misspecification is also included in the error term.

The CRV is an estimate of the standard deviation of the error term of the regression expressed as a percentage of the mean value of the dependent variable and is defined as:

$$CRV = \frac{\sqrt{\sum_{i=1}^{n} (y_i - \hat{y}_i)^2 / (n-2)}}{\sum_{i=1}^{n} y_i / n} * 100 \qquad (2)$$

where,

n = number of observations,

y_i = observed value of the dependent variable,

$\hat{y}_i$ = predicted value of the dependent variable.

3.3 Vertical Equity

Vertical equity is concerned with how the tax system treats unequals and with the distribution of the tax burden across individuals who are not equal. Stiglitz [1986, 337] defines vertical equity more precisely by stating that individuals that are in a position to pay higher taxes than others should do so; those with a greater ability to pay taxes should bear a larger share of the tax burden. As with

horizontal equity, an income measure is commonly used as a surrogate for ability to pay.

Vertical equity has traditionally been used to justify progressive taxation.[7] A progressive income tax is one in which the rate of tax increases as income increases. Operational measures of vertical equity assess this progressivity. Several measures[8] are available to examine the progressivity of the tax system. One of the most commonly used measures is the Suits index[9] [Suits, 1977].

Figure 1 graphically illustrates the Suits index and its associated Lorenz curves.[10] The cumulative percent of the tax burden is plotted against the cumulative percent of income. The plotted line (Lorenz curve) represents the

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[7]Early in the nineteenth century, Bentham first used the criterion of vertical equity as a basis for proposing progressive taxation [Musgrave, 1990, 115]. For a different definition of vertical equity see Plotnick [1985].

[8]Ricketts [1990] provides a brief overview of various measures.

[9]The Suits index has been used to assess the progressivity of tax laws as divergent as the combined social security and income tax system [Ricketts, 1990] and the childcare credit [Dunbar and Nordhauser, 1991].

[10]The Suits index is based on a variation of the Lorenz curve and its related Geni coefficient. Figure 1 can also be used to illustrate the geni coefficient. The y-axis now becomes the cumulative percentage of income and the x-axis becomes the cumulative percentage of individuals within the tax system. The plotted line represents the distribution of income across all individuals. The Geni coefficient, defined as the area between the diagonal line and plotted line provides a measure of the inequality of the income distribution. The Geni coefficient varies between zero and one.

distribution of taxes across all income levels. The three Lorenz curves in Figure 1 illustrate the possible distributions of taxes across the income distribution. A proportional tax is represented by diagonal line AB; the tax rate remains constant over all income levels. A progressive tax is represented by curve ADB; the tax rate increases with income. A regressive tax is represented by curve ACB; the tax rate decreases with income.

The Suits Index provides a summary measure of the distribution of taxes across the income distribution. Defining the triangle ABE as K and the area under the Lorenz curve as L, the Suits index is defined as:

$$S = (K-L)/K = 1 - L/K. \tag{3}$$

The value of the Suits index can range from -1 (extreme regressivity where all of the tax burden is paid by the lowest income class) to +1 (extreme progressivity where all of the tax burden is paid by the highest income class). An index of zero indicates a proportional tax.[11]

[11]Note that by definition, L is always less than or equal to 2*K.

Because the triangle AEB has a base and altitude of 100, Parameter K in the above formula is always 5,000. Parameter L[12] is defined as:

$$(4) \qquad L = \sum_{i=1}^{n} 1/2[(T_i + T_{i-1})(Y_i - Y_{i-1})]$$

where,

T_i = the accumulated percentage of the tax burden borne by income groups 1 through i,

Y_i = the accumulated percentage of income earned by income groups 1 through i, and

n = the total number of income groups.

The Suits index provides an overall measure of the progressivity of the tax system.

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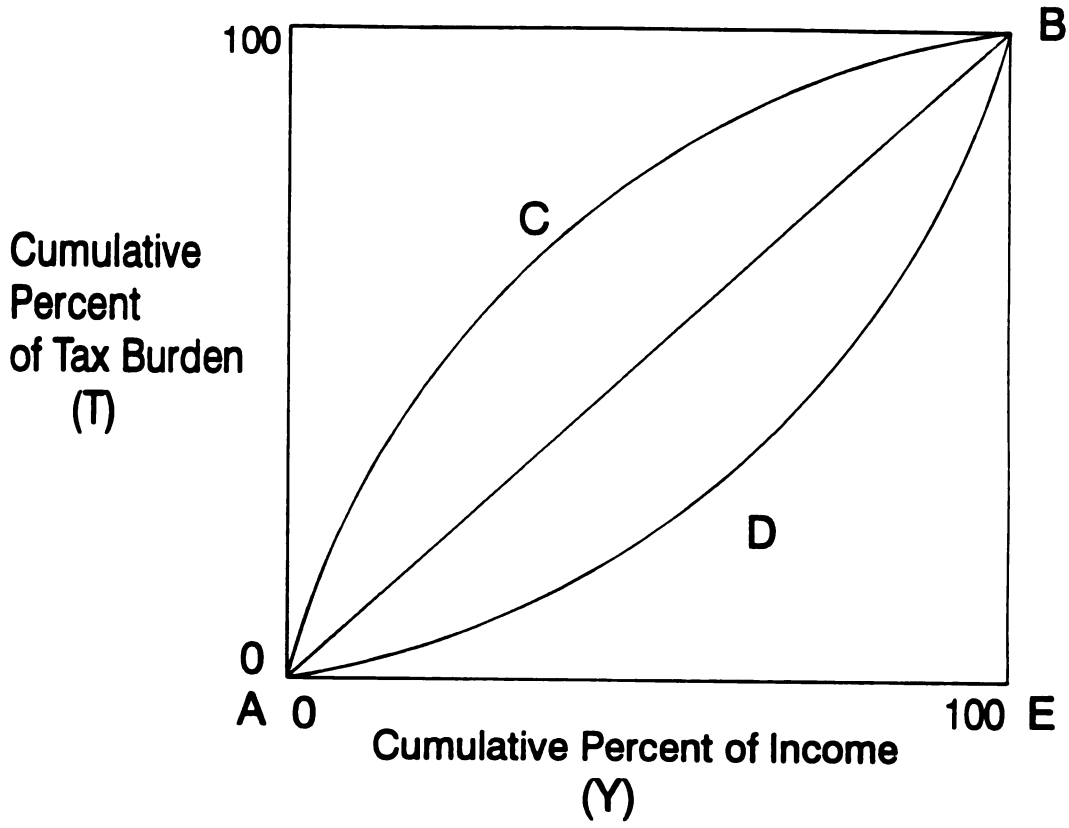
[12]For example, for a progressive tax, L provides a measure of area ADBE. L is a geometric midpoint estimation of the integral of the area beneath the Lorenz curve ADB.

Figure 1

Suits Index



K = Area of triangle AEB.

L = Area between Lorenz curve and horizontal axis AE. L is represented by area ADBE with a progressive tax.

Source: Adapted from Suits [1977].

A second measure of progressivity, tax liability progression [Ott and Dittrich, 1981, 33] is estimated from the log transformation of the equation:

(5) $T = aY^{b}u^{e}$

where,

T = tax liability

Y = income

u = error term

e = natural e

b = elasticity of tax liability with respect to income

b = 1 for a proportional tax
  > 1 for a progressive tax
  < 1 for a regressive tax.

The regression coefficient b provides a measure of the progressivity of each tax regime.

A third measure of the relative degree of progressiveness, residual progression [Ott and Dittrich, 1981, 34], is estimated from a log transformation of the equation:

(6) $V = Y^{B}u^{\epsilon}$

where,

V = after-tax income

Y = before-tax income

u = error term

ϵ = natural e

B = elasticity of after-tax income with respect to before-tax income

B = 1 for a proportional tax

< 1 for a progressive tax

> 1 for a regressive tax.

The residual progression coefficient provides a measure of the ratio of the percentage change in after-tax income to the percentage change in before tax income.

3.4. Combined Vertical and Horizontal Equity

A proposed but untested combined measure is available to simultaneously assess vertical and horizontal equity [Menchik, unpublished]. This measure initially expresses after-tax income as a function of before-tax income:

(6) $$Y_{at} = e^{a} Y_{pt}^{b} e^{u}$$

where,

Y_{at} = after tax income,

Y_{pt} = pretax income,

e = natural e,

a = intercept term,

b = elasticity of after-tax income with respect to before-tax income, and

u = error term.

Taking logs and variances of both sides, this reduces to[13]:

$$\sigma^2_{logY_a} = b^2\sigma^2_{logY_p} + \sigma^2_u + 2Cov(logY_{pt}, u) \quad (7)$$

where,

σ_u^2 = measure of horizontal equity

b^2 = measure of vertical equity

= 1 for a proportional tax

< 1 for a progressive tax

> 1 for a regressive tax

The coefficient b indicates the variance of the pre-tax distribution relative to the post-tax distribution. If the post-tax distribution has less dispersion than the pre-tax distribution, b will be less than one. If the post-tax distribution is more dispersed than the pre-tax distribution, b will be greater than one. A value of one for coefficient b indicates a proportional system. The variance of the error term provides a measure of horizontal equity. The larger the variance the less horizontal equity; the smaller the variance the more horizontal equity.

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[13]In this study, it is assumed that before-tax income (Y_{pt}) and the error term (u) are independent and the covariance between before-tax income (Y_{pt}) and the error term (u) is zero.

Chapter Four

HYPOTHESIS DEVELOPMENT

Historically, the IRC §911 provisions have played a major role in the overall taxation of U.S. expatriates living and working abroad. Although the IRC §911 provisions, in some form, have been part of the federal tax law more than sixty years, little is known about their impact on expatriate taxpayers. Even though the initial exclusion was written into the federal tax law on equity grounds, little is known about the equity effects of these provisions.

The first two research hypotheses address the equity issues related to the IRC §911 provisions.[1] As a secondary issue, a third research hypothesis addresses whether the Tax Reform Act of 1986, with its significant reduction in marginal tax rates, has reduced the use of the IRC §911 provisions.

4.1 Equity Effects of Eliminating the IRC §911 provisions

As noted in the introduction and history of the IRC §911 provisions, various attempts have been made in Congress to diminish or eliminate the IRC §911 provisions. At the

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[1]IRC §911 of the Internal Revenue Code contains the tax law governing the foreign earned income exclusion, housing exclusion, and housing deduction. The term "§911 provisions" encompasses all three of these components.

same time, citing incentive and equity concerns, businesses operating overseas and individuals working overseas have advocated maintaining and strengthening the IRC §911 provisions. Even with all of the discussion concerning the exclusions, little is known about the impact of eliminating them.[2] Given the initial equity motivation of Congress in including the exclusion in federal tax law, it is expected that the current tax regime[3] will be more equitable to expatriates than a regime without the exclusion. Thus, it is hypothesized that (stated in alternative form):

H_1: The current tax regime will display more horizontal equity for expatriates than a tax regime without the IRC §911 provisions.

In addition, it is expected that the IRC §911 provisions will also affect progressivity. Therefore, the second hypothesis (stated in alternative form) is:

H_2: The current tax regime will display a different level of progressivity for expatriates than a tax regime without the IRC §911 provisions.

4.2 Impact of the Tax Reform Act of 1986

U.S. citizens working abroad may elect to exclude a certain level of foreign earned income and excess housing

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[2]The U.S. Treasury estimated that in tax year 1983 the revenue cost of the IRC §911 provisions was one billion dollars [Department of the Treasury, 1988, 22].

[3]The term "current tax regime" encompasses all of the current existing federal income tax law relating to individuals. The IRC §911 provisions are part of the current tax regime.

costs. In addition, they may claim a foreign tax credit for foreign taxes due or paid on foreign source income. However, federal tax law provides that no deductions, exclusions, or credits are allowed to the extent they are allocable to excluded income [IRC §911(d)(6)]. Thus, in making the election, the individual taxpayer must determine if the foreign earned income exclusion will reduce his combined U.S. and foreign tax liability more than the foreign tax credit or deduction. This determination is generally a function of the differential in the effective tax rates between the two countries. In general, a U.S. taxpayer in a low-tax foreign jurisdiction would reduce his overall tax burden more by electing the exclusion because the calculated amount of the foreign tax credit would not offset his U.S. tax liability on the otherwise excluded income. In contrast, a U.S. taxpayer in a high-tax foreign country would reduce his overall tax burden more by electing the foreign tax credit because the credit would fully offset his U.S. tax liability on the otherwise excluded income and perhaps result in an excess credit that could be carried over to another year.[4]

Thus, one would expect that the reduction of the marginal tax rates in the Tax Reform Act of 1986 would reduce the use of the foreign earned income exclusion. Holding all else constant, a decline in U.S. tax rates would

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[4]This is illustrated in Price Waterhouse [1988, 70-72].

tend to increase use of the foreign tax credit and decrease use of the foreign earned income exclusion. However, SOI data indicate exactly the opposite. SOI data for 1983 and 1987 [Internal Revenue Service, 1987, 1992] indicate that the number of returns claiming the foreign earned income exclusion increased from 159,194 to 171,191. The number of returns reported by SOI does not control for any change in the number of U.S. expatriates residing overseas.

Controlling for the number of expatriates abroad, one would expect that the reduction in marginal tax rates in the Tax Reform Act of 1986 would reduce the use of the foreign earned income exclusion. The third hypothesis (stated in alternative form) is:

H_3: Controlling for the number of expatriates overseas, use of the IRC §911 provisions will decrease from 1983 to 1987.

Chapter Five

RESEARCH DESIGN AND METHODOLOGY

The data needed and the methodology used to test whether the IRC §911 provisions result in increased equity for expatriate taxpayers and whether the decrease in marginal tax rates in the Tax Reform Act of 1986 impacted the use of the IRC §911 provisions are discussed in the following sections.

5.1 Sample Selection and Data

5.1.1 Sample

A unique set of databases is available to address the hypotheses. The first is data generated by the Statistics of Income Division for a Treasury Department project, Americans Living Abroad (here after, 1987 SOI individual foreign sample).[1] This sample, collected every four years, provides detailed information from individual federal tax returns. Collection of the 1987 data has recently been completed. The data set for the 1987 tax year is a weighted stratified sample containing information from 15,724

[1]These data are collected every four years for a Congressionally mandated study to assess the operation of the foreign earned income exclusion. The last study was published in 1989 and based on data from the 1983 tax year [Department of the Treasury, 1989].

individual federal tax returns[2] with a Form 2555 (Foreign Earned Income) and/or a Form 1116 (Foreign Tax Credit) attached to the 1040 individual return. The sample was selected from all individual federal income tax returns filed in 1987. Examples of the relevant IRS forms for 1987 are included in Appendix B.

Table 5.1 provides a breakdown of the types of returns included in this data set. Of the total sample of 15,724 returns, 902 returns are for tax years prior to 1987. A majority of the 9,472 returns that have only a Form 1116 (indicating use of the foreign tax credit) attached to their Form 1040 have U.S. addresses on their return. Of the 5,350 returns with a Form 2555 attached to their Form 1040, 3,931 returns are from taxpayers who qualified under the IRC §911 provisions for the entire tax year. Of these 3,931 returns, 1,850 are from taxpayers with only a Form 2555 (without a Form 1116) attached to the their Form 1040. The remaining 2,081 returns are from taxpayers filing both a Form 1116 and a Form 2555 with their tax returns. In addition, tabular information from the 1983 Americans Living Abroad project is available for use. Due to the disclosure concerns, these data are available only at the IRS national office in Washington, D.C.

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[2]When weighted this represents a population of 706,066 returns.

Table 5.1

1987 S.O.I. Foreign Sample

	All Filing Statuses		Married Filing Jointly	
	Unweighted Returns	Weighted Returns	Unweighted Returns	Weighted Returns
Total Sample	15,724	706,066		
less returns pre-1987 tax returns	902	30,996		
less returns with only a 1116[1] attached (without a 2555[2])	9,472	524,424		
Returns with a 2555 attached	5,350	150,646	4,051	92,854
less returns with a short year	1,419	47,279	1,103	29,950
Full year returns with a 2555	3,931	103,367	2,948	62,904
Full year returns with only a 2555	1,850	84,212	1,215	48,278
Full year returns with both 2555 and 1116	2,081	19,155	1,733	14,126

[1]Form 1116 is used by individuals to claim the foreign tax credit.

[2]Form 2555 is used by individuals to claim the foreign earned income exclusion, housing exclusion, and housing deduction.

Hypotheses One and Two

The 1987 SOI individual foreign sample is used to test the first two hypotheses that assess the relative equity of two tax regimes: one that incorporates the IRC §911 provisions (current system) and the other without the IRC §911 provisions. Those taxpayers affected by the elimination of the IRC §911 provisions are included in the sample (in a manner similar to Anderson [1985, 1988]). In addition, to eliminate any variance induced by differing rate schedules, only married couples filing joint returns are used in the equity analysis. Finally, 54 returns for which foreign tax rates are not available[3] are eliminated from the analysis. Thus, all full year joint returns from the 1987 SOI individual foreign sample with a Form 2555 (which indicates they are filing for the IRC §911 provisions) with positive adjusted expanded income for which foreign tax rates are available (2,882 returns) are used in the equity analysis.

Hypothesis Three

Data from both the 1987 SOI individual foreign sample and tabular information from the 1983 Americans Living Abroad project are used to test the third hypothesis assessing the use of the IRC §911 provisions across time. The sample selection process is detailed in Table 5.2.

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[3]Most of the returns eliminated were lone returns from various countries around the world.

Country data must be available for each tax return included in the sample. For each return included in the sample, the country is represented in both the 1987 and 1983 SOI samples, and has State Department population estimates for both years[4] and an estimated foreign tax rate available. The final sample includes data from returns of taxpayers in 86 countries that satisfied these requirements.

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[4]State Department estimates of U.S. citizens residing abroad are not available for 1987. Data from 1986 are used in the analysis. The 1987 estimate of U.S. citizens residing abroad was 1,963,784. For 1986, the estimate was 1,929,917 while in 1988 the estimate was 2,056,799. The estimates reflect a 1.7% change from 1986 to 1987 and a 4.7% change from 1987 to 1988. The 1986 estimate was used as a surrogate for the missing 1987 estimate because of its smaller percentage difference from 1987. Although the differential impact across countries is unknown, use of the lower 1986 numbers rather than the 1988 numbers should provide a more conservative test of the hypothesis. Because the denominator of the fraction determining the percentage of taxpayers filing for the IRC §911 provisions would be larger in 1988 than in 1986, the overall percentage of taxpayers would be smaller using the 1988 estimates rather than the 1986 estimates.

Table 5.2

Country Screens for Hypothesis Three

	Number of Countries
Total number of SOI country codes in 1987 SOI Individual Foreign sample	138
less multi-country or unallocated country codes[1]	(19)
less countries for which State Department foreign population estimates are not available[2]	(11)
less countries for which an estimate of foreign tax rates is not available	(22)
Number of Countries in sample	86

[1]On Form 2555, the expatriate writes in the country of his or her tax home. This is then recorded using a three digit country code. If the taxpayer neglects to fill in the tax home on the tax return, the country is coded as unallocated. Although all major countries around the world have an individual country code, some small countries are grouped with others in their particular region of the world and assigned one country code.

[2]The State Department estimates are developed at the various embassies and consulates around the world. Estimates are not available for countries where there is no U.S. presence.

5.1.2 Additional Data Sources

Measures of foreign tax rates and foreign exchange rates for 1987 are needed in this research. The 1987 individual foreign tax rates used are from the Coopers and Lybrand International Tax Network [Reavey, 1987, 1988]. These international tax summaries provide information about both individual and corporate tax laws at the federal, state, and city levels. Embassies were contacted to obtain foreign tax rates for those countries in the sample that are not included in the Coopers and Lybrand publication.

The 1987 foreign exchange rates are obtained from the International Monetary Fund [1992]. Foreign exchange rates unavailable from the International Monetary Fund were obtained from the U.S. Treasury Department.

5.2 Measurement Issues

To test the equity hypotheses, a measure of taxes under a tax regime without the IRC §911 provisions must be calculated. A measure of income and taxes must also be identified to compute both the horizontal and vertical equity measures used in this study.

5.2.1 Measure of Taxes for a Tax Regime without IRC §911

To test whether the inclusion of IRC §911 provisions in federal income tax law results in increased equity for

expatriate taxpayers, a benchmark is needed for comparison.[5] The appropriate benchmark in this case is a tax regime that does not include the IRC §911 provisions. Comparing the taxes from a tax regime without the IRC §911 provisions to the taxes from a tax regime with the IRC §911 provisions allows one to determine if the incorporation of the IRC §911 provisions has resulted in increased horizontal equity.

The current tax regime corresponds to the tax regime incorporating the IRC §911 provisions. For each expatriate return, a measure of each expatriate's federal income tax liability is directly available from the 1987 SOI individual foreign sample. A measure of federal income tax liability for each expatriate does not exist for a tax regime without the IRC §911 provisions. Therefore as a first step, for each individual tax return in the sample, the federal income tax liability is recomputed to conform to a tax regime without the IRC §911 provisions. In general, this involved eliminating all of the effects of the IRC §911 provisions,[6] computing an estimated foreign tax credit,[7] and

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[5]The methodology used to assess equity is similar to that used by Anderson [1985, 1988] and Enis and Craig [1990].

[6]This included eliminating the effects of the foreign earned income exclusion, housing exclusion, and housing deduction.

[7]To compute an estimated foreign tax credit, the 1987 individual foreign tax rates are needed. The Coopers and Lybrand International Network [Reavey, 1987, 1988] provide information concerning the individual tax rates in foreign countries for tax year 1987.

recalculating the federal income tax liability for each return. Figure 2 outlines the steps used to recompute each expatriate's federal income tax liability.[8]

[8]Two alternative assumptions are made in determining the new taxable income: 1) assume the maximum change in itemized deductions for itemizers and 2) assume no change in itemized or standard deductions. The tests of hypotheses are consistent using either assumption. The reported results are based on the first assumption.

Figure 2

Tax Liability without IRC §911 Provisions

I. Add back the IRC §911 exclusions and deduction.

II. Recalculate taxable income.

III. Recompute income tax before credits (Form 1040, line 39) using the 1987 tax rate schedule.

IV. Recompute the general limitation foreign tax credit.

   A. If no Form 1116 is present then estimate foreign taxes paid using foreign tax rates for 1987 from Coopers and Lybrand International Network [Reavey, 1987,1988].

   B. If Form 1116 is present then compute total foreign taxes paid.

   C. Recompute credit.

V. Recalculate other types of foreign tax credits if necessary.

VI. Compute new tax liability.

5.2.2 Measurement of Income

Income is used as a basis for classifying individuals into similarly situated groups. Ideally, many theorists suggest that a comprehensive income measure that includes all accretions of wealth such as the Haig-Simons definition of income[9] [Simons, 1938; Haig, 1959; Atkinson and Stiglitz, 1980] provides the best measure of income. Income measures available directly from tax returns, such as taxable income or adjusted gross income, do not take into account all intraperiod changes in wealth. For example, unrealized capital gains and tax-exempt interest are not included in either measure. To overcome these difficulties, several expanded income measures have been developed that use tax return data and other information to obtain a more comprehensive measure of economic income. These include: expanded income, family economic income, modified expanded income, and the 1979 Income Concept. Table 5.3 details the components of each of these measures and each is discussed in turn. This provides a backdrop for the adjusted expanded income concept used in this research which is then presented. Each of the measures uses adjusted gross income from Form 1040 as the starting point of the calculation.

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[9]The Haig-Simons comprehensive income measure includes all income regardless of its use or source. It is defined as the sum of current consumption plus net accretions to wealth.

Table 5.3

Economic Income Measures

Component	Measure					
	Expanded Income	Family Expanded Income (FEI)	Modified Expanded Income (MEI)	1979 Income Concept	Adjusted Expanded Income (AEI)
Available from Tax Returns:					
Adjusted Gross Income	+[1]	+	+	+	+
Net Investment Interest[2]	-				
Tax-exempt interest income	+	+	+		+
Taxable refunds of state and local income taxes				-	
Nontaxable Social Security and Railroad Retirement		+	+	+	+
Nontaxable Pensions, IRA distributions, annuities, and rollovers				+	
Minimum tax preference items[3]	+	+[4]	+	+[5]	
Excluded Capital Gains[6]			+	+	+
Losses on Rents, Passive partnerships, Royalties, estates, trusts			+		
Foreign earned income exclusion					+
Adjustments to Income[7]		+	+	+	+

[1]The '+' or '-' indicates an addition or subtraction from Adjusted Gross Income, respectively.
[2]Net investment interest is defined as investment interest deductions up to the amount of investment income.
[3]Includes items reported on Form 6251, Alternative Minimum Tax Computation.
[4]Includes excess depreciation (tax depreciation minus economic depreciation) of: rentals and SBCs, partnerships, and Schedules C & F, and an adjustment for percentage depletion and IDCs.
[5]Limited to depreciation in excess of straight-line depreciation.
[6]Technically, due to the Tax Reform Act of 1986, there are no excluded capital gains for tax year 1987.
[7]Adjustments to income included reimbursed employee business expenses, IRA deductions, self-employed health insurance deduction, Keogh retirement plan and self-employed SEP deduction, penalty on early withdrawal of savings, alimony paid, and the foreign housing deduction. The FEI and MEI measures adjust for most of these deductions. The 1979 concept of income does not add back alimony paid and employee business expenses.

Table 5.3 (Cont'd.)

Economic Income Measures

Component	Measure				
	Expanded Income	Family Expanded Income (FEI)	Modified Expanded Income (MEI)	1979 Income Concept	Adjusted Expanded Income (AEI)
Estimated from other sources:					
Unreported/unreported income of filers		+			
Unreported income of nonfilers		+	+		
Nontaxable workman's compensation		+	+		
Nontaxable unemployment compensation		+	+		
Nontaxable veteran's benefits, food stamps, and welfare benefits		+			
Untaxed employer contributions to health and life insurance		+	+		
Untaxed employer contributions to pensions and profit sharing, military benefits and "fringe benefits" and other		+			
Earnings on life insurance funds		+	+		
Earnings on pension funds (less taxable pensions), IRA, and Keogh funds		+			
Real net rent on owner-occupied housing		+			
Real pre-tax corporate economic income[8]		+			
Real net capital gains[9]		+			
Inflation Adjustments[10]		+			

[9]Net of dividends before exclusion and dividend earnings of pension and life insurance funds.
[9]Except on corporate stock and other securities and net of capital gains in AGI.
[10]Inflation adjustments for interest received and net interest of rentals, SBCs, partnerships and schedules A, C, and F.

Expanded income

Expanded income was developed in response to a Congressional request for data on high-income taxpayers using a measure closely approximating economic income that could be derived using only tax return data [Internal Revenue Service, 1990, 71]. Expanded income is defined as adjusted gross income plus items of tax preference income excluded from adjusted gross income less investment expenses to the extent that they do not exceed investment income. The actual calculation of expanded income has varied from year to year. Tax preference items added back to adjusted gross income for tax year 1987 were tax-exempt state and local government bond interest and income preferences subject to the minimum tax (reported on Form 6251, Alternative Minimum Tax Computation). Investment interest expense was defined as the entire interest deduction other than interest paid on home mortgages. Investment income was defined as total interest and dividend income.

Family economic income

The family economic income measure, developed and used by the Treasury Department since 1984, uses the family unit rather than the tax return unit as the basis for defining income [Nelson, 1987, 77]. An imputation process is used to combine dependents with their own tax return with the tax returns of those who support them. In addition, as noted in Table 5.3, adjustments are made in an attempt to measure

only current year income and to adjust for inflation. The family economic income measure also includes an estimate for non-filer income. The family economic income measure includes estimates for many items of income not included on tax returns. Thus, it provides the most comprehensive measure of income by incorporating more non-tax information but also is much more difficult to estimate and is less objective. In Treasury Department estimates, adjusted gross income accounts for approximately two-thirds of family expanded income [Nelson, 1987, 82].

Modified expanded income

The modified expanded income measure was developed by the Joint Committee on Taxation [Nelson, 1987]. This income measure uses the tax unit (tax return) as the basis of analysis rather than the family unit but excludes tax returns for taxpayers under 16 years of age.[10] Like the family economic income measure, the modified expanded income measure includes an income estimate for non-filers. Overall, while the modified expanded income measure is less comprehensive than the family economic income measure, it requires fewer estimates of income and is subject to less estimation error.

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[10]The Joint Committee on Taxation assumes that these taxpayers are not self-supporting and deletes them from the analysis.

1979 Income Concept

The 1979 Income Concept is used within the Statistics of Income Division to analyze changes in income and taxes over a period of years [Internal Revenue Service, 1991, 6]. Because the components of adjusted gross income vary from year to year, a "retrospective" income concept was developed that includes the same income items in each year's calculation. The years 1979 through 1986 were used as base years in identifying the income items. The 1979 Income Concept includes only items available on federal individual income tax returns and uses the taxpaying unit as the basis for analysis. The 1979 Income Concept is the most objective measure of income, but it is less comprehensive than the modified expanded income or the family economic income measure.

Adjusted expanded income

The economic income measure developed and used in this research is similar to the above measures in many respects. It provides a more comprehensive income measure than adjusted gross income. Adjusted gross income is used as the initial starting point in the computation of the measure. As noted in Table 5.3, nontaxable income items reported on the tax return are included in the measure. The foreign earned income and housing exclusions and the housing deduction are also added back to provide a more comprehensive measure of income. Due to estimation

difficulties, the non-tax return estimated items included in other measures are not included in this measure.

5.2.3 Measurement of Taxes

Two alternative measures of taxes are used in this research: tax liability and effective tax rates. Taxes are computed on both a U.S. and worldwide basis. The measure of U.S. tax liability is defined as total tax after credits (1040, line 47) plus the alternative minimum tax (1040, line 49) plus investment tax credit recapture (1040, line 50).[11]

U.S. income taxes are based on worldwide income. The measure of U.S. tax liability computed above does not take into account any foreign taxes paid by the expatriates. To better reflect the total worldwide tax burden of U.S. expatriates, the equity of the IRC §911 provisions are also examined using a worldwide measure of taxes. The worldwide tax liability is defined as U.S. tax liability plus the amount of estimated foreign taxes paid and accrued.[12]

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[11]This measure is similar to those used by Anderson [1985, 1988] and Ricketts [1990].

[12]The Statistics of Income Division of the Internal Revenue Service also computes a worldwide measure of income taxes to provide a more accurate measure of the tax burden imposed on worldwide income. Worldwide tax liability is defined as the U.S. tax liability plus the amount of foreign tax credits reported on Form 1040 [Internal Revenue Service, 1990, 73]. Rather than using the reported foreign tax credits, the worldwide tax liability measure used in this study incorporates the amount of estimated foreign taxes paid and accrued that are reported on Form 1116. Because this measure uses actual taxes paid or accrued it should provide a better estimate of worldwide tax liability. Calculation of this measure is possible because of the detailed data collected in the 1987 SOI Individual Foreign sample which is

Effective tax rates are used as an alternative measure of taxes to assess the sensitivity of the results to the choice of tax measure. The effective tax rate is calculated by dividing the tax liability by the adjusted expanded income measure. For equity measures which group taxpayers by income level, Ricketts [1990, 42] notes that effective tax rates should enhance comparability by minimizing the dispersion that might occur in expanded income groups with a broad range of income.

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not available in the overall Individual Tax Model developed by the Statistics of Income.

5.3 Statistical procedures and tests of hypotheses

5.3.1 Horizontal Equity Effects of Eliminating IRC §911

The coefficient of variation is used to measure the horizontal equity within adjusted expanded income deciles for each tax regime. For purposes of this study, the coefficient of variation for each income group is determined using equation (1). For each adjusted expanded income group, the coefficient of variation from the tax regime without the IRC §911 provisions is compared to the coefficient of variation from the tax regime with the IRC §911 provisions (the current tax regime). The percentage decrease (increase) in the coefficient of variation is calculated as:

$$(6) \qquad \text{Percent change} = [(CV_{without} - CV_{with})/CV_{without}] \times 100$$

A percentage decrease represents an increase in horizontal equity. A percentage increase represents a decrease in horizontal equity. A paired-comparisons t-test of the means of the coefficients of variation for each regime is used to test the overall difference in horizontal equity between the two regimes.

For each tax regime, the coefficients of residual variation (CRVs) are calculated for each adjusted expanded income decile and on an overall basis for the total sample using equation (2). Following Grasso and Frischmann [1992]

two alternative variations of the regression equation are estimated: average effective tax rates are regressed on a logarithmic transformation of adjusted expanded income and tax liabilities are regressed on adjusted expanded income. In addition, the analysis is repeated including the total number of exemptions as an additional explanatory variable. Both measures of taxes (U.S. and worldwide) are alternatively used in the analysis.[13]

5.3.2 Vertical Equity Effects of Eliminating IRC §911

The Suits index, the tax liability progression measure, and the residual progression coefficient are used to assess the relative progressivity (vertical equity) of the two tax regimes: the current tax regime that incorporates the IRC §911 provisions and the tax regime without the IRC §911 provisions. The Suits index (estimated from equation 3) is calculated for each tax regime. As for the horizontal equity measure, taxpayers are grouped into deciles by adjusted expanded income and the computations use both U.S. and worldwide measures of tax liabilities.

For each tax regime, the tax liability progression coefficient is estimated from a regression of the log

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[13]This requires running 16 regression models: 2 tax regimes X 2 tax measures (U.S. and worldwide) X 2 tax variations (liability and effective tax rate) X 2 types of model (income only and income plus exemptions). Each regression model is then run on an overall basis and for each income decile.

transformation of equation (5). The regression coefficient provides a measure of the progressivity of each tax regime. Changes in liability progression are assessed by comparing the coefficients obtained by estimating the equation for each tax regime. The residual progression coefficients are calculated for each tax regime using equation (6).

5.3.3 Combined Equity Effects of Eliminating IRC §911

Menchik's combined model of vertical and horizontal equity [Menchik, unpublished] is also used to assess the relative equity of the two tax regimes: one with the IRC §911 provisions (current tax regime) and one without the IRC §911 provisions. The equity measures are estimated for each tax regime from a regression using equation (7). After-tax income is equal to adjusted expanded income less tax liability. Adjusted expanded income is used to measure before-tax income. This regression model is used to assess the horizontal and vertical equity of the tax regimes with and without the IRC §911 provisions.

5.3.4 Impact of the Tax Reform Act of 1986

To test the hypothesis that the use of the foreign earned income exclusions decreased following the Tax Reform Act of 1986, data must be available from both the pre-TRA and post-TRA periods. Data indicating the number of individuals claiming the IRC §911 provisions on their tax returns from the 1983 and 1987 SOI individual foreign

samples[14] are used in conjunction with State Department estimates of the non-military/non-governmental overseas population to test this hypothesis.

The number of individuals within each foreign country electing the IRC §911 provisions in each tax year is divided by the estimated non-military/non-governmental overseas population estimates for the country. This calculation standardizes and controls for any changes in the overseas populations in the various foreign countries and provides an estimate of the percentage of individuals using the IRC §911 provisions within each country. The analysis includes comparisons on an overall basis and grouping by high and low tax foreign countries.

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[14]The application of the foreign earned income provision changed very little between 1983 and 1987. In 1983 an individual could exclude up to $80,000 of foreign earned income, while in 1987 the exclusion was limited to $70,000. Because this hypothesis examines the number of individuals claiming the exclusion and not the magnitude of the exclusion, this minor change should not influence the test results. To determine if the change in the level of the exclusion may have had a differential impact on taxpayers across income levels, a paired comparison t-test was used to determine if there were any significant differences across income levels in the percentage of taxpayers claiming the IRC §911 provisions between 1983 and 1987. After grouping returns by adjusted gross income, a paired-comparisons t-test was used to compare the percentage of taxpayers using the IRC §911 provisions in 1983 and 1987. The t-test was insignificant (t=.00004, p=1) indicating there was no significant difference between 1987 and 1983 in the percentage of taxpayers using the IRC §911 provisions across the income levels.

Chapter Six

ANALYSIS OF RESULTS

The results of the descriptive analysis and the tests conducted to examine the hypotheses are reported in this chapter. The descriptive analysis of the data is followed by the results of the analysis examining the equity effects of eliminating the IRC §911 provisions and the impact of the Tax Reform Act of 1986 on the use of the IRC §911 provisions.

6.1 Descriptive Statistics

An initial comparison of 1987 individual returns with those taxpayers (expatriates) filing Form 2555 is provided in Table 6.1. A simple comparison of the mean adjusted gross incomes or taxable incomes of the expatriates and all individual returns suggests that the two groups are quite similar. The mean adjusted gross income for expatriates and all individuals filing returns is $25,384 and $25,924, respectively. The mean taxable income for expatriates and all individual returns is $19,515 and $20,544, respectively. However, a comparison of some of the components of income reveals striking differences between expatriates and all individuals filing returns. The mean salaries and wages for expatriates is more than double that of all individual return filers ($61,087 vs. $23,873). The average amount of

reported business net income is double that reported by all individual return filers ($16,289 vs. $8,111). In contrast, the mean total tax liability of expatriates is approximately sixty-five percent of the mean for all individual return filers.

Table 6.1

1987 U.S. Individual and Expatriate Returns

	All Individual Returns[1]	Full Year Expatriate (FYE) Returns[2]	FYE with only exclusions	FYE with foreign tax credit and exclusions
Adjusted Gross Income[3]	25,924	25,384	9,826	93,783
Taxable Income[4]	20,544	19,515	6,066	78,645
Salaries and Wages[5]	$23,783	$61,087	$40,245	$149,866
Taxable Interest[6]	2,487	3,221	2,386	6,127
Business Net Income and Loss[7]	8,111	16,289	13,148	29,126
Capital Gain/Loss[8]	8,893	11,199	9,577	16,922
Total Tax Liability[9]	4,342	2,794	1,467	8,622
% Itemizing Deductions	34%	22%	16%	45%

[1]Derived from data in Internal Revenue Service (1990).

[2]Individuals filing Form 2555.

[3]1987 Form 1040, line 30.

[4]1987 Form 1040, line 36.

[5]1987 Form 1040, line 7.

[6]1987 Form 1040, line 8.

[7]1987 Form 1040, line 13.

[8]1987 Form 1040, line 14.

[9]1987 Form 1040, line 53.

The expatriate returns can be partitioned into two groups: expatriate returns claiming only the foreign earned income and housing exclusions and expatriate returns with both the exclusions and the foreign tax credit. As shown in Table 6.1, expatriates claiming both the foreign tax credit and the exclusions have much higher incomes and tax liability than those expatriates claiming only the exclusions. This is not surprising given that the foreign earned income exclusion is limited to $70,000. Foreign income taxes paid on foreign earned income in excess of the limitation are eligible for the foreign tax credit. Thus, high income expatriate taxpayers are likely to claim both the exclusions and the foreign tax credit.

Table 6.2 provides a breakdown of full year expatriate (FYE) returns by type of return: all expatriate taxpayers filing for the foreign earned income and housing exclusions, full year expatriate taxpayers claiming only the foreign earned income and housing exclusions, and expatriate taxpayers claiming both the foreign earned income and housing exclusions and the foreign earned income credit. As shown in Panel A of Table 6.2, an estimated 103,367 expatriates claimed the foreign earned income or housing exclusions for the full year. The average combined foreign earned income and housing exclusions (2555 exclusions) was $42,370, and the total amount excluded was in excess of four billion dollars. Full year expatriates excluded over $335

million dollars in housing costs and four billion in foreign earned income. Only an estimated 919 expatriates claimed the housing deduction. The mean housing deduction was $11,375 with a total housing deduction of more than ten million dollars. The total tax liability of all expatriates was less than $300 million with a mean liability of $2,794.

Table 6.2

Expatriate Returns

Panel A: 1987 Full Year Returns with a Foreign Earned Income or Housing Exclusion (N = 3,931)

ITEM (Form, line)	WEIGHTED N	MEAN	STANDARD DEVIATION	TOTAL
ADJUSTED GROSS INCOME (1040,30)	103,367	$25,384	$104,445	$2,623,861,553
2555 EXCLUSIONS (1040,21A)	103,367	42,370	32,313	4,379,674,072
HOUSING EXCLUSION (2555,25)	16,453	20,384	23,134	335,380,386
FOREIGN EARNED INCOME EXCLUSION (2555,34)	103,348	39,134	26,065	4,044,420,337
HOUSING DEDUCTION (1040,ADJ)	919	11,375	15,038	10,451,932
TOTAL TAX LIABILITY (1040,53)	103,367	2,794	17,178	288,767,712
TOTAL WAGES (2555,10)	96,805	41,651	42,282	4,032,031,109
BUSINESS INCOME (2555,11A)	7,434	21,710	40,750	161,390,716
PARTNERSHIP INCOME (2555,11B)	1,023	44,885	86,723	45,935,979
NONCASH INCOME - HOME(2555,12A)	7,406	10,185	14,163	75,433,719
NONCASH INCOME - MEAL (2555,12B)	2,098	3,833	2,351	8,039,453
NONCASH INCOME - CAR (2555,12C)	4,617	2,763	2,509	12,755,574
NONCASH INCOME - OTHER (2555,12D)	3,469	2,019	7,372	7,004,735
ALLOWANCE - COLA (2555,13A)	13,430	16,789	14,202	225,473,505
ALLOWANCE - FAMILY (2555,13B)	1,094	3,169	5,723	3,466,539
ALLOWANCE - EDUCATION (2555,13C)	7,040	8,269	7,467	58,210,938
ALLOWANCE - HOME LEAVE (2555,13D)	13,207	5,602	4,522	73,979,680
ALLOWANCE - QUARTERS (2555,13E)	13,574	20,942	23,751	284,255,030
ALLOWANCE - OTHER (2555,13F)	19,768	20,459	35,575	404,432,456
ALLOWANCES - TOTAL (2555,13G)	25,673	40,891	49,609	1,049,819,127
OTHER FOREIGN EARNED INCOME (2555,14)	12,755	12,619	30,416	160,946,727
GROSS FOREIGN EARNED INCOME (2555,15)	103,348	53,735	61,267	5,553,361,465

Table 6.2 (Cont'd.)

Panel B: 1987 Full Year Returns with only a Foreign Earned Income or Housing exclusion (N = 1,850)

ITEM (Form, line)	WEIGHTED N	MEAN	STANDARD DEVIATION	TOTAL
ADJUSTED GROSS INCOME (1040,30)	84,212	$9,826	$73,121	$827,462,918
2555 EXCLUSION (1040,21A)	84,212	34,106	25,255	2,872,131,248
HOUSING EXCLUSION (2555,25)	6,662	12,009	11,163	80,000,750
FOREIGN EARNED INCOME EXCLUSION (2555,34)	84,212	33,156	23,249	2,792,111,486
HOUSING DEDUCTION (1040,ADJ)	520	8,759	10,725	4,551,867
TOTAL TAX LIABILITY (1040,53)	84,212	1,468	10,050	123,606,409
TOTAL WAGES (2555,10)	78,254	32,563	25,991	2,548,216,862
BUSINESS INCOME (2555,11A)	6,061	17,060	24,687	103,401,152
PARTNERSHIP INCOME (2555,11B)	865	24,548	55,492	21,225,323
NONCASH INCOME - HOME (2555,12A)	5,769	7,588	7,448	43,773,550
NONCASH INCOME - MEAL (2555,12B)	1,389	3,491	2,382	4,848,963
NONCASH INCOME - CAR (2555,12C)	2,580	2,651	2,230	6,839,258
NONCASH INCOME - OTHER (2555,12D)	1,315	1,529	1,778	2,010,829
ALLOWANCE - COLA (2555,13A)	6,225	11,103	8,498	69,114,924
ALLOWANCE - FAMILY (2555,13B)	848	2,017	3,923	1,709,576
ALLOWANCE - EDUCATION (2555,13C)	2,631	5,565	5,329	14,643,040
ALLOWANCE - HOME LEAVE (2555,13D)	5,846	4,881	4,779	28,536,657
ALLOWANCE - QUARTERS (2555,13E)	5,903	11,664	11,964	68,856,979
ALLOWANCE - OTHER (2555,13F)	9,676	7,309	10,163	70,726,882
ALLOWANCES - TOTAL (2555,13G)	14,346	17,677	18,529	253,588,980
OTHER FOREIGN EARNED INCOME (2555,14)	7,403	8,814	17,987	65,254,225
GROSS FOREIGN EARNED INCOME (2555,15)	84,212	36,208	31,234	3,049,163,171

Table 6.2 (Cont'd.)

Panel C: 1987 Full Year Returns with both a Foreign Earned Income Exclusion and a Foreign Tax Credit (N = 2,081)

ITEM (Form, line)	WEIGHTED N	MEAN	STANDARD DEVIATION	TOTAL
ADJUSTED GROSS INCOME (1040,30)	19,155	$93,783	172,106	$1,796,398,635
2555 EXCLUSIONS (1040,21A)	19,155	78,703	34,786	1,507,542,824
HOUSING EXCLUSION (2555,25)	9,791	26,083	27,099	255,379,637
FOREIGN EARNED INCOME EXCLUSION (2555,34)	19,135	65,445	20,998	1,252,308,852
HOUSING DEDUCTION (1040,ADJ)	399	14,783	18,733	5,900,065
TOTAL TAX LIABILITY (1040,53)	19,155	8,622	33,265	165,161,303
TOTAL WAGES (2555,10)	18,551	79,986	68,279	1,483,814,247
BUSINESS INCOME (2555,11A)	1,373	42,237	76,074	57,989,563
PARTNERSHIP INCOME (2555,11B)	159	155,628	131,421	24,710,656
NONCASH INCOME - HOME (2555,12A)	1,637	19,341	24,590	31,660,169
NONCASH INCOME - MEAL (2555,12B)	709	4,502	2,136	3,190,490
NONCASH INCOME - CAR (2555,12C)	2,038	2,903	2,816	5,916,317
NONCASH INCOME - OTHER (2555,12D)	2,153	2,319	9,240	4,993,905
ALLOWANCE - COLA (2555,13A)	7,205	21,702	16,171	156,358,581
ALLOWANCE - FAMILY (2555,13B)	246	7,135	8,511	1,756,963
ALLOWANCE - EDUCATION (2555,13C)	4,408	9,883	8,070	43,567,898
ALLOWANCE - HOME LEAVE (2555,13D)	7,360	6,174	4,221	45,443,023
ALLOWANCE - QUARTERS (2555,13E)	7,670	28,083	27,766	215,398,051
ALLOWANCE - OTHER (2555,13F)	10,092	33,067	45,336	333,705,574
ALLOWANCES - TOTAL (2555,13G)	11,328	70,290	59,969	796,230,147
OTHER FOREIGN EARNED INCOME (2555,14)	5,352	17,881	41,350	95,692,502
GROSS FOREIGN EARNED INCOME (2555,15)	19,135	130,868	93,157	2,504,198,294

Data from Form 2555 provide information about the components of the foreign earned income of expatriates. As shown in Panel A of Table 6.2, salaries and wages, in excess of four billion dollars, are the primary source of foreign earned income. Approximately 73 percent of all foreign earned income is derived from salaries and wages. Combined business and partnership income is less than four percent of total foreign earned income. Less than two percent of foreign earned income is non-cash income. Total allowances account for approximately 19 percent of foreign earned income. Of the total allowances, approximately half are for cost of living and quarters (housing).[1]

Panels B and C of Table 6.2 provide information from tax returns for expatriates filing only for the exclusions and for both the exclusions and the foreign tax credit, respectively. An estimated 84,212 expatriates, over 80 percent of the estimated 103,367 expatriate filers with a Form 2555 attached to their 1040 return, filed 1040 returns with only a Form 2555 attached. Expatriate returns with only a Form 2555 (foreign earned income) attached accounted

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[1]It appears that many of the amounts reported as "allowances-other" on line 13f of Form 2555 are tax equalization payments. In a physical check of 94 paper tax returns within the sample, 55 (58%) reported tax equalization payments on line 13f of Form 2555 and 11 (12%) reported the tax equalization payments on line 14 of Form 2555. Tax equalization payments were not reported on lines 13f or 14 for twenty-eight (30%) returns reporting income on those lines. These twenty-eight taxpayers did not report any tax equalization payments.

for more than $2.8 billion (or 66 percent) of the estimated $4.38 billion combined foreign earned income and housing exclusions (2555 exclusions) claimed. Expatriates filing both a Form 2555 and Form 1116 accounted for the remaining 34 percent of the total combined exclusions (2555 exclusions) claimed by all expatriate filers. Although expatriates filing both a Form 2555 and Form 1116 account for 45 percent of the total foreign earned income reported by all expatriate taxpayers, they account for 75 percent of the total allowances.

A breakdown of full year expatriate returns by occupation is provided in Table 6.3.[2] More than half of the expatriates are employed in business professions (business management, construction, support services, finance and insurance, sales and public relations, accounting and law, and agriculture and forestry). Expatriates employed in education, religion, and research account for approximately 28 percent of all returns filed.

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[2]Although this table provides some sense of the occupations of expatriates it should be interpreted with caution. Anecdotal evidence indicates that the occupations were not consistently coded. Almost 14 percent of the sample has been classified into "other occupations".

Table 6.3

Expatriate Returns by Occupation

Occupation	Number of Returns	Percentage of Returns
EDUCATION AND RELIGION	22,634	21.9
OTHER OCCUPATIONS	14,320	13.9
BUSINESS MANAGEMENT	14,159	13.7
CONSTRUCTION/ENGINEER PETROLEUM EXTRACTION MINING	13,761	13.3
SUPPORT SERVICES	8,418	8.1
RESEARCH	6,852	6.6
FINANCE AND INSURANCE	6,572	6.4
SALES AND PUBLIC RELATIONS	5,571	5.4
HEALTH	4,257	4.1
ART AND ENTERTAINMENT	3,400	3.3
ACCOUNTING AND LAW	2,891	2.8
AGRICULTURE/FORESTRY FISHERY	442	0.4
UNLISTED	90	0.1
TOTAL RETURNS	103,367	100.0

The twenty-five countries with the highest numbers of full year expatriate taxpayers are reported in Table 6.4. More than 80 percent of the sample resides in these twenty-five countries. Expatriate taxpayers filing Form 2555 for tax year 1987 are residents (or present under the physical presence test) in approximately 123 foreign countries. Half of the expatriates live in six countries: West Germany, Canada, the United Kingdom, Saudi Arabia, Japan, and Israel.

Table 6.4

Expatriate Returns by Country of Residence

Country	Weighted Returns	Percent of Returns	Cumulative Returns	Cumulative Percent
West Germany	13,349	12.9	13,349	12.9
Canada	10,332	10.0	23,681	22.9
United Kingdom	9,736	9.4	33,416	32.3
Saudi Arabia	7,624	7.4	41,041	39.7
Japan	6,501	6.3	47,542	46.0
Israel	4,004	3.9	51,546	49.9
France	3,381	3.3	54,927	53.1
Switzerland	3,122	3.0	58,049	56.2
Italy	2,256	2.2	60,305	58.3
Brazil	2,245	2.2	62,550	60.5
Australia	2,136	2.1	64,686	62.6
Hong Kong	2,128	2.1	66,814	64.6
Mexico	1,892	1.8	68,706	66.5
Philippines	1,829	1.8	70,535	68.2
Indonesia	1,593	1.5	72,128	69.8
Netherlands	1,407	1.4	73,534	71.1
South Korea	1,398	1.4	74,933	72.5
Taiwan	1,341	1.3	76,274	73.8
Spain	1,287	1.2	77,560	75.0
Belgium	1,264	1.2	78,824	76.3
Venezuela	1,219	1.2	80,044	77.4
Singapore	1,166	1.1	81,210	78.6
Greece	1,061	1.0	82,271	79.6
South Africa	1,030	1.0	83,301	80.6
Kuwait	885	0.9	84,186	81.4

For each of the horizontal equity measures, the sample is partitioned into deciles using adjusted expanded income. Selected information for the total sample and each of the deciles is reported in Table 6.5. Recall that the sample contains all married individuals filing joint returns with a Form 2555 for the full year and a positive adjusted expanded income or 2,882 tax returns. As noted in Panel A of Table 6.5, the overall mean adjusted expanded income is $85,625. The average U.S. tax liability with the IRC §911 provisions in place is $3,385 while the worldwide tax liability is $23,934. Without the IRC §911 provisions, the U.S. tax liability increases to $8,236 and the worldwide tax liability increases to $28,785. With IRC §911 provisions in place the average effective tax rates are 2.25 percent (U.S.) and 23.08 percent (worldwide). For the tax regime without the IRC §911 provisions, the average effective tax rates increase to 6.75 percent (U.S.) and 27.58 percent (worldwide).[3] Overall, under current law, with the IRC §911 provisions in place, these expatriates paid U.S. taxes of more than $205 million and worldwide taxes of more than $1.4 billion on adjusted expanded income of approximately $5 billion.

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[3]For two returns in the sample, the average effective U.S. tax rates are in excess of 100 percent due to large alternative minimum tax liabilities. For twenty-eight returns in the sample, the worldwide average effective rates are in excess of 100 percent because the reported foreign taxes paid or accrued exceeds the reported foreign source income.

Information for each of the deciles is reported in Panel B of Table 6.5. The mean adjusted expanded income ranges from $13,624 in decile one to $302,165 in decile ten. The average amount of the 2555 exclusions (the combined foreign earned income exclusion and housing exclusion) ranges from $10,400 for decile one to $101,031 in decile ten. Each of the deciles contains approximately 6,000 weighted returns.

Table 6.5

Descriptive Statistics by Deciles

Panel A: Full Year Married Filing Joint Returns with a Form 2555 and Positive Adjusted Expanded Income

OVERALL (weighted returns = 60,682)	Mean	Standard Deviation	Minimum	Maximum	Sum	C.V.
ADJUSTED EXPANDED INCOME	$85,625	$120,689	$860	$11,610,000	$5,195,914,899	$141
AGI (1040,30)	35,222	104,753	0	11,590,000	2,137,343,440	297
2555 EXCLUSION (1040,21A)	49,481	34,934	225	349,100	3,002,606,644	71
SEC 911 DEDUCTION (1040,ADJ)	136	2,108	0	81,790	8,229,804	1,554
U.S. TAX WITH 911	3,385	20,296	0	1,399,000	205,400,911	600
U.S. TAX WITHOUT 911	8,236	26,376	0	1,409,000	499,762,988	308
WORLDWIDE TAX WITH 911	23,934	57,531	0	7,063,000	1,452,397,638	240
WORLDWIDE TAX WITHOUT 911	28,785	59,019	0	7,071,000	1,746,759,715	205
AVERAGE U.S. TAX WITH 911	2.25	16.30	0	1,230.68		726
AVERAGE U.S. TAX WITHOUT 911	6.75	17.76	0	1,230.68		263
AVERAGE WORLDWIDE TAX WITH 911	23.08	26.92	0	1,421.53		117
AVERAGE WORLDWIDE TAX WITHOUT 911	27.58	25.23	0	1,421.53		91

Panel B: Full Year Married Filing Joint Returns with a Form 2555 and Positive Adjusted Expanded Income by Deciles

	Mean	Standard Deviation	Minimum	Maximum	Sum	C.V.
Decile 1 (weighted returns = 5,963)						
ADJUSTED EXPANDED INCOME	$13,624	$4,180	$860	$19,380	$81,243,521	$31
AGI (1040,30)	3,104	7,211	0	15,940	18,510,803	232
2555 EXCLUSION (1040,21A)	10,400	7,147	225	88,790	62,016,954	69
SEC 911 DEDUCTION (1040,ADJ)	2	165	0	12,530	13,027	7,572
U.S. TAX WITH 911	161	2,212	0	76,620	960,506	1,373
U.S. TAX WITHOUT 911	256	2,221	0	76,620	1,523,727	869
WORLDWIDE TAX WITH 911	3,221	5,457	0	152,790	19,207,574	169
WORLDWIDE TAX WITHOUT 911	3,315	5,419	0	152,790	19,770,795	163
AVERAGE U.S. TAX WITH 911	2.56	50.57	0	1,230.68		1,974
AVERAGE U.S. TAX WITHOUT 911	3.13	50.57	0	1,230.68		1,613
AVERAGE WORLDWIDE TAX WITH 911	25.56	63.68	0	1,421.53		249
AVERAGE WORLDWIDE TAX WITHOUT 911	26.14	63.48	0	1,421.53		243
Decile 2 (weighted returns = 6,072)						
ADJUSTED EXPANDED INCOME	23,313	2,190	19,716	26,840	141,569,964	9
AGI (1040,30)	6,742	8,782	0	26,320	40,938,677	130
2555 EXCLUSION (1040,21A)	16,513	9,364	500	51,960	100,277,766	57
SEC 911 DEDUCTION (1040,ADJ)	0	0	0	0	0	.
U.S. TAX WITH 911	281	522	0	2,700	1,704,726	186
U.S. TAX WITHOUT 911	602	801	0	3,300	3,654,155	133
WORLDWIDE TAX WITH 911	4,912	5,896	0	50,160	29,828,173	120
WORLDWIDE TAX WITHOUT 911	5,233	5,734	889	50,330	31,777,603	110
AVERAGE U.S. TAX WITH 911	1.22	2.23	0	10.05		183
AVERAGE U.S. TAX WITHOUT 911	2.57	3.35	0	12.43		130
AVERAGE WORLDWIDE TAX WITH 911	20.76	23.13	0	189.60		111
AVERAGE WORLDWIDE TAX WITHOUT 911	22.12	22.37	4.40	190.17		101

Table 6.5 (Cont'd.)

Descriptive Statistics by Deciles

Panel B: Full Year Married Filing Joint Returns with Form 2555 and Positive Adjusted Expanded Income by Deciles

Decile 3 (weighted returns = 6,082)	Mean	Standard Deviation	Minimum	Maximum	Sum	C.V.
ADJUSTED EXPANDED INCOME	$30,774	$2,315	$26,940	$34,900	$187,172,718	8
AGI (1040,30)	9,498	9,670	0	33,950	57,770,753	102
2555 EXCLUSION (1040,21A)	20,770	10,547	390	70,170	126,326,019	51
SEC 911 DEDUCTION (1040,ADJ)	0	0	0	0	0	.
U.S. TAX WITH 911	476	814	0	3,840	2,894,975	171
U.S. TAX WITHOUT 911	930	1,125	0	4,730	5,656,031	121
WORLDWIDE TAX WITH 911	5,292	3,899	0	23,580	32,189,709	74
WORLDWIDE TAX WITHOUT 911	5,746	3,579	450	23,580	34,950,765	62
AVERAGE U.S. TAX WITH 911	1.54	2.58	0	10.99		167
AVERAGE U.S. TAX WITHOUT 911	3.00	3.51	0	13.86		117
AVERAGE WORLDWIDE TAX WITH 911	17.15	12.28	0	68.84		72
AVERAGE WORLDWIDE TAX WITHOUT 911	18.61	11.22	1.53	68.84		60
Decile 4 (weighted returns = 6,068)						
ADJUSTED EXPANDED INCOME	38,905	2,685	34,940	44,340	236,092,669	7
AGI (1040,30)	10,329	11,865	(15,750)	34,920	62,682,674	115
2555 EXCLUSION (1040,21A)	28,356	12,958	2,330	57,990	172,079,497	46
SEC 911 DEDUCTION (1040,ADJ)	0	0	0	0	0	.
U.S. TAX WITH 911	670	1,083	0	3,880	4,066,037	162
U.S. TAX WITHOUT 911	1,994	1,987	0	7,370	12,103,039	100
WORLDWIDE TAX WITH 911	5,872	4,857	0	25,590	35,636,766	83
WORLDWIDE TAX WITHOUT 911	7,197	3,957	3,070	25,590	43,673,787	55
AVERAGE U.S. TAX WITH 911	1.75	2.82	0	10.20		161
AVERAGE U.S. TAX WITHOUT 911	5.08	4.90	0	18.92		96
AVERAGE WORLDWIDE TAX WITH 911	15.05	12.06	0	59.17		80
AVERAGE WORLDWIDE TAX WITHOUT 911	18.38	9.65	8.63	59.17		53
Decile 5 (weighted returns = 6,050)						
ADJUSTED EXPANDED INCOME	50,079	3,256	44,660	55,630	303,005,055	7
AGI (1040,30)	9,728	15,632	0	47,600	58,859,157	161
2555 EXCLUSION (1040,21A)	40,227	15,996	800	93,810	243,394,980	40
SEC 911 DEDUCTION (1040,ADJ)	0	0	0	0	0	.
U.S. TAX WITH 911	751	1,478	0	6,600	4,542,519	197
U.S. TAX WITHOUT 911	2,388	3,034	0	10,880	14,446,983	127
WORLDWIDE TAX WITH 911	11,186	7,627	0	36,390	67,681,757	68
WORLDWIDE TAX WITHOUT 911	12,823	6,220	5,720	36,390	77,586,221	49
AVERAGE U.S. TAX WITH 911	1.50	2.99	0	14.52		200
AVERAGE U.S. TAX WITHOUT 911	4.68	5.86	0	19.89		125
AVERAGE WORLDWIDE TAX WITH 911	22.50	15.41	0	77.24		68
AVERAGE WORLDWIDE TAX WITHOUT 911	25.68	12.62	11.63	77.24		49

Table 6.5 (Cont'd.)

Descriptive Statistics by Deciles

Panel B: Full Year Married Filing Joint Returns with a Form 2555 and Positive Adjusted Expanded Income by Deciles

	Mean	Standard Deviation	Minimum	Maximum	Sum	C.V.
Decile 6 (weighted returns = 6,091)						
ADJUSTED EXPANDED INCOME	$64,178	$5,378	$55,660	$73,030	$390,956,538	8
AGI (1040,30)	10,246	15,519	0	68,740	62,419,270	151
2555 EXCLUSION (1040,21A)	53,761	16,254	1,180	91,100	327,500,594	30
SEC 911 DEDUCTION (1040,ADJ)	0	0	0	0	0	.
U.S. TAX WITH 911	825	2,264	0	12,980	5,025,424	274
U.S. TAX WITHOUT 911	3,988	5,186	0	16,780	24,296,827	130
WORLDWIDE TAX WITH 911	15,347	11,300	0	64,660	93,487,442	74
WORLDWIDE TAX WITHOUT 911	18,510	8,400	6,610	64,660	112,758,845	45
AVERAGE U.S. TAX WITH 911	1.25	3.36	0	17.99		269
AVERAGE U.S. TAX WITHOUT 911	6.13	7.81	0	22.72		127
AVERAGE WORLDWIDE TAX WITH 911	23.86	17.26	0	110.76		72
AVERAGE WORLDWIDE TAX WITHOUT 911	28.74	12.62	11.85	110.76		44
Decile 7 (weighted returns = 6,046)						
ADJUSTED EXPANDED INCOME	82,189	5,273	73,140	92,240	496,953,282	6
AGI (1040,30)	17,200	17,409	0	81,750	103,997,023	101
2555 EXCLUSION (1040,21A)	64,495	18,365	1,330	102,200	389,967,377	28
SEC 911 DEDUCTION (1040,ADJ)	107	884	0	14,360	644,633	829
U.S. TAX WITH 911	1,342	3,218	0	18,270	8,114,650	240
U.S. TAX WITHOUT 911	7,733	7,642	0	22,250	46,757,338	99
WORLDWIDE TAX WITH 911	16,530	13,179	0	54,630	99,945,036	80
WORLDWIDE TAX WITHOUT 911	22,921	8,197	3,940	55,020	138,587,724	36
AVERAGE U.S. TAX WITH 911	1.65	3.97	0.00	21.99		240
AVERAGE U.S. TAX WITHOUT 911	9.37	9.16	0.00	24.48		98
AVERAGE WORLDWIDE TAX WITH 911	20.06	15.62	0.00	66.51		78
AVERAGE WORLDWIDE TAX WITHOUT 911	27.78	9.26	5.29	66.51		33
Decile 8 (weighted returns = 6,134)						
ADJUSTED EXPANDED INCOME	105,003	7,824	92,290	119,700	644,077,108	7
AGI (1040,30)	30,483	19,344	0	113,900	186,979,260	63
2555 EXCLUSION (1040,21A)	73,751	19,147	420	129,000	452,378,213	26
SEC 911 DEDUCTION (1040,ADJ)	161	1,231	0	19,240	988,056	764
U.S. TAX WITH 911	2,457	4,169	0	25,250	15,070,271	170
U.S. TAX WITHOUT 911	11,873	10,357	0	35,470	72,828,406	87
WORLDWIDE TAX WITH 911	22,868	18,155	0	150,700	140,271,850	79
WORLDWIDE TAX WITHOUT 911	32,285	11,730	9,550	150,700	198,029,984	36
AVERAGE U.S. TAX WITH 911	2.33	4.00	0	22.74		172
AVERAGE U.S. TAX WITHOUT 911	11.30	9.74	0	32.79		86
AVERAGE WORLDWIDE TAX WITH 911	21.72	16.87	0	127.22		78
AVERAGE WORLDWIDE TAX WITHOUT 911	30.69	10.47	8.52	127.22		34

Table 6.5 (Cont'd.)

Descriptive Statistics by Deciles

Panel B: Full Year Married Filing Joint Returns with Form 2555 and Positive Adjusted Expanded Income by Deciles

	Mean	Standard Deviation	Minimum	Maximum	Sum	C.V.
Decile 9 (weighted returns = 6,073)						
ADJUSTED EXPANDED INCOME	$143,505	$15,679	$119,700	$174,000	$871,448,867	$11
AGI (1040,30)	57,617	24,824	0	161,800	349,887,706	43
2555 EXCLUSION (1040,21A)	84,364	21,571	950	156,000	512,311,168	26
SEC 911 DEDUCTION (1040,ADJ)	341	2,856	0	35,520	2,073,724	836
U.S. TAX WITH 911	4,172	5,484	0	30,720	25,332,458	131
U.S. TAX WITHOUT 911	15,668	14,553	0	52,500	95,144,659	93
WORLDWIDE TAX WITH 911	40,667	31,775	0	255,500	246,957,848	78
WORLDWIDE TAX WITHOUT 911	52,164	24,374	17,560	255,500	316,770,049	47
AVERAGE U.S. TAX WITH 911	2.89	3.73	0	22.29		129
AVERAGE U.S. TAX WITHOUT 911	11.02	10.19	0	30.28		92
AVERAGE WORLDWIDE TAX WITH 911	28.04	21.47	0	187.68		77
AVERAGE WORLDWIDE TAX WITHOUT 911	36.17	15.98	13.26	187.68		44
Decile 10 (weighted returns = 6,101)						
ADJUSTED EXPANDED INCOME	302,166	279,392	174,300	11,610,000	1,843,395,178	92
AGI (1040,30)	195,930	276,673	25,630	11,600,000	1,195,298,115	141
2555 EXCLUSION (1040,21A)	101,031	37,587	350	349,100	616,354,075	37
SEC 911 DEDUCTION (1040,ADJ)	739	5,766	0	91,800	4,510,365	780
U.S. TAX WITH 911	22,570	60,030	0	1,399,000	137,689,346	266
U.S. TAX WITHOUT 911	36,611	69,604	0	1,409,000	223,351,824	190
WORLDWIDE TAX WITH 911	112,643	145,742	4,479	7,063,000	687,191,483	129
WORLDWIDE TAX WITHOUT 911	126,684	144,718	23,449	7,071,000	772,853,962	114
AVERAGE U.S. TAX WITH 911	5.75	6.33	0	76.77		110
AVERAGE U.S. TAX WITHOUT 911	11.10	9.95	0	79.30		90
AVERAGE WORLDWIDE TAX WITH 911	36.08	24.21	1.97	307.97		67
AVERAGE WORLDWIDE TAX WITHOUT 911	41.43	20.82	9.34	307.99		50

6.2 Tests of Hypotheses

6.2.1 Horizontal Equity Effects of Eliminating IRC §911

The coefficients of variation using tax liabilities as the measure of taxes are reported in Table 6.6. Overall, a comparison of the mean coefficients of variation of the U.S. tax liability with and without the IRC §911 provisions is inconsistent with the hypothesis that the IRC §911 provisions increase horizontal equity. The inclusion of the IRC §911 provisions resulted in a mean 68 percent reduction in horizontal equity using the U.S. measure of taxes. The mean variation is smaller (implying a higher level of horizontal equity) for a tax regime without the IRC §911 provisions (mean = 194.9) than for a tax regime with the IRC §911 provisions (mean = 317). A paired comparisons means test of the coefficients of variation indicates that this difference is significant ($t = -2.78$, $p = .0214$).

Comparisons of the two tax regimes using worldwide tax liabilities as the measure of taxes indicate that horizontal equity also decreases in a tax regime with IRC §911 provisions available. Overall, a comparison of the mean coefficients of variation indicates that the tax regime with IRC §911 exclusions is significantly less horizontally equitable than a tax regime without the IRC §911 provisions using a paired-comparisons means test ($t = -5.59$, $p = .0003$). These results are inconsistent with the first hypothesis that the IRC §911 provisions improve

horizontal equity for the expatriate taxpayers. Instead, these results are consistent with the notion that horizontal equity actually decreases with the inclusion of the IRC §911 provisions.

The coefficients of variation, using the effective tax rates as an alternative measure of taxes, are reported in Table 6.7. Consistent with Ricketts [1990, 42], the effective tax rate measure does seem to minimize the dispersion in those deciles with the broadest range of income. As shown in Table 6.5 Panel B, deciles 9 and 10 contain the broadest range of adjusted expanded income. The adjusted expanded income range exceeds $50,000 in decile 9 and is in excess of $10 million in decile 10. The coefficients of variation for these deciles are uniformly smaller using the effective tax rate measure rather than the tax liability measure of taxes.

The overall results using effective tax rates are consistent with the analysis using tax liabilities as the measure of taxes. Again, a comparison of the mean coefficients of variation of the U.S. tax liabiity is inconsistent with the hypothesis that the IRC §911 provisions increase horizontal equity. The inclusion of the IRC §911 provisions results in a mean 65 percent reduction in horizontal equity when only U.S. taxes are considered. The mean variation is smaller for a tax regime without the IRC §911 provisions (U.S. mean = 257.4, worldwide mean = 71)

than for a tax regime with the §911 provisions (U.S. mean = 360.5, worldwide mean = 95.2). A paired-comparisons t-test of the coefficients of variation indicates that these differences are significant (U.S. t = -3.28, p = .0095 and worldwide t = -5.82, p = .0003).[4]

[4]Results from an analysis of the coefficients of variation for the sample of returns with either positive or negative adjusted expanded income (n = 2,893) are consistent with the analysis using only positive adjusted expanded income returns. For both the U.S. and worldwide measures of taxes, the tax regime without the IRC §911 provisions is more horizontally equitable than a tax regime with the IRC §911 provisions. A t-test of the mean differences is significant for both tax measures (U.S. t=-2.83, p=.0198 and worldwide t=-5.63, p=.0003). In addition, in calculating the change in itemized deductions for the tax regime without the IRC §911 provisions, it is assumed that the maximum change occurs. An alternative calculation of the new tax liability is performed assuming no change in itemized deductions. The analysis using this alternative measure of taxes under a tax regime without the IRC §911 provisions does not alter the results of the analysis. The differences between the mean coefficients of variation are still significant and consistent (U.S. t=-2.73, p=.0233 and worldwide t=-5.48, p=.0004).

Table 6.6

Coefficient of Variation - Tax Liability

Decile	Adjusted Expanded Income	Tax Liability				Percentage Change	
		with IRC §911		without IRC §911			
		U.S.	Worldwide	U.S.	Worldwide	U.S.	Worldwide
1	31	1373	169	869	163	-58.00	-3.68
2	9	186	120	133	110	-39.85	-9.09
3	8	171	74	121	62	-41.32	-19.35
4	7	162	83	100	55	-62.00	-50.91
5	7	197	68	127	49	-64.44	-38.78
6	8	274	74	130	45	-110.77	-64.44
7	6	240	80	99	36	-142.42	-122.22
8	7	170	79	87	36	-95.40	-119.44
9	11	131	78	93	47	-40.86	-65.96
10	92	266	129	190	114	-40.00	-13.16
Mean	18.6	317.0	95.4	194.9	71.7	-68.57	-50.70
Std. Dev.	25.453	354.771	31.274	226.446	40.438		

Based on a weighted sample of 60,682 returns (n = 2,882). Each decile represents approximately 6,000 tax returns.

Table 6.7

Coefficient of Variation - Effective Tax Rates

Decile	Adjusted Expanded Income	Effective Tax Rates				Percentage Change	
		with IRC §911		without IRC §911			
		U.S.	Worldwide	U.S.	Worldwide	U.S.	Worldwide
1	31	1974	249	1613	243	-22.38	-2.47
2	9	183	111	130	101	-40.77	-9.90
3	8	167	72	117	60	-42.74	-20.00
4	7	161	80	96	52	-67.71	-53.85
5	7	200	68	125	49	-60.00	-38.78
6	8	269	72	127	44	-111.81	-63.64
7	6	240	78	98	33	-144.90	-136.36
8	7	172	78	86	34	-100.00	-129.41
9	11	129	77	92	44	-40.22	-75.00
10	92	110	67	90	50	-22.22	-34.00
Mean	18.6	360.5	95.2	257.4	71.0	-65.27	-56.34
Std. Dev.	25.453	539.691	52.602	452.144	60.135		

Based on a weighted sample of 60,682 returns (n = 2,882). Each decile represents approximately 6,000 tax returns.

Appendix C contains the Grasso and Frischmann [1992] regression results. For each tax regime, the regression results using several regression models are displayed for each decile and overall. Four measures of taxes are alternatively used: U.S. tax, worldwide tax, effective U.S. tax rate, and effective worldwide tax rate. For each measure of taxes, the simple model of taxes as a function of income is followed by a regression model that incorporates the total number of exemptions into the analysis. Following Grasso and Frischmann [1992], when average tax rates are used, the natural log of adjusted expanded income is used as the independent variable in the analysis.

Except for decile 10 of the models using U.S. and worldwide tax liabilities as the dependent variable, the adjusted R-squares in each decile are uniformly low for all models. This suggests that the progressivity in each income decile is small relative to the variation that is due to horizontal inequity. When this is true, the regression approach is not likely to offer substantial improvement over the coefficient of variation approach. As one would expect, including total exemptions as an additional independent variable generally increases the explanatory power of the model. The adjusted R-squares of the models incorporating total exemptions are generally higher than those not including total exemptions.

Tables 6.8 and 6.9 report the coefficients of residual

variation derived from the regressions in Appendix C for tax liability and effective tax rates, respectively. The results are consistent with those obtained from the coefficient of variation analysis. Grasso and Frischmann [1992, 126] note that at worst, the regression approach has the same level of error as the coefficient of variation approach, but that if the regressions are significant, some of the effects of progressivity are eliminated from the analysis. In this research, although the regressions are almost all significant (see Appendix C for regression results), the results of the analysis using either the coefficient of variation or coefficient of residual variation approach are nearly identical. A paired-comparisons t-test of the mean coefficients of residual variation is significant for both the U.S. and worldwide measures of taxes for both tax liabilities (U.S. $t = -2.792$, $p = .0210$ and worldwide $t = -5.589$, $p = .0003$) and effective tax rates (U.S. $t = -3.355$, $p = .0085$ and worldwide $t = -5.44$, $p = .0004$).

Table 6.8

CRVs - Tax Liability

Decile	Tax Liability				Percentage Change	
	with IRC §911		without IRC §911			
	U.S.	Worldwide	U.S.	Worldwide	U.S.	Worldwide
1	1324	167	838	161	-57.99	-3.79
2	186	117	132	107	-40.74	-10.06
3	171	73	120	61	-42.67	-19.24
4	161	82	97	53	-64.76	-56.13
5	197	68	122	48	-61.13	-40.41
6	271	73	127	44	-112.48	-66.93
7	240	79	98	33	-144.77	-137.43
8	170	78	87	35	-96.48	-125.21
9	130	75	93	44	-40.52	-71.07
10	192	71	142	55	-34.98	-28.82
Mean	304.1	88.3	185.6	64.0	-69.65	-55.91
Std. Dev.	342.214	29.485	218.284	37.888		

Based on a weighted sample of 60,682 returns (n = 2,882). Each decile represents approximately 6,000 tax returns.

Table 6.9

CRVs - Effective Tax Rates

Decile	Effective Tax Rates				Percentage Change	
	with IRC §911		without IRC §911			
	U.S.	Worldwide	U.S.	Worldwide	U.S.	Worldwide
1	1892	241	1547	236	-22.30	-2.50
2	183	110	130	100	-40.52	-10.40
3	167	71	117	60	-43.09	-18.90
4	159	80	96	52	-66.68	-54.95
5	200	67	122	49	-63.76	-38.20
6	267	72	126	44	-111.57	-65.60
7	239	78	97	33	-145.64	-137.55
8	173	77	86	34	-100.93	-128.23
9	129	76	92	44	-40.23	-72.86
10	103	67	89	50	-15.67	-32.93
Mean	351.4	94.0	250.3	70.0	-65.04	-56.21
Std. Dev.	515.606	50.501	432.542	58.006		

Based on a weighted sample of 60,682 returns (n = 2,882). Each decile represents approximately 6,000 tax returns.

The coefficients of residual variation from the regressions incorporating total exemptions into the models are reported in Tables 6.10 and 6.11. Consistent with Grasso and Frischmann [1992], the addition of total exemptions to the regression model does result in slightly lower coefficients of residual variation in some of the deciles. Overall, the results are consistent with the previous analysis. Using either measure of taxes (tax liability or effective tax rates), the inclusion of the IRC §911 provision results in decreased horizontal equity. The paired-comparisons t-test of the coefficients of residual variation is significant for all models (U.S. tax liability $t = -2.78$, $p = .0214$; worldwide tax liability $t = -5.54$, $p = .0004$; U.S. effective tax rate $t = -3.34$, $p = .0087$; worldwide effective tax rate $t = -5.49$, $p = .0004$).

Table 6.10

CRVs - Exemption Model - Tax Liability

Decile	Tax Liability				Percentage Change	
	with IRC §911		without IRC §911			
	U.S.	Worldwide	U.S.	Worldwide	U.S.	Worldwide
1	1324	167	838	161	-57.94	-3.80
2	181	117	128	107	-42.17	-9.99
3	163	72	113	61	-44.36	-18.93
4	161	82	97	52	-65.47	-56.27
5	197	66	122	47	-61.34	-41.12
6	271	73	127	44	-112.52	-67.00
7	236	78	98	33	-141.57	-136.67
8	170	78	86	35	-96.83	-124.29
9	130	75	93	44	-40.13	-71.18
10	192	71	142	55	-34.98	-28.82
Mean	302.4	88.0	184.4	63.8	-69.73	-55.81
Std. Dev.	342.528	29.640	218.562	37.959		

Based on a weighted sample of 60,682 returns (n = 2,882). Each decile represents approximately 6,000 tax returns.

Table 6.11

CRVs - Exemption Model - Effective Tax Rates

Decile	Effective Tax Rates				Percentage Change	
	with IRC §911		without IRC §911			
	U.S.	Worldwide	U.S.	Worldwide	U.S.	Worldwide
1	1889	241	1544	236	-22.28	-2.50
2	178	110	126	100	-41.78	-10.31
3	159	71	110	60	-44.71	-18.61
4	159	80	95	52	-67.24	-55.18
5	200	66	122	48	-63.99	-38.79
6	267	72	126	43	-111.60	-65.71
7	236	77	97	33	-142.55	-136.80
8	172	77	86	34	-101.02	-127.30
9	129	76	92	44	-39.84	-72.94
10	103	67	89	50	-15.33	-32.94
Mean	349.2	93.7	248.7	69.8	-65.03	-56.11
Std. Dev.	515.157	50.629	432.151	58.073		

Based on a weighted sample of 60,682 returns (n = 2,882). Each decile represents approximately 6,000 tax returns.

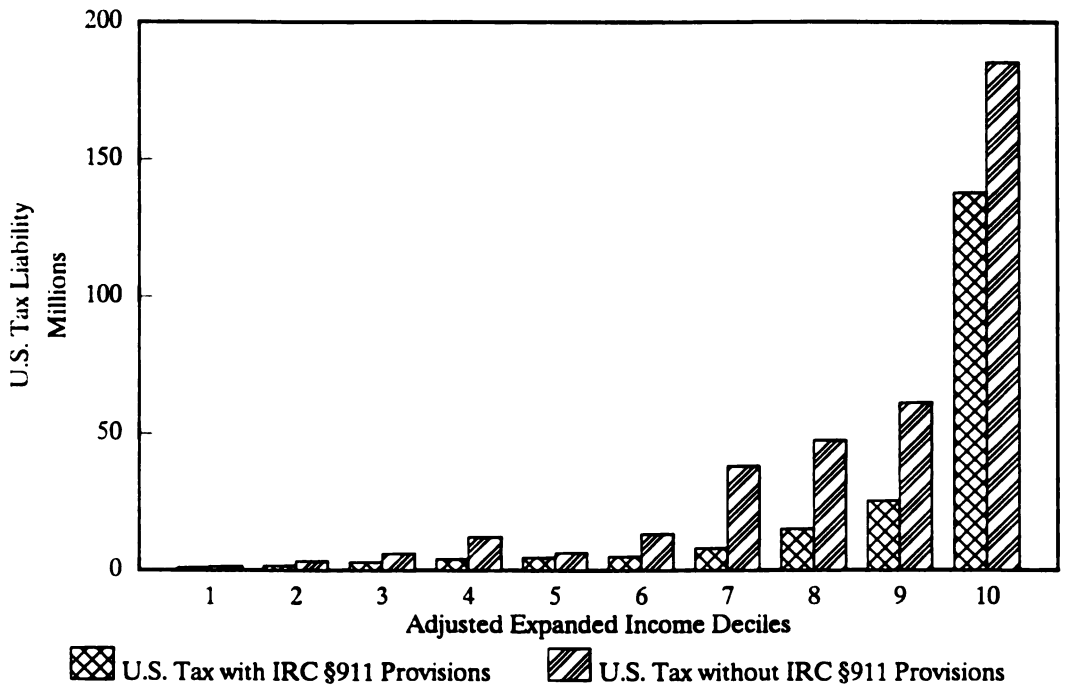
6.2.2 Vertical Equity Effects of Eliminating IRC §911

The U.S. tax liability for each adjusted expanded income decile is illustrated in Figure 3 for the tax regimes with and without the IRC §911 provisions. The worldwide tax liability for each of the adjusted expanded income deciles is illustrated in Figure 4. In each decile both the U.S. and worldwide measures of tax liability are greater under a tax regime that does not include the IRC §911 provisions.

The Suits index for the two tax regimes when only U.S. taxes are considered is illustrated in Figure 5. The Suits index for the tax regime that includes the IRC §911 provisions is .993501, while the index for the tax regime that does not include the IRC §911 provisions is .991957. The Suits index using worldwide tax liability for each regime is illustrated in Figure 6. The indices are similar to those using the U.S. measure of taxes. The calculated Suits index for the tax regime that includes the IRC §911 provisions is .99301, while the Suits index for the tax regime that does not include the IRC §911 provisions is .991957. Using either measure of taxes, the Suits index indicates that both regimes are extremely progressive for expatriate taxpayers.

Figure 3

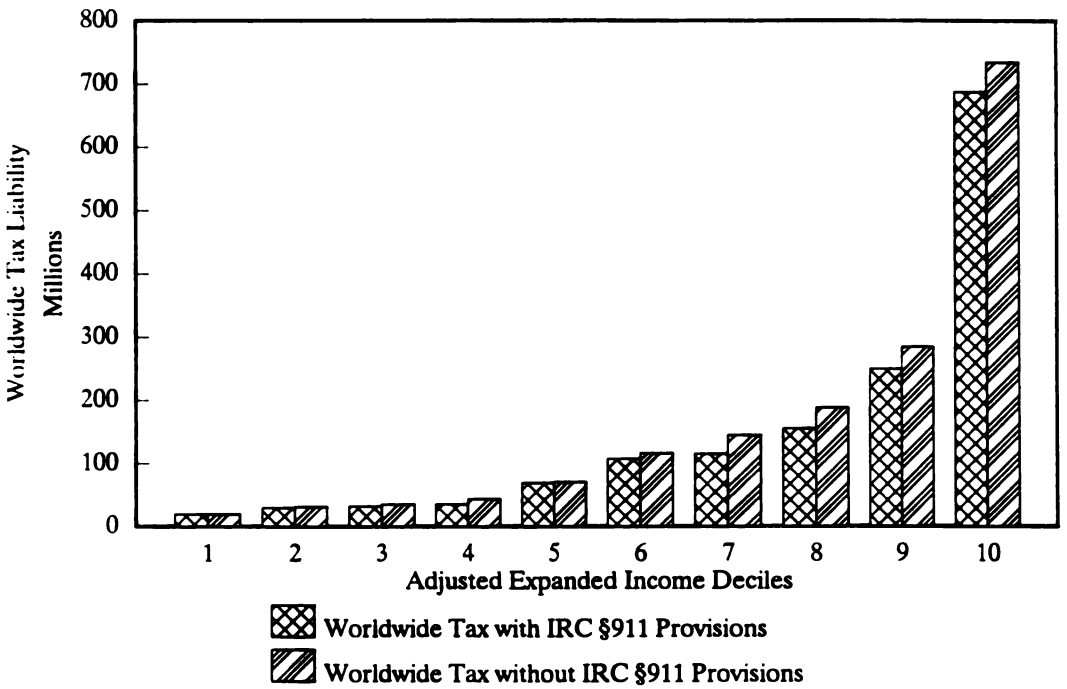
Adjusted Expanded Income and U.S. Taxes



Based on a weighted sample of 60,682 returns (n=2,882).

Figure 4

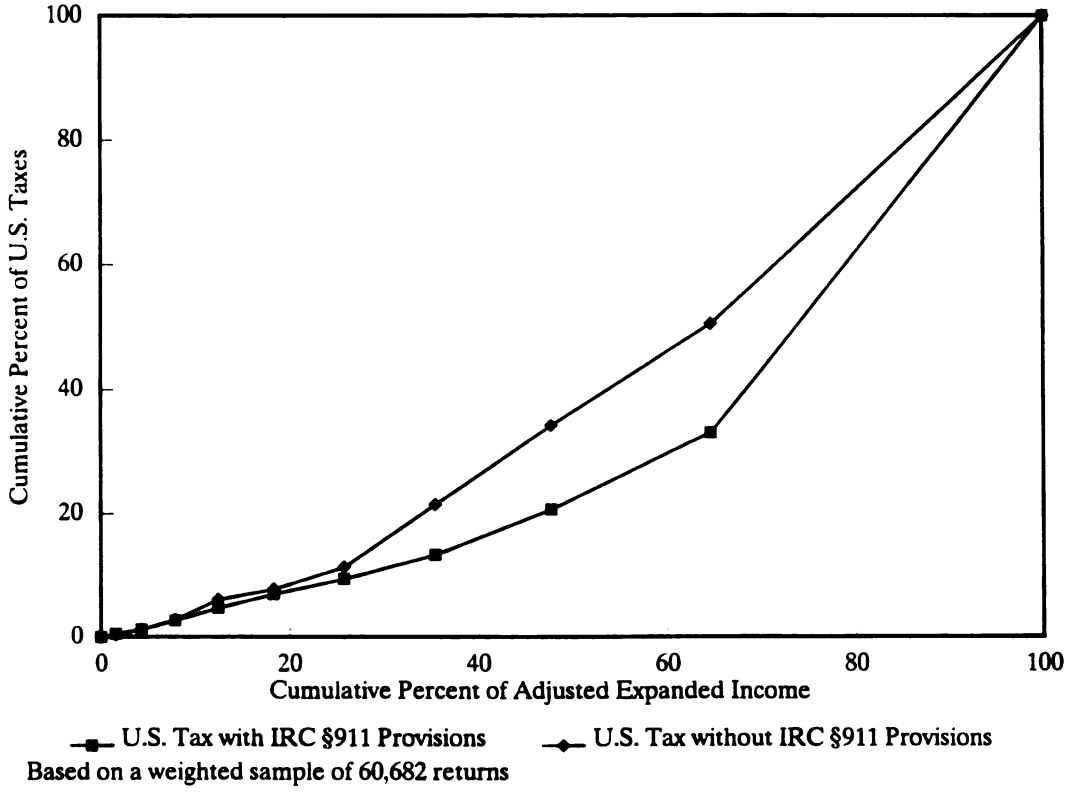
Adjusted Expanded Income and Worldwide Taxes



Based on a weighted sample of 60,682 returns (n=2,882).

Figure 5

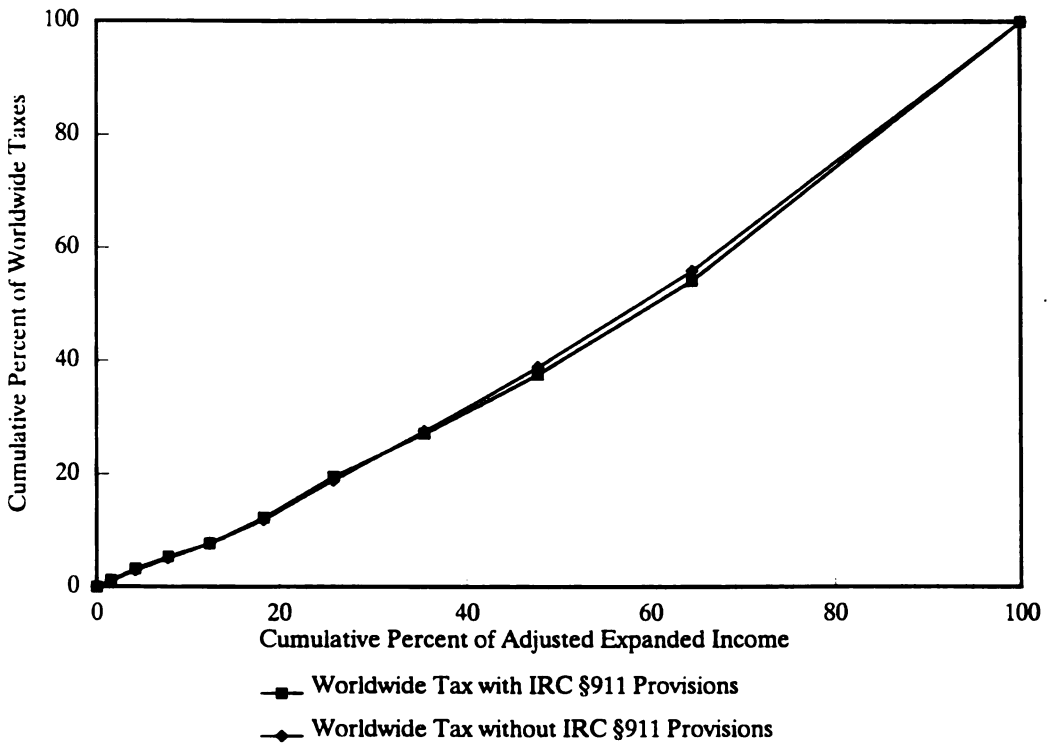
Suits Index - U.S. Tax Liability



Based on a weighted sample of 60,682 returns

Figure 6

Suits Index - Worldwide Tax Liability



Based on a weighted sample of 60,682 returns

The tax liability progression coefficients[5] [Ott and Dittrich, 1981] in Table 6.12 indicate that when either U.S. or worldwide tax liabilities are considered, the regime with IRC §911 provisions is slightly less progressive than the regime without the IRC §911 provisions (t-statistics are shown in parentheses)[6].

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[5]This measure uses the natural log of taxes. For those tax returns in the sample with a tax of zero, taxes were set to fifty-cents to include the returns in the analysis.

[6]The confidence intervals (at the 95% level) for the elasticities (U.S. and worldwide) of the tax regime with the IRC §911 provisions overlap the confidence intervals for the elasticities of the tax regime without the IRC §911 provisions.

Table 6.12

Tax Liability Progression Coefficients

	Regime with IRC §911		Regime without IRC §911 provisions	
	Elasticity	Adjusted R-squared	Elasticity	Adjusted R-squared
U.S. Tax Liability	2.510 (149.31)	.2736	2.573 (145.446)	.2633
Worldwide Tax Liability	1.373 (102.95)	.1518	1.430 (404.46)	.7343

The t-statistics are reported in parentheses.

The residual progressivity coefficients (Ott and Dittrich, 1981) are reported in Table 6.13. The residual coefficients indicate that the tax regime with the IRC §911 provisions is less progressive (closer to proportional) than the tax regime without the IRC §911 provisions[7].

[7]The confidence intervals (at the 95% level) for the elasticities (U.S. and worldwide) of the tax regime with the IRC §911 provisions overlap the confidence intervals for the elasticities of the tax regime without the IRC §911 provisions.

Table 6.13

Residual Progression Coefficients

	Regime with IRC §911		Regime without IRC §911 provisions	
	Elasticity	Adjusted R-squared	Elasticity	Adjusted R-squared
U.S. Tax Liability	.9846 (5329.70)	.9979	.9550 (2439.92)	.9902
Worldwide Tax Liability	.9284 (707.20)	.8948	.8952 (761.87)	.9080

As shown in Table 6.14, the progressivity results are mixed. The Suits Index results indicate that the tax regime with the IRC §911 provisions is more progressive than the tax regime without the IRC §911 provisions. In contrast, the tax liability progression coefficients and the residual progressivity coefficients indicate that the tax regime without the §911 provisions is more progressive than the tax regime with the §911 provisions.

Table 6.14

Summary of Progressivity Measures

	U.S.		Worldwide	
	with §911	without §911	with §911	without §911
Suits Index	*		*	
Tax Liability Progression Coefficients		*		*
Residual Progression Coefficients		*		*

The '*' indicates the tax regime that is more progressive.

6.2.3 Combined equity effects of eliminating IRC §911

The tests of the combined equity effects of eliminating the IRC §911 provisions are reported in Table 6.15. When U.S. tax liability is used as the measure of taxes, the results indicate that the regime with the IRC §911 provisions is more equitable than the regime without the IRC §911 provisions. The variance of the error term is smaller for the regime with the IRC §911 provisions (.00156) than for the regime without the IRC §911 provisions (.00698). The tax regime without the IRC §911 provisions is more progressive (.9120) than the tax regime with the IRC §911 provisions (.9694).

In contrast, using worldwide tax liability as the measure of taxes, the tax regime without the IRC §911 provisions is more equitable than a tax regime with the IRC §911 provisions. The variance of the error term is smaller for a tax regime without the IRC §911 provisions (.06219 vs. .07763). The tax regime without the IRC §911 provisions is more progressive than a tax regime with the provisions.

Table 6.15

Combined Equity Tests

	Regime with IRC §911 provisions		Regime without IRC §911 provisions	
	U.S.	Worldwide	U.S.	Worldwide
Horizontal Equity	.00156	.07763	.00698	.06219
Vertical Equity	.9694	.8620	.9120	.8014
Adjusted R-squared	.9979	.8948	.9902	.9080

6.2.4 Impact of TRA of 1986 on the use of IRC §911

The results of the tests for hypothesis three are shown in Table 6.16. Approximately 14 percent of U.S. citizens residing abroad used the IRC §911 provisions in 1987, while 16 percent used the same provisions in 1983. Consistent with the hypothesis, a smaller percentage of U.S. citizens residing abroad used the IRC §911 provisions in 1987 compared to 1983. A paired comparison t-test of differences between the 1983 and 1987 percentages is consistent with the hypothesis that the use of the IRC §911 provisions declined following the Tax Reform Act of 1986 ($t = -1.914$, $p = .0591$).

When countries were stratified by foreign tax rate into high and low tax countries the results are consistent in sign but insignificant.

Table 6.16

Impact of TRA of 1986

Variable	Mean	Standard Deviation	Minimum	Maximum
Percent claiming exclusion in 1983	16.29	13.883	1.24	64.95
Percent claiming exclusion in 1987	14.037	10.535	.56	40.97
Percentage Difference	-2.255	10.929	-49.30	26.29

Chapter Seven

CONCLUSIONS AND IMPLICATIONS

Summary

Although both the U.S. Congress and the private sector have used equity as a justification for the IRC §911 provisions, no study has investigated the equity of these provisions. The purpose of this study is three-fold: to empirically document descriptive characteristics of expatriate taxpayers, to examine the equity effects of the IRC §911 provisions, and to investigate the impact of the TRA of 1986 on the use of the IRC §911 provisions.

The public finance literature provides a framework for examining the equity effects of the IRC §911 provisions. The coefficient of variation and the coefficient of residual variation are used to examine the horizontal equity effects of the IRC §911 provisions. The Suits index, the tax liability progression coefficient, and the residual progression coefficient are used to examine the vertical equity (progressivity) effects of the IRC §911 provisions. A proposed but untested combined measure is used to simultaneously investigate horizontal and vertical equity. Adjusted expanded income is used as a measure of income and two alternative measures of taxes are used: tax liability and effective tax rates. Taxes are computed on both a U.S. and worldwide basis.

The equity measures are computed for two tax regimes: one with the IRC §911 provisions and the other without the IRC §911 provisions using a unique database, the 1987 Statistics of Income foreign sample of taxpayers filing for the IRC §911 provisions. Foreign tax rates from the Coopers and Lybrand International Tax Network and foreign exchange rates from the International Monetary Fund were used to recompute the tax liability of the expatriates under a tax regime without the IRC §911 provisions in place.

Data from 86 countries are used to assess the use of the IRC §911 provisions across time. The countries included have data available in both the 1987 and 1983 Statistics of Income foreign sample, State Department estimates of expatriates and an estimated foreign tax rate available.

The descriptive analysis reveals that although expatriates and all individual taxpayers on average may seem very similar when comparisons are made based on adjusted gross income or taxable income, comparisons using components of income reveal striking differences. On average, expatriates report more than twice the amount of salaries and wages and business income but report U.S. tax liabilities only two-thirds as large as all individual taxpayers.

Full year expatriates report average combined foreign earned income and housing exclusions of $42,370 and total combined foreign earned income and housing exclusions of

over $4.3 billion.[1] Salaries and wages are the primary source of foreign earned income, accounting for approximately 73 percent of all foreign earned income.

More than half of the expatriates are employed in business professions and approximately 28 percent are employed in the fields of education, religion, and research. The remainder are employed in the arts and entertainment field or other occupations. Approximately half of the expatriates are in six countries: West Germany, Canada, the United Kingdom, Saudi Arabia, Japan, and Israel.

The results are significant and inconsistent with the hypothesis that horizontal equity is improved with the inclusion of the IRC §911 provisions. Both the coefficients of variation and residual variation indicate that the tax regime without the IRC §911 provisions is more equitable than the tax regime with the provisions. The results are consistent using either measure of taxes (tax liabilities or effective tax rates) when taxes are computed on a U.S. or worldwide basis.

The results of the tests examining the progressivity of the tax regimes are mixed. Using the Suits Index, the tax regime with the IRC §911 provisions is more progressive than the tax regime without the IRC §911 provisions in place. The results using the tax liability and residual progression

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[1]In addition, expatriates claimed over $10 million in housing deductions.

coefficients indicate that the tax regime without the IRC §911 provisions is more progressive. However, both tax regimes are very progressive. Finally, the results are consistent with the hypothesis that the use of the IRC §911 provisions declined between 1983 and 1987.

Limitations

Although the results of this study provide initial evidence of the role of the IRC §911 provisions in the tax treatment of U.S. expatriates, the analysis is limited to those taxpayers who claimed the IRC §911 provisions. Expatriates who did not claim the IRC §911 provisions but instead chose to use the foreign tax credit provisions or deduct their foreign taxes as an itemized deduction or a business expense are outside the scope of this analysis.

In addition, to limit the impact of the differential treatment based on filing status, only tax returns with filing status "married filing jointly" are included in the equity analysis. To the extent that individuals in the other filing statuses are different, these results may not be generalizable to other types of filers.

Relevance and Contributions

Although both the U.S. Congress and the private sector have used equity as a justification for maintaining the IRC §911 provisions, no prior research has empirically investigated the equity of the IRC §911 provisions or the impact of the TRA of 1986 on the use of the provisions.

Using a unique database, the descriptive characteristics of expatriate taxpayers are documented and the equity effects of the IRC §911 provisions and the impact of the TRA of 1986 on the use of the IRC §911 provisions is examined.

The ability of the United States to effectively compete in world markets is affected by the taxation of U.S. citizens living overseas. This ability is influenced both by the cost of maintaining employees overseas and the willingness of U.S. workers to accept overseas employment. Overall, this research effort provides initial evidence concerning the role of the IRC §911 provisions in the taxation of U.S. expatriates. This information should aid Congress as it develops tax policies to improve U.S. competitiveness in the global markets.

This research effort provides a basis for further investigation of the role of the IRC §911 provisions in the taxation of U.S. expatriates. Future research will explore this role within the larger context of the employer-employee relationship for those expatriates who are overseas employees of U.S. firms.[2] Taxation affects the cost of employing U.S. citizens overseas. In many cases, the policy of businesses has been to make the employees "whole" by reimbursing them for any additional living expenses and

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[2]Scholes and Wolfson [1992, 192] note that in determining the desirability of compensation alternatives, the tax consequences to both the employee and employer should be considered.

additional taxes that they incur while overseas.[3] These policies tend to increase the cost of employing individuals overseas. To the extent the additional taxes are borne by the firms, the incidence[4] for the taxes is shifted from the individual employee to the firm. Future research should explore these issues.

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[3]H.R. No. 201, 97th Cong., 1st Sess., reprinted in 1981-2 C.B. 352-412.

[4]An examination of the incidence of taxes, within the public finance literature, involves determining who bears the burden of taxation.

APPENDIX A

HISTORICAL TAX TREATMENT OF EXPATRIATES

1926

In 1926, Congress enacted legislation allowing U.S. citizens living and working abroad for at least six months during the taxable year (bona fide nonresidents) to exclude all foreign earned income.[1] The exclusion was controversial even at this juncture. The initial proposal [H.R. Report No. 1, 69th Cong., 1st Sess. 7 (1926)] by the House Ways and Means Committee (here after referred to as the House) was not well received by the Senate Finance Committee (here after referred to as the Senate). Although they ultimately agreed [H.R. Conf. Rep. No. 356, 69th Cong., 1st Sess. 2 (1926)], the Senate [S. Rep. No. 52, 69th Cong., 1st Sess. 20-21 (1926)] initially did not feel that any exclusion was necessary given that citizens employed abroad already were allowed a tax credit[2] for any taxes paid to the foreign country on the earned income. The necessity of the exclusion, given that the foreign tax credit exists, continues to be a key controversy in discussions of the

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[1]Earned income included wages and salaries, professional fees and any other amounts received for personal services. For those engaged in a trade or business, a reasonable amount, not in excess of twenty percent of the net profits would be considered earned income. (Revenue Act of 1926, Ch. 27, §209(a)(1), 44 Stat. 9,20)

[2]The foreign tax credit had been incorporated into the federal tax law in 1918.

exclusion.

1932

In 1932, the Senate unsuccessfully used the foreign tax credit argument to propose eliminating the exclusion. In addition, they voiced a concern that employees of the U.S. government, who were often exempt from foreign taxation, were unfairly benefiting from the exclusion [S. Rep. No. 665, 72nd Cong., 1st Sess. (1932), reprinted in 1939-1 (Vol. 2) C.B. 496, 518]. Even though the exclusion was retained, it was amended so that is was not available to employees of the United States or an agency thereof [H.R. Conf. Rep. No. 1492, 72nd Cong., 1st Sess. (1932), reprinted in 1939-1 (Vol. 2) C.B. 539-543].

1942

In a reversal of its prior position, in 1942, the House advocated the repeal of the exclusion due to abuse by individuals going abroad for more than six months merely for tax evasion purposes [H.R. No. 2333, 77th Cong., 2d Sess. (1942), reprinted in 1942-2 C.B. 372-504]. However, believing it would cause a hardship to legitimate residents of foreign countries, the Senate recommended and the House agreed to a modification of the residence test and a lengthening of the qualification period. To qualify, a U.S. citizen now had to be a bona fide resident of a foreign country (rather than nonresident of the U.S.) for an entire tax year [S. Rep. No. 1631, 77th Cong., 2d Sess. (1942),

reprinted in 1942-2 C.B. 504, 549, and H.R. Conf. Rep. No. 2586, 77th Cong., 2d Sess. (1942), reprinted in 1942-2 C.B. 701-733].

1951

The qualifying test was altered again under the Revenue Act of 1951.[3] A new physical presence test was included as a companion to the bona fide residence test. To qualify for the exclusion under the physical presence test, an individual had to be physically present in a foreign country for 510 days during any period of 18 consecutive months. This modification of the qualifying test allowed individuals who could not satisfy the stricter bona fide residence test to qualify for the exclusion. The bona fide residence test was also relaxed, allowing individuals to qualify if they were bona fide residents for an uninterrupted period that included an entire taxable year [S. Rep. No. 781, 82d Cong., 1st Sess., reprinted in 1951-2 C.B. 458-544.; S. Rep. No. 781, Part 2, 82d Cong., 1st Sess., reprinted in 1951-2 C.B. 545-622, and H.R. Conf. Rep. No. 1213, 82d Cong., 1st Sess., reprinted in 1951-2 C.B. 622-654].

1953

The Technical Changes Act of 1953 was enacted to remove perceived inequities in the tax law [H.R. No. 894, 83d

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[3]In making these changes the Senate Report [S. Rep. No. 781, 82d Cong., 1st Sess., reprinted in 1951-2 C.B. 458, 495] notes that the provision was intended to encourage citizens to go abroad and place them on equal footing with their foreign counterparts who are not taxed by their home countries.

Cong., 1st Sess. (1953) reprinted in 1953-2 C.B. 508, 508]. The House [H.R. No. 894, 83d Cong., 1st Sess. (1953) reprinted in 1953-2 C.B. 508, 511] proposed repeal of the exclusion on equity grounds, indicating that the provision was being abused. Individuals were preforming services abroad that were customarily performed at home only to avoid taxation, and in many cases these same individuals were also not paying taxes in the foreign country.[4] The Senate, believing that repeal was not necessary to correct the abuse, proposed a $20,000 cap on the amount of excludable income for individuals using the physical presence test to qualify for the exclusion [S.Rep. No. 685, 83d Cong., 1st Sess. (1953) reprinted in 1953-2 C.B. 526, 529]. The unlimited exclusion remained in effect for those qualifying under the bona fide residence test.

1958

In 1958, Congress for the first time required that income subject to the exclusion must be treated as gross income for purposes of determining whether a tax return should be filed [P.L. 85-866, 85th Cong., Sept. 2, 1958,

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[4]The perceived abuses were primarily within the film industry. Using the physical presence test, film stars made movies at various foreign locations and qualified for the unlimited foreign earned income exclusion. In many cases, they also avoided foreign income taxation if they did not meet the residence tests of the foreign country. In addition, technical support, supporting roles, and extra roles were being provided by foreigners in the foreign countries at the expense of their U.S. counterparts in the United States [Sobel, 1985, p. 123-124].

H.R. 8381, reprinted in 1958-3 C.B. 254-333]. Taxpayers had previously not been required to report the excludable amount on their returns. As a result, the Internal Revenue Service (IRS) found it difficult to administer the exclusion. The Senate and House [H.R. No. 775, 85th Cong., 1st Sess. (1957), reprinted in 1958-3 C.B. 811-921 and S. Rep. No. 1983, 85th Cong., 2d Sess. (1958), reprinted in 1958-3 C.B. 922-1187] both felt that considerable misunderstanding of the proper application of the provision existed and were concerned about the revenue loss that resulted from the misapplication[5]. A new initiative within the IRS today demonstrates the continuing concern with many of these same issues. Because of a concern that U.S. citizens living abroad misunderstand their federal income tax obligations, the IRS is currently studying ways to improve the compliance of overseas taxpayers.

1962

A limitation on the exclusion for taxpayers qualifying under the bona fide residence test was first included in the Revenue Act of 1962 [P.L. 87-834, 87th Cong., October 16, 1962, H.R. 10650]. The exclusion was limited to $20,000 for

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[5]Congress had evidence that taxpayers were claiming the exclusion for unearned income, U.S. source income, and without satisfying the physical presence or bona fide residence tests [H.R. No. 775, 85th Cong., 1st Sess. (1957), reprinted in 1958-3 C.B. 811-921 and S. Rep. No. 1983, 85th Cong., 2d Sess. (1958), reprinted in 1958-3 C.B. 922-1187].

the first three years of bona fide residence and $35,000[6] thereafter. Congress also allowed a phase-in on the valuation and inclusion of noncash compensation (such as use of a house and car) in earned income for individuals qualifying under the bona fide residence test. Under previous law these items were often not valued due to the unlimited exclusion [S. Rep. No. 1881, 87th Cong., 2d Sess. (1962), reprinted in 1962-3 C.B. 707, 781]. To prevent individuals from taking inconsistent residence positions and avoiding income taxes in both countries, the exclusion was denied if the individual had foreign earned income, filed a statement with the foreign authorities claiming nonresidence, and was not held subject to income tax as a resident of the foreign country [S. Rep. No. 1881, 87th Cong., 2d Sess. (1962), reprinted in 1962-3 C.B. 707, 781].

1976

Congress included sweeping changes in the taxation of expatriates in Tax Reform Act of 1976. The House felt that the exclusion provided an unfair tax advantage to U.S. citizens living and working abroad when compared to their domestic counterparts [H.R. No. 658, 94th Cong., 1st Sess., (1976), reprinted in 1976-3 (Vol. 2) C.B. 695, 892]. The House proposed repealing the exclusion for all but overseas

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[6]The limitation was subsequently reduced to $25,000 in the Revenue Act of 1964 [P.L. 88-272, 88th Cong., February 26, 1964, H.R. 8363, reprinted in 1964-1 (Part 2) C.B. 6-113.

employees of U.S. charities.[7]

Recognizing that individuals in foreign countries may incur costs for services that would normally be provided by the U.S. government or governmental agency, the House proposed a deduction for education expenses for dependent children and an exemption from earned income for the value of any municipal-type services (roads, sewers, water service) provided for the employee by the employer [H.R. No. 658, 94th Cong., 1st Sess., (1976), reprinted in 1976-3 (Vol. 2) C.B. 695, 893]. Although these provisions were not incorporated into the final version of the Tax Reform Act of 1976, the notion of allowing deductions for the special costs of living overseas was revived in the discussion surrounding the Foreign Earned Income Act of 1978.

The Senate proposed retaining the exclusion so as not to jeopardize the competitive position of U.S. firms abroad but did propose several changes in the taxation of U.S. citizens abroad. They recommended that: (1) anyone entitled to the earned income exclusion not also be allowed a foreign tax credit for foreign taxes paid on the excluded income;[8]

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[7]The foreign country often encouraged the presence of these workers by not subjecting them to income tax. A U.S. tax could not be offset by any foreign tax credit in these cases. Thus, the House felt it would make it more expensive for U.S. charities to operate overseas [H.R. No. 658, 94th Cong., 1st Sess., (1976), reprinted in 1976-3 (Vol. 2) C.B. 695, 893].

[8]Prior to this, individuals earning more than the excludable amount ($20,000 or $25,000) were able to offset their U.S. tax liability (based only on income in excess of

(2) additional earned income beyond that eligible for the exclusion be taxed at the marginal rate that would apply if the income were not excluded; and (3) if tax avoidance was one for the reasons for receiving earned income outside of the country in which it was earned it would be ineligible for the exclusion [S. Rep. 938, 94th Cong., 2d Sess., (1976), reprinted in 1976-3 (Vol. 3) C.B. 57, 249].

The Senate also proposed a housing exclusion for housing that is furnished or reimbursed by the employer. The exclusion was to be limited to the amount by which the State Department allowance in that particular area exceeded the cost of comparable housing in Washington, D.C. [S. Rep. 938, 94th Cong., 2d Sess., (1976), reprinted in 1976-3 (Vol. 3) C.B. 57, 250]. Although this exclusion was not enacted, it was a precursor to the present housing exclusion.

The final version of the Tax Reform Act of 1976 adopted most of the Senate provisions with the exception of the housing exclusion. The foreign earned income exclusion was limited to $15,000 ($20,000 for all employees of U.S. charitable organizations). In addition, for the first time individuals could elect not to be subject to the exclusion provisions [P.L. 94-455, 94th Cong., October 4, 1976,

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the exclusion) with a foreign tax credit based on taxes paid on all foreign income (including the excluded portion). Congress estimated that "$40,000 or more of earned income could be exempted from U.S. taxation if the U.S. employee pays any significant income tax to the foreign government." [S. Rep. 938, 94th Cong., 2d Sess., (1976), reprinted in 1976-3 (Vol. 3) C.B. 57, 248]

reprinted in 1976-3 (Vol. 1) C.B. 1-410].

In reality, these provisions were never effective. They were initially to be in force for tax years beginning after December 31, 1975. The effective date of these changes was twice delayed: first, to tax years beginning after December 31, 1976 [P.L. 95-30, 95th Cong., May 6, 1977, H.R. 3777] and then, to tax years beginning after December 31, 1977 [P.L. 95-615, 95th Cong., November 8, 1978, H.R. 9251]. Controversy surrounded the provisions. Maiers [1981, 700] notes there was an "extraordinary volume of mail, telegrams, and meetings in which United States citizens employed overseas angrily protested to their embassies and to Congress against the timing[9] and substance of the changes."

1978

Immediately after the 1976 provisions took effect, the Foreign Earned Income Act of 1978 [P.L. 95-615, 95th Cong., H.R. 9251, reprinted in 1978-2 C.B. 415-422] was passed. Sobel [1985, p. 131] notes that the goal of this Act was to place the overseas taxpayer in an equitable position when compared to his (her) domestic counterpart. The provisions included striking changes in the tax treatment of the overseas taxpayers. First, Congress limited the foreign earned income exclusion to individuals working and residing

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[9]The Tax Reform Act was enacted on October 4, 1976 and the provisions applied retroactively to the beginning of 1976.

in camps in hardship areas or working for qualified domestic charities in lesser developed countries. Second, for all other U.S. citizens living and working abroad, Congress devised a system of deductions meant to take into account the actual additional expenses of living abroad. Five possible deduction were available for: 1) reasonable excess cost of living expenses, 2) reasonable excess housing expenses, 3) reasonable schooling expenses, 4) reasonable annual home-leave transportation expenses, and 5) a deduction for individuals living in a "hardship area". The calculations involved in determining these various deductions were quite complex and "no one liked it" [Sobel, 1985, 138]. Both the public sector (Congress and the I.R.S.) and the private sector (businesses and expatriates) believed the provisions were too complicated. As a result of the widespread dissatisfaction with the 1978 provisions, they were repealed in their entirety with the passage of the Economic Recovery Act of 1981 [P.L. 97-34, 97th Cong., H.R. 4242, August 13, 1981, reprinted in 1981-2 C.B. 256-352].

1981

The Economic Recovery Act of 1981[10] reinstated the foreign earned income exclusion for all taxpayers meeting either the bona fide residence or physical presence test. The physical presence test was relaxed so that taxpayers present in foreign tax home for 330 full days in a twelve-month period now could qualify for the exclusion. The limit on the exclusion was raised to $75,000 increasing to 95,000 in 1990. Congress retained the notion of providing some relief for excess housing costs with the inclusion of a new housing exclusion.[11] The goal of the housing exclusion was to make an allowance for the special expenses that expatriate taxpayers incur above those of the domestic taxpayers.

1984 and 1986

Very little has changed since 1981 in the taxation of U.S. citizens abroad. The 1984 Deficit Reduction Act [P.L. 98-369, July 18, 1984, 98th Cong., reprinted in 1984-3 C.B. Vol 1. 13] froze the maximum amount of the foreign earned income exclusion at $80,000 for tax years 1983 to 1988 and then allowed a gradual increase to $95,000 in 1990. The Tax

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[10]Simplification was the primary goal of Congress in enacting this legislation. In addition, they hoped to provide an incentive for U.S. citizens to work abroad [H.R. No. 201, 97th Cong., 1st Sess., reprinted in 1981-2 C.B. 352-412].

[11]The calculation of the housing exclusion is discussed in the following section as part of the current tax law provisions.

Reform Act of 1986 capped the foreign earned income exclusion at $70,000 for all tax years beginning after December 31, 1986. Congress enacted the 1986 reduction in the foreign earned income exclusion because of the general decline in the marginal federal tax rates instituted in the Tax Reform Act of 1986 [H.R. No. 426, 99th Cong., 1st Sess., reprinted in 1986-3 C.B. Vol. 2, 1-1068].

APPENDIX B

TAX FORMS

Form 1040 Department of the Treasury—Internal Revenue Service **U.S. Individual Income Tax Return** **1987** (0)

For the year Jan.–Dec. 31, 1987, or other tax year beginning , 1987, ending , 19 — OMB No. 1545-0074

Label (Use IRS label. Otherwise, please print or type.)

Your first name and initial (if joint return, also give spouse's name and initial) — Last name — Your social security number

Present home address (number and street or rural route). (If you have a P.O. Box, see page 6 of Instructions.) — Spouse's social security number

City, town or post office, state, and ZIP code — For Privacy Act and Paperwork Reduction Act Notice, see instructions.

Presidential Election Campaigns — Do you want $1 to go to this fund? Yes / No. If joint return, does your spouse want $1 to go to this fund? Yes / No. Note: Checking "Yes" will not change your tax or reduce your refund.

Filing Status (Check only one box.)

1 ☐ Single

2 ☐ Married filing joint return (even if only one had income)

3 ☐ Married filing separate return. Enter spouse's social security no. above and full name here.

4 ☐ Head of household (with qualifying person). (See page 7 of instructions.) If the qualifying person is your child but not your dependent, enter child's name here.

5 ☐ Qualifying widow(er) with dependent child (year spouse died ▶ 19). (See page 7 of instructions.)

Exemptions (See Instructions on page 7.)

Caution: If you can be claimed as a dependent on another person's tax return (such as your parents' return), do not check box 6a. But be sure to check the box on line 32b on page 2.

6a ☐ Yourself — 6b ☐ Spouse — No. of boxes checked on 6a and 6b

c Dependents (1) Name (first, initial, and last name) — (2) Check if under age 5 — (3) If age 5 or over, dependent's social security number — (4) Relationship — (5) No. of months lived in your home in 1987

No. of children on 6c who lived with you

No. of children on 6c who didn't live with you due to divorce or separation

No. of parents listed on 6c

No. of other dependents listed on 6c

If more than 7 dependents, see Instructions on page 7.

Add numbers entered on lines above ▶

d If your child didn't live with you but is claimed as your dependent under a pre-1985 agreement, check here ▶ ☐

e Total number of exemptions claimed (also complete line 35)

Income (Please attach Copy B of your Forms W-2, W-2G, and W-2P here. If you do not have a W-2, see page 6 of Instructions.)

7	Wages, salaries, tips, etc. *(attach Form(s) W-2)*		7
8	Taxable interest income *(also attach Schedule B if over $400)*		8
9	Tax-exempt interest income (see page 10). DON'T include on line 8	9	
10	Dividend income *(also attach Schedule B if over $400)*		10
11	Taxable refunds of state and local income taxes, if any, from worksheet on page 11 of Instructions		11
12	Alimony received		12
13	Business income or (loss) *(attach Schedule C)*		13
14	Capital gain or (loss) *(attach Schedule D)*		14
15	Other gains or (losses) *(attach Form 4797)*		15
16a	Pensions, IRA distributions, annuities, and rollovers. Total received	16a	
b	Taxable amount (see page 11)		16b
17	Rents, royalties, partnerships, estates, trusts, etc. *(attach Schedule E)*		17
18	Farm income or (loss) *(attach Schedule F)*		18
19	Unemployment compensation (insurance) (see page 11)		19
20a	Social security benefits (see page 12)	20a	
b	Taxable amount, if any, from the worksheet on page 12		20b
21	Other income (list type and amount—see page 12)		21
22	Add the amounts shown in the far right column for lines 7, 8, and 10–21. This is your **total income** ▶		22

Please attach check or money order here.

Adjustments to Income (See Instructions on page 12.)

23	Reimbursed employee business expenses from Form 2106	23	
24a	Your IRA deduction, from applicable worksheet on page 13 or 14	24a	
b	Spouse's IRA deduction, from applicable worksheet on page 13 or 14	24b	
25	Self-employed health insurance deduction, from worksheet on page 14	25	
26	Keogh retirement plan and self-employed SEP deduction	26	
27	Penalty on early withdrawal of savings	27	
28	Alimony paid (recipient's last name , and social security no.)	28	
29	Add lines 23 through 28. These are your **total adjustments** ▶		29

Adjusted Gross Income

30	Subtract line 29 from line 22. This is your **adjusted gross income.** *If this line is less than $15,432 and a child lived with you, see "Earned income Credit" (line 56) on page 18 of the Instructions. If you want IRS to figure your tax, see page 15 of the Instructions* ▶	30

APPENDIX B (Cont'd.)

Form 1040 (1987) Page 2

Tax Computation	31	Amount from line 30 (adjusted gross income)		31
	32a	Check if: ☐ You were 65 or over ☐ Blind; ☐ Spouse was 65 or over ☐ Blind. Add the number of boxes checked and enter the total here ▶	32a	
	b	If you can be claimed as a dependent on another person's return, check here ▶ 32b ☐		
	c	If you are married filing a separate return and your spouse itemizes deductions, or you are a dual-status alien, see page 15 and check here ▶ 32c ☐		
	33a	**Itemized deductions.** See page 15 to see if you should itemize. If you don't itemize, enter zero. If you do itemize, attach Schedule A, enter the amount from Schedule A, line 26, **AND** skip line 33b		33a
Caution: If you checked any box on line 32a, b, or c and you don't itemize, see page 16 for the amount to enter on line 33b.	b	**Standard deduction.** Read Caution to left. If it applies, see page 16 for the amount to enter. If **Caution** doesn't apply and your filing status from page 1 is: Single or Head of household, enter $2,540; Married filing jointly or Qualifying widow(er), enter $3,760; Married filing separately, enter $1,880		33b
	34	Subtract line 33a or 33b, whichever applies, from line 31. Enter the result here		34
	35	Multiply $1,900 by the total number of exemptions claimed on line 6e or see chart on page 16		35
	36	**Taxable income.** Subtract line 35 from line 34. Enter the result (but not less than zero)		36
		Caution: If under age 14 and you have more than $1,000 of investment income, check here ▶☐ and see page 16 to see if you have to use Form 8615 to figure your tax.		
	37	Enter tax. Check if from ☐ Tax Table, ☐ Tax Rate Schedules, ☐ Schedule D, or ☐ Form 8615		37
	38	Additional taxes (see page 16). Check if from ☐ Form 4970 or ☐ Form 4972		38
	39	Add lines 37 and 38. Enter the total ▶		39
Credits (See Instructions on page 17.)	40	Credit for child and dependent care expenses *(attach Form 2441)*	40	
	41	Credit for the elderly or for the permanently and totally disabled *(attach Schedule R)*	41	
	42	Add lines 40 and 41. Enter the total		42
	43	Subtract line 42 from line 39. Enter the result (but not less than zero)		43
	44	Foreign tax credit *(attach Form 1116)*	44	
	45	General business credit. Check if from ☐ Form 3800, ☐ Form 3468, ☐ Form 5884, ☐ Form 6478, ☐ Form 6765, or ☐ Form 8586	45	
	46	Add lines 44 and 45. Enter the total		46
	47	Subtract line 46 from line 43. Enter the result (but not less than zero) ▶		47
Other Taxes (Including Advance EIC Payments)	48	Self-employment tax *(attach Schedule SE)*		48
	49	Alternative minimum tax *(attach Form 6251)*		49
	50	Tax from recapture of investment credit *(attach Form 4255)*		50
	51	Social security tax on tip income not reported to employer *(attach Form 4137)*		51
	52	Tax on an IRA or a qualified retirement plan *(attach Form 5329)*		52
	53	Add lines 47 through 52. This is your **total tax** ▶		53
Payments Attach Forms W-2, W-2G, and W-2P to front.	54	Federal income tax withheld (including tax shown on Form(s) 1099)	54	
	55	1987 estimated tax payments and amount applied from 1986 return	55	
	56	Earned income credit (see page 18)	56	
	57	Amount paid with Form 4868 (extension request)	57	
	58	Excess social security tax and RRTA tax withheld (see page 19)	58	
	59	Credit for Federal tax on gasoline and special fuels *(attach Form 4136)*	59	
	60	Regulated investment company credit *(attach Form 2439)*	60	
	61	Add lines 54 through 60. These are your **total payments** ▶		61
Refund or Amount You Owe	62	If line 61 is larger than line 53, enter amount **OVERPAID** ▶		62
	63	Amount of line 62 to be **REFUNDED TO YOU** ▶		63
	64	Amount of line 62 to be applied to your 1988 estimated tax ▶	64	
	65	If line 53 is larger than line 61, enter **AMOUNT YOU OWE.** Attach check or money order for full amount payable to "Internal Revenue Service." Write your social security number, daytime phone number, and "1987 Form 1040" on it		65
		Check ▶ ☐ if Form 2210 (2210F) is attached. See page 20 Penalty: $		

Please Sign Here

Under penalties of perjury, I declare that I have examined this return and accompanying schedules and statements, and to the best of my knowledge and belief, they are true, correct, and complete. Declaration of preparer (other than taxpayer) is based on all information of which preparer has any knowledge.

Your signature	Date	Your occupation
Spouse's signature (if joint return, BOTH must sign)	Date	Spouse's occupation

Paid Preparer's Use Only

Preparer's signature	Date	Check if self-employed ☐	Preparer's social security no.
Firm's name (or yours if self-employed) and address		E.I. No.	
		ZIP code	

APPENDIX B (Cont'd.)

Form **1116**

Department of the Treasury
Internal Revenue Service

Computation of Foreign Tax Credit

Individual, Fiduciary, or Nonresident Alien Individual

▶ Attach to Form 1040, 1040NR, 1041, or 990-T.

▶ See separate instructions.

OMB No. 1545-0121

1987

Attachment Sequence No. **21**

Name

Identifying number as shown on page 1 of your tax return

Use a separate Form 1116 for each type of income. Check only one box. This form is being completed for credit for taxes on:

- ☐ Passive income
- ☐ High withholding tax interest
- ☐ Financial services income
- ☐ Shipping income
- ☐ Dividends from an IC-DISC or former DISC
- ☐ Distributions from a foreign sales corporation (FSC) or former FSC
- ☐ Dividends from each noncontrolled section 902 corporation
- ☐ General limitation income—all other income from sources outside the United States (including income from sources within U.S. possessions)

Resident of (name of country) ▶

Note: *If you paid taxes to one foreign country, use column A in Part I and line A in Part II. If you paid taxes to more than one foreign country, use a separate column and line for each country.*

Part I Taxable Income From Sources Outside the United States

	Foreign Country or U.S. Possession A	B	C	Total (Add Cols. A, B, and C)
Write the name of the foreign country or U.S. possession ▶				
1 Gross income from sources within country shown above and of the type checked above (see instructions):				1
2 Applicable deductions and losses (see instructions):				
a Expenses directly allocable to the income on line 1 (attach schedule)				
b Pro rata share of all other deductions not directly allocable:				
(i) Itemized deductions (attach schedule)				
(ii) Other deductions (attach schedule)				
(iii) Add lines 2b(i) and 2b(ii)				
(iv) Total foreign source income (see instructions)				
(v) Gross income from all sources (see instructions)		9		
(vi) Divide line 2b(iv) by line 2b(v)				
(vii) Multiply line 2b(iii) by line 2b(vi)				
c Losses from foreign sources				
d Add lines 2a, 2b(vii), and 2c				2d
3 Subtract line 2d from line 1. Enter the result here and in Part III, line 6a ▶				3

Part II Foreign Taxes Paid or Accrued (Attach receipt or copy of return.)

Country	1. Credit is claimed for taxes (you must check one): ☐ Paid; or ☐ Accrued — Date Paid or Accrued	2. Foreign Taxes Paid or Accrued — In Foreign Currency: Taxes Withheld at Source on: (a) Dividends	(b) Rents and Royalties	(c) Interest	(d) Other Foreign Taxes Paid or Accrued	In U.S. Dollars: Taxes Withheld at Source on: (e) Dividends	(f) Rents and Royalties	(g) Interest	(h) Other Foreign Taxes Paid or Accrued	(i) Total Foreign Taxes Paid or Accrued (Add Cols. (e), (f), (g), and (h))
A										
B										
C										
3 Add lines A through C, column (i). Enter the total here and on Part III, line 1 ▶										

For Paperwork Reduction Act Notice, see page 1 of separate instructions.

Form **1116** (1987)

APPENDIX B (Cont'd.)

Form 1116 (1987) Page 2

Part III Computation of Foreign Tax Credit

Check if you are claiming a credit for taxes paid to the Virgin Islands under section 932(b) . . . . . ▶ ☐

1	Enter amount from Part II, line 3. (This is the total foreign taxes paid or accrued.)	1		
2	Carryback or carryover (attach detailed computation)	2		
3	Add lines 1 and 2	3		
4	Reduction in foreign taxes (see instructions)	4		
5	Subtract line 4 from line 3. (This is the total amount of foreign taxes available for credit.)			5
6a	Enter amount from Part I, line 3 (see instructions)	6a		
b	Enter pro rata share of allocated foreign losses (see instructions)	6b		
c	Reduce the amount on line 6a by the loss on line 6b. (This is your taxable income (or loss) from sources outside the United States.) If this is a loss, you have no foreign tax credit for the type of income you checked on page 1. Skip lines 7 through 13	6c		
7	Recapture of prior year overall foreign losses (attach computation)	7		
8	Subtract line 7 from line 6c. This is your net foreign source taxable income			8
9	**Individuals:** Enter amount from Form 1040, line 34, or from Form 1040NR, line 33. **Estates and trusts:** Enter on this line your taxable income without the deduction for your exemption	9		
10	Divide line 8 by line 9. (If line 8 is more than line 9, enter the figure "1.")			10
11	**Individuals:** Enter amount from Form 1040, line 43, or Form 1040NR, line 40. **Estates and trusts:** Enter amount from Form 1041, line 22c, or Form 990-T, line 8			11
12	Multiply line 11 by line 10. (Maximum amount of credit.)			12
13	Enter the amount from line 5 or line 12, whichever is smaller. (If this is the only Form 1116 you are completing, skip lines 1 through 8 in Part IV and enter this amount on line 9, Part IV. Otherwise, complete the appropriate lines in Part IV.) ▶			13

Part IV Summary of Credits From Separate Parts III (See Instructions.)

1	Credit for taxes on passive income	1		
2	Credit for taxes on high withholding tax interest	2		
3	Credit for taxes on financial services income	3		
4	Credit for taxes on shipping income	4		
5	Credit for taxes on dividends from an IC-DISC or former DISC	5		
6	Credit for taxes on distributions from a FSC or former FSC	6		
7	Credit for taxes on dividends from each noncontrolled section 902 corporation	7		
8	Credit for taxes on general limitation income (all other income from sources outside the U.S.)	8		
9	Add lines 1 through 8			9
10	Reduction of credit for international boycott operations (see "Reduction of Credit for International Boycott Operations" in instructions for Part III)			10
11	Subtract line 10 from line 9. This is your foreign tax credit. Enter here and on Form 1040, line 44; Form 1040NR, line 41; Form 1041, line 23a; or Form 990-T, line 9a ▶			11

APPENDIX B (Cont'd.)

Form **2555**

Department of the Treasury
Internal Revenue Service

Foreign Earned Income

▶ See separate instructions. ▶ Attach to Form 1040.

19**87**
Attachment Sequence No. **34**

For Use by United States Citizens and Resident Aliens Only

Name of taxpayer | Your social security number

Foreign address (including country) | Your occupation

Name of employer ▶

Employer's address: U.S. ▶ / Foreign ▶

Employer is (check any that apply) ▶ ☐ A foreign entity ☐ A foreign affiliate of a U.S. company ☐ A U.S. company ☐ Self ☐ Other (specify) ▶

Enter earlier years (after 1981) that you filed Form 2555 to claim either of the exclusions ▶

If you chose to claim an exclusion in an earlier year (after 1981), have you revoked your choice? ☐ Yes ☐ No
If "Yes," give the type of exclusion and the tax year for which the revocation was effective ▶

Test under which you qualify to claim the exclusion(s) and/or deduction ▶ ☐ Bona fide residence test (Part I) ☐ Physical presence test (Part II) Are you a U.S. citizen? ☐ Yes ☐ No

Did you maintain a separate foreign residence for your family because of adverse living conditions at your tax home? ☐ Yes ☐ No

If "Yes," give city and country of the separate foreign residence. Also show the number of days during your tax year that you maintained a second household at that address .....

List your tax home(s) during your tax year and date(s) established .....

Complete either Part I or Part II. If an item does not apply, write "NA." If you do not provide the information asked for, any exclusion or deduction you claim may be disallowed.

Part I Taxpayers Qualifying Under Bona Fide Residence Test. (See Instructions.)

1 Date bona fide residence began ..... ended .....

2 Kind of living quarters in foreign country ▶ ☐ Purchased house ☐ Rented house or apartment ☐ Rented room ☐ Quarters furnished by employer

3 Did any of your family live with you abroad during any part of the tax year? ☐ Yes ☐ No
If "Yes," who and for what period? ▶ .....

4a Have you submitted a statement to the authorities of the foreign country where you claim bona fide residence that you are not a resident of that country? (See Instructions.) ☐ Yes ☐ No

b Are you required to pay income tax to the country where you claim bona fide residence? (See Instructions.) ☐ Yes ☐ No
If "Yes" to 4a and "No" to 4b, you do not qualify as a bona fide resident. Do not complete the rest of Part I.

5 Complete the following for days present in the United States or its possessions during the tax year. (Do not include this income in Part III, but report it on Form 1040.)

Date arrived in U.S.	Date left U.S.	Number of days in U.S. on business	Income earned in U.S. on business (attach computation)	Date arrived in U.S.	Date left U.S.	Number of days in U.S. on business	Income earned in U.S. on business (attach computation)

6a State any contractual terms or other conditions relating to the length of your employment abroad .....

b State the type of visa under which you entered the foreign country .....

c Did your visa limit the length of your stay or employment in a foreign country? ☐ Yes ☐ No
If "Yes," attach explanation

d Did you maintain a home in the United States while living abroad? ☐ Yes ☐ No
If "Yes," show address of your home, whether it was rented, and the names and relationships of the occupants .....

APPENDIX B (Cont'd.)

Form 2555 (1987) Page 2

Part II Taxpayers Qualifying Under Physical Presence Test. (See Instructions.)

7 The physical presence test is based on the 12-month period from ..... through .....

8 Enter your principal country of employment during your tax year ▶ .....

9 Enter all travel abroad during the 12-month period shown on line 7 except travel between foreign countries that did not involve travel on or over international waters or on or over the United States for 24 hours or more. If the last entry is an arrival in a foreign country, enter the number of full days to the end of the 12-month period. If you have no travel to report during the period, write "none" in the schedule below that you were physically present in a foreign country or countries during the entire 12-month period. (Do not include in Part III the income that you list here, but report it on Form 1040.)

Name of country (including U.S.)	Date arrived	Date left	Full days present in country	Number of days on U.S. business	Income earned on U.S. business (amount or "-0-")

Part III All Taxpayers

Note: *On lines 10 through 14 enter all income, including noncash income, that you earned and actually or constructively received during your 1987 tax year for services you performed in a foreign country. If any of the foreign earned income received this tax year was earned in a prior tax year, or will be earned in a later tax year (such as a bonus), see the instructions. Do not include income from Part I, line 5, or Part II, line 9. Report amounts in U.S. dollars, using the exchange rates in effect when you actually or constructively received the income.*

If you are a cash basis taxpayer, report on Form 1040 all income you received during 1987 no matter when you performed the service.

1987 Foreign Earned Income		Amount (in U.S. dollars)
10 Total wages, salaries, bonuses, commissions, etc		10
11 Allowable share of income for personal services performed (see instructions for Part III, line 11)		
a In a business (including farming) or profession		11a
b In a partnership (give name, address, and nature of income)		11b
12 Noncash income (market value of property or facilities furnished by employer—attach statement showing how determined)		
a Home (lodging)		12a
b Meals		12b
c Car		12c
d Other property or facilities (specify)		12d
13 Allowances, reimbursements, or expenses paid on your behalf for services you performed:		
a Cost of living and overseas differential	13a	
b Family	13b	
c Education	13c	
d Home leave	13d	
e Quarters	13e	
f For any other purpose (specify)	13f	
g Add the amounts on lines 13a through 13f and enter the total		13g
14 Other foreign earned income (specify)		14
15 Add the amounts on lines 10 through 12d, line 13g, and line 14 and enter the total		15
16 Total amount of meals and lodging included on line 15 that is excludable. (See instructions.)		16
17 Subtract line 16 from line 15 and enter the result. This is your foreign earned income ▶		17

Complete Part IV next if you choose to claim the housing exclusion or are claiming the housing deduction. Otherwise, skip to Part V

APPENDIX B (Cont'd.)

Form 2555 (1987) Page 3

Part IV For Taxpayers Claiming Housing Exclusion AND/OR Deduction

18 Qualified housing expenses for the tax year (See instructions) 18

19 Number of days in your qualifying period that fall within your 1987 tax year (See instructions) 19

20 Multiply $19.48 by the number of days on line 19. Enter the result, but do not enter more than $7,109.00 20

21 Subtract the amount on line 20 from the amount on line 18. (If zero or less, do not complete the rest of Part IV or any of Part VII.) 21

22 Enter employer-provided amounts. (See instructions) 22

23 Enter the amount from line 17 23

24 Divide the amount on line 22 by the amount on line 23 and enter the result as a decimal (to two places) (Limited to 1.00.) 24 x .

25 **Housing exclusion.** Multiply the amount on line 21 by the decimal amount on line 24, but do not enter more than the amount on line 22. Also enter this amount on line 35, Part VI ▶ 25

Note: *If the amount on line 21 is more than the amount on line 25, complete line 26. Otherwise, skip to Part V if you choose to claim the foreign earned income exclusion.*

26 Subtract the amount on line 25 from the amount on line 21. Enter the result here and on line 40, Part VII. (Complete Part V before Part VII if you choose to claim the foreign earned income exclusion.) ▶ 26

Part V For Taxpayers Claiming Foreign Earned Income Exclusion

27 Maximum foreign earned income exclusion 27 $70,000.00

28 Number of days in your qualifying period that fall within your 1987 tax year (See instructions for line 19.) 28

29 Divide the number of days on line 28 by the number of days in your tax year (usually 365) and enter the result as a decimal (to two places) 29 x .

30 Multiply the amount on line 27 by the decimal amount on line 29 30

31 Enter the amount from line 17 31

32 Enter the amount from line 25 32

33 Subtract the amount on line 32 from the amount on line 31. Enter the result 33

34 **Foreign earned income exclusion.** Enter here and on line 36, Part VI, the amount from line 30 or line 33, whichever is less ▶ 34

Part VI For Taxpayers Claiming Housing Exclusion, Foreign Earned Income Exclusion, or Both

35 Housing exclusion from line 25 35

36 Foreign earned income exclusion from line 34 36

37 Add the amounts on lines 35 and 36 and enter the total 37

38 Deductions allowed in figuring your adjusted gross income (Form 1040, line 30) that are allocable to the excluded income. (See instructions and attach computation.) 38

39 Subtract line 38 from line 37. Enter the result here and in parentheses on Form 1040, line 21. Next to the amount write "Exclusion(s) from Form 2555." On Form 1040 subtract the amount from your income to arrive at total income on Form 1040, line 22 ▶ 39

Part VII For Taxpayers Claiming Housing Deduction

Note: *Complete this part only if: (1) you entered an amount on line 26, and (2) the amount on line 17 is more than the amount on line 37.*

40 Enter the amount from line 26 40

41 Enter the amount from line 17 41

42 Enter the amount from line 37 42

43 Subtract the amount on line 42 from the amount on line 41 and enter the result 43

44 Enter the amount from line 40 or line 43, whichever is less 44

Note: *If the amount on line 43 is more than the amount on line 44 and you could not deduct all of your 1986 housing deduction because of the 1986 limitation, complete the worksheet on page 4 of the instructions to figure how much of your 1986 housing deduction may be carried over to 1987. Otherwise, enter a zero (-0-) on line 45.*

45 Housing deduction carryover from 1986 (from worksheet on page 4 of the instructions) 45

46 Add the amounts on lines 44 and 45. Enter here and on Form 1040 to the left of line 29. Next to the amount on Form 1040 write "Deduction from Form 2555." Add it to the total adjustments reported on that line ▶ 46

APPENDIX C

HORIZONTAL EQUITY REGRESSION RESULTS

Model: $tax_{US} = b_o + b_1(Income) + e_i$

				Parameter Estimates		
Decile	F	Sig. (F)	Adjusted R-square	Intercept	Income	Exemptions
with IRC §911						
1	24.10	.0001	.0039	596.7112	-.0324	
2	.979	.3224	.0000	210.1206	.0030#	
3	27.16	.0001	.0043	-245.3627	.0234	
4	86.91	.0001	.0140	2535.7976	-.0479	
5	6.88	.0087	.0010	-17.9443#	.0154	
6	162.73	.0001	.0262	-3558.478	.0683	
7	25.44	.0001	.0041	4629.3870	-.0400	
8	45.94	.0001	.0077	-2514.251	.0475	
9	82.14	.0001	.0142	-1859.983	.0420	
10	5683.64	.0001	.5009	-23335	.1522	
Overall	55381.40	.0001	.4833	-6525.612	.1172	
without IRC §911						
1	4.97	.0259	.0007	451.1237	-.0148	
2	76.57	.0001	.0123	-349.3976	.0408	
3	143.35	.0001	.0229	-1339.844	.0738	
4	271.61	.0001	.0427	-3963.238	.1531	
5	475.55	.0001	.0732	-10238	.2521	
6	247.30	.0001	.0393	-8304.446	.1916	
7	100.55	.0001	.0165	-7636.951	.1870	
8	59.45	.0001	.0100	-2070.392#	.1328	
9	3.52	.0606	.0004	12316	.0232#	
10	4865.32	.0001	.4621	-14435	.1692	
Overall	1667.42	.0001	.0274	-29.1544	3.2739	

insignificant at the .05 level.

APPENDIX C (Cont'd.)

Model: $tax_{US} = b_0 + b_1(Income) + b_2(exemptions) + e_i$						
				Parameter Estimates		
Decile	F	Sig. (F)	Adjusted R-square	Intercept	Income	Exemptions
with IRC §911						
1	16.56	.0001	.0052	400.6571	-.0347	67.9277
2	152.42	.0001	.0475	635.2787	-.0029#	-79.6260
3	322.98	.0001	.0958	661.2770	.0145	-186.7631
4	43.60	.0001	.0139	2566.6818	-.0481	-7.4390#
5	3.45	.0318	.0008	-27.6662#	.0154	2.1785#
6	81.38	.0001	.0260	-3540.172	.0683	-5.4180#
7	98.77	.0001	.0318	4504.2256	-.0198	-460.6374
8	38.77	.0001	.0129	-1924.295	.0498	-256.4513
9	57.69	.0001	.0198	-596.6102#	.0413	-339.2688
10	2849.03	.0001	.5015	-18618	.1520	-1307.3778
Overall	27727.54	.0001	.4837	-5516.174	.1173	-300.8700
without IRC §911						
1	5.34	.0048	.0015	294.0020	-.0167	54.4386
2	258.19	.0001	.0781	416.6275	.0302	-143.4655
3	468.64	.0001	.1334	36.9947#	.0603	-283.6217
4	163.10	.0001	.0508	-3240.112	.1490	-174.1796
5	246.15	.0001	.0754	-10812	.2550	128.5413
6	124.80	.0001	.0395	-8582.934	.1917	82.4256#
7	56.43	.0001	.0183	-7557.546	.1742	292.2402
8	56.20	.0001	.0188	-3942.756	.1255	813.9087
9	2.49	.0834	.0005	13028	.0228#	-191.1276#
10	2439.69	.0001	.4628	-8644.272	.1690	-1604.9159
Overall	31883.11	.0001	.5186	-4166.552	.1550	-154.6093

insignificant at the .05 level.

APPENDIX C (Cont'd.)

Model: $tax_{WORLDWIDE} = b_o + b_1(Income) + e_i$

				Parameter Estimates		
Decile	F	Sig. (F)	Adjusted R-square	Intercept	Income	Exemptions
with IRC §911						
1	46.63	.0001	.0076	1654.6424	.1140	
2	272.97	.0001	.0429	-8111.617	.5587	
3	132.90	.0001	.0212	-2290.318	.2464	
4	102.71	.0001	.0165	-3205.408	.2333	
5	24.06	.0001	.0038	18573	-.1477	
6	122.34	.0001	.0198	-3664.417	.2960	
7	111.48	.0001	.0182	-11292	.3384	
8	122.94	.0001	.0207	-12083	.3330	
9	429.53	.0001	.0709	-36843	.5402	
10	13971.75	.0001	.7116	-19986	.4388	
Overall	178290.8	.0001	.7507	-11232	.4122	
without IRC §911						
1	63.21	.0001	.0103	1509.0549	.1317	
2	332.05	.0001	.0517	-8671.135	.5964	
3	232.44	.0001	.0367	-3384.799	.2967	
4	577.63	.0001	.0869	-9704.444	.4344	
5	13.14	.0001	.0020	8352.3138	.0891	
6	470.15	.0001	.0723	-8410.385	.4193	
7	912.09	.0001	.1328	-23558	.5654	
8	493.72	.0001	.0788	-11639	.4184	
9	711.89	.0001	.1123	-22667	.5215	
10	19780.04	.0001	.7774	-11087	.4558	
Overall	301084.5	.0001	.8357	-9392	.4464	

insignificant at the .05 level.

APPENDIX C (Cont'd.)

Model: $tax_{WORLDWIDE} = b_o + b_1(Income) + b_2(exemptions) + e_i$						
				Parameter Estimates		
Decile	F	Sig. (F)	Adjusted R-square	Intercept	Income	Exemptions
with IRC §911						
1	24.78	.0001	.0079	1937.0281	.1173	-97.8392#
2	145.88	.0001	.0456	-9281.662	.5749	219.1325
3	109.41	.0001	.0344	-3948.901	.2627	341.6595
4	51.36	.0001	.0163	-3246.697	.2335	9.9452#
5	143.13	.0001	.0452	24566	-.1774	-1342.9540
6	69.69	.0001	.0223	-1998.781#	.2951	-492.9876
7	99.27	.0001	.0320	-11652	.3963	-1326.0084
8	115.52	.0001	.0382	-7464.840	.3510	-2007.6335
9	223.62	.0001	.0734	-31791	.5372	-1356.8335
10	6984.65	.0001	.7116	-20231	.4388	67.6571#
Overall	89180.35	.0001	.7508	-9874	.4122	-404.5602
without IRC §911						
1	33.54	.0001	.0108	1830.3731	.1354	-111.3283
2	171.08	.0001	.0531	-9500.313	.6079	155.2930
3	143.09	.0001	.0447	-5473.183	.3084	244.8009
4	294.85	.0001	.0884	-9053.490	.4307	-156.7953
5	169.33	.0001	.0531	13782	.0621	-1216.5911
6	246.70	.0001	.0755	-7041.542	.4185	-405.1440
7	482.79	.0001	.1393	-23714	.5904	-573.1309
8	278.43	.0001	.0879	-9483.302	.4268	-937.2734
9	369.03	.0001	.1158	-18166	.5188	-1208.6924
10	9888.49	.0001	.7774	-10257	.4558	-229.881#
Overall	150572.1	.0001	.8357	-8525	.4464	-258.2995

insignificant at the .05 level.

APPENDIX C (Cont'd.)

Model: $avgtax_{US} = b_o + b_1(LnIncome) + e_i$						
				Parameter Estimates		
Decile	F	Sig. (F)	Adjusted R-square	Intercept	LnIncome	Exemptions
with IRC §911						
1	51.20	.0001	.0084	93.9197	-9.6906	
2	21.06	.0001	.0033	15.1475	-1.3860	
3	1.39	.2384	.0001	-3.8114#	.5183#	
4	145.42	.0001	.0233	68.1099	-6.2799	
5	.00	.9559	-.0002	1.8564#	-.0328#	
6	100.87	.0001	.0163	-55.8023	5.1556	
7	36.28	.0001	.0059	56.1768	-4.8183	
8	8.16	.0043	.0012	-20.9723	2.0168	
9	5.32	.0211	.0008	-9.6128#	1.0535	
10	838.79	.0001	.1289	-62.3408	5.4503	
Overall	102.05	.0001	.0017	-6.0021	.7508	
without IRC §911						
1	44.29	.0001	.0074	88.1357	-9.0714	
2	2.47	.1161	.0002	-4.6178#	0.7151#	
3	39.21	.0001	.0062	-35.6291	3.7329	
4	107.37	.0001	.0172	-94.098	9.3859	
5	293.67	.0001	.0464	-205.272	19.4058	
6	101.63	.0001	.0164	-126.7441	12.0076	
7	36.59	.0001	.0059	-116.9305	11.1618	
8	.65	.4208	-.0001	-4.5757#	1.3734#	
9	53.13	.0001	.0094	118.343	-9.0436	
10	49.62	.0001	.0085	-16.5167	2.2110	
Overall	1667.42	.0001	.0274	-29.1544	3.2739	

insignificant at the .05 level.

APPENDIX C (cont'd)

Model: $avgtax_{US} = b_o + b_1(Lnincome) + b_2(exemptions) + e_i$

				Parameter Estimates		
Decile	F	Sig. (F)	Adjusted R-square	Intercept	LnIncome	Exemptions
with IRC §911						
1	37.35	.0001	.0121	95.0098	-10.6895	2.4956
2	185.83	.0001	.0574	22.4916	-2.0161	-.3625
3	320.62	.0001	.0952	7.7098#	-.3992#	-.6032
4	72.70	.0001	.0234	68.1554	-6.2831	-.0035#
5	.01	.9918	-.0003	1.9143#	-.0369#	-.0039#
6	50.47	.0001	.0162	-55.8115	5.1559	.0017#
7	100.19	.0001	.0323	35.1228	-2.7953	-.0554
8	25.01	.0001	.0083	-23.2178	2.2909	-.2851
9	18.80	.0001	.0063	-8.0276#	.9862	-.2307
10	473.18	.0001	.1429	-58.9654	5.3586	-.6235
Overall	51.74	.0001	.0017	-5.8004	.7519	-.0633#
without IRC §911						
1	32.92	.0001	.0106	89.1806	-9.9748	2.3919
2	233.78	.0001	.0712	8.5496	-.3703#	-.6244
3	418.82	.0001	.1209	-18.3965	2.3667	-.9022
4	74.48	.0001	.0237	-89.0647	9.0277	-.3852
5	155.75	.0001	.0490	-209.2113	19.6880	.26384
6	51.50	.0001	.0165	-127.252	12.025	.0976#
7	23.47	.0001	.0075	-104.5831	9.9753	.3250
8	23.88	.0001	.0079	1.1802#	.6705#	.7307
9	27.31	.0001	.0093	119.2691	-9.0828	-.1348#
10	54.75	.0001	.0186	-12.0246	2.0889	-.8298
Overall	834.17	.0001	.0274	-28.9800	3.2749	-.0548#

insignificant at the .05 level.

APPENDIX C (Cont'd.)

Model: $avgtax_{WORLDWIDE} = b_o + b_1(LnIncome) + e_i$

				Parameter Estimates		
Decile	F	Sig. (F)	Adjusted R-square	Intercept	LnIncome	Exemptions
with IRC §911						
1	38.75	.0001	.0063	126.7090	-10.7325	
2	126.33	.0001	.0204	-330.4313	34.9366	
3	15.70	.0001	.0026	-68.4449	8.2847	
4	21.20	.0001	.0033	-94.1809	10.3374	
5	157.45	.0001	.0254	430.3934	37.7027	
6	10.62	.0001	.0016	-71.6330	8.6275	
7	9.95	.0016	.0015	-92.2215	9.9235	
8	14.52	.0001	.0023	-108.2241	11.2429	
9	95.31	.0001	.0165	-273.8124	25.4341	
10	70.82	.0001	.0122	-43.8934	6.3998	
Overall	796.82	.0001	.0133	-15.2414	3.4920	
without IRC §911						
1	34.21	.0001	.0055	120.9250	-10.0593	
2	152.45	.0001	.0243	-350.1967	37.0377	
3	36.37	.0001	.0058	-100.2626	11.5054	
4	215.98	.0001	.0342	-256.3886	26.0032	
5	54.15	.0001	.0088	223.2648	-18.2641	
6	64.64	.0001	.0105	-142.5747	15.4795	
7	199.64	.0001	.0323	-265.3288	25.9036	
8	33.65	.0001	.0056	-91.8275	10.5994	
9	62.23	.0001	.0108	-145.8566	15.3370	
10	23.15	.0001	.0039	1.9307#	3.1604	
Overall	2782.87	.0001	.0449	-38.3936	6.0151	

insignificant at the .05 level.

APPENDIX C (Cont'd.)

Model: $avgtax_{WORLDWIDE} = b_0 + b_1(LnIncome) + b_2(exemptions) + e_i$

				Parameter Estimates		
Decile	F	Sig. (F)	Adjusted R-square	Intercept	LnIncome	Exemptions
with IRC §911						
1	20.65	.0001	.0066	127.1678	-11.1528	1.0503#
2	74.00	.0001	.0235	-350.3515	36.5786	.9446
3	45.27	.0001	.0144	-88.0045	9.8423	1.0240
4	11.03	.0001	.0033	-92.3579	10.2076	-.1395#
5	216.13	.0001	.0668	470.9409	-40.6086	-2.7158
6	13.86	.0001	.0042	-67.6468	8.4925	-.7660
7	43.77	.0001	.0142	-149.6334	15.4402	-1.5111
8	60.71	.0001	.0203	-123.1294	13.0629	-1.8923
9	54.12	.0001	.0186	-268.1187	25.1926	-.8287
10	35.41	.0001	.0120	-43.8922	6.3998	-.0002#
Overall	403.04	.0001	.0134	-14.3916	3.4965	-.2668
without IRC §911						
1	18.15	.0001	.0057	121.3386	-10.4382	.9467#
2	82.31	.0001	.0261	-364.5936	38.2245	.6827
3	40.67	.0001	.0129	-114.1109	12.6081	.7250
4	118.10	.0001	.0372	-249.5779	25.5184	-.5213
5	189.36	.0001	.0590	259.8153	-20.8835	-2.4481
6	44.76	.0001	.0147	-139.0873	15.3614	-.6701
7	120.29	.0001	.0385	-289.3395	28.2108	-.6320
8	46.59	.0001	.0156	-98.7315	11.4425	-.8765
9	40.16	.0001	.0137	-140.8220	15.1235	-.7328
10	11.99	.0001	.0039	3.0487	3.1300	-.2065#
Overall	1396.69	.0001	.0450	-37.5712	6.0195	-.2582

insignificant at the .05 level.

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