AN INVESTIGATION OF THE RELATIONSHIP BETWEEN THE PRESENCE OF U.S. EMPLOYEES ABROAD AND THE CHANGES IN THE TAXATION OF THEIR FOREIGN EARNED INCOME

by

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My wife, Nancy, assured me of her support throughout the dissertation stage. She accepted part-time employment to help meet our financial needs. Her willingness to help was very evident throughout this research study.

I dedicate this dissertation to my parents, James and Thelma Larkins. Their constant love, understanding, and concern were a tremendous encouragement to me in my work. Their financial aid was eagerly offered and was often sacrificial.

Finally, I praise God whose sustaining grace and unfailing promises enabled me to persevere during many periods of discouragement.

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CHAPTER 1

INTRODUCTION AND PRIOR RESEARCH

The Internal Revenue Code (IRC or simply, the Code) of the United States is designed to serve several purposes in addition to collecting revenue. Many provisions of the Code, in fact, are intended to encourage or discourage particular economic or social activities. One such activity with over a fifty year history is foreign trade. The current incentive to increase foreign trade assumes the form of an exclusion from gross income for the earnings of Americans employed abroad. Congress has repeatedly stated its belief that such a tax benefit will encourage more U.S. citizens to work abroad, and that more U.S. citizens working abroad will result in increased U.S. exports to foreign countries.[1] The purpose of this study is to examine the first part of Congress's belief--whether changes in the taxation of foreign earned income have any effect on the presence[2] of American employees in foreign countries.

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[1]For example, see Congressional Record, 67 (1926), 3781-83 and U.S. Congress, House, Foreign Earned Income Act of 1978, HR 1463, 95th Cong., 2nd Sess., 1978, p. 7. Notwithstanding Congress's belief, any cause and effect relationship between American employees abroad and U.S. exports could also be in the opposite direction. In other words, changes in U.S. exports could cause a corresponding change in U.S. citizens working abroad.

[2]The term "presence" should not be equated with the term "number." The purpose of this research study is to determine whether changes in U.S. income tax laws tend to encourage or discourage American employment abroad regardless of the change in the actual number of American employees abroad.

U.S. Competitiveness Abroad

The United States enjoyed an unprecedented expansion in world markets following World War II. U.S. International trade flourished as the technology and workmanship offered by American firms were unquestionably superior to our nearest foreign competitors in a wide range of products. The last decade and a half, however, has evidenced a reversal of this earlier trend.[3] Japan as well as some of the European nations have particularly made significant strides in the manufacture of top-quality products. Such advancements have resulted in multinational firms placing heavier emphasis upon product costs in the international markets.[4] Recognizing the importance of product costs, many governments have come to the aid of their exporting firms by significantly reducing their tax burdens, providing low-interest financing, or otherwise subsidizing the cost of doing business in world markets.[5]

Perhaps reminiscent of former years when superior technology could demand higher prices, the U.S. government has not been as sensitive to this new emphasis on cost as many U.S. corporations would desire. This indifference even led one writer to characterize the U.S. as "the world's biggest, and most indifferent exporter."[6] An examination of

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[3]Melchior Morrione, Arthur Andersen & Co., Taxation of U.S. Citizens Working Abroad (June 26, 1980), pp. 2-3, 14.

[4]Ibid., p. 4.

[5]U.S. Congress, Senate, Committee on Finance, Taxation of Americans Working Abroad, 95th Cong., 2nd Sess., 1978, pp. 98-102.

[6]"The Reluctant Exporter--Traditional U.S. Attitudes and Anti-export Policies," Business Week (April 10, 1978), p. 54.

Table 1 indicates that perhaps this characterization is not totally
unfair. Whereas the U.S.'s percentage of world exports has steadily
declined over the last few years (-4.8 percentage points), the market
share of world exports experienced by most of the other developed
nations has remained relatively stable or increased. Note particularly
the increased share of world exports enjoyed by West Germany (+2.9 per-
centage points) and Japan (+5.1 percentage points).

Another glaring evidence of our decline in international competi-
tiveness is the U.S. balance of payments.[7] Of course, much of the
recent imbalance can be attributed to escalating oil prices and the
U.S.'s heavy dependence upon imported oil.[8] But part of the blame
must also rest on the attitude of the U.S. government toward our growing
trade deficit. For example, labor unions as well as certain industries
have pleaded with Congress for temporary relief in the form of import
quotas and tariffs.[9] In many instances, Congress has complaisantly
yielded to this pressure.[10] Whether these types of restrictions
to international free trade represent the most desirable means of

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[7]John D. Daniels, Ernest W. Ogram, Jr., and Lee H. Radebaugh,
International Business: Environments and Operations, 2nd ed. (Reading:
Addison-Wesley, 1979), pp. 207-10.

[8]Ibid., pp. 210-11.

[9]"Debate on Curbs on Japanese Cars Heats Up Capital," Automo-
tive News (March 23, 1981), pp. 1, 42.

[10]Jan S. Hogendorn and Wilson B. Brown, The New International
Economics (Reading: Addison-Wesley, 1979), pp. 292-99.

TABLE 1

DISTRIBUTION OF WORLD EXPORTS AMONG
THE DEVELOPED COUNTRIES
(PERCENTAGE SHARES)

Country	1965	1970	1974	1975	1976	1977	1978
United States	21.2	19.1	18.0	18.4	17.8	16.5	16.4
West Germany	13.8	15.1	16.3	15.5	15.8	16.1	16.7
Japan	6.6	8.5	10.1	9.6	10.4	11.1	11.7
France	7.9	8.0	8.5	9.1	8.8	8.8	9.3
United Kingdom	10.6	8.7	7.2	7.6	7.2	7.9	8.3
Italy	5.6	5.8	5.6	6.0	5.8	6.1	6.2
Canada	6.6	7.4	6.3	5.8	6.3	5.9	5.6
Other	27.8	27.2	28.1	28.0	28.0	27.6	25.8
	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Computed from International Monetary Fund, Organization for
Economic Cooperation and Development, and Council of
Economic Advisors, Background Materials and Economic Data
Relating to International Trade (1979).

combating trade deficits, however, is open to debate.[11] The logical

pursuit instead may be to concentrate on increasing incentives to

exports. Though export incentives may also be viewed as obstacles to

free trade,[12] such a policy would appear less obtrusive and would

perhaps be perceived as less restrictive than the import barri-

ers.[13]

One alleged method of lowering product costs in the international

markets and, thereby, improving our competitiveness abroad is to

decrease the U.S. tax liability on the foreign earned income of American

expatriates.[14] Such a reduction in taxes would not provide U.S.

citizens abroad with any benefits not already enjoyed by citizens of

most other nations. Indeed, the U.S. is the only economically-developed

country in the world which attempts to tax the worldwide income of her

citizens residing abroad.[15] Other nations normally grant a full

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[11]Forrest Capie, "Free Trade or Protectionism: The Lessons of Experience," The Banker (October 1980), pp. 29-31.

[12]Chris Milner and David Greenaway, An Introduction to Inter-national Economics (New York: Longman, 1979), pp. 65-66.

[13]Daniels, p. 122.

[14]Philip F. Postlewaite and Gregory E. Stern, "Innocents Abroad? The 1978 Foreign Earned Income Act and the Case for Its Repeal," Virginia Law Review, 65 (October 1979), 1122. As used in this study, the term "expatriate" refers to a citizen of one country who resides in another country.

[15]U.S. Comptroller General, Report to the Congress, Impact on Trade of Changing Taxation of U.S. Citizens Employed Overseas (February 21, 1978), p. 6.

100% exclusion for income earned abroad by their nonresident citizens.[16] At any rate, reducing the U.S. tax burden borne by American expatriates in most cases results in lower operating costs abroad for the U.S. firms employing these expatriates. This statement is supported by the finding that approximately 77% of U.S. corporations overseas reimburse their American employees for the additional taxes they incur because of their location in a foreign country.[17] The lower operating costs, in turn, can be expected to pass to consumers in the form of lower prices, according to this argument.[18]

But even beyond this cost argument, reducing the U.S. taxes on American expatriates enables U.S. firms to maintain a large work force of Americans in their overseas operations. In recent years, the prohibitive cost of reimbursing U.S. employees for their U.S. taxes has increased the attractiveness of replacing these employees with host- and third-country nationals. For example, Bechtel Incorporated found that hiring an American overseas cost them 35% or more than hiring a national from the U.K., Canada, or Australia with comparable skills,[19] simply because of the tax factor.

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[16]Ibid., pp. 6-7.

[17]Ibid., p. 31.

[18]Ibid., p. 77.

[19]U.S. Congress, Senate, Committee on Finance, Subcommittee on Taxation and Debt Management Generally, Testimony of John H. Barnard, Jr., Taxation of Foreign Earned Income, 96th Cong., 2nd Sess., 1980, p. 104.

Expressing concern over such large differences in personnel costs, the President's Export Council warned that the influence of American employees abroad is absolutely essential in creating and maintaining new markets for U.S. goods and services:

> Americans at work overseas direct business to our domestic economy. If we are to increase exports in order to bring our trade accounts into balance, we must encourage more U.S. citizens to accept assignments with American business over- seas. . . . Overseas employees of American business are seen as representatives of our country. Through their participa- tion and visibility in international business affairs, they can function as goodwill ambassadors whose work exemplifies America's ideals and values.[20]

A more direct relationship is intuitively obvious for Americans occupy- ing procurement positions. In making purchasing decisions, the U.S. expatriate naturally will be more inclined to order products with which he is most familiar. Typically, these will be U.S.-made products. Similarly, if the U.S. worker were to be placed by a French national, the Frenchman would naturally tend to favor products manufactured in France simply because he is most familiar with those products. The remainder of this first chapter will review prior studies which have examined the relationships between the presence of Americans abroad and U.S. exports and between U.S. taxes and the presence of Americans abroad.

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[20]The President's Export Council, Subcommittee on Export Expansion, Report of the Task Force to Study the Tax Treatment of Americans Working Overseas (Dec. 5, 1979), p. 5.

U.S. Exports and Americans Employed Abroad

Evidence exists which suggests a relationship between the employ-ment of Americans abroad and the level of U.S. exports. A 1978 cross-sectional study[21] by the Office of Tax Analysis (OTA) utilized a multiple regression model of international trade to examine this relationship. U.S. exports was designated the dependent variable while the independent variables included the following:

(1) Income per capita in foreign countries
(2) Distance to foreign markets
(3) Productive capacity abroad
(4) Potential to achieve the advantages of large scale pro-
    duction abroad
(5) Assets of foreign subsidiaries of U.S. corporations
(6) Cultural-communication ties with foreign countries
(7) Americans employed abroad[22]

The justification for including this last variable, Americans employed abroad, was an economic theory which states a particular country will export a proportionally greater share of its less competitive manufactured goods to countries in which it has a strong influence.

To illustrate, assume that the U.S. textile industry is a weak competitor in international markets. Assume further that the U.S. has a strong influence in the Philippines and the U.S. has a weak influence in Libya. Based on the theory stated above, one would expect the U.S. to

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[21]U.S. Department of the Treasury, Assistant Secretary for Tax Policy, Office of Tax Analysis, The American Presence Abroad and U.S. Exports by John Mutti, OTA Paper 33, 1978.

[22]Ibid., p. 3.

export a proportionally greater share of its manufactured textiles to the Philippines than to Libya. A study completed in 1977 provided empirical support for this theory. Regression and chi-square tests were employed in concluding that "powerful countries market more of their comparatively weak sectors in areas where they have influence, for historical and political reasons, than they would otherwise."[23]

Thus, in the OTA study, the number of Americans employed abroad was expected to be

> larger for those goods which are relatively less competi-
> tive in world export markets. Such goods will command a
> larger market share in countries where American influence is
> greater. More competitive U.S. exports will sell themselves
> and therefore be less dependent on this U.S. influence.[24]

The results indicated that Americans employed abroad made "an independent and statistically significant contribution to the U.S. exports."[25] The overall conclusion was that

> a one percent decline in Americans abroad is projected to
> result in slightly over a half percent decline in the value
> of U.S. exports. Thus, if the number of Americans abroad
> were to decline by 10 percent, the value of U.S. exports
> would be projected to decline by 5 percent.[26]

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[23]John E. Roemer, "The Effect of Sphere of Influence and Economic Distance on the Commodity Composition of Trade in Manufacturers," Review of Economic and Statistics (August 1977), p. 327.

[24]U.S. Department of the Treasury, Assistant Secretary for Tax Policy, Office of Tax Analysis, p. 15.

[25]Ibid., p. 3.

[26]Ibid.

An earlier survey[27] of officers in 145 multinational firms by the General Accounting Office (GAO) arrived at similar conclusions. Eighty-eight percent of these officers expressed their opinion that reduced tax benefits under the Tax Reform Act (TRA) of 1976 (to be discussed in Chapter 2) would result in fewer American employees abroad which, in turn, would cause worldwide U.S. exports to decline by 5%.[28]

A more recent survey[29] of American Chamber of Commerce members abroad was conducted by Chase Econometric Associates, Inc. in 1980. Seven firms attempted an estimate of the change in U.S. exports if 20% of U.S. workers were replaced by third-country nationals. The average response indicated that exports would decline by 18.5%.[30]

The above studies present evidence that a direct, positive relationship does exist between the employment of Americans abroad and the level of U.S. exports. It is not the purpose of the current study to examine this relationship further. Rather, the current study will assume the conclusions of these studies are valid, and such a relationship does indeed exist. Note that acceptance of this assumption allows the objective of increasing U.S. exports to be accomplished by increasing the number of Americans abroad. Previous research which has

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[27]Impact on Trade.

[28]Ibid., p. 10.

[29]Chase Econometric Associates, Inc., Economic Impact of Changing Taxation of U.S. Workers Overseas (June 1980).

[30]Ibid., p. 38.

examined the relationship between the level of U.S. taxes on foreign earnings and its effect on the presence of American workers abroad is reviewed in the following section.

U.S. Taxes and Americans Employed Abroad

In order to encourage Americans to accept positions abroad, many U.S. firms provide financial incentives beyond the base salary.[31] Often as overseas premium, a lump-sum payment for going overseas, is provided to compensate the employee for uprooting his family and moving them to a new culture. In addition, the firm may include an allowance for such things as the higher cost of living, higher housing expenses, the cost of adequately educating dependents, and the additional taxes incurred while abroad. Some firms even provide a home leave allowance for occasional travel back to the U.S. For Americans stationed in hardship areas, a rest and recuperation allowance is sometimes available. The purpose of these allowances is not to give the employee a windfall, but merely to keep the employee's standard of living at the same level he would have experienced had he remained in the U.S.[32]

A change in the U.S. taxes assessed against American employees in foreign countries will, in most instances, be reflected in corresponding

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[31]William L. White and John J. McGowan, "Expatriate Compensation at the Crossroads," S.A.M. Advanced Management Journal (Fall 1977), pp. 14-23; Henry I. Sonnabend, "Tax Planning for Overseas Employees," Practical Accountant (July/August 1975), pp. 62-69.

[32]Jordan B. Wolf, "The High Cost of Working Abroad," Viewpoint (1977), p. 20.

changes in their compensation packages. As previously mentioned, the

U.S. Comptroller General's report to Congress indicated that 77% of the

firms surveyed provide some type of reimbursement to U.S. expatriates

who experience an increase in U.S. taxes while abroad.[33] For the

firms which furnish this "tax reimbursement," the resulting higher per-

sonnel costs must be borne by the stockholders of the firms or passed

along to consumers in the form of higher product or service costs.

These additional costs are often substantial, especially when one consi-

ders what has become known as the "pyramiding effect:"

> Pyramiding begins when reimbursements, which are normally
> given in the year following the year in which they are
> incurred, become subject to tax. The tax on the reim-
> bursement results in a further reimbursement which again
> results in an additional tax until the total cost of a
> reimbursement escalates the total compensation package up
> to a maximum tax level.[34]

As American employees become more and more expensive to keep on the pay-

roll, the demand for their services is likely to decline. Of course,

the actual change in demand depends upon the elasticity of American

labor.[35] If a close substitute of quality host- or third-country

nationals is available, the demand for U.S. workers would tend to be

elastic, and any increase (decrease) in U.S. taxes would probably result

in a reduced (an increased) American presence abroad.

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[33]Impact on Trade, p. 31.

[34]Robert E. Billings and Felix B. Probandt, "Double Tax Jeo-
pardy for Americans Working Abroad," Financial Executive (June 1977), p.
46.

[35]C. E. Ferguson and S. Charles Maurice, Economic Analysis
(Homewood, Illinois: Richard D. Irwin, 1974), pp. 27-35.

For those firms which do not reimburse their U.S. employees over-
seas for additional U.S. taxes, the employees themselves must bear this
tax burden. As these American workers see a larger and larger portion
of their compensation going toward payment of their U.S. tax liability,
many of these workers are likely to decide that their job overseas is no
longer worth the effort and, consequently, return to the U.S. Likewise,
a possible future decline in the supply of American employees available
for assignments abroad may result. But again, the elasticity of supply
curve[36] would have some bearing on the actual reduction in the U.S.
work force. For example, if employees feel that they must work abroad
to attain certain career objectives, the supply would tend to be inelas-
tic, and the percentage decline in the number of U.S. employees would
not be very great relative to the percentage increase in the tax liabil-
ity. Otherwise, a substantial decline in the number of Americans will-
ing to accept positions overseas would result.

The question to be addressed by this research study is, "Does a
change in the U.S. taxation of Americans abroad have a significant
impact on the employment of Americans abroad?" Much disagreement exists
over the answer to this question.

Support for the Pro Position

The survey results in the 1978 GAO Report indicate that taxes do
have an impact. Fifty-nine percent of the home office companies and 42%

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[36]Ibid., pp. 42-44.

of the overseas affiliates indicated that higher personnel costs result-
ing from the provisions of the TRA of 1976 would cause a corresponding
reduction in the number of Americans employed.[37] Moreover, fifty-
one percent of the U.S. expatriates surveyed planned on returning to the
U.S. once the TRA of 1976 became effective, including 26% who expected
to be reimbursed for the higher taxes by their employers.[38]

The GAO Report also presented six case studies submitted by members
of the Tax Executives Institute. Three of these cases are reproduced
below:

> A company found that "tax protecting" its employees in Iran
> would cost it approximately $60,000 in increased salaries,
> or about 15 percent of its total salary costs in Iran and
> concluded that "Due to marginal profitability of the opera-
> tion, we elected to close our Iranian operations."

> A large multinational corporation estimated that employee
> compensation costs would increase over $5,000,000 a year
> (before considering the effects on corporation taxes) as
> a result of tax reimbursements to its 350 American employ-
> ees overseas. That company, while stating that "it is not
> clear at this time the extent to which the new law will
> cause U.S. citizens employed overseas to be replaced by
> host- or third-country nationals," noted that "the higher
> cost of maintaining Americans overseas is a significant
> factor in determining the value of keeping a U.S. employee
> on a foreign assignment."

> A company currently employing over 200 Americans who pro-
> vide technical services in oil and gas well drilling stated
> that, as a result of the increased costs due to the changes
> in the tax law which "cannot in the long run be borne by
> customers," it had accelerated the substitution of local
> foreign personnel and third-country nationals for Americans.

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[37] Impact on Trade, p. 44.

[38] Ibid., p. 46.

In 1975 Americans constituted 28 percent of the company's overseas personnel; in 1978, it is estimated they will constitute 15 percent.[39]

Each of these cases supports the contention that the 1976 TRA had a substantial impact on American employees abroad.

Nothwithstanding the impressiveness of these findings, two comments are in order. First, the GAO Report is basically an opinion survey, questioning company officials and overseas employees concerning their expectations. Since these groups stood to lose economically from the TRA of 1976, the potential existed for overstating any impact. Second, only descriptive statistics were presented of the results, offering little basis for inferring the significance of the findings.

The GAO completed a second study[40] in 1981 examining the impact of the Foreign Earned Income Act (FEIA) of 1978 (to be discussed in Chapter 3) on the employment of U.S. citizens abroad. Forty-one major U.S. firms in four industries were surveyed concerning their employment of Americans in foreign countries. Table 2 depicts the percentage change in the number of Americans employed in four selected industries during the period before and during the period after the FEIA of 1978. With the exception of the resource extraction industry, the number of Americans employed abroad decreased during the period from 1978 to 1980. Though the manufacturing industry experienced a decline from 1976 to 1978, that decline accelerated after enactment of the 1978 FEIA.

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[39]Ibid., pp. 42-43.

[40]U.S. Comptroller General, Report to the Congress, American Employment Abroad Discouraged by U.S. Income Tax Laws (February 27, 1981).

TABLE 2

PERCENTAGE CHANGE IN THE NUMBER OF
AMERICANS EMPLOYED ABROAD

Industry	1976 to 1978	1978 to 1980
Construction and Architect/ Engineering	+49.9%	-10.2%
Aerospace	+32.9%	-19.1%
Resource Extraction	+14.3%	+34.1%
Manufacturing	- 4.3%	-11.9%

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Source: U. S. Comptroller General, Report to the Congress, American
Employment Abroad Discouraged by U. S. Income Tax Laws
(February 27, 1981), p. 24.

Table 3 indicates that all four industries reported declines in the number of American workers abroad when expressed as a percentage of the total expatriate work force. For example, American employees in the aerospace industry comprised 74.8% of the total expatriate work force in 1976 as compared to only 62.1% in 1980. This suggests that American firms are replacing U.S. employees abroad with host- and third-country nationals. With the exception of the manufacturing firms, these replacements appear to have been fairly substantial.

One weakness of this study is that the data was "collected without verification from parties with a vested interest in the outcome of the study."[41] Again, the temptation for exaggerating or misstating facts was certainly present. Moreover, the firms not responding to the survey were not followed up to determine whether a response bias was present. Perhaps the nonrespondents knew that their employment data would suggest that the 1978 FEIA did not reduce the presence of American workers abroad. Finally, the results are again presented in terms of descriptive statistics. Though some of the results appear to be significant, others are in doubt.

The final major study which has found a relationship between American workers abroad and U.S. taxes is the survey conducted by Chase Econometric Associates, Inc. Chase found that 45.3% of U.S.

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[41]Ibid., p. 6.

TABLE 3

AMERICAN WORKERS AS A PERCENTAGE OF THE
TOTAL EXPATRIATE WORK FORCE

Industry	1976	1980
Construction and Architect/ Engineering	65.1%	44.7%
Aerospace	74.8%	62.1%
Resource Extraction	52.1%	34.6%
Manufacturing	60.0%	56.0%

Source: Compiled from U.S. Comptroller General, Report to the Congress, American Employment Abroad Discouraged by U.S. Income Tax Laws (February 27, 1981), pp. 24-27.

construction workers abroad returned to the U.S. involuntarily following the 1978 FEIA.[42] An additional 11% returned voluntarily.[43] The general conclusion that changes in U.S. tax laws were primarily responsible for these returns is in agreement with the preceding studies.

The Chase study suffers from the same weaknesses as the GAO Reports, potentially biased responses and descriptive statistics. In addition, the sample of firms selected by Chase was very small. Only 13 firms responded[44] to the questionnaire, and several of these did not respond to all the questions.[45]

Support for the Con Position

The results of the Office of Tax Analysis cross-sectional study in 1978 were in disagreement with the preceding studies. Although their results did show a significant relationship between American employees abroad and U.S. exports, the relationship between U.S. tax changes and American employees abroad was insignificant. The Office of Tax Analysis estimated a simultaneous system of equations using the two-stage least squares method. The following is the resulting estimate of the demand equation[46] for Americans working abroad:

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[42]Chase Econometric Associates, Inc., p. 37.

[43]Ibid.

[44]Ibid.

[45]For further criticism of the Chase study, see Victor Thuronyi, "A Critique of the Chase Study of the Tax Treatment of U.S. Workers Overseas," Tax Notes (June 30, 1980), pp. 979-84.

$$USA = 5.1 + .84 \; EX - .07 \; CFC - .32 \; WAGE$$
$$(4.8) \quad (-.76) \quad (-.78)$$

where USA represents the demand for Americans to work abroad
      EX is total manufactured exports
      CFC is controlled foreign corporations
      WAGE is the nominal wage rate

The numbers in parentheses are t-statistics. The results indicate that the demand for American employees abroad is a positive function of U.S. exports, a negative function of controlled assets abroad, and a negative function of the nominal wage rate. This latter variable represents the effect of tax changes on U.S. employees. That is, as U.S. taxes increase, the nominal wages of Americans abroad would fall. Though the demand for American employees abroad is inversely related to the nominal wage rate as expected, this relationship was found to be insignificant.

The second equation[47] estimates the supply of Americans willing to work abroad:

$$USA = 8.4 + .23 \; TOURISM + .85 \; (WAGE - COL)$$
$$(3.4) \quad\quad\quad (.92)$$

where USA represents the supply of Americans for work abroad
      TOURISM is the tourist expenditures in a given foreign
        country
      WAGE is the nominal wage rate
      COL is an adjustment for the cost of living

The tourism variable attempted to account for a number of factors such as language, culture, and climate.[48] In short, tourist expenditures

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[47]Ibid.

[48]Ibid., pp. 15-16.

were assumed to be a good surrogate for the general attractiveness of a given country.

The second equation indicates that the supply of Americans for employment abroad is a positive function of both the general attractiveness of a given country and the nominal wage rate adjusted for higher living costs abroad. This latter variable, however, was not found to be significant.

The Office of Tax Analysis concluded that any change in the manner in which Americans employed abroad are taxed by the U.S. (i.e, any change in the nominal wage rate of these workers) will have a relatively insignificant effect on the number of U.S. employees abroad due to the inelasticity in the supply and demand of these workers:

> Still, the value of the supply elasticity is quite small, and therefore any tax increase is estimated to have a small effect on the number of Americans working abroad. As a result, even a major policy change, such as eliminating all special pre-ferences for foreign earned income, would result in only a two to three percent decrease in the value of U.S. manufactured exports. Conversely, additional tax breaks for Americans abroad would not lead to any significant substitution of American workers for other factors of production and conse-quently would not greatly alter U.S. export performance.[49]

The OTA study does not suffer from the same weaknesses as the two GAO Reports and the Chase Econometric survey. To wit, the OTA results are not the opinions of individuals directly affected by changes in the U.S. income tax laws, neither are the conclusions based upon mere descriptive statistics. Rather, hard data were employed to estimate

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[49]Ibid., p. 5.

simultaneous systems of equations from which certain statistical infer-
ences were possible.

Notwithstanding these strengths, the OTA's results should be inter-
preted carefully because of the cross-sectional nature of the study.
The estimated equations are most useful in predicting the efffect on
U.S. employment in a particular foreign country when real wages for only
that one foreign country change. But "since a change in American tax
laws may change real wages in all foreign countries, the estimated equa-
tion should not be construed as indicating the effect on Americans liv-
ing abroad."[50] Moreover, the author is careful to acknowledge that
his results are preliminary and in need of a follow-up study using
improved procedures and improved data.[51]

Overview of the Study

Congress believes that the federal income tax may be used as a
policy instrument to encourage U.S. citizens to work abroad, and that
more U.S. citizens working abroad will help to stimulate U.S. exports.
Given the conflict between the findings of the OTA and the three surveys
presented earlier, however, one cannot dogmatically agree or disagree

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[50]Ibid., p. 26.

[51]Ibid., pp. 28-29.

with the contention that changes in the U.S. income tax laws cause a corresponding change in the presence of American employees abroad.[52]

In an effort to improve upon past methodologies, this research will examine changes in the presence of Americans employed abroad over a period of several years spanning both the Tax Reform Act of 1976 and the Foreign Earned Income Act of 1978. Real-world data, not mere opinion, will be utilized in an ex post facto experiment. Analysis will be by inferential statistics.

The following two chapters present a legislative history of the taxation of U.S. citizens working abroad. Examples are provided to illustrate the mechanics of the law. Chapter four scrutinizes several possible data sets as surrogates for Americans employed abroad. The data source selected is then validated. In Chapter five, the research methodology employed in this study is described. One hypothesis presented in this chapter states that taxpayers in high-cost foreign countries are affected differently than taxpayers in low-cost foreign countries by U.S. tax laws. The selection of these two groups of countries is the subject of Chapter 6. Chapter 7 analyzes the data and reports the results. Finally Chapter 8 summarizes the study, presents final conclusions, and offers some recommendations.

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[52]It should be noted that U.S. income taxes are but one factor which may affect American employment abroad. Nevertheless, much of the evidence presented in this chapter indicates that many U.S. multi-national firms and their employees feel taxes are a major factor.

CHAPTER 2

LEGISLATIVE HISTORY OF THE
FOREIGN EARNED INCOME EXCLUSION, 1926-1977

The United states is the only industrialized nation in the
world which taxes its citizens abroad regardless of the country in which
they are residing.[1] Other countries of the world tax only residents
and usually provide some form of tax relief for income earned while
abroad. The purpose of this chapter is to explain the legislative his-
tory of the exclusion for foreign earned income from 1926 to 1977.

Pre-1976 Law

Recognizing the need to encourage Americans to work abroad, the
Congress in 1926 enacted into law what became known as the "foreign
trader exemption." As originally proposed by the House Ways and Means
Committee, the express purpose of this statute to increase foreign trade
was stated as follows:

> In an endeavor to take one step further toward increasing our
> foreign trade it is recommended in this paragraph that there
> shall be excluded from gross income in the case of our citizens
> employed abroad in selling our merchandise amounts received as
> salary or commission for the sale for export of tangible per-
> sonal property·produced in the United States in respect of such

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[1]U.S. Comptroller General, Report to the Congress, Impact on
Trade of Changes in Taxation of U.S. Citizens Employed Overseas (1978),
p. 1.

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sales made while they are actually employed outside the
United States, if they are so employed for more than six
months during a taxable year.[2]

The Senate Finance Committee, however, replied that the bill was unnec-

cesary since a U.S. citizen employed overseas receives a foreign tax

credit for any taxes paid to a foreign government.[3] In the Conference

Committee, the Senate representatives provided that the U.S. citizen

should be a bona fide nonresident of the United States for more than six

months during the taxable year and that the excluded portion of income

not be limited to sales for export. The House members receded with

their own amendment providing that the income so excluded should be

earned income.[4] Thus, the foreign trader exemption was enacted into

law as section 213(b)(14) of the 1926 Revenue Act. The Revenue Act of

1928 redesignated the exclusion as section 116(a).

In 1932, the Senate Finance Committee again objected to the exclu-

sion on the grounds that the foreign tax credit was sufficient relief

for citizens employed abroad. The report went on to state that

a considerable proportion of the individuals previously
benefited by this subsection have been employees of the
United States who, because of their status as such, were

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[2]U.S. Congress, House, Internal Revenue Bill of 1926, HR 1, 69th
Cong., 1st Sess. (1926), p. 7.

[3]U.S. Congress, Senate, Internal Revenue Bill of 1926, SR 52,
69th Cong., 1st Sess. (1926), pp. 20-21.

[4]U.S. Congress, House, Conference Report on Internal Revenue Bill
of 1926, HR 356, 69th Cong., 1st Sess. (1926), p. 33.

usually exempt from any foreign tax upon their compensation
received from the United States; these citizens are not
believed by your committee to be entitled to a complete
exemption from the Federal income tax upon such compensa-
tion.[5]

In the Conference Committee, the exclusion was retained but made no

longer applicable to payments by the United States government or agency

thereof.[6]

Bona Fide Residence Requirement

Positions were reversed ten years later with the House Ways and

Means Committee now calling for elimination of the exclusion. The

Committee representatives argued that "the repeal of this provision of

the bill will not only serve revenue needs but will also remove the

existing unjust discrimination favoring individuals receiving their

compensation for services abroad from nongovernmental sources."[7] Such

action was prompted by many cases of U.S. citizens residing abroad for

more than six months simply to avoid taxes. However, the Senate Finance

Committee viewed the complete elimination of the exclusion as an undue

hardship for many U.S. citizens who were indeed bona fide residents of a

foreign country. The Committee suggested instead

that if such citizens establish that they are bona fide resi-
dents of a foreign country during the entire taxable year
their earned income from sources without the United States

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[5]U.S. Congress, Senate, Revision of Internal Revenue, 1932, SR
665, 72nd Cong., 1st Sess. (1932), p. 31.

[6]U.S. Congress, House, Conference Report on Internal Revenue
Bill, HR 1492, 72nd Cong., 1st Sess. (1932), p. 543.

[7]U.S. Congress, House, Revenue Bill of 1942, HR 2333, 77th Cong.,
2nd Sess. (1942), p. 50.

will be exempt. If they have been residents of a foreign
country for 2 years or more, this same treatment will be
accorded them for the year in which they return to the United
States.[8]

These two provisions were enacted into law as sections 116(a)(1) and

116(a)(2), respectively.

In 1943, section 116(a)(3) defining "earned income" was added.

Previously, the definition had been available only by cross reference.

Section 116(a)(3) also gave authority to the Commissioner to issue regu-

lations to determine earned income from a trade or business overseas

where capital accounted for part or all of the earnings.[9] Reasonable

compensation was established at twenty percent of total earned income.

Physical Presence Test

In 1951, section 116 underwent two structural changes which

resulted in more U.S. citizens abroad becoming eligible for the exclu-

sion benefit. The Senate Finance Committee believed that 116(a)(1) was

having unintended consequences. Because the requirement since 1943 had

been that the exclusion was only available to a U.S. citizen who was a

bona fide resident of a foreign country for the entire taxable year, the

exclusion was not permitted for the first year overseas unless the indi-

vidual happened to become a resident of the country on the first day of

his taxable year. Neither was it usually allowed for his last year

overseas unless the requirement under 116(a)(2) was met. Secondly,

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[8]U.S. Congress, Senate, Revenue Bill of 1942, SR 1631, 77th
Cong., 2nd Sess. (1942), pp. 54-55.

[9]58 Statutes at Large, 21, 32.

U.S. citizens employed overseas for extended periods were denied the exclusion if they had not become bona fide residents of the foreign country.

In dealing with these two problems, the Committee began by noting that the purpose of the exclusion was really twofold: "This provision is intended both to encourage citizens to go abroad and to place them in an equal position with citizens of other countries abroad who were not taxed by their own countries."[10] The Committee then amended section 116(a)(1) to exclude all foreign earned income of a U.S. citizen who was a bona fide foreign resident for a continuous period which merely includes an entire taxable year. Section 116(a)(2) was also amended to exclude the foreign earned income of a U.S. citizen who was present (not a bona fide resident) in a foreign country for seventeen months in a period of eighteen consecutive months. This latter provision became known as the "physical presence" test. The Committee hoped that 116(a) (2) as amended would encourage U.S. citizens with technical skills who worked on specific projects to go abroad.

Limitation Established

Because of reported abuses of the physical presence test, the House Ways and Means Committee was ready to scrap section 116(a)(2) in 1953. Apparently, some individuals were going abroad to perform services which previously had been performed in the United States. Many times, the foreign country in which they did perform the service did not tax the

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[10]U.S. Congress, Senate, Revenue Act of 1951, SR 781, 82nd Cong., 1st Sess. (1951), pp. 52-53.

individual since residence had not been established. For instance, well-known movie personalities were taking advantage of their popular demand to insist on filming abroad where their gross income would go untaxed by the U.S. Unfortunately, such actions had undesirable side effects on the entire industry. Technical work and supporting roles were filled by foreign rather than by American technicians and actors. The result was that the U.S. Government not only lost revenue, but U.S. workers lost jobs as well.[11]

The Senate Finance Committee responded that many businesses abroad are indeed legitimate and, by implication, should not be penalized because of the abuse of a few. Thus, the Committee recommended instead that section 116(a)(2) be retained, but that a $20,000 limitation be added to correct the misuse of the physical presence test. Further, the $20,000 exclusion was to be prorated for portions of a taxable year.[12] The Senate's proposal was accepted by the House.

The Internal Revenue Code (IRC) of 1954 redesignated section 116 (a)(1) and (2) as section 911(a)(1) and (2), respectively. Also, the 20 percent reasonable compensation rule for businesses obtaining part or all of their income from capital-producing factors was increased to thirty percent.[13]

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[11]U.S. Congress, House, Internal Revenue Technical Changes Act of 1953, HR 894, 83rd Cong., 1st Sess. (1953), p. 15.

[12]U.S. Congress, Senate, Extend Time During Which Certain Provisions Relating to Income and Estate Taxes Shall Apply, SR 685, 83rd Cong., 1st Sess. (1953), p. 5.

[13]U.S. Congress, House, Internal Revenue Code of 1954, HR 1337, 83rd Cong., 2nd Sess. (1954), p. 77; U.S. Congress, Senate, Internal Revenue Code of 1954, SR 1622, 83rd Cong., 2nd Sess. (1954), p. 106.

A technical amendment in 1958 added subsection (c) to section 911. The amendment was necessary because of reported confusions over the bona fide resident test, over the physical presence test, and over what constitutes excludable income. In many instances, the Internal Revenue Service (IRS) had no means to examine the taxpayers' decisions on these matters since after the exclusion, many taxpayers did not have $600 of gross income and, thus, were not required to file a return. Section 911 as amended cross referenced with section 6012(c) and stated that "earned income excludable under section 911 would constitute gross income only for purposes of the return requirements of section 6012."[14]

Changes in the Sixties

In 1962, President Kennedy recommended that U.S. citizens residing in developed countries abroad should no longer be eligible for the section 911 exclusion while the $20,000 exclusion should be retained for U.S. citizens residing in less developed countries that meet the physical presence requirements. Further, he proposed a $20,000 limitation on the exclusion for taxpayers determined to be bona fide residents.[15]

The House Ways and Means Committee chose to ignore the proposal for eliminating the exclusion in the case of U.S. citizens residing abroad in developed countries. However, the House did see the need for a

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[14]U.S. Congress, House, Technical Amendments Act of 1957, HR 775, 85th Cong., 1st Sess. (1957), p. 98.

[15]Revenue Act of 1962, P.L. 87-834, 76 Statutes at Large 960.

$20,000 limitation on the exclusion for those qualifying as bona fide residents of a foreign country. Moreover, the House provided that the limitation would be increased to $35,000 for those who have resided abroad for a period of more than three consecutive years. The Committee explained that "those who are abroad for longer periods of time are more dependent on the foreign economy, and less upon the U.S. economy . . . ."[16]

The Committee went on to state that "in applying either the $20,000 or $35,000 ceilings under community property laws the total community income excludable may not exceed the amount which would be excludable if this income were not community income."[17] In other words, only one foreign earned income exclusion may be applied against the husband's income even though half of the income is allocable to the wife under community property laws. However, in the case in which both the husband and the wife earn income abroad, two exclusions each with $20,000 or $35,000 ceilings may be available.

Two other points were also considered by the House Committee, that of deferred compensation and pension income. As to the treatment of deferred compensation, a U.S. citizen who qualified under the bona fide residence test was allowed an exclusion for foreign source income received which was "attributable" to the period during which the

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[16]U.S. Congress, House, Revenue Act of 1962, HR 1447, 87th Cong., 2nd Sess. (1962), p. 54.

[17]Ibid., p. 55.

individual was a bona fide resident of a foreign country even though

several years may have passed since the individual had so qualified.

The Committee then pointed out that

> the 17- out of 18-month rule, however, because of the $20,000
> ceiling, has been interpreted as limiting the exclusion which
> an individual may receive to the proportion of the year, dur-
> ing which the payment was received, in which the individual
> was abroad. Thus, where the individual receives deferred com-
> pensation after he is back in the United States for an entire
> year, no exclusion is available. . . .
>
> Your committee eliminates the problems referred to above
> by attributing the income, for purposes of applying the dollar
> limitation on the exclusion, to the year in which the service
> is performed. This means that the exclusion, merely because
> the individual has returned to the United States before re-
> ceiving the payment, will not be denied.[18]

The Committee further explained, however, that no exclusion would be

allowed for deferred compensation received more than one year after the

year in which the income was earned.[19]

In the case of pension income, employees are normally not taxed on

their contribution toward their own pensions. But employer contribu-

tions and interest earned on the fund are taxable to the employee during

the year he receives payments. Section 72(f) of the IRC specified that

any contributions by the employer were also nontaxable upon payment to

the employee if the contribution would have been nontaxable anyway and

if such contributions were paid directly to the employee rather than

into a pension fund. Thus, according to this provision, contributions

by an employer to a pension fund during the period in which the

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[18]Ibid., p. 56.

[19]Ibid.

employee is abroad and qualifies for the foreign earned income exclusion under section 911 would also be excludable from gross income during the period of receipt. To correct a perceived inequity, the House Committee dictated that

> for the future even though employer contributions are attri-
> butable to a period when the employee was abroad after 1962,
> these contributions by the employer will be taxable to him in
> the same manner as in the case of a domestic worker also
> receiving a pension. This will be true whether the employee
> is living in the United States, or abroad, at the time of
> the receipt of the pension payment.[20]

The Senate Finance Committee accepted the House proposals but added two further changes. First of all, the Committee proposed that any U.S. citizen who earns foreign income, makes a statement to the foreign country in which he earned that income to the effect that he is not a resi-dent of that country, and excludes such income from gross income in com-puting his U.S. federal tax claiming to be a bona fide resident of the same foreign country should be denied the benefits of section 911. The purpose of the proposal was "to prevent an individual from avoiding income tax in the United States and the foreign country by taking incon-sistent positions with respect to residence in the two countries."[21] Secondly, the Senate Committee proposed that the value of fringe benefits enjoyed by employees abroad should be considered earned income. The House agreed with both proposals.

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[20]Ibid., p. 55.

[21]U.S. Congress, Senate, Revenue Act of 1962, SR 1881, 87th Cong., 2nd Sess. (1962), p. 707.

In 1964, the $35,000 ceiling for those qualifying as bona fide residents of a foreign country for three consecutive years was reduced to $25,000. A proposal to reduce the $20,000 limitation was defeated.[22]

In 1966, section 911(d) was amended to cross reference with section 981 dealing with foreign community property laws[23] after which section 911 took a much deserved ten-year rest.

Summary

The history of the foreign earned income exclusion prior to 1976 was quite unpredictable. Eligibility requirements were narrowed amid cries that the exclusion should be eliminated altogether. Ceiling limits on the dollar amount of the available exclusion were fixed. These limits were modified in response to perceived inequities. Nevertheless, the amount of the exclusion continued to be a source of controversy.

Tax Reform Act of 1976

The Tax Reform Act (TRA) of 1976 brought several new changes in the foreign earned income exclusion. The House Ways and Means Committee believed that the exclusion should be totally phased out over a three-year period and replaced with special deductions for the education of

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[22]Revenue Act of 1964, Section 237(a), P.L. 88-272, 78 Statutes at Large 128.

[23]Foreign Investors Tax Act of 1966, Section 105(c)(3), P.L. 89-809, 80 Statutes at Large 1567.

dependents and for the fair value of municipal-type services provided by an employer to a U.S. employee working abroad.[24] The House Committee explained that

> the exclusion of $20,000 (or $25,000) of income earned abroad provides a tax advantage to those U.S. citizens who live and work abroad compared with those who live and work in the United States. Moreover, in many cases the foreign government in the country where U.S. citizens are employed do not impose income taxes on the U.S. citizens . . . . Moreover, in those cases where a foreign tax is paid by the U.S. citizen, that tax is creditable directly against any U.S. tax that might otherwise exist on income above the $20,000 or $25,000 excludable limits. This combination of an exclusion of $20,000 or $25,000 of income, plus the allowance of the full foreign tax credit attributable to all income (including the excluded income) gives taxpayers who do pay tax to foreign governments in effect a double benefit.[25]

The Senate Finance Committee, however, believed that the exclusion should be "retained so that the competitive position of U.S. firms abroad is not jeopardized."[26] Nevertheless, the Senate Committee did concede the "presence of unintended results under present law."[27] In the final analysis, the exclusion was indeed retained, but with several changes that tended to reduce the benefits available to U.S. citizens abroad under section 911.

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[24]U.S. Congress, House, Tax Reform Act of 1976, HR 658, 94th Cong., 1st Sess. (1975), p. 201.

[25]Ibid., p. 200.

[26]U.S. Congress, Senate, Tax Reform Act of 1976, SR 938, 94th Cong., 2nd Sess. (1976), p. 210.

[27]Ibid.

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Major Changes

The first change involved a direct reduction in the dollar amount of the exclusion from $20,000 to $15,000. The $20,000 exclusion for employees of qualifying charitable organizations, however, was retained. The additional $5,000 exclusion for those qualifying as bona fide residents of a foreign country for three consecutive years was eliminated.

A second major change was the taxation of the nonexcludable income at the higher marginal tax rates that would have been applied if section 911 had not been in effect. In other words, the foreign earned income exclusion would reduce income subject to the lowest marginal tax rates instead of income subject to the highest marginal tax rates. The Senate Committee noted that the previous treatment of taking the exclusion at the higher bracket rates and taxing nonexcludable income at the lower bracket rates was "inconsistent with our progressive tax system."[28] Under this new provision, an individual's U.S. federal income taxes would be computed by taking the difference between the tax on net taxable income and the tax on net excluded earned income.

The Senate and House bills both agreed that allowing a foreign tax credit on all income including income that was excludable by reason of section 911 was clearly an unintended double benefit. The Joint Committee Report indicated that the disallowed portion of the foreign tax credit should be computed by multiplying the foreign taxes paid by the ratio of the tax on net excluded earned income to the tax on net taxable

[28]Ibid., p. 211.

income. This tax-to-tax method was only one of several approaches which have been suggested.[29]

Other Provisions

The Senate proposal also specified that income received in a country other than the country in which the income was earned would be ineligible for the exclusion if one of the reasons for receiving the income outside of the country in which earned was to avoid taxes in that country. The Committee continued to explain that

> the tax avoidance purpose does not have to be the only purpose for receiving the money outside of the country in which earned, nor does it have to be the principal reason for receiving the money outside of that country. It is sufficient that it be one of the purposes. It is the committee's intention that the fact that the country in which the income is earned does not tax amounts received outside of the country be viewed as a strong indication of a tax avoidance purpose.[30]

This proposal was necessary to remove one of the unintended benefits of the old law. Apparently, some U.S. citizens employed in high-tax foreign countries were receiving part of their income outside of those countries in an effort to reduce their foreign taxes. If the source country did not tax receipts outside of its borders and the receipt country only taxed earnings (and not merely receipts), the taxpayer was able to avoid the payment of some foreign taxes.[31]

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[29]Samuel M. Frohlich and Mark J. Schulz, "International Tax Provision of TRA 76," NYU Institute on Federal Taxation, 36 (1978), pp. 973-75.

[30]SR 938, pp. 211-12.

[31]John L. Kramer, "Tax Reform Act of 1976--Impact of Changes on U.S. Expatriate Employees," Taxes (Sept. 1977), 970.

Because of the reduced benefits under the 1976 TRA, section 911(e) was added to the IRC allowing any taxpayer who otherwise qualifies, to elect not to have the exclusion apply to him.[32] The election would allow the taxpayer to claim a foreign tax credit for all foreign taxes paid instead of losing some of the credits to section 911 excluded income. Other expenses could also be deducted in full rather than having a portion of them allocated to excluded income and, thereby, becoming nondeductible. However, once made, the election could not be revoked except with the permission of the Secretary of the Treasury. Two possible indirect methods to forego any foreign earned income exclusion without making an election which would bind the taxpayer for future years would be to either make arrangements to receive all foreign earned income outside of the country where earned or to simply fail to qualify for the exclusion under section 911.[33]

Another change which could be considered beneficial with respect to the taxpayer abroad was the availability of the standard deduction for those claiming the foreign tax credit.[34] Prior to 1976, those claiming the credit were required to itemize their deductions. This requirement often proved to be burdensome to taxpayers abroad since many did not own homes in their country of residence and, consequently, had no deductions for mortgage interest and property taxes.

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[32]Prior to this amendment, section 911 was mandatory for one who qualified. See Rev. Rul. 56-487, 1956-2 CB 504 and Frieda Hempel, 6 TCM 743 (1947).

[33]Kramer, p. 616.

[34]The term "standard deduction" was replaced by the term "zero bracket amount" in 1977.

A final provision of the 1976 TRA was motivated by reports that
some U.S. citizens with foreign tax credit carryovers were selling capi-
tal assets outside of the U.S. These transactions resulted in a capital
gains tax payable to the U.S., but usually little or no foreign tax.
The taxpayer then was able to offset the foreign tax credit previously
denied against the tax on the capital gain. This resulted in little or
no U.S. taxes also. Congress reacted to this loophole in section 904(b)
by providing, first of all, that such capital gains must be netted with
capital losses resulting from sales and exchanges within the United
States. Secondly, in the case in which a capital asset is sold outside
the country of residence, any gain was to be treated as though resulting
from a transaction within the U.S. except for instances in which the
sale is taxed at an at least 10% effective rate by some foreign govern-
ment. Benefits from tax planning were still available, however, if the
transaction occurred in the country of residence or if the sale was sub-
ject to at least a 10% effective foreign tax rate.[35]

Effective Date Delayed

The changes in section 911 resulting from enactment of the 1976 TRA
were retroactively scheduled to apply to all taxable years beginning
after December 31, 1975. However, because of the extreme hardships such
an application would have placed upon American expatriates, as well as
to allow time to study the effects of the reduced benefits under section

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[35]Kramer, p. 617.

911, the changes were delayed one year by the Tax Reduction and Simpli-
fication Act of 1977.[36] The provisions of the 1976 TRA were further
delayed with the passage of the Tax Treatment Extension Act of
1977.[37] Taxpayers abroad were allowed to claim the pre-1976 exclu-
sion for taxable years beginning in 1977 and were given an option for
taxable years beginning in 1978 of claiming either the lower $15,000 (or
$20,000) exclusion estabished by the 1976 TRA or the new deductions
under the Foreign Earned Income Act of 1978.

Summary

The sweeping changes brought about by the 1976 TRA reduced the tax
benefits available to the American employed abroad. The exclusion was
reduced from $20,000 (or $25,000) to $15,000 for American employees
abroad other than those working for charitable organizations. Moreover,
the nonexcludable income was now to be taxed at higher marginal tax
rates, and the foreign tax credit was not to be allowed for the excluded
portion of foreign earned income. Other miscellaneous provisions
attempted to close loopholes in the old law and to remove various
inequities. In the following chapter, the legislative history of the
foreign earned income exclusion from 1978 until 1981 will be discussed.

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[36]Section 302, P.L. 95-30, 91 Statutes at Large 126.

[37]Section 4(a), P.L. 95-615, 92 Statutes at Large 3097.

CHAPTER 3

LEGISLATIVE HISTORY OF THE
FOREIGN EARNED INCOME EXCLUSION, 1978-1981

The Foreign Earned Income Act of 1978

The Foreign Earned Income Act (FEIA) of 1978[1] became law late in
1978, applicable to tax years beginning after December 31, 1977. Due to
the retroactive effective date, taxpayers abroad were allowed an option
for tax years beginning in 1978. If elected, taxpayers could exclude
from gross income the amount permitted by the TRA of 1976.[2] For tax
years beginning after December 31, 1978, no election was available.

The 1978 FEIA represented a departure from the flat-exclusion
approach which had been in effect since 1926. Such an approach had
ignored the living expenses incurred by Americans residing abroad.
Thus, U.S. expatriates working in low-cost foreign countries were
afforded the same tax benefits as U.S. expatriates working in high-cost
foreign countries. Congress deemed such a result inequitable, as evi-
denced by the following quote from the Senate Report:

> The committee believes that relief based on a flat exclusion
> is arbitrary and unfair. The amount excluded is the same
> regardless of whether the individual's living expenses abroad
> are higher than, the same as, or lower than comparable costs
> in the United States. Equitable treatment of individuals
> working abroad requires that relief be more closely related
> to the actual increased expenses which the individual must
> incur while working abroad. Moreover, the tax treatment of

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[1]Sections 201-210, P.L. 95-615, 92 Statutes at Large 3097.

[2]Ibid., Section 209(c)(1).

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U.S. workers abroad should not place them at a disadvantage
in relation to foreign workers with whom they compete for
jobs.[3]

The 1978 FEIA sought to correct this inequity by replacing the flat

exclusion with a deduction for the sum of five amounts available under

the new section 913 of the IRC. These amounts were for (1) the quali-

fied cost-of-living differential, (2) qualified housing expenses, (3)

qualified schooling expenses, (4) qualified home leave travel expenses,

and (5) an additional deduction for those residing in a qualified hard-

ship area.[4] Each of these amounts was treated as deductions toward

adjusted gross income and, therefore, did not result in the disallowance

of other deductions (e.g., the zero bracket amount) and credits as was

often the case under the old section 911. In addition, these deductions

were available regardless of whether the taxpayer was reimbursed by his

employer for these items.

The eligibility requirements remained substantially the same. A

U.S. citizen must qualify either as a bona fide resident of a foreign

country for a period which includes an entire taxable year or else the

U.S. citizen must be physically present in the foreign country for

seventeen out of eighteen consecutive months. One addition provided

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[3]U.S. Congress, Senate, Foreign Earned Income Act of 1978, SR
746, 95th Cong., 2nd Sess. (1978), p. 7.

[4]FEIA of 1978, Sections 202-203, P.L. 95-615, 92 Statutes at
Large 3097.

that U.S. resident aliens who otherwise qualified could benefit from section 913 if they met the requirements of the "physical presence" test, even though they may not be covered by non-discrimination clauses in international tax treaties.[5]

The section 913 deductions were not limited to a specific dollar amount as under prior law. However, the sum of the five deductions was subject to a limit of the taxpayer's net foreign source earned income. Net foreign source earned income was defined as foreign source earned income reduced by (1) exclusions from gross income for meals and lodging furnished for the employer's convenience under section 119 and (2) other deductions which were allocable against the foreign source earned income (e.g., foreign real property taxes) other than the section 913 deductions.[6] When both spouses separately qualified for and claimed the section 913 deductions, this limitation applied separately with respect to each taxpayer only if they filed separate returns.[7]

Qualified Cost-of-Living Differential

The qualified cost-of-living differential was defined by the IRC as the amount by which the general cost of living in the foreign location where the taxpayer maintained his tax home[8] exceeded the general cost

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[5]IRC, Section 913(a).

[6]IRC, Section 913(c).

[7]Reg. 1.913-10(a).

[8]The taxpayer's tax home is the same as his home for purposes of deducting travel expenses while away from home under section 162(a)(2). See IRC 913(j)(1)(B).

of living in the highest cost metropolitan area in the United States
(except Alaska and Hawaii).[9] The differential was deductible only for
the portion of the taxable year during which the taxpayer maintained his
tax home in the foreign location.[10] General cost of living, as used
here, did not include housing expenses or education costs for dependents
which were deductible separately.[11]

The actual deductible amount was determined by reference to tables
issued by the Secretary of the Treasury. These tables (or other suit-
able method of computing the deduction) were to be revised at least once
every calendar year.[12] The tables reflected the reasonable daily
living expenses of a family with an income equal to that of a U.S.
government employee compensated at an annual rate for step 1 of grade
GS-14.[13] Consequently, the qualified cost-of-living differential
was not affected by either the taxpayer's actual taxable income nor the
taxpayer's level of reimbursement for excess living costs from his
employer. The differential varied with the size of the family residing
either with the taxpayer or at a qualified second household for any
particular foreign location.[14] A qualified second household was

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[9]IRC, Section 913(d)(1).

[10]IRC, Section 913(d)(2)(A).

[11]IRC, Section 913(d)(2)(B).

[12]IRC, Section 913(d)(1).

[13]IRC, Section 913(d)(2)(C)(ii); for 1978 this was $32,442.

[14]IRC, Section 913(d)(2)(C)(i).

simply the living quarters maintained by the taxpayer in a foreign country at a separate location from the taxpayer's tax home because of adverse living conditions at such tax home.[15] Adverse living conditions were "living conditions which are dangerous, unhealthful, or otherwise adverse."[16]

The cost-of-living differential deduction was denied for any taxable year during which the taxpayer excluded the value of employer-furnished meals and lodging from gross income under section 119.[17] However, the differential was not to be denied with respect to the taxpayer's spouse and dependents maintained at a qualified second household.[18] In such a case, the location of the spouse and dependents was used in determining the qualified cost-of-living differential.[19] Only one cost-of-living deduction could be claimed even though both spouses may have qualified.[20] However, if separate tax homes were maintained by a married couple who each individually qualified, two deductions were then available.[21]

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[15]IRC, Section 913(i)(2).

[16]IRC, Section 913(j)(1)(D).

[17]IRC, Section 913(d)(2)(E).

[18]IRC, Section 913(i)(1)(A)(ii).

[19]IRC, Section 913(i)(1)(A)(i).

[20]Reg. 1.913-10(c).

[21]Reg. 1.913-10(g).

The qualified cost-of-living differential was criticized because of the requirement that the highest cost metropolitan area in the continental U.S. be utilized in the computation.[22] The American expatriate may instead have been from a low-cost area in the U.S. and, thus, not have received a deduction for the full amount of his excess living costs.

A further criticism related to how the IRS actually computed the differentials. Though the IRS was allowed to consider the State Department's cost-of-living indices, this was not mandatory.[23] One individual observed that the differential computed by the IRS was significantly less than the differential computed by other sources.[24]

Qualified Housing Expenses

The amount allowed as a deduction for qualified housing expenses was the excess of the taxpayer's actual housing expenses over the taxpayer's base housing amount.[25] The actual housing expenses utilized in the computation were those reasonable amounts paid or incurred for living quarters of the taxpayer and his family (spouse and dependents)

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[22]Robert Feinschreiber, "New Deductions for Overseas Americans," International Tax Journal (Dec. 1978), p. 96.

[23]IRC, Section 913(d)(2)(D).

[24]Jeffrey W. Lawrence, "The Taxation of Americans Living Abroad: The Foreign Earned Income Act of 1978 and Sections 911 and 913 of the Internal Revenue Code," Columbia Journal of Transnational Law, 19 (No. 1, 1981), p. 100.

[25]IRC, Section 913(e)(1).

in a foreign country during the taxable year.[26] Allowable housing

expenses included rent, maintenance and repairs, utilities (except for

long-distance telephone calls), and real and personal property insur-

ance.[27] Items specifically excluded status as housing expenses

included the cost of purchasing a house, capital improvements, furniture

purchases, domestic labor, principal payments on a mortgage, deprecia-

tion, taxes, interest, and any other items which may be deductible under

other provisions of the IRC.[28] The Code further stated that housing

expenses that are "lavish or extravagant under the circumstances"[29]

will not be considered reasonable.

The computation of the "base housing amount" resulted from an

assumption found in the Senate Committee Report:

> Typical U.S. housing costs are assumed, based on data com-
> piled by the Bureau of Labor Statistics, to be one-sixth (16
> 2/3 percent) of the taxpayer's earned income (exclusive of
> excess cost-of-living, education and housing costs allowed by
> the committee amendment).[30]

This computation was recognized as unduly complicated because the tax-

payer's net earned income was itself a function of the deduction for

qualified housing expenses. Therefore, a mathematically equivalent

method of computing the base housing amount was adopted. Under this

method the base housing amount was set equal to twenty percent of the

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[26]IRC, Section 913(e)(2)(A).

[27]Reg. 5b.913-6(b)(1).

[28]Ibid.

[29]IRC, Section 913(e)(2)(B).

[30]SR 746, 95th Cong., 2nd Sess. (1978), p. 9.

excess of the taxpayer's "housing income" over the sum of (1) all deductions properly allocated to or chargeable against such income other than the section 913 deductions, (2) the section 913 deductions except for the deduction for qualified housing expenses, and (3) the actual housing expenses paid or incurred.[31] Housing income was defined basically the same as earned income was defined. That is, housing income included wages, salaries, and professional fees received for services rendered. In situations in which capital was a material income-producing factor, the taxpayer was allowed a reasonable amount (not to exceed thirty percent of his share in the net profits) as compensation for personal services.[32] When a husband and wife were subject to community property laws, housing income was determined as though these laws were not in effect.[33] Note that housing income was not limited solely to foreign-source earned income.

The computation of the deduction for qualified housing expenses for a married taxpayer with two children is illustrated in Example 1. Consider whether a highly-compensated U.S. citizen working abroad could accrue any benefits from a deduction structured in this manner. His housing income would likely result in a substantial base housing amount

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[31]IRC, Section 913(e)(3).

[32]IRC, Section 911(b).

[33]IRC, Section 911(c)(3).

EXAMPLE 1

COMPUTATION OF THE SECTION 913 DEDUCTION
FOR QUALIFIED HOUSING EXPENSES

Assumed: Taxpayer is married with two dependents.

Base salary (net of allocable deductions)		$ 60,000
Overseas premium		2,500
Cost-of-living allowance		12,500
Housing allowance		26,500
Education allowance		9,000
Home leave allowance		1,000
Tax equalization payment		11,200
Housing income (less allocable deductions)		$122,700
Qualified cost-of-living differential	$10,800	
Qualified schooling expenses	8,100	
Qualified home leave travel expenses	900	
Qualified hardship area deduction	-0-	
Total section 913 deductions other than		
for qualified housing expenses	$19,800	
Actual housing expenses	27,800	47,600
		$ 75,100
		x .20
Base housing amount		$ 15,020
Actual housing expenses		$ 27,800
Less base housing amount		15,020
Qualified housing expenses		$ 12,780

The equivalency to the 16 2/3% figure in the Senate Committee Report can now be more readily observed. The base housing amount may also be computed by taking 16 2/3% of the excess of housing income over the sum of allocable deductions and section 913 deductions (i.e., 16 2/3% x ($122,700 - $19,800 - $12,780) = $15,020).

which must be exceeded by housing expenses which are neither lavish nor extravagant.[34]

The deduction for qualified housing expenses was available only during periods on which the taxpayer's tax home was located in a foreign country.[35] And as with the qualified cost-of-living differential, the deduction was not available during periods in which the value of housing was excluded from gross income under section 119.[36] Furthermore, if the taxpayer maintained more than one abode during a period, a deduction was allowed only for the one which bore the "closest relationship to the individual's tax home."[37] An exception to these last two rules prevailed when the taxpayer maintained a qualified second household.[38] The expenses of the second household were eligible for the housing expense deduction as long as they would have otherwise qualified had the taxpayer resided at that household.[39] Furthermore, when the taxpayer maintained a second household for his spouse and dependents in a foreign location other than his tax home because of adverse living conditions, and the taxpayer's tax home was located

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[34]Ralph A. Wehrenberg et al., "The Foreign Earned Income Act of 1978: A Step Forward for Expatriates and Their Employers," Tax Advisor (Jan. 1979), p. 6.

[35]IRC, Section 913(e)(4)(i).

[36]IRC, Section 913(e)(4)(ii).

[37]IRC, Section 913(e)(5).

[38]IRC, Section 913(i)(1)(B)(iii).

[39]IRC, Section 913(i)(1)(B)(i).

in a hardship area, the taxpayer's base housing amount for purposes of

computing his qualified housing deduction on his tax home was

zero.[40] A hardship area was defined as

> any foreign place designated by the Secretary of State as a
> hardship post where extraordinarily difficult living condi-
> tions, notably unhealthful conditions, or excessive physical
> hardships exist and for which a post differential of 15 per-
> cent or more provided under section 5925 of title 5, United
> States Code, or would be so provided if officers and employees
> of the Government of the United States were present at that
> place.[41]

In either case, the base housing amount for the second household

included the housing expenses of the taxpayer at his tax home.[42]

The computation of the qualified housing expense deduction for each

situation is illustrated in Example 2.

Only when both spouses qualified for the 913 deductions, filed

separate returns,[43] and maintained separate tax homes[44] could

the deduction for qualified housing expenses be computed independently

with respect to each abode. However, the sum of these two housing

deductions still could not exceed the housing deduction which would have

resulted had the couple filed jointly.[45]

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[40]IRC, Section 913(e)(3)(B).

[41]IRC, Section 913(h)(2).

[42]IRC, Section 913(e)(1)(B)(ii).

[43]Reg. 1.913-10(d).

[44]Reg. 1.913-10(g).

[45]Reg. 1.913-10(d).

EXAMPLE 2

COMPUTATION OF THE SECTION 913 DEDUCTION FOR
QUALIFIED HOUSING EXPENSES WHEN A SECOND HOUSEHOLD
IS MAINTAINED BY THE TAXPAYER

A. Adverse living conditions at tax home
Tax home not located in hardship area

Housing income less allocable deductions	$80,000
Housing expenses at tax home	15,000
Housing expenses at second household	13,000
Section 913 deductions excluding housing	10,000

		Tax Home		Second Household
(1) Housing income		$80,000		$80,000
(2) 913 deductions excluding housing	$10,000		$10,000	
(3) Housing expenses	15,000	25,000	28,000	38,000
		$55,000		$42,000
		x .20		x .20
(4) Base housing amount		$11,000		$ 8,400
(5) Qualified housing expense deduction (3)-(4)		$ 4,000	+	$19,600
			= $23,600	

B. Adverse living conditions at tax home
Tax home located in hardship area

Housing income less allocable deductions	$90,000
Housing expenses at tax home	10,000
Housing expenses at second household	25,000
Section 913 deductions excluding housing	14,000

		Tax Home		Second Household
(1) Housing income				$90,000
(2) 913 deductions excluding housing			$14,000	
(3) Housing expenses		$10,000	35,000	49,000
				$41,000
				x .20
(4) Base housing amount		-0-		$ 8,200
(5) Qualified housing expense deduction (3)-(4)		$10,000	+	$26,800
			= $36,800	

Source: Adapted from Jerome I. Shagam and Kenneth G. Kolmin, "Temporary
Regulations Resolve Some Problems for U.S. Persons Working
Abroad," International Tax Journal (June 1979).

Prior to the Technical Corrections Act (TCA) of 1979,[46] a taxpayer could claim a larger housing deduction by deferring a portion of his compensation to some future taxable year. The deferral, in effect, reduced the taxpayer's current base housing amount, thus allowing the increased deduction. The TCA removed this planning device by requiring any excess housing deductions to be recaptured in the year the deferred compensation was received.[47] Excess housing deductions were defined as the aggregate amount allowable as a housing deduction during the current and three preceding tax years, less the aggregate amount which would have been allowed as a housing deduction during the same years assuming that all deferred compensation had been received during the year services were performed.[48] Any amount recaptured would not be considered an increase in housing income for purposes of computing the current year's base housing amount.[49] Neither would the recaptured amount be included as a part of net foreign source earned income in determining the maximum allowable deduction under section 913.[50] The provisions of the recapture rule are illustrated in Example 3.

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[46]HR 2797, 96th Cong., 1st Sess., 125 _Congressional Record_ H5936 (July 16, 1979).

[47]IRC, Section 913(e)(7)(A).

[48]IRC, Section 913(e)(7)(B) and 913(e)(7)(D)(ii).

[49]Technical Corrections Act of 1979, Section 108(a)(1)(B).

[50]IRC, Section 913(e)(7)(C).

EXAMPLE 3

COMPUTATION OF THE HOUSING DEDUCTION RECAPTURE
UNDER SECTION 913 OF $10,000 FOREIGN EARNED INCOME
DEFERRED FROM 1979 TO 1980

	Actual		Recomputed	
	1979	1980	1979	1980
Housing income	$40,000	$60,000	$50,000	$50,000
Section 913 deductions excluding housing	10,000	10,000	10,000	10,000
Housing expenses	15,000	8,000	15,000	8,000
	$15,000	$42,000	$25,000	$32,000
	x .20	x .20	x .20	x .20
Base housing amount	$ 3,000	$ 8,400	$ 5,000	$ 6,400
Qualified housing deduction	$12,000	$ -0-	$10,000	$ 1,600

The taxpayer in this example would recapture $400 ($12,000 - ($10,000 +
$1,600)) as gross income in 1980. This $400 is the amount by which the
base housing amount exceeds the taxpayer's housing expenses in 1980.

Source: Adapted from David G. Bishop, "Recapture of Excess Housing
         Deductions Under the Technical Corrections Act of 1979,
         Tax Advisor (July 1980).

Qualified Schooling Expenses

Qualified schooling expenses were those reasonable amounts paid or incurred by the taxpayer abroad to educate his dependents from kindergarten through the twelfth grade.[51] In general, the amounts which qualified included payments for tuition, fees, books, local transportation, and other expenses as required by the school.[52] Optional disbursements for field trips and extracurricular activities did not qualify.[53] Likewise, expenses for which the taxpayer claimed a credit for child care[54] or a deduction for medical costs[55] did not qualify as deductible schooling expenses.[56] Neither did payments qualify for which the taxpayer received an allowance which was excluded from gross income.[57] Furthermore, the taxpayer had to maintain his tax home in a foreign country during the period of education,[58] and the dependent receiving the education had to reside at the taxpayer's tax home or in a qualified second household.[59]

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[51]IRC, Section 913(f)(1).

[52]IRC, Section 913(f)(2).

[53]Reg. 1.913-7(b).

[54]IRC, Section 44A.

[55]IRC, Section 213.

[56]Reg. 1.913-7(b)(2)(i).

[57]Reg. 1.913-7(b)(2)(ii).

[58]Reg. 1.913-7(b)(2)(iii).

[59]Reg. 1.913-7(b)(2)(iv).

Under certain circumstances, the cost of room, board, and non-local transportation between school and the taxpayer's tax home were also deductible. The transportation costs included meals and other payments resulting from involuntary stopovers.[60] Air transportation costs were limited to coach or economy fare unless these rates were unavailable or unless a physical condition necessitated first-class travel.[61] In addition, deductible travel costs included transportation to and from the airport, airport taxes, and nonrefundable fees that enabled one to leave the country.[62] These amounts qualified only if "an adequate U.S.-type school (was) not available within a reasonable commuting distance" of the taxpayer's tax home.[63] This requirement will be further expounded in the paragraphs which follow.

If the dependent required "special educational facilities or training"[64] because of "physical impairment or learning disabilities"[65] and the school did not have these, the school was not considered to be adequate. Moreover, if the dependent desired an academic curriculum which prepared him for college, and the school did not have such a program, the school was not adequate.[66] However, the absence

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[60]Reg. 1.913-7(b).

[61]IRC, Section 913(j)(2).

[62]Reg. 1.913-7(b)(1).

[63]IRC, Section 913(f)(3).

[64]Reg. 1.913-7(d).

[65]Ibid.

[66]Ibid.

of "enrichment programs" such as a swimming team or an orchestra did not preclude a school from being considered adequate.[67] A school which required religious training contrary to the religious beliefs held by the dependent was, likewise, not considered to be adequate.[68]

A U.S.-type school was simply one which offered a program comparable to those offered by U.S. accredited schools.[69] The courses were required to be taught in English,[70] and the dependent had to receive an education sufficient and adequate to prepare him for graduation from a U.S. school if so transferred.[71]

An adequate U.S.-type school was considered not available only if the school refused to accept the expatriate's dependents.[72] Whether the school was within the taxpayer's budget apparently did not bear upon the question of availability.[73]

Finally, in order for room, board, and non-local transportation to qualify as schooling expenses, a school which otherwise qualified had to be further than a reasonable commuting distance from the taxpayer's tax home. This distance was defined as "a distance capable of being

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[67]Ibid.

[68]Ibid.

[69]Reg. 1.913-7(e)(2).

[70]Reg. 1.913-7(e)(1).

[71]Reg. 1.913-7(e)(3).

[72]Reg. 1.913-7(d).

[73]Robert Feinschreiber, "New Deductions for Overseas Americans," International Tax Journal (Dec. 1978), p. 100.

traveled safely and regularly by customarily available transportation, including privately owned vehicles in 1 hour."[74]

So, if an adequate U.S.-type school was not available within a reasonable commuting distance from the taxpayer's tax home, the taxpayer not only received a deduction for tuition, fees, books, and other required costs, but also he received a deduction for room, board, and transportation to any boarding school in the world. Apparently, this included a boarding school located in the U.S.[75]

On the other hand, if an adequate U.S.-type school was available within a reasonable commuting distance and the taxpayer chose to send his dependents to another school instead, the deduction for qualified schooling expenses was limited to the expenses that would have been incurred had the dependents attended the local U.S.-type school.[76] If more than one of these local U.S.-type schools was available, the deduction was limited to the least expensive of these.[77] Query whether this "least expensive" limitation also applied when the dependent attended one of several local U.S.-type schools.[78] If so, extensive substantiation records would have been required.

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[74]Reg. 1.913-3(f).

[75]Jerome I. Shagam and Kenneth G. Kolmin, "Temporary Regulations Resolve Some Problems for U.S. Persons Working Abroad," International Tax Journal (June 1979), p. 382.

[76]IRC, Section 913(f)(4).

[77]Reg. 1.913-7(c)

[78]Shagam.

For those cases in which the taxpayer maintained a qualified second household, school expenses were to be determined by reference to this abode rather than by reference to the taxpayer's tax home.[79]

Qualified Home Leave Travel Expenses

In general, the deduction for qualified home leave travel expenses included reasonable, round-trip transportation costs paid or incurred by the taxpayer or on his behalf for travel from the taxpayer's tax home (or qualified second household with respect to the spouse and dependents) to his principal place of residence in the U.S.[80] If the taxpayer did not currently own or rent a residence in the U.S., the deductible costs would be for travel between the tax home in the foreign country and either the taxpayer's most recent place of residence in the U.S. or the nearest port of entry to the continental U.S.[81] Round-trip travel expenses were determined to be reasonable by the same criteria used to judge the reasonableness of transportation costs for purposes of the qualified schooling expenses.[82]

Home leave travel expenses qualified for deduction only with respect to one round-trip excursion for the taxpayer and each member of his family during each continuous twelve-month period in which the

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[79]IRC, Section 913(i)(1)(C).

[80]IRC, Section 913(g)(1).

[81]Reg. 1.913-8(a).

[82]Ibid.

taxpayer's tax home was located abroad.[83] The statute did not require that the round trip to the U.S. and back be contained within these twelve-month periods. Neither was any time limit placed upon the duration of the home leave, a possible oversight by Congress.[84] No mention was made in the Code or in the Regulations as to the taxpayer's activities while in the U.S. on leave. Apparently, the deduction was available even if the taxpayer returned to the U.S. on business.[85]

As with the deduction for qualified schooling expenses, the deduction for home leave travel expenses was disallowed to the extent the taxpayer received allowances for such expenses which were excluded from gross income under section 912.[86]

Qualified Hardship Area Deduction

Any taxpayer residing in a hardship area, as previously defined, was allowed an annual deduction of $5,000 in addition to the other section 913 deductions. If the taxpayer's tax home was located in a hardship area for only a portion of the tax year, the $5,000 was prorated on a daily basis.[87] If both spouses were employed in hardship areas and otherwise qualified for the deduction, two $5,000 deductions were allowable for that couple.[88] A list of the locations which

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[83]IRC, Section 913(g)(6).

[84]Feinschreiber, p. 105.

[85]Ibid., p. 106.

[86]Reg. 1.913-8(b)(3).

[87]IRC, Section 913(h)(1).

[88]Reg. 1.913-10(f).

qualified as hardship areas was obtainable from the Director of International Operations, a division of the IRS.[89] This list was to be periodically updated.

If elected, a taxpayer residing in a camp located in a hardship area[90] would be eligible for a $20,000 exclusion from gross income[91] in lieu of the section 913 deductions.[92] The reason for retaining the $20,000 exclusion for U.S. citizens residing in camps located in hardship areas was that these individuals normally must "make an unusual sacrifice in their standard of living when they go overseas."[93] For purposes of this exclusion, a camp was defined as "substandard lodging"[94] which was provided for the employer's convenience because the area was remote and adequate housing was not readily available.[95] Further, the camp had to be located in the general vicinity in which the taxpayer worked[96] and had to lodge ten or more employees in an area not available for habitation by the public.[97]

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[89]Reg. 1.913-9(b).

[90]IRC, Section 911(a).

[91]IRC, Section 911(c)(1)(A).

[92]IRC, Section 913(1).

[93]SR 746, 95th Cong., 2nd Sess. (1978), p. 12.

[94]IRC, Section 911(c)(1)(B).

[95]IRC, Section 911(c)(1)(B)(i).

[96]IRC, Section 911(c)(1)(B)(ii).

[97]IRC, Section 911(c)(1)(B)(iii).

One obvious difficulty with this definition of a camp was in interpreting the word "substandard." Did this refer to tent dwellings or would quality, prefabricated housing assembled at the work site qualify?[98] The taxpayer's interpretation could very well differ from that rendered by the IRS or by the courts.

Also, if an employer had less than ten employees residing in a dwelling which otherwise qualified as a camp, and another employer had more than ten employees living in the same dwelling, would the employees of the former employer be eligible for the $20,000 exclusion? Since section 911 did not specify that the ten or more employees had to all work for the same employer before the dwelling could be designated a camp, the exclusion supposedly would be available.[99]

For purposes of section 119, a camp did qualify as part of the employer's business premises if the section 911 provisions were elected.[100] Consequently, the value of meals and lodging provided to the taxpayer residing in the camp could be excluded from gross income.

Late in 1980, this optional $20,000 exclusion was also made applicable to persons performing services for qualified charitable organizations in lesser developed countries.[101] A lesser developed

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[98]Wehrenberg, p. 9.

[99]Anthony M. Komlyn and Peter W. Minges, "Foreign Earned Income Act Will Affect Americans Abroad: New Planning Moves," Journal of Taxation (Jan. 1979), p. 42.

[100]IRC, Section 911(c)(7).

[101]Added to Section 911(a) by Section 4, P.L. 96-595, 94 Stat. 3466.

country was any country not appearing in the first sentence of section 502(b) of the 1974 Trade Act and not designated by the President as not being lesser developed.[102]

Since the section 911 exclusion had to be elected anew each year, certain opportunities for tax planning were available to the taxpayer abroad. The taxpayer could attempt to minimize deductions under section 913 during years in which the section 911 status was elected and perhaps defer certain expenses to years during which the election would not be elected. The taxpayer had to keep in mind the deductions (other than moving expenses under section 217) or credits (e.g., foreign tax credit) were disallowed to the extent they were properly allocable to section 911 excluded income.[103]

Moving Expenses

The FEIA of 1978 also increased the deduction for moving expenses under section 217 for taxpayers making a foreign move. A foreign move was defined as "the commencement of work by the taxpayer at a new principal place of work located outside the United States."[104] By this definition, a move from the U.S. to a foreign country or from one foreign country to another qualified as a foreign move, but a move from a foreign country to the U.S. did not qualify. Nevertheless, if the

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[102]IRC, Section 911(e)(1)(E).

[103]IRC, Section 911(a).

[104]IRC, Section 217(h)(3).

individual was moving to the U.S. for retirement and his former residence and place of work were located outside the U.S., such a move was considered a foreign move.[105] Moreover, survivors of a decedent whose principal place of work at the time of his death was located outside the U.S. could secure the same tax benefits accruing to those making foreign moves if they returned to the U.S. within six months following death of the decedent.[106]

The overall limitation on the deduction for moving expenses incurred in connection with the sale, purchase, or lease of a residence with respect to a foreign move was increased from $3,000 to $6,000.[107] The limit for the deductibility of temporary living expenses incurred in connection with a foreign move was likewise increased from $1,500 to $4,500.[108] The period during which these temporary living expenses would be deductible was lengthened from 30 to 90 days.[109] One final benefit for the taxpayer making a foreign move was the allowance of a deduction for storage costs. Storage costs included (1) any expenses incurred in connection with transporting personal and household items to and from storage and (2) the costs of

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[105]IRC, Section 217(i)(2).

[106]IRC, Section 217(i)(3).

[107]IRC, Section 217(h)(1)(B).

[108]Ibid.

[109]IRC, Section 217(h)(1)(A).

storing these items during the period in which the taxpayer's principal place of work was located without the U.S.[110]

One final observation concerning the relation between the 1978 FEIA and the moving expense deduction is that the former was a series of deductions rather than an exclusion from gross income. Therefore, no moving expenses were disallowed as the result of being allocated to excluded income as was the case under the 1976 TRA.

Miscellaneous Provisions

The Revenue Act of 1978[111] modified section 280A of the IRC which disallowed rental losses pertaining to the personal residence of the taxpayer when such residence was used for personal use for more than fourteen days or more than 10% of the rental days during the year. Prior to modification, this rule had effectively precluded the deduction of rental losses of U.S. expatriates during their first and last years abroad. Such a result was unintended. The new provisions stated that rental losses would not be disallowed if immediately before or after the taxpayer used his principal residence, such residence was rented or held for rental at a fair price for twelve consecutive months.[112] Rental losses would still be disallowed if the residence was sold or exchanged during the twelve-month period or if the property was rented to a relative.

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[110]IRC, Section 217(h)(2).

[111]Section 701(h)(1), P.L. 95-600, 92 Stat. 2763.

[112]IRC, Section 280A(d)(3).

Another change related to personal residences of U.S. expatriates extended the maximum period of time between the sale of an old residence and the purchase of a new residence to qualify for nonrecognition of capital gain to four years.[113] For instance, if a taxpayer sold his principal residence two months before moving abroad and did not return to the U.S. until forty-two months later, he would have to purchase a new residence within four months to avoid recognizing capital gain on the sale of his old residence. Under prior law, the period of nonrecognition was eighteen months (or twenty-four months for construction of new residences).

Nonrecognition of meals and lodging furnished for the convenience of the employer under section 119 was also made more beneficial to taxpayers by expanding the scope of the provision to include meals and lodging provided for the taxpayer's spouse and dependents.[114] Application of these new provisions, however, was not limited to taxpayers in foreign locations.

The 1978 FEIA also liberalized the withholding requirements. Under the new rules, foreign earned income was not subject to withholding to the extent the employer expected the employee to qualify for the section 911 exclusion[115] or the section 913 deductions.[116]

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[113]IRC, Section 1034(k).

[114]IRC, Section 119(a).

[115]IRC, Section 3401(a)(8)(A).

[116]IRC, Section 3401(a)(18).

Summary

For most U.S. taxpayers abroad, the FEIA of 1978 completely elimi-
nated the exclusion which had been available since 1926. The exclusion
was replaced with a series of five deductions for excess living costs
experienced abroad. Accordingly, the major beneficiaries of the 1978
FEIA were expected to be Americans employed abroad in foreign countries
characterized by high living costs. The complexity of these provisions,
however may have negated some of the tax benefits.

The Economic Recovery Tax Act of 1981

The tax treatment of U.S. citizens abroad was again changed in 1981
with the passage of the Economic Recovery Tax Act (ERTA).[117] As
to citizens or residents of the U.S. living abroad, the ERTA was sche-
duled to become effective for taxable years beginning after December 31,
1981.[118]

The provisions of the new law, which appear under section 911 of
the IRC, must be elected by a qualifying taxpayer. Such an election
applies not only to the taxable year for which the election was intend-
ed, but to all subsequent taxable years as well.[119] The taxpayer
may revoke an election for any taxable year other than the taxable year
for which the election was made. However, if the revocation is made

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[117]P.L. 97-34, U.S. Code Services, Lawyers' Edition
(September 1981).

[118]ERTA, Section 115.

[119]IRC, Section 911(e)(1).

without the consent of the Commissioner, the taxpayer may not elect the provisions of section 911 again until the sixth taxable year subsequent to the taxable year of revocation.[120] An electing taxpayer who returns to the U.S. for a few years and then moves abroad again, need not make a new election. The original election would remain in effect.[121]

Eligibility Standards

To qualify for the special provisions under section 911, a U.S. citizen must demonstrate to the satisfaction of the Commissioner that his tax home is located in a foreign country,[122] and he has been a bona fide resident of that foreign country for a continuous period of time which includes an entire taxable year.[123] This bona fide residence test is essentially the same as that which was in effect under the prior law. Residents of the U.S. or U.S. citizens living abroad who do not qualify as bona fide residents may still qualify under a liberalized physical presence test. Rather than showing physical presence in a foreign country for 510 days during a period of eighteen consecutive months, the new law requires individuals to show only that they have been present in a foreign country for 330 days during a period of twelve

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[120]IRC, Section 911(e)(2).

[121]U.S. Congress, House, Economic Recovery Tax Act of 1981, HR 215, 97th Cong., 1st Sess. (1981), p. 203.

[122]IRC, Section 911(d)(1).

[123]IRC, Section 911(d)(1)(A).

consecutive months.[124] The 1981 ERTA also allowed individuals

paid by the U.S. government or an agency thereof to receive the exclu-

sion benefits as long as they are not employees of the U.S. or an agency

thereof.[125] That is, these individuals would not be allowed any

benefits under section 912 (e.g., independent contractors and teachers

at schools for U.S. dependents). Individuals unable to satisfy the time

requirements because of civil unrest, war, or other adverse conditions

are to be allowed a prorata share of the section 911 benefits.[126]

Exclusion Amount

The provisions of the ERTA eliminate the deduction approach estab-

lished by the FEIA and allow instead an exclusion from gross income for

$75,000 of foreign earned income for taxable years beginning in 1982.

This exclusion will increase by $5,000 each year until 1986 when the

exclusion will stabilize at $95,000 of foreign earned income.[127]

As before, the exclusion is computed on a daily basis[128] and

amounts received are considered to be received in the taxable year in

which services are performed.[129] Moreover, no deductions,

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[124]IRC, Section 911(d)(1)(B).

[125]HR 215, 97th Cong., 1st Sess. (1981), p. 204.

[126]IRC, Section 911(d)(4).

[127]IRC, Section 911(b)(2)(A).

[128]Ibid.

[129]IRC, Section 911(b)(2)(B).

exclusions, or credits are allowable against income excluded by reason of section 911.[130]

Each member of a married couple may determine their exclusion separately, as long as they each qualify.[131] For those married couples subject to community property laws, the excludable amounts for each are computed as if their earnings were not community income.[132]

Foreign Earned Income Defined

The definition of foreign earned income is substantially the same as before the change. Such income includes all wages, salaries, and professional fees received for services performed abroad. Amounts received which represent a distribution of corporate earnings or profits do not qualify.[133] Neither do amounts received from pensions or annuities, nonexempt employees' trusts, or nonqualified annuities constitute foreign earned income.[134] In addition, amounts paid by the U.S. government or an agency thereof do not qualify if such amounts are paid to an employee of the U.S. government or an agency thereof.[135] For taxpayers engaged in a trade or business in which

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[130]IRC, Section 911(d)(6).

[131]HR 215, 97th Cong., 1st Sess. (1981), p. 203.

[132]IRC, Section 911(b)(2)(C).

[133]IRC, Section 911(d)(2)(A).

[134]IRC, Section 911(b)(1)(B).

[135]IRC, Section 911(b)(1)(B)(ii).

personal services as well as capital are material factors in the production of income, a reasonable amount not in excess of thirty percent of that taxpayer's share of net profits will be considered foreign earned income.[136]

Housing Costs

A separate election may be made to exclude from gross income an individual's "housing cost amount"[137] when housing expenses are provided by the employer. The housing cost amount is equal to the amount by which housing expenses exceed sixteen percent of the salary of a U.S. government employee at step 1 of grade GS-14, computed on a daily basis.[138] Presently, this salary is $37,871 which would yield a base housing amount of $6,059.[139]

Housing expenses include all reasonable amounts paid for housing in a foreign country for a qualifying taxpayer, his spouse, and his dependents.[140] Such amounts include operating expenses such as utilities and insurance,[141] but not expenses deductible under other provisions of the Code, such as interest and taxes.[142] Lavish

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136[IRC, Section 911(d)(2)(B).

137[IRC, Section 911(a)(2).

138[IRC, Section 911(c)(1).

139[HR 215, 97th Cong., 1st Sess. (1981), p. 204.

140[IRC, Section 911(c)(2)(A).

141[IRC, Section 911(c)(2)(A)(i).

142[IRC, Section 911(c)(2)(A)(ii).

or extravagant expenses are not considered to be reasonable.[143]
As under prior law, housing expenses incurred to maintain a second
household apart from the taxpayer because of dangerous, unhealthful, or
adverse living conditions are eligible for the housing exclu-
sion.[144]

For taxpayers who are not provided housing expenses by an employer,
the "housing cost amount" may be taken as a deduction toward adjusted
gross income in lieu of the housing exclusion.[145] But this deduc-
tion is limited to an amount by which the foreign earned income during
the taxable year exceeds the annual exclusion rate (i.e., $75,000 in
1982).[146] Amounts disallowed in any taxable year due to this
limitation may be carried over one year (and one year only) as a deduc-
tion.[147] However, carried over amounts are deductible only to the
extent housing expenses exceed the annual exclusion rate and the current
year's deduction for housing.[148]

Employees Living in Camps

Rather than allowing an optional exclusion to employees residing in
camps abroad, the new law treats these individuals just as any other

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[143]IRC, Section 911(c)(2)(A).

[144]IRC, Section 911(c)(2)(B)(ii).

[145]IRC, Section 911(c)(3)(A).

[146]IRC, Section 911(c)(3)(B).

[147]IRC, Section 911(c)(3)(C)(i).

[148]IRC, Section 911(c)(3)(C)(ii).

U.S. taxpayer in a foreign country; that is, they are eligible for the same exclusion. In addition, U.S. taxpayers living in a camp abroad may exclude the value of meals and lodging provided by their employers from their gross incomes.[149]

To qualify as a camp in a foreign country, lodging must satisfy three criteria. First, the lodging must be for the employer's convenience because the area in which services are performed by the employee is remote and offers no satisfactory housing.[150] Second, the lodging must be located near the place at which services are rendered.[151] And third, the lodging must be in a common area which accommodates at least ten employees and is not available to the general public as housing.[152] The major change from the prior law is that a camp no longer must be in a hardship area, nor must it be considered substandard lodging.

Summary

The ERTA of 1981 unquestionably expanded the tax benefits of many American employees abroad. The exclusion was reinstated and also substantially increased from its pre-1976 level. Moreover, the housing deduction available under the old law was modified and retained. Finally, the eligibility requirements were relaxed making the exclusion available to more individuals.

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[149]IRC, Section 119(c)(1).

[150]IRC, Section 119(c)(2)(A).

[151]IRC, Section 119(c)(2)(B).

[152]IRC, Section 119(c)(2)(C).

CHAPTER 4

THE DATA

Any empirical research must be concerned with securing good data
to analyze. The purpose of this chapter is to discuss the data select-
ed, to present and evaluate the various data assumptions, and to vali-
date the data by demonstrating their relationship with other data
sources. A short conclusion evaluating the overall validity of the data
will be presented at the end of the chapter.

Selection of Data

The purpose of this study is to determine whether changes in the
taxation of foreign earned income have any effect on the presence of
American employees abroad. The ideal data source for investigating such
a relationship would specify the number of Americans employed abroad
during each of the last several years. This data source would further
partition these individuals abroad according to the foreign country in
which they were employed. Unfortunately, such information is not avail-
able. Several data sources, therefore, were scrutinized as potential
surrogates for this ideal, but nonexistent, data source.

Report of Americans Residing Abroad

One of the first considerations as a possible surrogate was a pub-
lication of the U.S. Department of State which estimates the number of
Americans residing in various foreign locations.[1] This information

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[1] U.S. Department of State, Annual Report of Americans Abroad
(available issues include 1972-73, 1975-77, and 1980).

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is periodically submitted to the State Department by the U.S. service posts in the foreign countries.

The basic shortcoming of the report is that it estimates the total number of Americans living abroad. Consequently, U.S. government employees and their dependents, U.S. military personnel, and American retirees are also included in the tally. The inclusion of these Americans, who are not affected by changes in the federal tax laws under consideration in this study, lessens the suitability of this data source as a potential surrogate.

In addition, the estimates in the report are inaccurate, sometimes grossly so.[2] For example, the estimates submitted by the foreign service post in Caracas, Venezuela includes everyone who has either registered or secured a U.S. passport at the U.S. Embassy in Caracas within the last ten years.[3] No doubt, some of these individuals have since died or otherwise left the country. But the estimates for Caracas continue to reflect the ten-year cumulative total. Moreover, the estimates also reflect a number of individuals more closely identified with Venezula than with the U.S. such as those born in the U.S. of Venezuelan parents and those born in Venezuela of at least one U.S. parent.[4]

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[2]U.S. Congress, Senate, Committee on Finance, Subcommittee on Taxation and Debt Management Generally, Testimony of Thomas L. Hughes, Taxation of Foreign Earned Income, 96th Cong., 2nd Sess. (1980), p. 254.

[3]Ibid., pp. 254-55.

[4]Ibid., p. 255.

Another problem with this data source is that the report for some years either is not now available or was never published because of budgetary constraints. The available reports include the fiscal years 1972-73, 1975-77, and 1980. Two years which would be critical to this study, 1978 and 1979, are conspicuously missing. Because of these missing reports, the aforementioned inaccuracies, and the essential nature of the estimates (i.e., number residing, not working abroad), this State Department publication was rejected as a suitable surrogate for U.S. citizens working abroad.

Business International Survey

An annual survey by the Business International Corporation was likewise considered as a possible data source.[5] The purpose of their study was to assess the impact of U.S. foreign investment on the U.S. economy. In other words, they attempted to determine whether investment abroad by U.S. firms has had a positive or a negative impact on such things as our balance of payments. This determination was accomplished via a mailed questionnaire to over 100 manufacturing and petroleum companies heavily engaged in operations abroad.

Because a portion of the survey solicited information concerning the number of U.S. citizens employed abroad, the responses to these particular questions were thought to be potentially useful. But further investigation of the questionnaire instrument indicated that the same

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[5]Business Interntional Corporation, The Effects of US Corporate Foreign Investment, 1970-79 (New York: BIC, 1981).

firms were not surveyed every year; thus, the data were not comparable over the several years of interest. Furthermore, no provision in the questionnaire was allowed for segregating the response by foreign countries, a desirable quality as will be later discussed. But even beyond these shortcomings, an inquiry of the executive officer primarily responsible for the survey indicated that the responses were highly confidential and could not be released.[6]

Statistics of Income

The Internal Revenue Service (IRS) was also sought as a potential source for information. A recently released IRS publication presenting various statistics of foreign income and taxes reported on individual tax returns was evaluated as a suitable surrogate.[7] The foreign income statistics in the report were partitioned by the foreign country in which the income was earned for the taxable year of 1975 only. Moreover, further inquiry revealed that similarly partitioned data was not available for tax years from 1976 to 1980. Plans did call for a similar presentation of 1979 foreign income and taxes. But such information was not expected to be available before the latter half of 1982.[8]

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[6]Letter from William Persen, Senior Vice President, Business International Corporation.

[7]Internal Revenue Service, Statistics of Income--1972-1978, International Income and Taxes, Foreign Income and Taxes Reported on Individual Income Tax Returns (Washington, D.C.: U.S. Government Printing Office, 1981).

[8]Letter from Daniel F. Skelly, Chief of the Foreign Statistics Section of the IRS.

But even beyond the lack of data for several tax years, the forth-
coming 1979 data will be highly misleading in some respects. The
Commissioner of Revenue granted many taxpayers abroad a one-year exten-
sion in filing their 1978 tax return because of the unexpected changes
in the tax law that year. Consequently, many Americans working abroad
did not file a return for 1978 but instead delayed filing their 1978
return until 1980. Furthermore, the representativeness of the data is
suspect because the sample of tax returns selected for inclusion was
stratified according to a gross income criterion rather than by the
foreign country in which the income was earned. Consequently, the data
are most useful in drawing inferences about taxpayers abroad at various
gross income levels rather than inferences about taxpayers abroad in
various foreign countries. This was considered to be a very significant
data limitation by those who prepared the report.[9] Because of the
lack of data for the years of interest and the questionable representa-
tiveness of the data, this source was rejected as a possible surrogate.

Mailed Questionnaires

Consideration was also given to developing a questionnaire which
could be mailed to the home offices of various international firms.
Such a questionnaire would solicit information on the number of U.S.
citizens employed abroad by the firms over the last several years.

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[9]Telephone conversation with the preparer of the report, David P.
Paris, Foreign Statistics Section of the IRS.

Moreover, these figures would be requested individually for each of the foreign countries in which the firms had operation.

However, eight telephone calls to the personnel directors of international firms with home offices in Virginia as well as an interview with Rodgers Construction, Inc., an international firm headquartered in Tennessee, indicated that the overseas personnel data could not be obtained. The personnel officer in each firm stated that the personnel records needed to answer such questions are not maintained. Consequently, it was decided that a mailed questionnaire would yield an unsatisfactory response rate.

Passport Data

Finally, a workable surrogate for the number of U.S. citizens employed abroad was discovered--the annual number of U.S. passports issued.[10] Strictly speaking, passport data are useful surrogates only for the number of individuals traveling to foreign locations, not for those returning to the U.S. Thus, passport data will not indicate what effect a change in taxes may have had on U.S. expatriates already employed in foreign countries at the time of the change. But despite this shortcoming, information about passport recipients and their intentions should provide substantial insight into the research question. Any policy modification of U.S. international firms in sending less American employees abroad because taxes have made them too costly

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[10]Using passport data in this capacity was first suggested by Jennifer D. Milre in Taxation and the Size of the American Labor Force Overseas: A Demographic Analysis of Changes, Causes, Consequences, and Prospects, 1979.

or in sending more American employees abroad because taxes have made them less costly may be expected to cause a corresponding shift in the number of new passports issued.[11]

Much of the passport data to be utilized in this research is available from a quarterly report entitled Summary of Passport Statistics and the annual supplement to this report.[12] These sources portray the passports issued during the calendar year in several cross-classification tables. The supplement to the report in particular categorizes passport issuances by the object of travel and by the proposed length of stay of the recipient.

Additional passport data which may be categorized by the object of travel and by the foreign country of destination was also supplied by the U.S. Department of State upon request. This latter data has not previously been published.

Data Assumptions

The use of the passport data cited in the preceding section requires various assumptions. To understand these assumptions, however, one should first have some understanding of how a passport may be obtained and over what period of time the passport may be used.

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[11]Passports are official government documents which permit an individual to travel abroad and serves as identification for the individual while so traveling.

[12]U.S. Department of State, Bureau of Consular Affiars, Passport Services, Summary of Passport Statistics (1973-80).

An application for a passport may be secured from a Passport Agency; a Federal, State, or probate court; or in some cases, a U.S. Post Office. The application must be completed and personally returned to one of these places. Two recent identical photographs of the applicant must accompany the passport application. These photographs must meet certain detailed requirements pertaining to things such as size, appearance of the applicant, and quality of the paper. In addition, the applicant must produce positive identification. The current cost of a passport is $10 plus a $4 execution fee.

Unless otherwise limited by the Secretary of State, passports are valid for travel abroad for five years. Since 1968, passports have not been renewable; instead, an application for a new passport must be submitted upon expiration of the old passport.

The first assumption concerning the passport data is that individuals who use their passports for additional trips abroad do not significantly distort the data. As will be explained later, this research study will deal primarily with passport recipients who intend to stay abroad for at least one or two years. Therefore, our concern must be with these long-term travelers and whether they are using their passports for more than one long-term trip abroad.

The passport data do lend support to this first assumption. In 1980, for example, only 20.1% of passport recipients intending to stay abroad at least one year indicated they expected to take a second trip

abroad within one to five years (i.e., before their passport expired).[13] Moreover, only 14.3% of passport recipients intending to stay abroad at least two years indicated they expected to travel abroad again within two to five years.[14] The reader should be warned that these figures are maximum estimates because a number of those expecting a second trip abroad on the same passport probably returned to the same foreign country as specified on their passport application. This would especially be true for those who planned to take a short leave of absence from their job, school, or other activity abroad.

The passport data agree with this supposition. Approximately 6.7% of 1980 passport recipients intending to stay abroad at least two years also expected to take a second trip abroad within the same two years![15] How can this be? Apparently, many applicants planning to take a furlough to the U.S. considered their subsequent return trip to the same foreign country to be their next trip abroad (and perhaps rightfully so). The point is that the 20.1% or 14.3% estimates of long-term travelers who intended to take a second trip abroad on the same passport are maximum estimates. The actual percentages are likely much lower. In fact, the head statistician at the Passport Office stated

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[13]U.S. Department of State, Bureau of Consular Affairs, Passport Services, Unpublished passport data.

[14]Ibid.

[15]Ibid.

that few passport recipients take more than one extended trip abroad on
the same passport unless they are in the military or unless they are
military dependents.[16]

A further assumption concerns the replacement of expired passports.
As previously mentioned, passports are valid for five years. Each year,
therefore, it is reasonable to expect some individuals who are already
abroad to apply for a new passport simply because their old passport has
expired. Even so, the number of these "replacement" passports is not
likely to be very large relative to the total number of passports issued
since well over half of all passport recipients have never had a pre-
vious passport.[17] Nevertheless, if these "replacement" passports
became bunched in one or two years, a distortion in the passport data
might occur. Consequently, any replacements of expired passports will
be assumed randomly distributed over time and, thus, assumed not to
seriously bias the data. This assumption seems reasonable because of
the large number of passports issued annually as well as the ongoing
nature of these issuances.

The third assumption is that the spouse and other dependents who go
abroad with an individual who has accepted employment in a foreign coun-
try do not distort the passport data by obtaining separate passports and
indicating on their applications that their purpose for traveling abroad
likewise is because of employment. Such a distortion seems unlikely

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[16]Telephone conversation with Landy Moore, Statistician in the
Passport Office, U.S. Department of State.

[17]Summary of Passport Statistics, Table 14.

since a few employees in this situation attempt to include these other members of the family in their own passport, thereby saving a $14 passport/execution fee for each additional person. Moreover, those who do obtain separate passports for each family member normally do not state a purpose for traveling abroad on these additional passport applications.[18]

The fourth assumption is that passports were used during the year they were issued, and any discrepancies are compensated for by carryovers from the preceding year. Admittedly, some passports are secured late in the year for use early in the following year. But the number of passports issued from October 1 to December 31 tends to be a relatively small percentage of the total passports issued annually. Moreover, this percentage has remained rather constant from one year to the next. Fourth quarter issuances have been 15.7%, 17.6%, 15.9%, 15.5%, and 16.6% of total annual passports issued during the years 1975 through 1979, respectively.[19] Consequently, the number of passport issuances during a particular year that are not used until the following year would tend to be small relative to total passport issuances as well as constant from one year to the next.

Finally, the proposed travel plans of the passport applicants will be assumed accurate. Since this information is completely voluntary, and no reason to lie is evident, this assumption appears reasonable.

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[18]Telephone conversation with the passport agent at the Montgomery County Court House in Christiansburg, Virginia.

[19]Summary of Passport Statistics, Table 15.

The following section presents evidence which lends support to the aforementioned assumptions.

Validation of Passport Data

The purpose of this section will be to validate the passport data described earlier in this chapter. The validation will be accomplished by calculating the degree of association between various portions of the passport data and several other data sources which, a priori, would seem to be positively related.[20] These other data sources include export statistics collected by the U.S. Department of Commerce,[21] air travel statistics collected by the U.S. Department of Transportation,[22] and tourism statistics collected by the World Tourism Organization.[23]

The procedure adopted to calculate the degree of association will be Spearman's rank correlation coefficient. This procedure was chosen because the test statistic is distribution-free (i.e., normality of the data is not essential). The only assumptions required for Spearman's

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[20]Unless otherwise indicated, all tests for association in this chapter will be one-sided. The alternative hypothesis in each case will be that the variables in question are positively associated.

[21]U.S. Department of Commerce, Industry & Trade Administration, International Economic Indicators; U.S. Department of Commerce, U.S. Bureau of the Census, U.S. Exports/World Areas by Schedule E Commodity Groupings, Report 455.

[22]U.S. Department of Transportation, Transportation Information Management Division, U.S. International Air Travel Statistics.

[23]World Tourism Organization, Summary and Analysis of International Travel To/From the U.S.

correlation are that the bivariate observations be mutually independent and that these bivariate observations be from the same continuous distribution.[24] These assumptions appear to be satisfied by each group of data to follow. Appendix A provides a more complete description of Spearman's rank correlation coefficient.

Because each of the correlations to follow involve some portion of the passport data as one of the variables, the resulting correlation coefficients will be statistically related to each other.[25] Thus, if the several null hypotheses of no association are attacked separately, misleading conclusions might ensue. In particular the type I error[26] will be greater than actually desired (i.e., greater than the individually specified alpha levels). To avoid this pitfall, the hypotheses should be tested simultaneously.[27] The hypotheses must be either accepted or rejected based on one overall significance level which takes into account the number of related hypotheses to be tested.

In total twelve correlation coefficients will be computed in this chapter. The significance level chosen for testing is .15. This

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[24]Jean Dickenson Gibbons, Nonparametric Statistical Inference (New York: McGraw-Hill, 1971), pp.226-28.

[25]Donald R. Jensen, G. B. Beus, and George Storm, "Simultaneous Statistical Tests on Categorical Data," The Journal of Experimental Education, 4 (Summer 1968), 46.

[26]When testing several related hypotheses, the type 1 error is defined as the probability of rejecting one or more true hypotheses. Though the assumptions required by Kendall's tau coefficient are essentially the same as those required by Spearman's rank correlation coefficient, the Spearman statistic was chosen because it is easier to compute.

[27]Jensen.

seemingly high significance level is justified because of the number of

hypotheses being simultaneously tested.[28] The significance level

for testing each of the twelve hypotheses will be .15/12 or .0125.

The actual critical value depends on both the degrees of freedom

and the number of related hypotheses. With one exception, however, a

large sample normal approximation (LSNA) for the Spearman's rank corre-

lation coefficient will be computed. Accordingly, the critical value

from a table yielding the area under a normal curve for a one-sided test

is 2.24. For the tests which follow, both Spearman's statistic and the

LSNA will be given.

Export Statistics

Numerous testimonies before Congress as well as the conclusions of

a 1978 Treasury Department study, a 1978 General Accounting Office

study, a 1980 American Chamber of Commerce study, and a report by the

President's Export Council on Export Expansion indicate that American

employment abroad has a significant impact on the level of U.S. exports.

These testimonies and conclusions were presented in Chapter 1 and need

not be repeated here. The basic idea, however, is that the available

evidence strongly supports the contention that a positive relationship

exists between the number of Americans working in a particular foreign

country and the volume of U.S. exports to that country. If the number

of passports issued to Americans with a business purpose abroad is a

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[28]Rupert G. Miller, Jr., Simultaneous Statistical Inference,
2nd ed. (New York: Springer-Verlag, 1981), p. 68.

good surrogate for the number of Americans employed abroad, then some positive relationship should also exist between business passports and U.S. exports. Correlation coefficients were computed to test for such a relationship.

The first test conducted was for the association between the United States' share of worldwide manufactured exports[29] and the number of passports issued for business purposes during each year from 1972 to 1977. The data are given in Table 4. Note how each variable increases until 1975 and thereafter declines. The correlation between the U.S. share of manufactured exports and the number of passports issued for business purposes was 1.00 (i.e., perfectly correlated) regardless of whether business passports were defined in terms of a one-year or a two-year stay abroad.

The number of business passports issued to individuals traveling to twenty-nine individual countries was also compared to the level of U.S. exports of manufactured goods to those countries for the years 1978 and 1980. The resulting correlations were .66 (LSNA = 3.47 > 2.24) and .77 (LSNA = 4.10 > 2.24), respectively. These results suggest a strong positive relationship between these two variables. The data are given in Table 5.

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[29]Inflation almost guarantees an overall upward trend in U.S. exports. To adjust for this upward bias, a source expressing U.S. manufacturing exports as a percentage of world exports was used.

TABLE 4

RELATIONSHIP BETWEEN BUSINESS PASSPORTS ISSUED
AND U.S. SHARE OF MANUFACTURED EXPORTS[a]

| Year | U.S. Share of Manufactured Exports | Business Passports Issued (000's) | |
		More Than 1 Year	More Than 2 Years
1972	16.3%	5.0	2.4
1973	16.7%	11.1	6.4
1974	17.7%	24.2	14.0
1975	18.9%	29.1	16.9
1976	18.3%	25.0	14.4
1977	17.6%	16.1	9.6

[a]The correlation between the U.S. share of manufactured exports and the number of passports issued for business purposes is 1.0 (i.e., perfectly correlated) regardless of whether business passports are defined as one-year or two-year stays abroad.

Sources: U.S. Department of Commerce, Industry & Trade Administration, International Economic Indicators.
Computed from U.S. Department of State, Summary of Passport Statistics (Supplement), Table 5.

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TABLE 5

RELATIONSHIP BETWEEN THE NUMBER OF PASSPORTS ISSUED
FOR BUSINESS PURPOSES AND THE LEVEL OF
U.S. MANUFACTURED EXPORTS TO VARIOUS COUNTRIES[a]

	1978 Business Passports Issued	1978 U.S. Manufactured Exports (000,000's)	1980 Business Passports Issued	1980 U.S. Manufactured Exports (000,000's)
Argentina	123	734.3	210	2,229.0
Australia	318	2,142.5	435	3,660.4
Austria	469	215.7	465	350.9
Belgium/Lux.	628	2,485.2	635	4,160.0
Brazil	415	2,178.4	398	3,235.0
Colombia	178	851.3	190	1,345.4
Denmark	337	315.0	309	510.5
Egypt	189	486.9	206	845.7
France	2878	3,146.7	2463	5,677.4
Germany	2865	4,433.9	2723	7,389.1
Greece	382	284.1	336	416.4
Hong Kong	463	1,090.5	553	1,935.0
India	125	584.5	143	1,227.2
Ireland	338	432.2	226	719.8
Italy	1812	1,673.4	1466	3,168.7
Japan	1166	4,771.2	1170	8,573.8
Korea	296	1,288.0	314	1,922.6
Netherlands	817	2,572.7	710	3,976.9
New Zealand	133	332.6	170	506.3
Norway	232	347.8	191	556.4
Panama	123	345.4	116	528.9
Philippines	266	739.7	286	1,577.2
Portugal	132	94.9	180	241.1
Saudi Arabia	615	3,464.1	636	4,699.1
Sweden	439	852.7	364	1,361.1
Switzerland	1426	1,187.3	1139	2,615.6
Thailand	117	370.3	201	848.5
United Kingdom	4184	4,932.1	3887	9,154.0
Venezuela	277	3,167.8	338	3,525.9

[a]The correlations between the number of business passports issued and U.S. manufactured exports for 1978 and 1980 are .66 (LSNA = 3.47 > 2.24) and .77 (LSNA = 4.10 > 2.24), respectively.

Sources: Computed from U.S. Department of Commerce, Bureau of the Census, U.S. Exports/World Areas by Schedule E Commodity Groupings, Report 455.
Computed from U.S. Department of State, Unpublished passport data.

Notwithstanding these high correlation coefficients, these rela-
tionships could instead be spurious[30] (i.e., caused by an extraneous
third factor). Therefore, similar tests were conducted for association
between the U.S.'s share of worldwide manufactured exports and the num-
ber of passports issued for nonbusiness purposes. If a nonsignificant
relationship between these two variables is evident, this will lend
further support to the supposition that a strong relationship exists
between U.S. manufactured exports and business passports.

The data used in calculating the association between the U.S.'s
share of manufactured exports and passports issued for nonbusiness pur-
poses are given in Table 6. The correlation coefficient is .20 (LSNA =
1.07 < 2.24) when the 1978 data are used and .27 (LSNA = 1.41 < 2.24)
when the 1980 data are used. Both statistics are nonsignificant, pro-
viding stronger support for the validity of the relationship between
U.S. manufactured exports and business passports.

To summarize, several sources cited in Chapter 1 contend that a
positive relationship exists between U.S. exports and the number of
Americans working abroad. If business passports are to be a suitable
surrogate for these American workers, a positive relationship could also
be reasonably expected between business passports and U.S. exports.
Such a relationship seems evident on a worldwide basis as well as when
these variables are partitioned by foreign countries.

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[30]John H. Mueller, Karl F. Schuessler, and Herbert L. Costner,
Statistical Reasoning in Sociology, 3rd ed. (Boston: Houghton Mifflin,
1977), pp. 270-71.

TABLE 6

RELATIONSHIP BETWEEN THE NUMBER OF PASSPORTS ISSUED
FOR NONBUSINESS PURPOSES AND THE LEVEL OF
U.S. MANUFACTURED EXPORTS TO VARIOUS COUNTRIES[a]

	1978 Nonbusiness Passports Issued	1978 U.S. Manufactured Exports (000,000's)	1980 Nonbusiness Passports Issued	1980 U.S. Manufactured Exports (000,000's)
Argentina	320	734.3	479	2,229.0
Australia	1023	2,142.5	1706	3,660.4
Austria	6702	215.7	7843	350.9
Belgium/Lux.	2584	2,485.2	3156	4,160.0
Brazil	942	2,178.4	999	3,235.0
Colombia	685	851.3	744	1,345.4
Denmark	2501	315.0	2147	510.5
Egypt	1446	486.9	1919	845.7
France	18444	3,146.7	16658	5,677.4
Germany	16743	4,433.9	18268	7,389.1
Greece	5174	284.1	4383	416.4
Hong Kong	1524	1,090.5	1998	1,935.0
India	501	584.5	726	1,227.2
Ireland	4643	432.2	2514	719.8
Italy	15207	1,673.4	13700	3,168.7
Japan	2556	4,771.2	2943	8,573.8
Korea	463	1,288.0	648	1,922.6
Netherlands	5240	2,572.7	5061	3,976.9
New Zealand	734	332.6	1296	506.3
Norway	1755	347.8	1780	556.4
Panama	424	345.4	515	528.9
Philippines	1082	739.7	1465	1,577.2
Portugal	1538	94.9	1710	241.1
Saudi Arabia	158	3,464.1	194	4,699.1
Sweden	2459	852.7	2447	1,361.1
Switzerland	12001	1,187.3	10951	2,615.6
Thailand	568	370.3	674	848.5
United Kingdom	24297	4,932.1	21540	9,154.0
Venezuela	642	3,167.8	854	3,525.9

[a]The correlations between the number of nonbusiness passports issued and U.S. manufactured exports for 1978 and 1980 are .20 (LSNA = 1.07 < 2.24) and .27 (LSNA = 1.41 < 2.24), respectively. Thus, the relationship between these two variables is not significant.

Air Travel Statistics

If the passport data is to reliably approximate foreign business travel to specific countries, a positive relationship should exist between the total number of passports issued to individuals traveling to particular foreign countries as reported by the U.S. Department of State and the number of American citizens arriving in those countries as reported by the U.S. Department of Transportation. Of course, some incongruencies will exist between these two data sets just because of the nature of the data and the manner in which the data are collected. For instance, the air travel statistics represent only the first area destination. Some travelers, therefore, may land in the United Kingdom for the sole purpose of switching aircraft before continuing on to their real destination on the European mainland. The Department of Transportation would have recorded such an individual as a traveler to the United Kingdom rather than as a traveler to the actual country of destination. This at least partially accounts for the fact that the number of passports issued exceeds the arrivals of U.S. citizens in some European and Asian countries.

Though such discrepancies might tend to reduce the degree of similarities between the two variables, a significant relationship was still expected. Passport issuances were tested for association with foreign country arrivals for 31 countries during each of the four years comparable data was available, 1976 through 1979. The correlation coefficients obtained for each year were .75 (LSNA = 4.11 > 2.24), .72 (LSNA = 3.95 > 2.24), .70 (LSNA = 3.80 > 2.24), and .72 (LSNA = 3.95 > 2.24), respectively. These data are given in Table 7. To increase the

TABLE 7

RELATIONSHIP BETWEEN TOTAL PASSPORTS ISSUED
AND FOREIGN COUNTRY ARRIVALS[a]
(EXPRESSED AS PERCENTAGES OF TOTALS)

	Total Passports Issued				Foreign Arrivals			
	1976	1977	1978	1979	1976	1977	1978	1979
Argentina	.28	.22	.17	.23	.50	.51	.59	.63
Australia	.85	.66	.51	.75	1.07	1.05	1.14	1.51
Austria	4.40	4.17	5.32	4.50	.45	.47	.32	.39
Belgium	2.08	1.56	1.15	1.37	1.65	1.23	1.05	1.68
Bolivia	.09	.08	.06	.08	.15	.16	.19	.18
Brazil	.77	.63	.47	.56	2.12	2.18	2.29	2.23
Chile	.13	.11	.07	.12	.24	.24	.28	.33
Colombia	.65	.48	.32	.42	2.00	1.89	1.86	1.99
Denmark	1.68	1.27	.95	.97	2.38	2.31	2.02	2.08
Finland	.39	.29	.23	.25	.31	.27	.28	.26
France	13.92	15.22	16.94	17.05	7.12	7.09	6.58	6.66
Germany	14.43	16.78	19.66	19.87	11.58	11.42	10.96	10.95
Greece	2.71	2.97	4.28	3.85	3.21	3.19	3.21	3.51
Hong Kong	1.10	.92	.77	.88	1.01	.71	1.03	1.81
India	.32	.30	.27	.36	.45	.50	.61	.68
Ireland	2.33	3.18	3.46	4.93	3.35	3.45	3.30	3.58
Italy	11.13	10.13	7.20	7.30	7.45	7.52	7.38	7.37
Japan	2.27	2.06	1.60	1.78	7.96	7.41	6.62	6.73
Korea	.47	.44	.41	.52	.58	.70	.69	1.06
Netherlands	4.38	4.33	5.69	5.46	4.19	4.30	3.89	4.16
Norway	1.18	.92	.71	.74	.51	.45	.35	.30
Peru	.40	.33	.20	.28	.89	.99	.83	.83
Philippines	.92	.85	.74	.88	1.54	1.44	1.67	1.55
Portugal	.58	.71	.73	.75	1.06	1.44	1.60	1.67
Spain	4.07	3.30	2.64	2.70	4.60	4.18	4.49	3.86
Sweden	2.48	4.95	8.55	6.97	.28	.35	.37	.48
Switzerland	8.95	7.95	4.90	4.44	4.40	4.61	3.74	3.09
Taiwan	.81	.72	.66	.86	.53	.53	.66	.58
Thailand	.42	.34	.26	.25	.10	.05	.04	.02
U.K.	15.20	13.64	10.75	10.47	26.14	27.28	29.98	27.76
Venezuela	.64	.50	.32	.41	2.18	2.07	2.02	2.09
	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

[a]The correlations between total passports issued and foreigh country arrivals are .75 (LSNA = 4.11 > 2.24), .72 (LSNA = 3.95 > 2.24), .70 (LSNA = 3.80 > 2.24), and .72 (LSNA = 3.95 > 2.24) for 1976 through 1979, respectively.

Sources: Computed from U.S. Department of Transportation, U.S. International Air Travel Statistics.
Computed from U.S. Department of State, Summary of Passport Statistics, Table 5.

comparability between the two variables for the casual observer, passport issuances and foreign arrivals are expressed as a percentage of the total for each year.

In addition, the percentage changes in passport issuances and foreign arrivals over the same four year period were tested for association using the same 31 countries. The resulting correlation coefficient was .61 (LSNA = 3.33 > 2.24). These data are given in Table 8.

The degree of association between the number of annual passports issued and the number of American arrivals abroad as well as the degree of association between the changes in these variables over time present strong evidence that the passport data satisfactorily reflect the amount of travel to various foreign countries. Even though the number of passports issued is different from foreign arrivals, a proportional relationship does seem to exist.

Tourism Statistics

The World Tourism Organization collects and publishes tourist statistics. Most of their information on tourism is obtained separately from each foreign country. Though various countries may use different methods to collect the necessary data, tourist arrivals should be associated with passport issuances to U.S. citizens traveling abroad for pleasure purposes. These two sets of data were tested for association using thirty foreign countries for 1977 (the only year both sets of data are available). The resulting correlation coefficient was .79 (LSNA = 4.25 > 2.24). Consequently, it appears that a strong, positive relationship does exist between tourist arrivals abroad and passports issued

TABLE 8

RELATIONSHIP BETWEEN PERCENTAGE CHANGE
IN TOTAL PASSPORTS ISSUED AND PERCENTAGE CHANGE
IN FOREIGN COUNTRY ARRIVALS, 1976-79[a]

	Total Passports Issued	Foreign Arrivals
Argentina	-30.8	53.2
Australia	-24.6	72.9
Austria	-12.8	6.6
Belgium	-43.8	24.5
Bolivia	-18.1	44.2
Brazil	-37.6	28.7
Chile	-23.2	65.8
Colombia	-44.2	21.8
Denmark	-50.4	7.4
Finland	-45.4	4.7
France	4.5	14.7
Germany	17.4	15.9
Greece	21.3	33.9
Hong Kong	-31.6	119.6
India	- 6.4	86.0
Ireland	80.8	31.1
Italy	-44.0	21.4
Japan	-32.9	3.8
Korea	- 5.2	123.9
Netherlands	6.5	22.0
Norway	-46.7	-28.2
Peru	-39.9	13.6
Philippines	-18.2	24.1
Portugal	10.2	93.2
Spain	-43.3	2.9
Sweden	139.6	111.7
Switzerland	-57.7	-13.7
Taiwan	- 9.9	35.6
Thailand	-50.3	-74.6
United Kingdom	-41.2	30.3
Venezuela	-45.4	17.3

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[a]The correlation between the change in total passports issued and foreign arrivals is .61 (LSNA = 3.33 > 2.24) indicating that changes in these two variables are positively related over time.

Sources: Computed from U.S. Department of Transportation, U.S. International Air Travel Statistics.
Computed from U.S. Department of State, Summary of Passport Statistics, Table 5.

to individuals traveling for pleasure. The data are reported in Table 9 and, to increase comparability, are expressed as percentages of the total for all countries.

As with the correlations using the export statistics, the strong relationship found above could be spurious. A similar test for association, therefore, was conducted between tourist arrivals and passports issued for business purposes. A nonsignificant relationship between these variables would strengthen the evidence presented above for a significant relationship between tourist arrivals and pleasure passports. Using the data in Table 10, the correlation coefficient, however, was found to be .76 (LSNA = 4.07 > 2.24). Thus, the purity of the data is not clear in this case. The relationship between tourist arrivals abroad and pleasure passports may be due to some extraneous factor.

Conclusion

The various assumptions made concerning the passport data do not seem overwhelming in light of the significant relationships such data possesses with related data sources. Passports issued to individuals traveling abroad on business were shown to bear a high degree of association with U.S. exports. This was expected since many have previously contended that American employees abroad have a positive effect on U.S. exports. Also, the number of individuals securing a passport to travel to particular foreign countries was demonstrated to be highly associated with American citizens arriving in these countries. Finally, the passports issued to individuals traveling to particular foreign countries for pleasure were shown to bear a high degree of association with

TABLE 9

RELATIONSHIP BETWEEN PASSPORTS ISSUED
TO INDIVIDUALS TRAVELING FOR PLEASURE PURPOSES
AND FOREIGN ARRIVALS OF U.S. TOURISTS DURING 1977[a]
(EXPRESSED AS PERCENTAGES OF TOTALS)

	Tourist Arrivals	Passports--Pleasure
Australia	.70	.91
Austria	1.20	5.73
Brazil	1.01	.85
Czechoslovakia	.40	.35
France	11.04	15.21
Germany	12.43	14.02
Greece	5.51	3.71
Guatamala	1.03	.42
Hong Kong	2.34	1.31
Hungary	.52	.40
India	.69	.28
Indonesia	.52	.17
Ireland	2.41	3.30
Israel	2.37	3.73
Italy	18.03	13.56
Japan	2.82	2.20
Korea	1.05	.29
Morocco	1.00	.53
New Zealand	.51	.73
Panama	.60	.40
Philippines	.68	.75
Poland	.48	.44
Portugal	.80	1.11
Spain	8.28	5.33
Thailand	1.14	.54
Turkey	1.52	.75
U.S.S.R.	.85	.75
United Kingdom	15.51	20.68
Venezuela	2.79	.71
Yugoslavia	1.79	.84
	100.00	100.00

[a]The correlation between tourist arrivals and passports issued for pleasure purposes is .79 (LSNA = 4.25 > 2.24).

Sources: Computed from World Tourism Organization, Summary and Analysis of International Travel To/From the U.S.
Computed from U.S. Department of State, Unpublished passport data.

TABLE 10

RELATIONSHIP BETWEEN PASSPORTS ISSUED
TO INDIVIDUALS TRAVELING FOR BUSINESS PURPOSES
AND FOREIGN ARRIVALS OF U.S. TOURISTS DURING 1977[a]
(EXPRESSED AS PERCENTAGES OF TOTALS)

	Tourist Arrivals	Passports--Business
Australia	.70	1.92
Austria	1.20	2.62
Brazil	1.01	2.21
Czechoslovakia	.40	.21
France	11.04	16.22
Germany	12.43	15.90
Greece	5.51	1.82
Guatamala	1.03	.49
Hong Kong	2.34	2.29
Hungary	.52	.24
India	.69	.51
Indonesia	.52	.50
Ireland	2.41	1.70
Israel	2.37	1.65
Italy	18.03	10.76
Japan	2.82	5.61
Korea	1.05	1.30
Morocco	1.00	.31
New Zealand	.51	.73
Panama	.60	.54
Philippines	.68	1.34
Poland	.48	.33
Portugal	.80	.60
Spain	8.28	3.51
Thailand	1.14	.60
Turkey	1.52	.49
U.S.S.R.	.85	.59
United Kingdom	15.51	22.92
Venezuela	2.79	1.66
Yugoslavia	1.79	.44
	100.00	100.00

[a]The correlation between tourist arrivals and passports issued for business purposes is .76 (LSNA = 4.07 > 2.24).

Sources: Computed from World Tourism Organization, Summary and Analysis of International Travel To/From the U.S.
Computed from U.S. Department of State, Unpublished passport data.

tourist arrivals in those countries. This last relationship, however, could be spurious since a similar relationship was also evident between individuals traveling on business to particular foreign countries and tourist arrivals in those same countries. The standardization technique[31] presented in the next chapter should help control any such spuriousness in the passport data.

Based upon the significant relationships between the passport data and related statistics compiled by other sources, the assumptions in this chapter do not appear unreasonable. Consequently, passports issued to individuals traveling abroad for a business purpose are concluded to be a good surrogate for the number of Americans employed in foreign countries.

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[31]Ibid., p. 271.

CHAPTER 5

METHODOLOGY

The purpose of this study is to determine whether changes in the
taxation of foreign earned income have any effect on the presence of
American employees in foreign countries. Having accepted the passport
data as a satisfactory surrogate for the number of Americans employed
abroad, the purpose of this chapter is to state the methodology which
will be utilized to examine the research question. The actual analysis
will be conducted in two stages. Stage one will focus on individuals
employed abroad on a long-term basis for all foreign countries combined.
The tax effect (if any) on U.S. citizens working abroad resulting from
both the 1976 TRA and the 1978 FEIA will be investigated. Stage two, on
the other hand, will be concerned with individuals traveling for busi-
ness reasons to specified types of foreign countries.

In each stage, total travelers are defined as those Americans expa-
triating for business, health, education, pleasure, religious, or scien-
tific reasons. However, for the research study at hand, these six
groups of travelers will be aggregated into two groups--those traveling
for business and those traveling for nonbusiness.

As demonstrated in Chapter 4, the passport data do reliably reflect
American travel abroad, both in total and for specified purposes. The
possibility of some spuriousness, however, was noted. In order to

purify the data from such spuriousness,[1] the number of passports

issued to individuals traveling for business purposes abroad will be

adjusted for the total number of passport recipients traveling

abroad.[2] This standardization procedure will neutralize many of the

factors which normally affect all travel abroad (e.g., strength of the

U.S. dollar against other currencies, foreign attitudes toward U.S.

visitors, and general popularity of residing abroad).

Stage One

Only U.S. citizens intending a long-term stay abroad are examined

in the first stage of analysis. A long-term stay will be operationally

defined in two ways--as a stay of greater than one year and as a stay of

greater than two years. Both definitions will be employed since prior

to the 1981 ERTA an individual was required to work abroad for a period

of time somewhere between one and two years in order to qualify for the

special tax benefits from earning foreign income.

Hypothesis One

Two hypotheses will be tested in stage one. The first hypothe-

sis[3] may be stated as follows:

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[1]John H. Moeller, Karl F. Schuessler, and Herbert L. Costner,
Statistical Reasoning in Sociology, 3rd ed. (Boston: Houghton-Mifflin,
1977), pp. 270-71.

[2]It would be equally logical to define total passports as those
issued for business or pleasure purposes and to standardize by this
total. The larger base was used simply because the additional data were
available at no cost.

[3]This general statement of the hypothesis will be narrowed in the
discussion to follow.

H_0: The presence of long-term American employees abroad did not change subsequent to the 1976 TRA.

H_1: The presence of long-term American employees abroad declined subsequent to the 1976 TRA.

The alternative hypothesis is one-sided because of the negative aspects of the 1976 TRA. Generally speaking, the TRA reduced the exclusion available to U.S. expatriates from $20,000 (or $25,000) to $15,000, taxed the remaining nonexcludable income at higher marginal rates, and disallowed the portion of the foreign tax credit attributable to excluded foreign earnings. Given the following two-way table, hypothesis one may also be expressed in terms of the notation below:

	Before the 1976 TRA	After the 1976 TRA	
Long-Term Business Travel	n_{11}	n_{12}	$n_{1.}$
Long-Term Nonbusiness Travel	n_{21}	n_{22}	$n_{2.}$
Total Long-Term Travel	$n_{.1}$	$n_{.2}$	$n_{..}$

where $\hat{P}_{.1} = n_{11}/n_{.1}$

$\hat{P}_{.2} = n_{12}/n_{.2}$

H_0: $P_{.1} = P_{.2}$

H_1: $P_{.1} > P_{.2}$

The P.j's represent the proportion of long-term travelers who are traveling for business purposes.

As mentioned above, the phrase "long-term" will be defined in two ways, yielding two sub-hypotheses (or two means of testing the first hypotehsis). A further partitioning of hypothesis one will be necessary since the time required for Americans abroad to react to changes in U.S. income tax laws is not known. Perhaps the reaction to tax legislation is quick, or perhaps the reaction is gradual. In order to make provision for either type of reaction, the hypothesis will be formulated in two ways. The first formulation will compare only the year before with the year following passage of the 1976 TRA (i.e., 1976 will be compared with 1977). This will be referred to as the two-year approach. The second formulation will compare the two years before with the two years after the passage of the same act (i.e., 1975-76 will be compared with 1977- 78). This will be referred to as the four-year approach. Consequently, hypothesis one will actually require tests of four sub-hypotheses. These may be summarized as follows:

(1a)   Two-year approach/Long-term defined as one year abroad
(1b)   Two-year approach/Long-term defined as two years abroad
(1c)   Four-year approach/Long-term defined as one year abroad
(1d)   Four-year approach/Long-term defined as two years abroad

Hypothesis Two

A similar technique to the one used with the 1976 TRA will be used to test for any impact resulting from the 1978 FEIA. Accordingly, the second hypothesis may be expressed as follows:

H_0: The presence of long-term American employees abroad did not change subsequent to the 1978 FEIA.

H_1: The presence of long-term American employees abroad changed subsequent to the 1978 FEIA.

Note that this second hypothesis is two-sided. This is because the direction of any impact from the 1978 Act is uncertain. Though the FEIA was generally conceded to bestow more tax benefits on U.S. expatriates than the flat $15,000 exclusion,[4] the increased complexity and additional substantiation requirements may have nullified these benefits.[5] Given the notation below, hypothesis two may also be expressed as follows:

	Before the 1978 FEIA	After the 1978 FEIA	
Long-Term Business Travel	n_{11}	n_{12}	$n_{1.}$
Long-Term Nonbusiness Travel	n_{21}	n_{22}	$n_{2.}$
Total Long-Term Travel	$n_{.1}$	$n_{.2}$	$n_{..}$

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[4]Russell Stephen Dunegan, "The Foreign Earned Income Act of 1978: Nonbenefits for Nonresidents," Cornell International Law Journal (Winter 1980), p. 123.

[5]Ralph A. Wehrenberg, et. al, "The Foreign Earned Income Act of 1978: A Step Forward for Expatriates and Their Employers," Tax Advisor (January 1979), p. 11.

$$\text{where } \hat{P}_{.1} = n_{11}/n_{.1}$$
$$\hat{P}_{.2} = n_{12}/n_{.2}$$

$$H_0: \quad P_{.1} = P_{.2}$$
$$H_1: \quad P_{.1} \neq P_{.2}$$

The $P_{.j}$'s represent the proportion of long-term travelers who are traveling for business purposes.

The 1980 passport data cross-classified by purpose and length of stay is not yet available from the U.S. Passport Office; thus, the four-year approach is not possible.[6] Therefore, hypothesis two may only be divided into two sub-hypotheses. These may be summarized as follows:

(2a) Two-year approach/Long-term defined as one year
(2b) Two-year approach/Long-term defined as two years

Statistic

The two hypotheses (or six sub-hypotheses) in stage one will be tested with a statistic which approximately follows the standard normal distribution[7] with mean of zero and standard deviation of one. The data for each test may be arranged in a two-way, cross-classified table similar to the one that follows:

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[6]However, the 1980 data is available cross-classified by purpose and country and is used in Stage two of the analysis.

[7]Jerome C. R. Li, Introduction to Statistical Inference (Ann Arbor: Edwards Brothers, 1957), pp. 407-08.

	Before Tax Change	After Tax Change	
Long-Term Business Travel	n_{11}	n_{12}	$n_{1.}$
Long-Term Nonbusiness Travel	n_{21}	n_{22}	$n_{2.}$
Total Long-Term Travel	$n_{.1}$	$n_{.2}$	$n_{..}$

Given this arrangement, the aforementioned statistic may be computed as follows:

$$Z = \frac{\hat{P}_{.1} - \hat{P}_{.2}}{\sqrt{(\bar{P}_{1.})(\bar{P}_{2.})\left(\frac{1}{n_{.1}} + \frac{1}{n_{.2}}\right)}}$$

where $\hat{P}_{.1} = n_{11}/n_{.1}$

$\hat{P}_{.2} = n_{12}/n_{.2}$

$\bar{P}_{1.} = n_{1.}/n_{..}$

$\bar{P}_{2.} = n_{2.}/n_{..}$

Stage Two

The second stage of the analysis will deal with U.S. citizens conducting business in specified types of foreign countries. The three variables of interest will be the year in which the U.S. citizen

planned to go abroad, the purpose of his or her travel, and the type of foreign country to which the individual traveled. The data cross-classified in this manner were obtained from the U.S. Passport Office by request and have never been previously published. Unfortunately, these data could not be further categorized by a fourth variable, length of stay, since the data are maintained only in summary form by the Passport Office. Two further data assumptions, therefore, are necessary in stage two.

Assumptions

First of all, those traveling for business purposes abroad (regardless of the duration of their stay) are assumed to be a good surrogate (in a proportional sense) for long-term business travel abroad. While the additional dimension, duration of stay, would be desirable, the assumption is consistent with the experiences of various companies overseas as well as with the overall data. For instance, many U.S. firms abroad have expressed concern that adverse changes in the tax laws would cause serious contractions or even a close down of their operations.[8] Obviously, these reduced operations abroad would not only have an effect on the number of U.S. employees stationed at that foreign location on a long-term basis, but also the short-term business travel to that location would experience a decline.

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[8]U.S. Comptroller General, Report to the Congress, Impact on Trade of Changes in Taxation of U.S. Citizens Overseas (February 21, 1978), pp. 10, 42.

The overall data lend support to this assumption. Spearman's rank correlation coefficient was employed to test the null hypothesis that long-term[9] business travel is not associated with short-term business travel against the alternative hypothesis of positive association over the period from 1972 to 1979. The correlation coefficient was .83 ($a <$ .01), providing support for the alternative hypothesis.

Similarly, the second data assumption is that U.S. citizens traveling for nonbusiness purposes abroad (regardless of the duration of their stay) are a good surrogate (in a proportional sense) for long-term non-business travel abroad. When the null hypothesis was tested using Spearman's procedure, the correlation coefficient was .90 ($a <$ .0025), again providing support for the alternative hypothesis. The probability that a type I error has been committed in one or both of these tests is less than .02 (.01 X 2). The data used in these computations are given in Table 11.

Hypothesis Three
_____

Proceeding from these data assumptions, the third hypothesis may now be stated as follows:

H_0: The presence of American employees abroad in high-cost foreign countries relative to low-cost foreign countries did not change subsequent to the 1978 FEIA.

H_1: The presence of American employees abroad in high-cost foreign countries relative to low-cost foreign countries increased subsequent to the 1978 FEIA.

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[9]For the purpose at hand, individuals staying abroad at least one year are considered long-term travelers. All other individuals are short-term travelers.

TABLE 11

RELATIONSHIP BETWEEN LONG-TERM TRAVEL ABROAD[a]
AND SHORT-TERM TRAVEL ABROAD[b]
(000's)

		Short-Term	Long-Term
	1972	63.7	5.0
	1973	143.7	11.1
	1974	243.8	24.2
Business	1975	244.0	29.1
Travel	1976	247.6	25.0
	1977	174.8	16.1
	1978	151.2	12.5
	1979	191.5	10.9
	1972	453.1	12.1
	1973	1,126.0	19.7
	1974	1,464.2	34.6
Nonbusiness	1975	1,373.3	35.3
Travel	1976	1,517.7	31.1
	1977	1,093.4	19.3
	1978	835.6	16.7
	1979	599.0	13.6

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[a]Long-term travel is defined here as stays abroad exceeding one year. All other travel is short-term.

[b]The correlation between long-term and short-term business travel was .83. The correlation between long-term and short-term nonbusiness travel was .90. The probability that a type I error has been committed in one or both of these tests is less than .02 (.01 X 2).

Source: U.S. Department of State, Summary of Passport Statistics (Supplement), Table 5.

As with hypothesis one, both a two-year and a four-year approach will be taken. Given the following three-way classification, hypothesis three may also be stated in the form below:

Before the 1978 FEIA	High Cost Countries	Low Cost Countries	
Business Travel	n_{111}	n_{121}	$n_{1.1}$
Nonbusiness Travel	n_{211}	n_{221}	$n_{2.1}$
Total Travel	$n_{.11}$	$n_{.21}$	$n_{..1}$

After the 1978 FEIA	High Cost Countries	Low Cost Countries	
Business Travel	n_{112}	n_{122}	$n_{1.2}$
Nonbusiness Travel	n_{212}	n_{222}	$n_{2.2}$
Total Travel	$n_{.12}$	$n_{.22}$	$n_{..2}$

where $\hat{P}_{.11} = n_{111}/n_{.11}$

$\hat{P}_{.21} = n_{121}/n_{.21}$

$\hat{P}_{.12} = n_{112}/n_{.12}$

$\hat{P}_{.22} = n_{122}/n_{.22}$

H_0: $P_{.12} - P_{.11} = P_{.22} - P_{.21}$ or

$P_{.12} - P_{.11} - P_{.22} + P_{.21} = 0$

H_1: $P_{.12} - P_{.11} > P_{.22} - P_{.21}$ or

$P_{.12} - P_{.11} - P_{.22} + P_{.21} > 0$

To understand the rationale behind hypothesis three, a quick review of the 1978 FEIA and its effects is helpful. The 1978 FEIA affected U.S. citizens employed abroad in two ways. First, it eliminated the flat exclusion which had been in effect since 1926. Second, it replaced the exclusion with a series of five deductions for the excess costs of living abroad. Thus, taxpayers employed in high cost-of-living countries experienced relatively lower U.S. taxes subsequent to 1978 because these deductions often exceeded the replaced $15,000 exclusion. Taxpayers employed in low cost-of-living countries, on the other hand, experienced very little change in U.S. taxes subsequent to 1978 since the exclusion benefit no longer existed and the amount of the deductions was often minimal. Hence, if U.S. income tax changes do affect the behavior of U.S. citizens employed abroad, one should expect to find an increased presence of American employees residing in high-cost foreign countries relative to low-cost foreign countries subsequent to the 1978 FEIA. The selection of high-cost and low-cost countries to be included in this analysis will be the subject of Chapter 6.

Statistic

Hypothesis three will be tested with a statistic which also approximately follows the standard normal distribution with mean of zero and standard deviation of one. Using the notation already presented above, the statistic may be computed as follows:

$$Z = \frac{\left(\hat{P}_{.12} - \hat{P}_{.11}\right) - \left(\hat{P}_{.22} - \hat{P}_{.21}\right)}{\sqrt{\dfrac{n_{..1}\,\hat{\sigma}_2^2 + n_{..2}\,\hat{\sigma}_1^2}{n_{..1}\,n_{..2}}}}$$

where $\hat{\sigma}_1^2$ is the estimated variance described in the first table above and

$\hat{\sigma}_2^2$ is the estimated variance described in the second table above

The δ-method[10] was used to obtain the standard error of the distribution under the null hypothesis. Appendix B demonstrates how this was accomplished.

As first pointed out in Chapter 4, one problem arising in a research project in which multiple tests are conducted using the same data set is that the statistics will be correlated.[11] To overcome such a situation, the overall significance level the researcher is willing to accept must be distributed among these tests. Because this significance level must be so distributed, it often may be larger than the usual significance level encountered in separate tests of hypotheses.[12] The significance level chosen for testing the eight sub-hypotheses presented in this chapter is .15. Accordingly, the critical value for each test may be obtained from any standard normal curve table by assuming a significance level of .01875 (.15 ÷ 8). Thus, the critical value for one-sided tests will be 2.08 while the critical value for two-sided tests will be 2.35.

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[10]C. Radhakrishna Rao, Linear Statistical Inference and Its Applications, 2nd ed. (New York: John Wiley & Sons, 1973), pp. 386-89.

[11]Donald R. Jensen, G. B. Beus, and George Storm, "Simultaneous Statistical Tests on Categorical Data," Journal of Experimental Education, 36 (Summer 1968), p. 46.

[12]Rupert G. Miller, Jr., Simultaneous Statistical Inference, 2nd edition (New York: Springer-Verlag, 1981), p. 68.

Summary

The methodology which will be used to examine the research question was presented in this chapter. In stage one, two hypotheses (or six sub-hypotheses) were stated. Testing hypothesis one should reveal whether the 1976 TRA encouraged U.S. citizens to work abroad. Testing hypothesis two should reveal whether the 1978 FEIA either encouraged or discouraged American employment abroad. Hypothesis three (consisting of two sub-hypotheses) will be tested in stage two and should reveal whether the 1978 FEIA encouraged Americans to accept employment positions abroad in high-cost countries relative to low-cost countries.

Each of the three hypotheses (or eight sub-hypotheses) will be tested with a statistic which approximately follows the standard normal distribution with mean of zero and standard deviation of one. The critical value for each test will be obtained by taking into consideration the total number of tests to be conducted.

CHAPTER 6

SELECTION OF FOREIGN COUNTRIES

As noted in Chapter 3, the FEIA provided U.S. expatriates with a
series of deductions for the excess costs of living abroad while
eliminating the flat exclusion which had been previously available.
The general result of this legislation was that U.S. taxpayers employed
in high-cost foreign countries were granted relatively more tax bene-
fits while those working in low-cost areas abroad were allowed rela-
tively fewer tax benefits. Whether this economic effect on taxpayers
abroad actually caused a corresponding change in the ratio of taxpayers
employed in high-cost foreign countries to taxpayers employed in low-
cost foreign countries will be examined in Chapter 7. The purpose of
this chapter will be to select those foreign countries to be used in
that examination.

Classification of Foreign Countries

Four criteria had to be satisfied by each foreign country included
in this study. First, the country must not have experienced any major
political or economic upheaval over the past several years which
dramatically affected Americans working there. The clearest example of
such an upheaval would be the Iranian crisis in 1979. Obviously, any
attempt to attribute the decline of Americans working in Iran to
changes in U.S. tax laws would be ludicrous.

Second, at least 100 U.S. citizens must have annually applied
(since 1977) for a passport to the country and indicated on their

application that they were traveling on business. The purpose of this criterion is to eliminate from consideration those countries hosting little U.S. business activity. Bulgaria would be an example of such a country. So few Americans are employed in Bulgaria that very little would be gained by including this country in the study.

Third, a passport must be required and/or strongly recommended for most travel to the country. One country which would not qualify under this criterion is Canada. A passport is not required nor recommended very strongly for an American traveling to this country.[1] The fact that only about .4% of all passports issued are to individuals traveling to Canada seems to indicate that many Americans are traveling there without passports.[2] To include Canada in this study, therefore, would mean that many individuals traveling there would not be accounted for in the passport data while individuals with similar travel plans except to other foreign countries, would be included in the data. This would increase the likelihood of a bias being present.

The fourth criterion is that the country must be amenable to classification as either a high-cost-of-living or a low-cost-of-living country. To maximize the systematic variance, countries characterized by a medium cost of living will not be considered. If this third classification of countries were ignored, and all foreign countries

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[1]Telephone conversation with passport agent at Montgomery County Courthouse in Christiansburg, Virginia.

[2]U.S. Department of State, Bureau of Consular Affairs, Passport Services, <u>Summary</u> <u>of</u> <u>Passport</u> <u>Statistics</u>, Table 5.

were classified as either high-cost or low-cost, the distribution of

living costs in these two groups of foreign countries could overlap

considerably. This situation can be avoided to a large extent by simply

designating some range of foreign living costs as neither high nor low

and excluding these countries characterized by medium costs of living.

The high-cost/low-cost classification will be based upon an

examination of an index published by Ernst & Whinney (E & W) entitled

Tax and Total Cost of U.S. Citizens Abroad.[3] The E & W index reports

the average cost of living in sixty foreign countries for various

salary levels and family sizes. Generally speaking, each of these

sixty countries hosts a significant amount of U.S. business activity as

evidenced by the fact that E & W has offices in all but two of the

countries.

The index is actually a dollar figure which depicts the typical

foreign allowances included in U.S. employees' 1979 compensation

packages. These allowances include an overseas premium, a cost-of-

living allowance, a housing allowance, an education allowance for

dependents, and a home leave travel allowance. The intended purpose of

the index is to assist employers in determining the total costs of

maintaining an American employee in a foreign country.

The countries to be utilized in this study are listed in Table 12.

Beside each country is the typical dollar amount of foreign allowances

included in the compensation package of an American employee residing

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[3]Ernst & Whinney, Tax and Total Cost of U.S. Citizens Abroad (New
York: E & W, 1980).

TABLE 12

FOREIGN LIVING COSTS IN SELECTED COURTRIES[a]

Salary $30,000

High Cost		Low Cost	
Austria	$42,500	Australia	$23,400
Belgium	40,300	Colombia	12,000
Germany	38,700	Ireland	14,900
Japan	59,000	Italy	21,800
Netherlands	43,300	Panama	16,600
Sweden	37,500	Thailand	23,000
Average	$43,600	Average	$18,600

Salary $60,000

High Cost		Low Cost	
Austria	$57,800	Austrailia	$31,900
Belgium	57,300	Colombia	18,700
Germany	54,200	Ireland	22,400
Japan	82,000	Italy	29,600
Netherlands	60,800	Panama	24,000
Sweden	53,100	Thailand	32,800
Average	$60,900	Average	$26,600

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[a]Employee is assumed married with two dependent children.

Source: Ernst & Whitney, Tax and Total Cost of U.S. Citizens Abroad (December 1980).

there. These allowances are given for two assumed base salaries, $30,000 and $60,000. Furthermore, the employee is assumed to be married with two dependent children.

Note that at the $30,000 salary level, $14,100 of living costs separate the lowest cost high-cost country, Sweden, from the highest cost low-cost country, Australia. Moreover, the average difference in living costs between the high-cost and the low-cost groups is $25,000 ($43,600 - $18,600). When the base salary is assumed instead to be $60,000, $20,300 of living costs separate the lowest cost high-cost country, Sweden, from the highest cost low-cost country, Thailand. The average difference in living costs between the two groups of countries at this higher salary level is $34,300 ($60,900 - $26,600).

Validation of Country Selections

As a check on the reliability of the E & W index, a quarterly index published by the U.S. Department of State was employed.[4] This index was rejected as the principal index basically because allowances for education and home leave travel as well as the overseas premium were not included. These excluded allowances often can account for a sizeable portion of the total allowances granted an overseas employee.[5]

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[4]U.S. Department of State, Indexes of Living Costs Abroad and Quarters Allowances, various issues.

[5]For example, see "The High Cost of Living Around the World," Business Week (November 15, 1976), p. 174 and "BI's 1980 COL Survey Focuses on Key Changes in Asia/Pacific Region," Business Asia (May 23, 1980), p. 167.

The State Department index has two parts. The first part provides an index number representing the general cost of living in the foreign country. To determine the cost of living allowance, this index number must be applied to an individual's spendable income.[6] Spendable income is defined as

> base salary less typical deductions for Federal, State, and local income taxes; contributions to retirement funds; life insurance premiums; gifts and contributions to organizations and persons outside the family; personal savings; and U.S. shelter and utilities expenditures, which are deducted since they are not covered by the post allowance.[7]

Part two of the index gives the annual housing costs incurred by a U.S. employee abroad. Housing costs include rent, electricity, gas, fuel, water, property taxes, insurance, and fees in obtaining the lease. Garage and furniture rental may also be included.[8] In computing the housing allowance, these costs were reduced by the average rental cost of housing in Washington, D.C.[9] This housing allowance was then combined with the cost-of-living allowance.

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[6]For the spendable income amounts used in this computation, see U.S. Department of State, Indexes of Living Costs Abroad and Quarters Allowances, U.S. Government Publication 19004 (1973), and U.S. Department of State, Indexes of Living Costs Abroad and Quarters Allowances: A Technical Description, Report 568 (April 1980), p. 6. This latter listing of spendable income amounts became effective August 27, 1978, thereby, supplanting the former listing.

[7]Indexes of Living Costs (April 1980), p. 5.

[8]Ibid., p. 8.

[9]U.S. Department of Labor, Bureau of Labor Statistics, Urban Family Budgets and Comparative Indexes for Selected Urban Areas, various years.

One further problem with the State Department index is that data are not always available for the quarter of interest. Typically, the general cost of living in a foreign country is reported to the State Department only once or twice a year. Housing costs are often reported three or four times annually. Unfortunately, these figures are not consistently reported at the same time each year for the majority of foreign countries.

Therefore, in order to standardize the presentation of living costs between countries, the fourth quarter of each year was chosen as the period for calculating foreign allowances.[10] When the index numbers or housing figures were not reported during the fourth quarter, they were estimated through linear interpolations.

The E & W index may not be directly comparable in absolute dollar amounts to the State Department index. Variations may likely occur due to different sampling techniques and different assumptions made in constructing the indices. And, as previously mentioned, the latter index contains only two of the five allowances included in the E & W index, albeit the most important two. Notwithstanding any such differences, a proportional relationship was expected to exist.

Table 13 gives the foreign allowances allowed by each index for a U.S. taxpayer earning a base salary of $40,000. The allowances are expressed as a percentage of the base salary to enhance comparability.

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[10]The selection of this particular quarter was not wholly arbitrary. The average annual rental costs of housing in Washington, D.C., which must be deducted from foreign housing costs in order to determine an allowance for foreign housing is a fourth quarter amount.

TABLE 13

RELATIONSHIP BETWEEN COST OF LIVING INDICES FOR 1979[a]
(ALLOWANCES EXPRESSED AS A PERCENTAGE OF BASE SALARY)

	E & W	State Dept.		E & W	State Dept.
Argentina	54	64	Italy[b]	40	22
Australia[b]	48	6	Japan[b]	131	69[c]
Austria[b]	88	53	Korea	38	18
Bahamas	42	27	Luxembourg	46	35
Bahrain	104	36	Mexico	31	11
Belgium[b]	78	41	Netherlands[b]	87	42
Brazil	45	38	Norway	68	37
Canada	8	4	Panama[b]	39	18
Chile	32	33	Peru	36	5
Colombia[b]	33	16	Portugal	32	23
Costa Rica	30	13	Spain	50	26
Cyprus	34	6	Sweden[b]	76	39
Denmark	68	36	Switzerland	94	58
Dominican Repub.	41	7	Thailand[b]	54	8
France	70	49	Trinidad	26	27
Germany[b]	77	31	United Kingdom	54	33
Greece	53	17	Uruguay	39	21
Hong Kong	77	31[c]	Venezuela	63	56
Ireland[b]	35	16			

[a]The correlation between these two indices is .74 ($\propto$ < .0001). When just the twelve countries in this study were tested for association, the correlation between the indices became .84 ($\propto$ < .0013). These indices are based on the assumptions that the employee is married with no children and that his base salary is $40,000.

[b]These are the twelve countries selected for use in this study.

[c]Housing costs for these two countries were obtained from "BI's 1979 COL Survey Focuses on Key Changes in Asia/Pacific Region," Business Asia (June 1, 1979), p. 171.

Sources: Computed from Ernst & Whinney, Tax and Total Cost of U.S. Citizens Abroad (December 1980).
Computed from U.S. Department of State, Indexes of Living Costs Abroad and Quarters Allowances.

For analyzing the relationship between these two indices, the further assumption was made that the taxpayer is married but has no children. This is to remove the effects of the education allowance. The resulting Spearman's rank correlation coefficient for the 37 countries shown was .74 (α < .0005). When the test was conducted using only those countries included in this study, the correlation coefficient became .84 (α < .0013).

But just as important as the positive association between these two indices is the assurance that the 12 countries previously categorized have not shifted from a high-cost to a low-cost classification, or vice versa, over time. An examination of Table 14 will reveal that no overlapping of foreign living costs occurred between the high-cost countries and the low-cost countries in either 1977 or 1980. And, in fact, if present trends continue, no low-cost country appears likely to overtake any high-cost country in the next five years. Otherwise, a U.S. multinational firm might perceive very little difference (at least from a tax perspective) between maintaining an American employee in a high-cost country or maintaining an American employee in a low-cost country which is expected to become equivalent to a high-cost country in a short time. It must be remembered that Table 14 presents foreign living costs according to the State Department index and, therefore, does not include all additional costs normally experienced by the American employee abroad. Looking again at Table 1 reveals that the actual difference in aggregate foreign living costs between high-cost and low-cost countries is likely much greater than Table 14 seems to

TABLE 14

CHANGE IN FOREIGN LIVING COSTS, 1977-80[a]

	1977 State Department	1980 State Department	Average Annual Change
High Cost			
Austria	$17,600	$22,500	$1,600
Belgium	15,400	19,800	1,500
Germany	9,500	13,600	1,400
Japan	26,900[b]	25,000[c]	-600
Netherlands	10,000	19,800	3,300
Sweden	12,200	18,900	2,200
Average	$15,300	$19,900	$1,600
Low Cost			
Australia	$ 3,100	$ 4,400	$ 400
Colombia	3,700	8,300	1,500
Ireland	2,400	7,900	1,800
Italy	5,400	9,700	1,400
Panama	4,900	8,500	1,200
Thailand	1,600	4,300	900
Average	$ 3,500	$ 7,200	$1,200

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[a]Employee is assumed to be married with two children. His base salary is assumed to be $50,000.

[b]Japan's housing cost for 1977 was obtained from "The High Cost of Living Around the World," Business Week (November 15, 1976), p. 174.

[c]Japan's housing cost for 1980 was obtained from "BI's 1980 COL Survey Focuses on Key Changes in Asia/Pacific Region," Business Asia (May 23, 1980), p. 167.

Source: Computed from U.S. Department of State, Indexes of Living Costs Abroad and Quarters Allowances.

indicate. At any rate, the cost of living in the high-cost group has been increasing by approximately $1,600 per country each year while the cost of living in the low-cost group has been increasing by only $1,200 per country annually. Consequently, it does not appear likely that the cost of living difference between these two groups will lessen significantly in the next few years.

Factors Affecting Employment Abroad

The manner and extent to which U.S. citizens are taxed on their foreign earnings are certainly not the only determinants of American employment abroad. As illustrated in Illustration 1, other factors which perhaps have an impact on the size of the American workforce in a particular foreign country are exchange rate fluctuations, growth potential of investments in the country, changes in U.S. direct investment, riskiness of the country for investments, U.S. economic assistance to the country, and overseas living costs.[11] This latter factor was discussed in the preceding section. The purpose of this section is to determine whether these additional factors were responsible for any substantial changes in American employment abroad.

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[11]Of course, other factors may be present which are difficult, if not impossible, to take into account. For example, an executive's order to send American employees abroad could be based upon mere whim, instead of economic rationale. Changing corporate philosophies about the desirability of placing Americans in positions abroad might also cause a substantial increase or decrease in the presence of American employees abroad. Even the state of the U.S. economy could exert some influence. During periods of drastic downturns in the domestic economy, Americans could be expected to seek job opportunities in foreign countries.
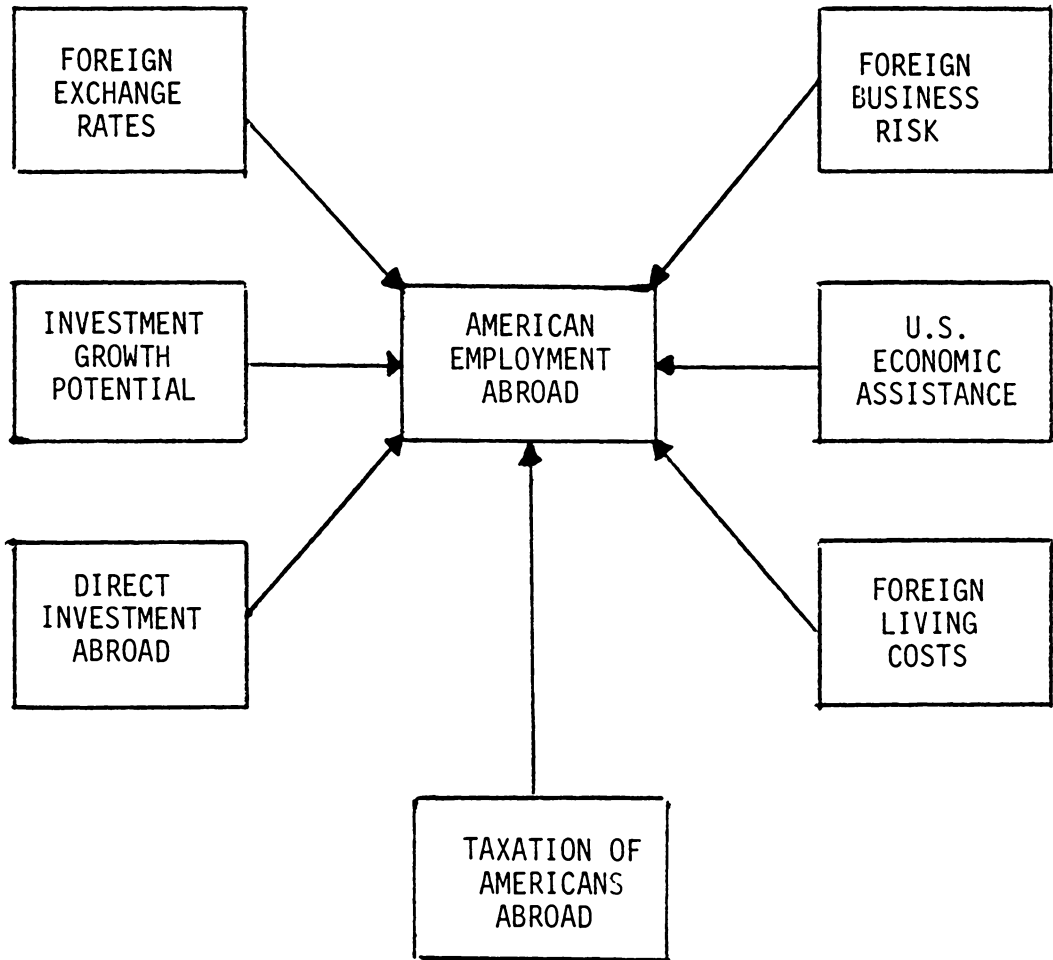
ILLUSTRATION 1

FACTORS AFFECTING AMERICAN EMPLOYMENT ABROAD

Exchange Rates

The number of units of one currency which must be given in return for one unit of another currency is called the exchange rate.[12] Exchange rates for most currencies today, however, are not fixed but are allowed to float according to the supplies and demands of the various market forces. Fluctuations in these exchange rates over time may tend to encourage or discourage foreign employment in a particular country. For example, if the exchange rate for the U.S. dollar should increase from 300 yen in 1977 to 500 yen in 1979, this would encourage U.S. firms to send more American workers to Japan in 1979 relative to 1977, ceteris paribus. Whereas one dollar could purchase consumer products and services in Japan worth 300 yen in 1977, one dollar could purchase consumer products and services worth 500 yen two years later. On the other hand, if inflation in Japan should increase by 67% over the same period of time, no incentive to increase the number of Americans working for U.S. firms in Japan would result. The 500 yen in 1979 would be equivalent to the 300 yen in 1977 in terms of their purchasing power.

Exchange rates need not be examined as an entirely separate factor affecting American employment abroad. Rather, exchange rates should be viewed more as a standardization tool used in conjunction with the other factors, when necessary, to convert foreign currency amounts to a

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[12]John D. Daniels, et al., International Business: Environments and Operations, 2nd ed. (Reading: Addison-Wesley, 1979), p. 179.

common currency (e.g., U.S. dollars). In this way, financial comparisons are facilitated between various international economies.

A listing of average annual exchange rates can be found in Appendix C. These rates were only used to convert the Gross Domestic Products (discussed below) of the twelve previously-selected countries from their national currencies to U.S. dollars. All other financial information in this chapter (including the cost-of-living figures presented earlier) was already in terms of U.S. dollars and, thus, in no need of conversion.

Growth Potential

Gross Domestic Product (GDP) is the total output of goods and services produced within the borders of a given country.[13] Claims upon this output, whether domestic or foreign, are not taken into account as with Gross National Product (GNP).[14] Because the 1980 GNP is not yet available for some lesser-developed economies and is not available at all for some others, only GDP will be used to portray the growth potential in the 12 previously-selected countries.

In Table 15, the annual percentage increase in the GDP of these 12 countries is given for two different time periods. The first time period includes the three years immediately preceding the passage of the FEIA (i.e., 1975-78) while the second time period covers those

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[13]World Bank, World Development Report 1981 (Washington: Oxford University Press, 1981), p. 184.

[14]Ibid.

TABLE 15

GDP IN U.S. DOLLARS
(ANNUAL PERCENTAGE INCREASE)

	1975-78	1978-80
High Cost		
Austria	15.13	15.12
Belgium	15.53	11.09
Germany	15.08	13.31
Japan	24.52	5.49
Netherlands	16.28	10.91
Sweden	7.86	16.11
Weighted Average	19.01	9.48
Low Cost		
Australia	6.21	12.07
Colombia	20.64	18.18
Ireland	13.87	20.00
Italy	10.89	22.65
Panama	8.42	7.45
Thailand	16.38	19.32
Weighted Average	10.74	19.84

Sources: Computed from International Monetary Fund, International
          Financial Statistics.
          Computed from Business International Corporation, Worldwide
          Economic Indicators.

years since the FEIA (i.e., 1978-80). Notice that the average annual increase in GDP is 9.10% (19.84% - 10.74%) greater during the second time period for those countries classified as low-cost areas. On the other hand, the average annual increase in GDP is 9.53% (19.10% - 9.48%) less during the second time period for those countries classified as high-cost areas. This analysis suggests that the low-cost group of countries should have experienced a greater increase (or a lesser decrease) in American employment relative to the high-cost group of countries, ceteris paribus. The potential for investment growth was much stronger subsequent to the FEIA for the group of countries classified as low cost.

The same conclusion is reached when the change in GDP is expressed on a per capita basis. As disclosed in Table 16, the average annual increase for low-cost countries is again greater during the period subsequent to the FEIA, this time by 6.70% (15.61% - 8.91%). And again, the average annual increase for high-cost countries is greater during the prior time period, this time by 2.87% (14.70% - 11.83%). If an increase in U.S. employment after 1978 can be demonstrated in high-cost countries relative to low-cost countries, such increase cannot be attributed to the growth potential of the two country groups.

Direct Investment Abroad

Perhaps any increase in U.S. citizens working abroad is not the result of changes in the tax laws, but instead is the result of an increase in U.S. direct investment abroad (DIA). DIA may be defined as the control over a business located in one country by an organiza-

TABLE 16

GDP/CAPITA IN U.S. DOLLARS
(ANNUAL PERCENTAGE INCREASE)

	1975-78	1978-80
High Cost		
Austria	15.18	15.15
Belgium	15.38	10.96
Germany	15.40	13.07
Japan	23.30	4.66
Netherlands	15.45	10.14
Sweden	7.46	15.87
Weighted Average	14.70	11.83
Low Cost		
Australia	6.21	12.07
Colombia	17.57	14.35
Ireland	12.35	18.07
Italy	10.33	22.30
Panama	5.23	4.38
Thailand	13.37	17.99
Weighted Average	8.91	15.61

Sources: Computed from International Monetary Fund, International Financial Statistics.
Computed from Business International Corporation, Worldwide Economic Indicators.

tion from another country.[15] Traditionally, this control has been defined by the U.S. as a 10% ownership in the voting stock of the business.[16]

In testing for such a relationship, it was assumed that U.S. DIA would not result in any immediate effect on American employment abroad. Rather, American employment abroad was expected to lag behind DIA one to three years.

Table 17 presents the data necessary to determine the degree of association between the percentage change in U.S. manufacturing DIA and the percentage change in passports issued for business purposes. Twenty-one countries were used in the analysis. The Spearman's rank correlation coefficients were .00 (α > .4960), -.32 (α > .9207), and -.41 (α > .9664) when the change in business passports was lagged one, two, and three years, respectively. This paradoxical result perhaps is due to U.S. multinational firms replacing American workers abroad with host- and third-country nationals in some countries.[17] At any rate, no positive relationship seems apparent between U.S. manufacturing DIA and business passports. Consequently, it must be concluded that any change in the number of Americans employed abroad cannot in the short run be attributed to changes in U.S. DIA.

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[15]Daniels, p. 134.

[16]U.S. Department of Commerce, U.S. Direct Investment Abroad, 1977 (April 1981), p. 2.

[17]William L. White and John J. McGowan, "Expatriate Compensation at the Crossroads," S.A.M. Advanced Management Journal (Fall 1977), pp. 21-22.

TABLE 17

RELATIONSHIP BETWEEN U.S. DIRECT INVESTMENT ABROAD
AND PASSPORTS ISSUED FOR BUSINESS PURPOSES[a]
(PERCENTAGES CHANGES)

	Manufacturing DIA			Business Passports	
	1974-77	1975-78	1976-78	1977-79	1977-80
Argentina	25.0	28.7	9.5	49.6	73.5
Australia	15.1	22.5	15.5	- 4.5	- 8.4
Belgium/Lux.	42.5	39.1	26.8	- 5.6	-23.9
Brazil	52.7	50.8	27.5	-10.3	-26.6
Colombia	18.0	28.6	26.3	-12.9	-25.8
Denmark	57.5	50.0	15.2	-14.7	-33.1
France	20.7	20.4	15.8	-17.4	-38.1
Germany	46.1	56.2	24.1	-10.4	-30.2
India	4.2	-5.5	-7.3	6.5	15.3
Ireland	129.0	125.4	72.2	27.3	-45.8
Italy	17.5	39.2	27.1	-23.0	-44.4
Japan	25.2	48.8	37.0	6.3	-15.0
Netherlands	29.5	52.4	41.5	- 9.6	-33.0
New Zealand	5.8	26.5	25.4	9.9	- 1.2
Norway	43.7	46.0	29.9	-10.5	-32.7
Panama	37.4	47.5	29.5	13.6	-12.1
Philippines	5.0	17.7	22.7	2.1	-12.3
Sweden	2.5	4.1	.8	- 6.2	-26.6
Switzerland	29.6	25.7	18.4	-33.5	-51.3
United Kingdom	20.1	33.3	30.2	-11.6	-30.9
Venezuela	50.3	58.5	43.1	-12.5	-12.5

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[a]The correlation coefficient for columns 3 and 4 (one-year lag) was .00 ($\propto$ > .49). The correlation coefficient for columns 2 and 5 (two-year lag) was -.32 ($\propto$ > .92). The correlation coefficient for columns 1 and 5 (three-year lag) was -.41 ($\propto$ > .96).

Sources: Computed from Bureau of Economic Analysis, U.S. Department of Commerce, Selected Data on U.S. Direct Investment Abroad, 1966-78.
Computed from U.S. Department of State, Unpublished passport data.

Country Risk

The riskiness of the overall business environment is, of course, an additional consideration in the decision to send Americans abroad.[18] If a country's risk increases substantially over some time period, American businesses will be less likely to expand their operations in that country by dispatching more U.S. personnel there and vice versa.[19]

In assessing country risk, an index constructed annually by Business Environment Risk Information Ltd. was consulted.[20] This index attempts to measure for each year both the extent to which preferential treatment is afforded to nationals as well as the general conduciveness of the country's environment for conducting business. These measurements are performed by a panel of over 100 international experts worldwide from banking, government, and other businesses and institutions. The actual index number for each individual country is computed by weighing scores (arrived at by the experts) of fifteen criteria as listed below:

(1) political stability
(2) attitude: foreign investors and profits
(3) nationalization

[18]Peter Gutmann, "Assessing Country Risk," National Westminster Bank Quarterly (May 1980), pp. 58-68.

[19]Whereas the "risk" criterion for initially selecting countries earlier in this chapter was applicable to individual countries, the emphasis here is on the changes in risk between the two groups of countries, high-cost and low-cost.

[20]The Business Environment Risk Index normally sells at several hundred dollars but was supplied free of charge by Dr. Frederick Haner, the company's president, upon request. Business Environment Risk Information Ltd. is headquartered in New York City.

(4)   monetary inflation
(5)   balance of payments
(6)   bureaucratic delays
(7)   economic growth
(8)   currency convertibility
(9)   enforceability of contracts
(10) labor cost/productivity
(11) professional services and contractors
(12) communications and transportation
(13) local management and partners
(14) short term credit
(15) long term credit and venture capital[21]

Table 18 gives the percentage change in the index number for the 12 countries in this study over the period, 1978-81. A percentage increase (decrease) in the table indicates that the country risk has decreased (increased) over the last few years. Note that even though some high- (low-) cost countries have experienced decreases (increases) in their risk environment, the overall tendency is in the opposite direction. Whereas the average percentage change for the high-cost countries during the period is -.9%, the average percentage change for the low-cost countries is +2.5%.

Two countries were not represented in this country risk index. Consequently, a less-thorough index was consulted for an assessment of risk in these countries. The index chosen was one published by the Institutional Investor.[22] This index attempts to reflect the credit

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[21]Business Environment Risk Information, Ltd., "BERI, Ltd. System of Risk Assessment," p. 2.

[22]"Rating Country Risk," Institutional Investor (March 1980), pp. 63-65. Spearman's rank correlation was used to test the degree of association between the 1980 risk assessments of sixty countries appearing in both the Institutional Investor's index and the Business Environment Risk Index. The correlation coefficient was .89 ($\alpha <$ .0001). The data cannot be presented because of their confidential nature.

TABLE 18

PERCENTAGE CHANGE IN COUNTRY RISK, 1978 TO 1981[a]

High Cost	
Belgium	-5.9%
Germany	-4.8%
Japan	+6.6%
Netherlands	+2.0%
Sweden	-2.3%
Average	- .9%
Low Cost	
Australia	+1.0%
Colombia	-1.7%
Ireland	- .6%
Italy	+9.5%
Thailand	-4.3%
Average	+2.5%

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[a]A percentage increase (decrease) indicates that the country risk has decreased (increased) from 1978 to 1981.

Source: Computed from Business Environment Risk Information, Business Environment Risk Index.

worthiness of 96 foreign countries based on more than 100 responses
of bank officers with expertise in international lending. Though the
index was not begun until 1979, an indication as to whether risk is
increasing, decreasing, or stable in any particular country can still
be surmised. The changes between 1979 and 1980 for the two countries
not indexed by Business Environmental Risk Information are +.6% for
Austria and -.3% for Panama. Note that the change in each case is
very small. Approximately 2/3 of the 96 countries experienced changes
greater than one percent. If the changes for this one time period
are any indication, these two countries are relatively stable in terms
of their riskiness.

In conclusion, the riskiness of the foreign countries selected
for this study does not appear to be a factor which would have adversly
affected American employment in low-cost countries more than in high-
cost countries. The riskiness of the high-cost group seems to have
slightly increased since passage of the FEIA, while the riskiness of
the low-cost group has decreased. Thus, it must be concluded that any
increase in American employment in high-cost countries relative to
American employment in low-cost countries cannot be attributed to
differences in country risk between the two groups.

Economic Assistance

Finally, the possibility exists that U.S. economic assistance
may have had some impact on American employment abroad. Such situation
would have accrued only if commitments made by the U.S. government to
lend aid to a foreign country required American labor, and such

commitments were contracted out to private U.S. firms. The severity
of this problem is almost inconsequential as far as the developed,
industrial countries are concerned since their economic systems are
fairly strong compared to the nonindustrial countries of the world.
For these lesser-developed nations, however, it is conceivable that
U.S. economic aid contracted out to private businesses could have
caused an increase in the presence of U.S. workers abroad.

Table 19 gives the dollar amounts of economic aid granted to the
foreign countries in this study over the period from 1977 to 1980.
All four of the countries in this table are members of the low-cost
group. Note that economic aid to these low-cost countries increased
by 28.4% between the two time periods given. Ceteris paribus, this
would suggest a possible increase in American employment in the low-
cost group before it would suggest a decrease. Since none of the six
countries in the high-cost group received any economic aid from the
U.S. over the same period of time, no similar effect on American employ-
ment in these countries would have been present. Therefore, if American
employment in high-cost countries can be shown to have increased more
(or decreased less) than American employment in low-cost countries
subsequent to the FEIA, the evidence would not attribute this change
to the U.S.'s policies for economic assistance.

Conclusion

The two groups of foreign countries selected for inclusion in
this study do not seem to be adversely affected by the factors examined
in this section. In most instances, these factors present more of a

TABLE 19

U.S. ECONOMIC AID
(THOUSANDS OF DOLLARS)

	1977-78	1979-80
Colombia	$14,664	$ 26,409
Italy	3,117	3,950
Panama	44,627	31,004
Thailand	26,851	53,254
Total	$89,259	$114,617

Source: Senate Hearings Before the Committee on Appropriations, Foreign Assistance and Related Programs Appropriations.

conservative bias. That is, they would tend to encourage a greater increase (or a lesser decrease) in Americans employed in the low-cost group of countries relative to the high-cost group of countries subsequent to the 1978 FEIA.

CHAPTER 7

ANALYSIS

The purpose of this chapter is to present the analysis of the passport data, a surrogate for the presence[1] of Americans abroad. The analysis is presented in two stages. Stage one will seek to determine whether either the 1976 TRA or the 1978 FEIA had any effect on the aggregate presence of American employees abroad. Stage two will further analyze the 1978 FEIA to determine if the passage of this act resulted in more Americans taking employment positions in high-cost foreign countries relative to low-cost foreign countries. Finally, the chapter will end with a summary of the findings and an overall conclusion.

As previously mentioned, the statistics chosen to analyze the three hypotheses (or eight sub-hypotheses) have an approximate standard normal distribution. The critical value for each statistic must take into consideration the number of simultaneous tests, the overall significance level which the researcher is willing to accept, and the type of hypothesis (i.e., one-sided or two-sided). For the purpose at hand, an overall significance level of .15 was selected. Since eight tests must be conducted, the level at which each of these will be tested is .01875 (.15 ÷ 8). Accordingly, the critical value for each of the six one-sided tests of hypotheses one and three is 2.08 while the critical value for each of the two-sided tests of hypothesis two is 2.35.

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[1]See footnote 2 in Chapter 1.

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Stage One

Hypothesis One

Hypothesis one pertains to the effect of the 1976 TRA on citizens employed abroad. It may be stated as follows:

H_0: The presence of long-term American employees abroad did not change subsequent to the 1976 TRA.

H_1: The presence of long-term American employees abroad declined subsequent to the 1976 TRA.

As noted in Chapter 5, the test of this hypothesis will actually involve tests of four sub-hypotheses. The data for each of these sub-hypotheses are presented below in cross-classified tables. Beneath each table is the computation of the test statistic.

The analysis of the data for sub-hypothesis (1a) follows the two-year approach and defines long-term travel in terms of stays abroad exceeding one year:

(1a) 1976 TRA: Two-year approach
     Long-term: >1 year

	1976	1977	
Long-Term Business Travel	24,960	16,090	41,050
Long-Term Nonbusiness Travel	31,110	19,340	50,450
Total Long-Term Travel	56,070	35,430	91,500

$$Z = \frac{.4451 - .4541}{\sqrt{(.4486)(.5514)\left(\frac{1}{56,070} + \frac{1}{35,430}\right)}} = -2.68$$

The statistic indicates the 1976 TRA did not have the hypothesized effect of a decline in American employment abroad since -2.68 is less than the critical value of 2.08. Therefore, the null hypothesis must be accepted in this case.

The fact that the test statistic is so large and negative, however, causes one to question the validity of the two-year approach when long-term travel is defined as stays abroad exceeding one year. Perhaps the two-year approach does not allow sufficient time following changes in the tax law for the effect on American employees abroad to become evident. That is, perhaps decisions to not work abroad occur gradually over a longer period of time. For example, some American employees may have committed themselves to work abroad prior to passage of the 1976 TRA and were not later able to reverse their decisions.

A second possible explanation for the large negative statistic relates to the manner in which a long-term traveler was defined. Ideally, long-term travelers would be those who satisfy either the bona fide resident test or the physical presence test discussed in Chapter 2 (i.e., those whose foreign earned income qualified for special tax treatment). An individual was not a bona fide resident, however, unless he remained in a foreign country for a period of time which included an entire taxable year. Thus, the individual who arrived in a particular country on January 2, 19X1 and departed from the country on December 30, 19X2 would not have qualified as a bona fide resident, even though he remained abroad nearly two years. To

satisfy the physical presence test, an individual must had stayed
abroad at least 17 months in an 18 month period. Again, it is easy to
see how an individual could stay abroad for more than one year and
still not qualify for the special tax benefits applicable to foreign
earned income.

Whether the number of individuals who stayed abroad at least one
year but who did not stay long enough to qualify for special tax bene-
fits is large enough to seriously alter the results of the analysis is
uncertain. For this reason, long-term travel was also defined as a
stay abroad exceeding two years. This definition too may be questioned
since some U.S. citizens no doubt worked abroad less than two years and
yet still qualified for special tax treatment. Nevertheless, utilizing
both definitions is preferable to just utilizing one. If the results
agree when using either, stronger conclusions will be possible.

The data for testing sub-hypothesis (1b), the two-year approach
considering long-term travel to be stays abroad lasting longer than two
years, is presented below:

(1b) 1976 TRA: Two-year approach
     Long-term: > 2 years

	1976	1977	
Long-Term Business Travel	14,430	9,580	24,010
Long-Term Nonbusiness Travel	12,320	8,530	20,850
Total Long-Term Travel	26,750	18,110	44,860

$$Z = \frac{.5394 - .5290}{\sqrt{(.5352)(.4648)\left(\dfrac{1}{26,750} + \dfrac{1}{18,110}\right)}} = 2.18$$

The test statistic in this case exceeds the critical value of 2.08. Expressing the hypothesis in these terms, therefore, yields the conclusion that the 1976 TRA brought about a decline in long-term American employment abroad relative to total long-term travel abroad. The only difference between the data presented for sub-hypothesis (1b) and the data presented for sub-hypothesis (1a) is the manner in which long-term travel is defined. The fact that the test statistic for sub-hypothesis (1b) is significant while the one for sub-hypothesis (1a) is not, may be explained as discussed earlier (i.e., defining long-term travelers in terms of one-year stays abroad may include some unintended travelers).

Presented below is the data for testing sub-hypothesis (1c) in which the four-year approach is followed and long-term travelers include those individuals staying abroad longer than one year:

(1c) 1976 TRA: Four-year approach
     Long-term: > 1 year

	1975-76	1977-78	
Long-Term Business Travel	54,070	28,630	82,700
Long-Term Nonbusiness Travel	66,430	36,000	102,430
Total Long-Term Travel	120,500	64,630	185,130

$$Z = \frac{.4487 - .4430}{\sqrt{(.4467)(.5533)\left(\dfrac{1}{120,500} + \dfrac{1}{64,630}\right)}} = 2.37$$

The test statistic is again significant since it exceeds the critical value of 2.08. As in (1b), the conclusion is that the 1976 TRA resulted in a decline in U.S. workers abroad as a fraction of long-term travelers. Note that the data presented here differ from the data presented for sub-hypothesis (1a) only in the span of time considered necessary to reflect the impact resulting from the 1976 TRA. Yet the test statistic here is significant while the one used in testing sub-hypothesis (1a) was not significant. This suggests that perhaps the two-year approach did not allow sufficient time to reflect the reactions of American workers to changes in the tax law, at least not in this instance.

The data for testing sub-hypothesis (1d) assumes the four-year approach and defines long-term travel as stays abroad exceeding two years:

(1d) 1976 TRA: Four-year approach
     Long-term: > 2 years

	1975-76	1977-78	
Long-Term Business Travel	31,330	18,690	50,020
Long-Term Nonbusiness Travel	26,510	19,290	45,800
Total Long-Term Travel	57,840	37,980	95,820

$$Z = \frac{.5417 - .4921}{\sqrt{(.5220)(.4730)\left(\frac{1}{57,840} + \frac{1}{37,980}\right)}} = 15.09$$

The test statistic of 15.09 is very significant. Expressing the first hypothesis in this manner, therefore, allows one to strongly conclude that the 1976 TRA did have a negative impact on the presence of American employees abroad relative to all long-term travelers.

Because three of the four expressions of hypothesis one resulted in the rejection of the null hypothesis, the overall conclusion is that the 1976 TRA did indeed reduce the fraction of Americans employed abroad relative to all American long-term travelers. The one instance in which the null hypothesis could not be rejected may be explained by the manner in which the dependent variable was defined and/or from the relatively short period of time selected for observation.

Hypothesis Two

The second hypothesis relates to the effect of the 1978 FEIA on U.S. citizens employed abroad. It may be expressed as follows:

H_0: The presence of long-term American employees abroad did not change subsequent to the 1978 FEIA.

H_1: The presence of long-term American employees abroad changed subsequent to the 1978 FEIA.

This hypothesis will be divided into only two sub-hypotheses since the four-year approach cannot be taken without the 1980 data cross-classified by purpose and length of stay abroad which is not available. The data for these two sub-hypotheses are again presented in two-way tables followed by the computation of the test statistic.

The data for testing sub-hypothesis (2a) follows the two-year approach and defines long-term travel in terms of stays abroad exceeding one year:

(2a) 1978 FEIA: Two-year approach
      Long-term: >1 year

	1978	1979	
Long-Term Business Travel	12,540	10,930	23,470
Long-Term Nonbusiness Travel	16,660	13,590	30,250
Total Long-Term Travel	29,200	24,520	53,720

$$Z = \frac{.4295 - .4458}{\sqrt{(.4369)(.5631)\left(\frac{1}{29,200} + \frac{1}{24,520}\right)}} = -3.80$$

Since the absolute value of the statistic exceeds the critical value of 2.35, the null hypothesis may easily be rejected. Expressing hypothesis two in these terms, therefore, yields a result which indicates American employment abroad increased subsequent to the 1978 FEIA as a fraction of long-term travelers abroad, while the actual numbers of American employees and long-term travelers abroad decreased.

The data for analyzing the second formulation of hypothesis two is displayed below:

(2b) 1978 FEIA: Two-year approach
      Long-term: >2 years

	1978	1979	
Long-Term Business Travel	9,110	8,610	17,720
Long-Term Nonbusiness Travel	10,760	8,800	19,560
Total Long-Term Travel	19,870	17,410	37,280

$$Z = \frac{.4585 \quad - \quad .4945}{\sqrt{(.4753)(.5247)\left(\dfrac{1}{19,870} + \dfrac{1}{17,410}\right)}} = -6.97$$

Here, the two-year approach is followed once more, but long-term travel is defined as stays abroad exceeding two years. The absolute value of the test statistic is again greater than the critical value of 2.35. Thus, the null hypothesis may be rejected. The results agree with the analysis of sub-hypothesis (2a)--American employment abroad as a fraction of long-term travelers seemed to increase subsequent to the 1978 FEIA.

Whether long-term travel is defined in terms of a one-year stay abroad or in terms of a two-year stay abroad, the test statistic exceeds the critical point of 2.35. In fact, both statistics lie in the left tail of the normal curve distribution indicating that the 1978 FEIA had an overall positive impact on the presence of U.S. citizens working abroad.

Recall that the test statistic is based upon proportions, not absolute numbers. Thus, even though the number of individuals traveling abroad decreased, the proportion traveling for long-term business purposes increased. Apparently, the additional substantiation requirements and increased complexity of the 1978 FEIA were not enough to offset the additional tax benefits accruing to U.S. expatriates. Though some Americans working abroad in low-cost foreign countries may have experienced no decrease or perhaps even a slight increase in U.S. taxes because of the 1978 FEIA, the majority of American expatriates

experienced substantial decreases in U.S. taxes. The analysis here suggests that this reduction in taxes was substantial enough to encourage Americans to accept employment abroad in spite of increased complexity and substantiation requirements. Therefore, one must conclude that the 1978 FEIA did result in an increased presence of American employees abroad relative to total long-term travelers.

Stage Two

The second stage of analysis will further examine the impact of the 1978 FEIA on American expatriates. Rather than looking at the aggregate effects of this act, the analysis now will focus on the impact the 1978 FEIA had upon U.S. taxpayers residing in high-cost and low-cost foreign countries. These countries were selected in Chapter 6 but are presented below for the convenience of the reader:

High-Cost Countries	Low-Cost Countries
Austria	Australia
Belgium	Colombia
Germany	Ireland
Japan	Italy
Netherlands	Panama
Sweden	Thailand

Hypothesis Three

Hypothesis three relates to the effect of the 1978 FEIA on Americans employed in high-cost foreign countries relative to low-cost foreign countries. It may be stated as follows:

H_0: The presence of American employees abroad in high-cost foreign countries relative to low-cost foreign countries did not change subsequent to the 1978 FEIA.

H₁: The presence of American employees abroad in high-cost foreign countries relative to low-cost foreign countries increased subsequent to the 1978 FEIA.

This third hypothesis will be divided into only two sub-hypotheses since the data categorized by foreign countries are not also categorized by the travelers' duration of stay. The data are presented in tables as before followed by the computation of the test statistic.

The data for testing sub-hypothesis (3a) when the two-year approach is followed is presented below:

(3a) 1978 FEIA: Two-year approach

1978	High Cost Countries	Low Cost Countries	
Business Travel	6,302	2,886	9,188
Nonbusiness Travel	36,327	22,550	58,877
Total Travel	42,629	25,436	68,065

1979	High Cost Countries	Low Cost Countries	
Business Travel	7,689	3,505	11,194
Nonbusiness Travel	26,326	17,206	43,532
Total Travel	34,015	20,711	54,726

$$Z = \frac{.2260473 - .1478336 - .1692337 + .1134612}{\sqrt{\dfrac{68,065(.6529728) + 54,726(.4703146)}{68,065(54,726)}}} = 5.17$$

The test statistic does exceed the critical value of 2.08. Therefore, the null hypothesis can be rejected in this case. A proportional "shift" of U.S. workers did appear to occur from low-cost foreign countries to high-cost foreign countries subsequent to the 1978 FEIA. See Appendix C for the complete computation.

The data for testing the third hypothesis when the four-year approach is adopted may be presented as follows:

(3b) 1978 FEIA: Four-year approach

1977-78	High Cost Countries	Low Cost Countries	
Business Travel	14,483	6,946	21,429
Nonbusiness Travel	91,260	56,757	148,017
Total Travel	105,743	63,703	169,446

1979-80	High Cost Countries	Low Cost Countries	
Business Travel	13,666	6,139	19,805
Nonbusiness Travel	66,044	37,059	103,103
Total Travel	79,710	43,198	122,908

$$Z = \frac{.1714465 - .1369641 - .1421131 + .1090373}{\sqrt{\dfrac{169,446(\ .5659175) + 122,908(\ .4478231)}{169,446(122,908)}}} = .52$$

Since the test statistic does not exceed the 2.08 critical value, the null hypothesis must be accepted. Expressing hypothesis three in this manner leads to the conclusion that the 1978 FEIA did not result in a proportional "shift" of American employees from low-cost foreign

countries to high-cost foreign countries. See Appendix C for the entire
computation.

Potential Interaction

Some question exists as to whether hypothesis three should be
overall accepted or rejected since the null was rejected when the
two-year approach was followed for sub-hypothesis (3a) but was accepted
when the four-year approach was followed for sub-hypothesis (3b).
One possible reason for this conflict in results might be that long-
term business travel to low-cost countries was indeed curtailed rela-
tive to the change in long-term business travel to high-cost countries
following the 1978 FEIA. But accompanying this relative decrease in
long-term business travel could have been a relative increase in
short-term business travel to the low-cost countries in an effort to
continue maintaining adequate control over foreign business operations.
Examining changes in total business travel (as was done in stage two)
rather than changes in long-term business travel would not reveal this
travel behavior.

A similar behavior might have occurred in business travel to
high-cost countries. Perhaps an increase in long-term business travel
to high-cost countries relative to the change in long-term business
travel to low-cost countries did indeed take place but was offset by
a corresponding relative decrease in short-term business travel to
those countries.

Because of this possible interaction between long-term business
travel and short-term business travel coupled with the lack of clear-

cut test results, no overall conclusion regarding hypthesis three can be reached. Instead, the separate conclusions drawn from testing the two sub-hypotheses, (3a) and (3b), will be retained. Thus, a proportional "shift" from low-cost countries to high-cost countries did occur in the short run (i.e., when the two-year approach was followed). But a proportional "shift" from low-cost countries to high-cost countries was not evident in the long run (i.e., when the four-year approach was followed), even though the test statistic itself was in the right direction. These results may indicate that the reactions of U.S. workers to the 1978 FEIA took place immediately (i.e., in the first year following the act, 1979), and that relatively few adjustments remained to be made in 1980.

Table 20 summarizes the findings of this chapter. The overall effect of the 1976 TRA on American employment abroad was found to be negative. The 1978 FEIA, on the other hand, seemed to have a positive overall impact on American employment abroad. Nevertheless, the hypothesized effect of the 1978 FEIA on U.S. taxpayers working in different types of foreign countries was not supported conclusively by the analysis. As indicated, this may have resulted from using total business travel as a surrogate for long-term business travel.

<u>Graphical Analysis</u>

Based on the analysis in this chapter, it is concluded that tax policy may be used as an incentive to encourage the employment of U.S. citizens abroad. Both the 1976 TRA and the 1978 FEIA appear to have influenced the presence of U.S. employees abroad. Moreover,

TABLE 20

SUMMARY OF RESULTS

Hypothesis	Tax Law	Approach	Long-Term	Test Statistic	Critical Value	Null
1(a)	1976 TRA	Two-Year	> 1 Year	-2.68	2.08	Accept
1(b)	1976 TRA	Two-Year	> 2 Years	2.18	2.08	Reject
1(c)	1976 TRA	Four-Year	> 1 Year	2.37	2.08	Reject
1(d)	1976 TRA	Four-Year	> 2 Years	15.09	2.08	Reject
2(a)	1978 FEIA	Two-Year	> 1 Year	-3.08	2.35	Reject
2(b)	1978 FEIA	Two-Year	> 2 Years	-6.97	2.35	Reject
3(a)	1978 FEIA	Two-Year	NA	5.17	2.08	Reject
3(b)	1978 FEIA	Four-Year	NA	.52	2.08	Accept

Illustration 2 graphically depicts a steady upward climb in long-term

business trips abroad as a percentage of all long-term trips abroad

until 1976. Note that when long-term trips are considered to be those

trips lasting longer than one year, business trips decline from 45.2%

in 1975 to 42.9% of total long-term travel in 1978. Though an increase

in business travel in 1977 is evident, the subsequent decline in 1978

put long-term business travel at its lowest level since 1974. Moreover,

the slight increase in 1977 could be attributable to the fact that some

individuals included as long-term business travelers may nevertheless

have failed to satisfy the time requirements to qualify for special

tax benefits. Defining long-term travel as trips abroad exceeding two

years excludes those individuals traveling for business reasons who

may not have qualified for the special tax benefits. Therefore, the

change in business trips abroad exceeding two years can reasonably be

expected to be more sensitive to the 1976 TRA. Inspection of Illustra-

tion 2 confirms that the longer business trips do appear to be more

sensitive to the 1976 TRA. Business travel as a percentage of total

travel peaked in 1975 at 54.4%, declined to 53.9% in 1976, declined

to 52.9% in 1977, and then plummeted in 1978 to 45.8%, the lowest

level since 1972. This somewhat delayed reaction to the 1976 TRA would

also tend to confirm the earlier observation that the effects from

changes in the tax laws may not always be immediately evident.

The reaction to the 1978 FEIA appears to have been positive and

relatively quick. When long-term travel is defined as stays abroad

in excess of one year, business trips increased from 42.9% of total
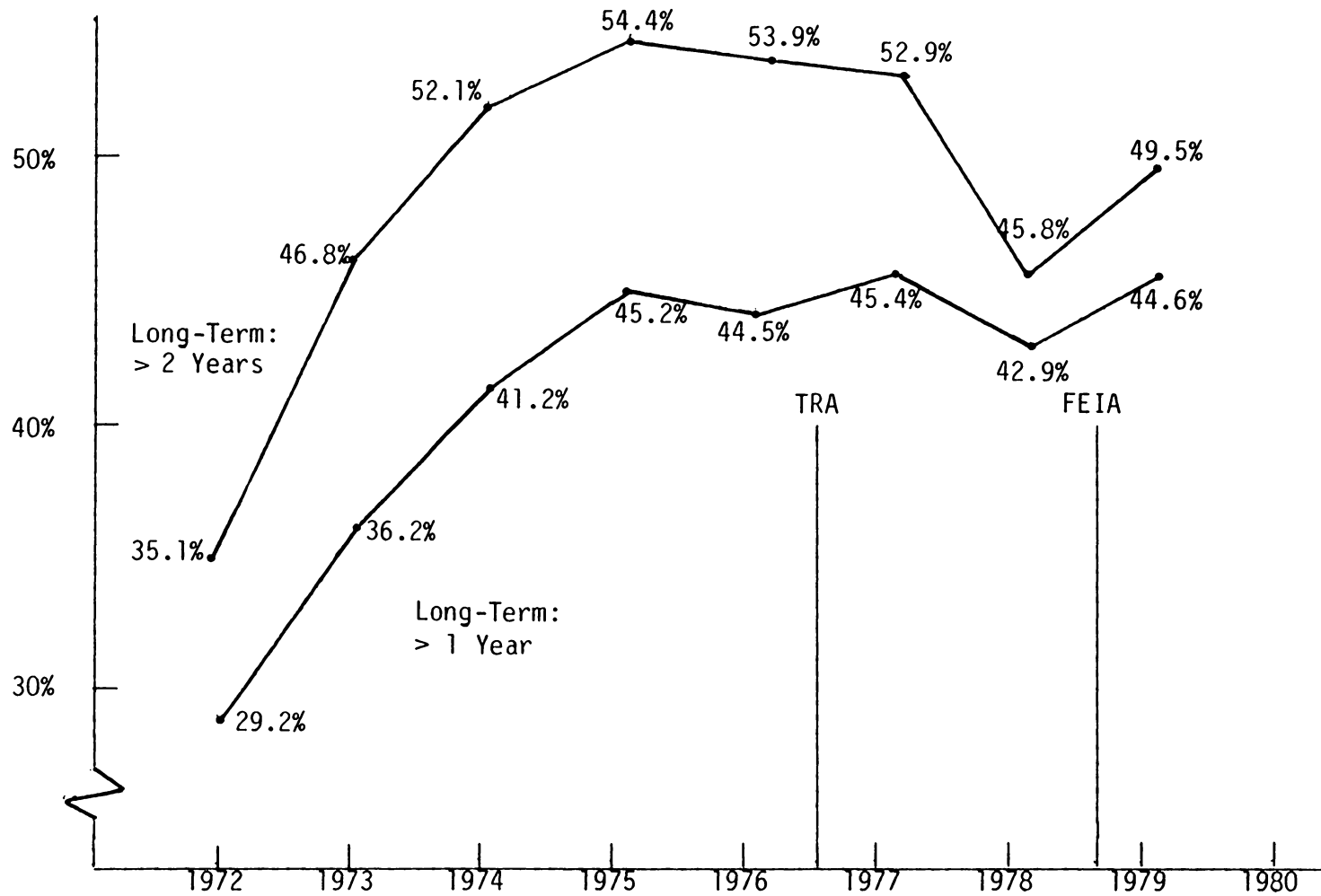
ILLUSTRATION 2

LONG-TERM BUSINESS TRAVEL AS A
PERCENTAGE OF TOTAL LONG-TERM TRAVEL

travel in 1978 to 44.6% in 1979. When long-term travel is defined as stays abroad exceeding two years, business trips increased from 45.8% in 1978 to 49.5% in 1979. The tax benefits provided by the 1978 FEIA do appear to have influenced Americans to accept employment positions abroad.

CHAPTER 8

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

Since 1926, Congress has granted substantial tax benefits to qualifying Americans employed abroad. The intended purpose of these benefits is to encourage Americans to accept employment positions abroad so that they might, in turn, support the export of U.S. goods and services by directing business back to the U.S. The purpose of this study was to determine whether changes in the taxation of foreign earned income have any effect on the presence[1] of American employees in foreign countries.

The prior research studies reviewed in Chapter 1 concluded that U.S. citizens working abroad have a significant, positive effect on U.S. exports. Assuming that such conclusions are correct, it is important to know whether U.S. income tax policy acts as an incentive to encourage Americans to accept jobs overseas, especially in light of the U.S.'s declining share of world exports. The results of the prior research studies conflicted on this point. Three survey studies concluded that changes in the U.S. income tax laws do have a significant effect on American employees' decisions to work abroad. A cross-sectional econometric study conducted by the Office of Tax Analysis, however, concluded that tax changes have no effect on the presence of

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[1]See footnote 2 in Chapter 1.

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American employees abroad because the demand for and supply of U.S. citizens to work abroad is inelastic.

Because of the conflict between the conclusions of these prior studies, the present research study examined this issue once more using an ex post facto analysis of changes in American employment abroad following two recent tax law changes--the Tax Reform Act of 1976 and the Foreign Earned Income Act of 1978. Since employment data for Americans working abroad are not available, the annual number of passports issued to individuals traveling for business purposes was selected as a suitable surrogate for the real variable of interest. These passport data are compiled from passport applications and maintained in summary form by the Passport Office of the U.S. Department of State.

The passport data utilized in the present study were available in two cross-classification tables. The first table categorized passport applicants according to their intended length of stay abroad and their purpose for traveling. The second table categorized passport applicants according to their purpose for traveling and their foreign country of destination.

Since changes brought about by the 1976 TRA were economically very burdensome on American expatriates, the first hypothesis was that American employment declined subsequent to this act. This hypothesis was divided into four sub-hypotheses, three of which were supported by the ensuing analysis. Therefore, it was concluded that American employment abroad did decline relative to the total number

of Americans traveling abroad as a result of the 1976 TRA.

The 1978 FEIA brought new changes for the American expatriate.
Because these changes were very complex and the provisions often
required extensive substantiation by the taxpayer, the overall
effect (i.e., positive or negative) on the presence of U.S. employees
abroad was uncertain, in spite of the fact that the tax benefits
under these new rules generally exceeded the tax benefits available
under the 1976 TRA. The second hypothesis, therefore, stated that
American employment abroad changed subsequent to the 1978 FEIA. This
hypothesis was divided into two sub-hypotheses. The analysis in both
cases indicated that an increase in American employees abroad relative
to total long-term travelers resulted despite the complexity of and
the administrative details required by the act.

The third hypothesis also centered around the 1978 FEIA. Since
the provisions of this act allowed larger tax deductions for American
employees residing in high-cost countries relative to those residing
in low-cost countries, it was hypothesized that the proportion of
American employees residing in high-cost countries increased subsequent
to the 1978 FEIA. The two groups of countries included in the study
were as follows:

High-Cost	Low-Cost
Austria	Austrailia
Belgium	Colombia
Germany	Ireland
Japan	Italy
Netherlands	Panama
Sweden	Thailand

After selecting these two groups, it was then demonstrated that if the analysis did indeed happen to reveal a proportional "shift" of American employees from low-cost countries to high-cost countries, that shift could not be attributed to differences in exchange rate fluctuations, investment growth potential, U.S. direct investment, country business risk, or U.S. economic assistance. In other words, any such observed "shift" could likely be attributed to changes in the income tax law under the 1978 FEIA.

As before, the hypothesis was divided into two sub-hypotheses, only one of which could be accepted. Therefore, no overall conclusion could be reached as to whether the 1978 FEIA resulted in a proportional "shift" of American employees from low-cost foreign countries to high-cost foreign countries.

Conclusion

The purpose of this research study has been to determine whether changes in the taxation of foreign earned income have any effect on the presence of American employees in foreign countries. The overall evidence indicates that taxes do have an effect.

The 1976 TRA was shown to have had a negative impact on the presence of American employees abroad in spite of the fact that the act itself was twice delayed and never became fully effective. The mere threat of taking away some of the tax benefits available to U.S. citizens working in foreign countries was sufficient to discourage employment abroad.

The 1978 FEIA, on the other hand, had a positive impact on the presence of American employees abroad. Even though the number of travelers decreased after 1978, the proportion traveling on business increased. The increased tax benefits provided by the 1978 FEIA apparently outweighed the negative aspects of the act--increased complexity and additional substantiation requirements.

However, when the data were analyzed for a "shift" of business travelers from low-cost countries to high-cost countries subsequent to the 1978 FEIA, the results were inconclusive. A proportional "shift" did occur in the short run, but no "shift" could be detected in the long run. These results suggest that most of the U.S. workers' reactions to the 1978 FEIA took place relatively quick.

Based upon the results of this study, the liberalized exclusion for foreign earned income packaged in the 1981 Economic Recovery Tax Act is a step in the right direction. These increased tax benefits should put U.S. citizens on a near-equal footing with citizens of other nations when applying for jobs overseas. Because the cost differential between hiring an American or hiring a foreign national is now greatly diminished, an increase in the presence of American employees abroad should result. This increase, however, may not become evident immediately. U.S. firms may likely be cautious about sending Americans to work in overseas operations in view of the uncertain, recent history of the tax law. U.S. firms need to be assured that the exclusion will not suddenly disappear in the near future.

The Secretary of the Treasury has been instructed to report on the progress and effects of the new foreign earned income exclusion.[2] A Congressional mandate requiring U.S.-based international businesses to disclose employment figures on their overseas operations would provide reliable information for this report. Such action by Congress would perhaps be the most efficient method of collecting employment data on a wide scale. Moreover, these data could be used either to verify or to refute the conclusion presented here.

Notwithstanding the above conclusion, the findings of this study are limited because of the possibility that observed changes in American employment abroad could have been caused by extraneous factors rather than by changes in U.S. income taxes. The degree to which a third factor could have been responsible for the changes in the dependent variable was minimized to a large extent by standardizing business travel abroad by total travel abroad. Nevertheless, other factors such as the opening or the closing of international markets changing corporate philosophies, or the state of the U.S. economy may have affected business travel abroad without having any effect on non-business travel. The possibility of such extraneous factors is often a limitation in time-series analyses.

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[2]Economic Recovery Tax Act of 1981, Section 114, P.L. 97-34, U.S. Code Services, Lawyers' Edition (Sept. 1981).

Recommendations

Future research may follow several avenues. First, a case study involving one or more U.S. firms with operations abroad might investigate the assertion that the nationalities of employees (especially those in management positions) influence the decision of where (i.e., which country) to purchase machinery, equipment, materials, and supplies. Do foreign nationals employed by U.S.-based firms abroad really influence the procurement decision? And how strong is this influence? These important questions have not yet been subjected to empirical investigation.

Second, it would be interesting to compare U.S.-based firms operating in developed foreign countries versus those operating in developing foreign countries. Do the procurement decisions and employment practices of these two groups of firms differ? If so, are these differences desirable? If not, then perhaps a change in tax policy could help resolve the undesirable situation.

Third, the following question needs to be addressed: Should all Americans employed abroad be allowed to exclude a portion of their foreign earned income, regardless of the nationality of the firm with which they are employed? For instance, should U.S. citizens working for French-based firms be allowed the same tax benefits as U.S. citizens working for U.S.-based firms? The answer to this question should depend on whether the American employee in each situation can be reasonably expected to contribute to U.S. exports. This question too, could be answered empirically.

Fourth, the lag time between the enactment of a tax law change and the desired response should be investigated. How quickly do American employees react to changes in the taxation of their foreign earned income? What factors determine the speed of this response? Do taxpayers instead tend to anticipate changes in the taxation of their foreign earnings? These questions could be addressed with regard to changes in other tax incentives as well (e.g., changes in tax depreciation schedules and changes in the investment tax credit).

Fifth, future research could examine the effect tax law changes have on U.S. businesses. How does the recent stability of the tax law affect business planning? Insight into this question could be gained through the use of a questionnaire or a case study.

Finally, the research study presented here could be replicated in a few years to investigate the impact on American employment abroad resulting from the Economic Recovery Tax Act of 1981. The key variables affecting the presence of American employees abroad for this study were identified in Chapter 6. Nevertheless, some important factors may have been overlooked, and new factors may emerge in the future. These other factors need to be identified and incorporated into any future analysis.

The passport data utilized in this research study were available only in predetermined, cross-classified summary tables. Therefore, many classifications of the data which might have been desirable could not be obtained. For example, passport information classified by purpose, foreign country, and length of stay would have been helpful

in stage two of this study. But passport data classified into more than two categories per year are simply nonexistent. This obstacle could be overcome by maintaining the raw data from the passport applications on a machine-readable file. The researcher could then compile his own tables if the desired tables were not already available.

Two questions on the passport application are confusing. The applicant is asked how long he expects to stay abroad and when he expects to take his next trip abroad. Are short return visits to the U.S. to be considered or ignored when responding to these questions? To illustrate, assume a particular applicant plans to live and work in Belgium for three years but return to the U.S. for one-week visits with relatives every six months? To increase the usefulness of the data, such return trips should be ignored since these short return visits would not disqualify the traveler from receiving special tax treatment. The Passport Office should consider clarifying the meaning of these two questions on the passport application.

Some methods of detecting the number of long-term business trips abroad on a previously used passport would also be valuable. At present, these additional trips go unrecorded by the U.S. Passport Office. A more accurate view of long-term business travel abroad would be possible if subsequent uses of passports could be detected and recorded. Perhaps customs could assume responsibility for obtaining this type of information.

SOURCES CONSULTED

Billings, Robert E. and Felix B. Probandt. "Double Tax Jeopardy for
     Americans Working Abroad." Financial Executive (June 1977),
     pp. 42-48.

"BI's 1980 COL Survey Focuses on Key Changes in Asia/Pacific Region."
     Business Asia (May 23, 1980), pp. 165-67.

Bishop, David G. "Recapture of Excess Housing Deductions Under the
     Technical Corrections Act of 1979." Tax Advisor (July 1980),
     pp. 411-13.

Bruce, Charles M. "New Rules Taxing Americans Working Abroad." Taxes,
     pp. 79-84.

Burge, Marianne and Richard M. Hammer. "The High Cost of Compensating
     U.S. Employees Abroad." Price Waterhouse Review, No. 1 (1977),
     pp. 32-39.

Business Environment Risk Information, Ltd. "BERI, Ltd. System of
     Risk Assessment." New York: BERI, 1981.

Business Environment Risk Information, Ltd. Business Environment Risk
     Index. New York: BERI, various years.

Business International Corporation. The Effects of U.S. Corporate
     Foreign Investment 1970-79. New York: BIC, 1981.

Business International Corporation. Worldwide Economic Indicators,
     New York: BIC, various years.

Capie, Forrest. "Free Trade or Protectionism: The Lessons of Experi-
     ence." The Banker (October 1980), pp. 29-31.

Casna, Richard P. "U.S.A.: The Foreign Earned Income Act of 1978;
     The Taxation of U.S. Citizens Overseas." International Bureau of
     Fiscal Documentation (January 1979), pp. 19-24.

Chase Econometric Associates, Inc. Economic Impact of Changing Taxa-
     tion of U.S. Workers Overseas, June 1980.

Coneys, John J. "Expatriate Housing Expense Deduction - Recapture
     Rule Is One-Edged Sword." Tax Advisor (July 1980), pp. 416-17.

Congressional Record, 67 (1926), 3781-83.

Daniels, John D., Ernest W. Ogram, Jr., and Lee H. Radebaugh. _Inter-national Business: Environments and Operations_. 2nd ed. Reading: Addison-Wesley, 1979.

"Debate on Curbs on Japanese Cars Heats Up Capital." _Automotive News_ (March 23, 1981), pp. 1, 42.

Dobson, J. H. and V.M. Tarris. "U.S. Tax Reform Act of 1976 - Congress Chases the Foreign Dollar." _Bulletin for International Fiscal Documentation_ (Feb. 1977), pp. 51-63.

Dunegan, Russell Stephen. "The Foreign Earned Income Act of 1978: Non-benefits for Nonresidents." _Cornell International Law Journal_ (Winter 1980), pp. 105-23.

Economic Receovery Tax Act of 1981, P.L. 97-34. _United States Code Service_. Lawyers' edition. Rochester, N.Y.: Lawyers Cooperative Publishing Co., 1981.

Ernst & Whinney. _The New Tax Law for U.S. Citizens Abroad_. New York: E & W, 1981.

Ernst & Whinney. _1980 Guide to U.S. Taxes for Citizens Abroad_. New York: E & W, 1980.

Ernst & Whinney. _Tax and Total Cost of U.S. Citizens Abroad_. New York: E & W, 1980.

Estes II, Carl. "Foreign Adventures: The Foreign Earned Income Act of 1978." _Review of Taxation of Individuals_ (Aut. 1979), pp. 263-79.

Feinschreiber, Robert. "New Deductions for Overseas Americans." _International Tax Journal_ (Dec. 1978), pp. 93-108.

Feinschreiber, Robert. "New Rules Affect Taxation of Americans Overseas." _International Tax Journal_ (Dec. 1976), pp. 113-17.

Feinschreiber, Robert. "New Tax Provisions Affect International Operations." _CPA Journal_ (Feb. 1977), pp. 23-25.

Ferguson, C.E. and S. Charles Maurice. _Economic Analysis_. Homewood, Illinois: Richard D. Irwin, 1974.

Foreign Earned Income Act of 1978. P.L. 95-615. 92 _Statutes at Large_ 3098.

"Foreign Earned Income Exclusion." _CPA Journal_ (July 1977), pp. 40-41.

Foreign Investors Tax Act of 1966. P.L. 89-809. 80 *Statutes at Large* 1539.

Frohlich, Samuel M. and Mark J. Schulz. "International Tax Provision of TRA 76." *NYU Institute on Federal Taxation*, 36 (1978), pp. 963-1010.

Gallagher, Jr., Thomas J. "Exclusion of Foreign Employees' Earned Income Under Section 911." *Journal of Real Estate Taxation* (Sum. 1977), pp. 353-60.

Garcia, Charles F. and James H. Shedivy. "Taxation of the U.S. Expatriate Living and Working in Canada." *Canadian Tax Journal* (Sept.-Oct. 1978), pp. 523-36.

Gaster, Paul. "U.S. Expatriates and Tax Reform." *CA Magazine* (Jan. 1978), pp. 58-62.

Geiser, Thomas C. "U.S. Taxation of Non-Resident Citizens." *Bulletin for International Fiscal Documentation* (Feb. 1978), pp. 62-66.

Gibbons, Jean Dickinson. *Nonparametric Statistical Inference.* New York: McGraw-Hill, 1971.

Gutmann, Peter. "Assessing Country Risk." *National Westminster Bank Quarterly* (May 1980), pp. 58-68.

Hanbery, Glyn W. and Richard H. Visse. "Working Abroad Can Exempt Up to $25,000 of Compensation from Federal Income Tax." *Taxation for Accountants* (Mar. 1976), pp. 168-71.

Haner, F.T. *Global Business Strategy for the 1980's.* New York: Praeger Publishers, 1980.

Hershey, Jr., Robert D., "Costly Fall in Expatriate Jobs." *New York Times* (February 19, 1980), D1, col. 4.

"The High Cost of Living Around the World." *Business Week* (November 15, 1976), pp. 174-82.

Hogendorn, Jan S. and Wilson B. Brown. *The New International Economics.* Reading: Addison-Wesley, 1979.

Hollander, Myles and Douglas A. Wolfe. *Nonparametric Statistical Methods.* New York: John Wiley & Sons, 1973.

Hooton, Steve R. "The Disappearing Foreign Earned Income Exclusion." *Taxes* (Aug. 1977), pp. 522-31.

Internal Revenue Service. Statistics of Income - 1972-78. International Income and Taxes. Foreign Income and Taxes Reported on Individual Income Tax Returns. Washington: U.S. Government Printing Office, 1981.

International Monetary Fund. International Financial Statistics. Washington: IMF, 1981.

International Monetary Fund. International Financial Statistics: Supplement on Exchange Rates. Washington: IMF, 1981.

Jensen, Donald R., G.B. Beus, and George Storm. "Simultaneous Statistical Tests on Categorical Data." Journal of Experimental Education, 36 (Summer 1968), pp. 46-55.

Knorr, Gene A. "Foreign Earned Income - Policy Imporved But Not Resolved." Tax Executive (April 1979), pp. 203-15.

Komlyn, Anthony M. and Peter W. Minges. "Foreign Earned Income Act Will Affect Americans Abroad: New Planning Moves." Journal of Taxation (Jan. 1979), pp. 38-43.

Kramer, John L. "Deductibility of Moving Expenses for the Expatriate American." Taxes (Oct. 1976), pp. 654-67.

Kramer, John L. "Tax Reform Act of 1976 - Impact of Changes on U.S. Expatriate Employees." Taxes (Sept. 1977), pp. 608-17.

Kubin, Konrad W. "German Direct Investments in the United States and American Direct Investments in the Federal Republic of Germany." German Studies Notes. Bloomington, Indiana: Institute of German Studies, 1978.

Lawrence, W. Jeffrey. "The Taxation of Americans Living Abroad: The Foreign Earned Income Act of 1978 and §§ 911 and 913 of the Internal Revenue Code." Columbia Journal of Transnational Law 19 (1981), 79-119.

Levine, Mel. "Section 911: The Foreign Earned Income Exclusion - Death Blow or Recovery?" Taxes (March 1978), pp. 169-76.

Li, Jerome C.R. Introduction to Statistical Inference. Ann Arbor: Edwards Brothers, 1957.

Library of Congress. Congressional Research Service. U.S. Taxation of Citizens Working in Other Countries: An Economic Analysis by Jane G. Gravelle and Donald W. Kiefer, 1978.

Lipson, David E. and Lynn D. Lotka. "The U.K.: Still a Tax Haven for American Expatriates?" Tax Advisor (May 1975), pp. 262-69.

Miller, Rupert G., Jr. Simultaneous Statistical Inference, 2nd ed. (New York: Springer-Verlag, 1981).

Milner, Chris and David Greenway. An Introduction to International Economics. New York: Longman, 1979.

Milre, Jennifer D. Taxation and the Size of the American Labor Force Overseas: A Demographic Analysis of Changes, Causes, Consequences, and Prospects, 1979.

Minges, Peter W. "Sec. 911: Bona Fide Residence for Entire Short Taxable Year." Tax Advisor (July 1978), pp. 399.

Moore, Landy. Passport Office Statistician. U.S. Department of State. Telephone conversation on January 19, 1982.

Morrione, Melchior. Authur Andersen & Co. Taxation of U.S. Citizens Working Abroad (June 26, 1980).

Mueller, John H., Karl F. Schuessler, and Herbert L. Costner. Statistical Reasoning in Sociology. 3rd ed. Boston: Houghton Mifflin, 1977.

O'Connor, Walter F. and Robert K. Decelles. "Easing the Tax Squeeze on the Multinational Employee." Personnel (Sept. - Oct. 1977), pp. 28-39.

Orr, Paul G. and Glenn W. White. "Americans Overseas: The Decline Continues." International Tax Journal (December 1980), pp. 149-51.

Paris, David P. Foreign Statistics Section of the IRS. Telephone conversation on November 3, 1981.

Patrick, Jr., Robert J. "Simplifying the Taxation of Foreign Source Income." International Tax Journal (Sept. 1977), pp. 321-38.

Patton, Brainard L., Jr. "United States Individual Income Tax Policy as It Applies to Americans Resident Overseas: Or, If I'm Paying Taxes Equal to 72 Percent of My Gross Income, I Must Be Living in Sweden." Duke Law Journal (1975), pp. 691-739.

Penick, William C. "AICPA Urges Changes in New Sec. 911 Rules." Tax Advisor (July 1977), pp. 426-29.

Persen, William. Senior Vice President of Business International Corporation. Letter correspondence of August 20, 1981.

Postlewaite, Phillip F. and Gregory E. Stern. "Innocents Abroad? The 1978 Foreign Earned Income Act and the Case for Its Repeal." Virginia Law Review (Oct. 1979), pp. 1093-1133.

Prentice-Hall. Prentice-Hall Federal Tax Service, various years.

President's Export Council. Subcommittee on Export Expansion. Report of the Task Force to Study the Tax Treatment of Americans Working Overseas (December 5, 1979).

Price Waterhouse. Individual Taxes in 80 Countries. New York: Price Waterhouse, 1979.

Rao, C. Radhakrishna. Linear Statistical Inference and Its Applications. 2nd ed. New York: John Wiley & Sons, 1973.

"Rating Country Risk." Institutional Investor (March 1980), pp. 63-65.

"The Reluctant Exporter - Traditional U.S. Attitudes and Antiexport Policies." Business Week (April 10, 1978), pp. 54-56.

Revenue Act of 1962. P.L. 87-834. 76 Statutes at Large 960.

Revenue Act of 1964. P.L. 88-272. 78 Statutes at Large 19.

Revenue Act of 1978. P.L. 95-600. 92 Statutes at Large 2763.

Reynolds, Calvin. "Hunting for a Job Overseas." New York Times (October 24, 1979), D19, col. 3.

Roberts, Sidney I., Sanford H. Goldberg and Herbert H. Alpert, eds. "Is 911 Exclusion Based on Gross or Net Income?" Journal of Taxation (Sept. 1976), pp. 162-68.

Roemer, John E. "The Effect of Sphere of Influence and Economic Distance on the Commodity Composition of Trade in Manufacturers." Review of Economics and Statistics (August 1977), pp. 318-27.

Rohlf, F. James and Robert R. Sokal. Statistical Tables. San Francisco: W. H. Freeman, 1969.

Rosen, Daniel M. "Tax Cost Rises for United States Citizens Who Are Employed in Overseas Positions." Taxation for Accountants (Jan. 1977), pp. 48-50.

"Sec. 911: Bona Fide Residence for Entire Short Taxable Year." Tax Advisor (July 1978), p. 399.

"Section 911 and Foreign Tax Allowed." CPA Journal (May 1977), p. 42.

Shagam, Jerome I. and Kenneth G. Kolmin. "Temporary Regulations Resolve Some Problems for U.S. Persons Working Abroad." International Tax Journal (June 1979), pp. 363-93.

Shedivy, James. "Sec. 911 - Foreign Income Exclusion vs. Income Aver-
aging." Tax Advisor (Nov. 1978), p. 672.

Simms, Charles A. "Summarizing the Foreign Earned Income Act of 1978."
Management Accounting (Aug. 1979), pp. 32-36.

Simon, Julian L. Basic Research Methods in Social Sciences. 2nd ed.
New York: Random House, 1978.

Skelly, Daniel F. Chief of the Foreign Statistics Section of the IRS.
Letter correspondence of October 22, 1981.

Slowinski, Walter A. and B. John Williams. "The Formative Years of the
Foreign Source Earned Income Exclusion: Section 911." Taxes (June
1973), pp. 355-62.

Sommerfeld, Ray M., et al. An Introduction to Taxation: Advanced
Topics. New York: Harcourt Brace Jovanovich, 1980.

Sonnabend, Henry I. "Tax Planning for Overseas Employees." Practical
Accountant (July/Aug. 1975), pp. 62-69.

Strange, William O. "Equalizing Tax Equalization." Taxes (Feb. 1972),
pp. 105-13.

Sullins, R.E. "Gene" "Assessing the Effect of Increased Taxation on
Americans Employed Abroad - An Interesting Challenge." GAO Review
(Sum. 1978), pp. 67-71.

Tax Reduction and Simplification Act of 1977. P.L. 95-30. 91 Stat-
utes at Large 126.

Tax Reform Act of 1976. P.L. 94-455. 90 Statutes at Large 1520.

Tax Treatment Extension Act of 1977. P.L. 95-615. 92 Statutes at
Large 3097.

Technical Corrections Act of 1979. HR 2797, 96th Cong., 1st Sess.,
125 Congressional Record H5936 (July 16, 1979).

Thompson, John K. "The Poor Man's Guide to Country Risk." Euromoney
(July 1981), pp. 182-89.

Thuronyi, Victor. "A Critique of the Chase Study of the Tax Treatment
of U.S. Workers Overseas." Tax Notes (June 30, 1980), pp. 979-84.

U.S. Comptroller General. Report to the Congress. American Employ-
ment Abroad Discouraged by U.S. Income Tax Laws, 1981.

U.S. Comptroller General. Report to the Congress. Impact on Trade of Changes in Taxation of U.S. Citizens Employed Overseas, 1978.

U.S. Comptroller General. Report to the Congress. Revenue Estimates Under Various Methods of Taxing Americans Abroad, 1978.

U.S. Congress. House. Conference Report on Internal Revenue Bill. HR 1492, 72nd Cong., 1st Sess., 1932.

U.S. Congress. House. Conference Report on Internal Revenue Bill of 1926. HR 356, 69th Cong., 1st Sess., 1926.

U.S. Congress. House. Economic Recovery Tax Act of 1981. HR 215, 97th Cong., 1st Sess., 1981.

U.S. Congress. House. Foreign Earned Income Act of 1978. HR 1463, 95th Cong., 2nd Sess., 1978.

U.S. Congress. House. Internal Revenue Bill of 1926. HR 1, 69th Cong., 1st Sess., 1926.

U.S. Congress. House. Internal Revenue Code of 1954. HR 1337, 83rd Cong., 2nd Sess., 1954.

U.S. Congress. House. Internal Revenue Technical Changes Act of 1953. HR 894, 83rd Cong., 1st Sess., 1953.

U.S. Congress. House. Revenue Act of 1962. HR 1447, 87th Cong., 2nd Sess., 1962.

U.S. Congress. House. Revenue Bill of 1942. HR 2333, 77th Cong., 2nd Sess., 1942.

U.S. Congress. House. Tax Reform Act of 1975. HR 658, 94th Cong., 1st Sess., 1975.

U.S. Congress. House. Technical Amendments Act of 1957. HR 775, 85th Cong., 1st Sess. 1957.

U.S. Congress. Senate. Extend Time During Which Certain Provisions Relating to Income and Estate Taxes Shall Apply. SR 685, 83rd Cong., 1st Sess., 1953.

U.S. Congress. Senate. Foreign Earned Income Act of 1978. SR 746, 95th Cong., 2nd Sess., 1978.

U.S. Congress. Senate. Internal Revenue Bill of 1926. SR 52, 69th Cong., 1st Sess., 1926.

U.S. Congress. Senate. Internal Revenue Code of 1954. SR 1622, 83rd Cong., 2nd Sess., 1954.

U.S. Congress. Senate. Revenue Act of 1951. SR 781, 82nd Cong., 1st Sess., 1951.

U.S. Congress. Senate. Revenue Act of 1962. SR 1881, 87th Cong., 2nd Sess., 1962.

U.S. Congress. Senate. Revenue Bill of 1942. SR 1631, 77th Cong., 2nd Sess., 1942.

U.S. Congress. Senate. Revision of Internal Revenue, 1932. SR 665, 72nd Cong., 1st Sess., 1932.

U.S. Congress. Senate. Tax Reform Act of 1976. SR 938, 94th Cong., 2nd Sess., 1976.

U.S. Congress. Senate. Committee on Appropriations. Foreign Assistance and Related Programs Appropriations, various years.

U.S. Congress. Senate. Committee on Finance. Taxation of Americans Working Abroad. 95th Cong., 2nd Sess., 1978.

U.S. Congress. Senate. Committee on Finance. Subcommittee on Taxation and Debt Management Generally. Taxation of Foreign Earned Income. 96th Cong., 2nd Sess., 1980.

U.S. Department of Commerce. U.S. Direct Investment Abroad, 1977, 1981.

U.S. Department of Commerce. Bureau of Economic Analysis. Selected Data on U.S. Direct Investment Abroad, 1966-78, 1980.

U.S. Department of Commerce. Bureau of the Census. U.S. Exports/World Areas by Schedule E Commodity Groupings, various years.

U.S. Department of Commerce. Industry & Trade Administration. International Economic Indicators, 1980.

U.S. Department of Labor. Bureau of Labor Statistics. U.S. Department of State Indexes of Living Costs Abroad and Quarters Allowances, various years.

U.S. Department of Labor. Bureau of Labor Statistics. Urban Family Budgets and Comparative Indexes for Selected Urban Areas, various years.

U.S. Department of State. Annual Report of Americans Abroad, various years.

U.S. Department of State. Bureau of Consular Affairs. Passport Services. Summary of Passport Statistics, various years.

U.S. Department of State. Bureau of Consular Affairs. Passport Services. Summary of Passport Statistics: Supplement No. 1, various years.

U.S. Department of State. Bureau of Consular Affairs. Passport Services. Unpublished passport data, various years.

U.S. Department of Transportation. Transportation Information Management Division. U.S. International Air Travel Statistics, various years.

U.S. Department of Treasury. Taxation of Americans Working Overseas: Revenue Aspects of Recent Legislative Changes and Proposals, 1978.

U.S. Department of Treasury. Assistant Secretary for Tax Policy. Office of Tax Analysis. The American Presence Abroad and U.S. Exports, by John Mutti. OTA Paper 33, 1978.

Wehrenberg, Ralph and Lynn D. Lotka. "The '76 Act - The Death Blow for Sec. 911?" Tax Advisor (Sept. 1977), pp. 551-56.

Wehrenberg, Ralph A., et al. "The Foreign Earned Income Act of 1978: A Step Forward for Expatriates and Their Employers." Tax Advisor (Jan. 1979), pp. 4-14.

Weiss, Peter B. "Expatriate's Deduction for 1977 Moving Expenses Can Be Increased." Tax Advisor (July 1979), pp. 406-07.

White, William L. and John J. McGowan. "Expatriate Compensation at the Crossroad." S.A.M. Advanced Management Journal (Fall 1977), pp. 14-22.

Wolf, Jordan B. "The High Cost of Working Abroad." Viewpoint (1977), pp. 18-23.

World Bank. World Development Report 1981. Washington: Oxford University Press, 1981.

World Tourism Organization. Summary and Analysis of International Travel To/From the U.S. (1978), ASI 2904-10.

APPENDIX A

SPEARMAN'S RANK CORRELATION COEFFICIENT

Spearman's rank correlation coefficient (hereafter designated as simply R) is a statistic which measures the association between two random variables from a bivariate population. The statistic is essentially equivalent to the Pearson product-moment correlation coefficient except that R is computed on the ranks rather than on the actual observations. Moreover, Spearman's procedure does not require that the bivariate population be normally distributed as does Pearson's procedure.

To compute R, the observations from a random sample of n pairs

$$(X_1, Y_1), (X_2, Y_2), \ldots, (X_n, Y_n)$$

are ranked in increasing order for each variable so that r_i is equal to the rank of X_i, and s_i is equal to the rank of Y_i. The resulting n pairs

$$(r_1, s_1), (r_2, s_2), \ldots, (r_n, s_n)$$

are then used to compute R as follows:

$$R = 1 - \frac{6 \sum_{i=1}^{n} D_i^2}{n(n^2 - 1)}$$

$$\text{where } D_i^2 = (r_i - s_i)^2$$

If ties are present in either set of measurements, the tied observations are assigned midranks. For example, if the two smallest X_i's are tied, they would each be assigned a rank of 1.5. Next, t_j is designated as the size of the j-th group of X ties, and u_k is designated as the size of the k-th group of Y ties. Assuming that there are ℓ groups of tied X's and m groups of tied Y's, R may be computed as follows:

$$R = \frac{n(n^2 - 1) - 6 \sum_{i=1}^{n} D_i^2 - \frac{T + U}{2}}{\sqrt{(n(n^2 - 1) - T)(n(n^2 - 1) - U)}}$$

$$\text{where } T = \sum_{j=1}^{\ell} (t_j^3 - t_j)$$

$$U = \sum_{k=1}^{m} (u_k^3 - u_k)$$

As n becomes large (i.e., greater than 10) a large sample approximation statistic $R^* = R\sqrt{n - 1}$ may be used. R^* has an asymptotic normal distribution with mean of zero and standard deviation equal to one. Thus, critical values may be found in any table giving the area under the normal curve.

The following references may be consulted for additional information on Spearman's rank correlation coefficient:

(1) Jean Dickinson Gibbons, Nonparametric Statistical Inference (New York: McGraw-Hill, 1971), pp. 226-35.

(2) Myles Hollander and Douglas A. Wolfe, Nonparametric Statistical Methods (New York: John Wiley & Sons, 1973), pp. 191-93.

APPENDIX B

DERIVATION OF THE STATISTIC FOR TESTING
HYPOTHESIS THREE [1]

Assuming that years are independent, the following notation may be used to represent the number of passports issued according to purpose of travel, destination, and year:

1978 or 1977-78	High Cost Countries	Low Cost Countries	
Business Travel	n_{111}	n_{121}	
Nonbusiness Travel	n_{211}	n_{221}	
Total Travel	$n_{.11}$	$n_{.21}$	$n_{..1}$

where $n_{.11} = n_{111} + n_{211}$

$n_{.21} = n_{121} + n_{221}$

$n_{..1} = n_{.11} + n_{.21}$

1979 or 1979-80	High Cost Countries	Low Cost Countries	
Business Travel	n_{112}	n_{122}	
Nonbusiness Travel	n_{212}	n_{222}	
Total Travel	$n_{.12}$	$n_{.22}$	$n_{..2}$

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[1]The derivation of this statistic is the work of Mark Marcucci, a graduate student at Virginia Tech.

where $n_{.12} = n_{112} + n_{212}$

$n_{.22} = n_{122} + n_{222}$

$n_{..2} = n_{.12} + n_{.22}$

Considering the above as two four-nomial distributions yields the following proportion parameters:

1978 or 1977-78	High Cost Countries	Low Cost Countries	
Business Travel	π_{111}	π_{121}	
Nonbusiness Travel	π_{211}	π_{221}	
Total Travel			1

where $\pi_{111} + \pi_{211} + \pi_{121} + \pi_{221} = 1$

1979 or 1979-80	High Cost Countries	Low Cost Countries	
Business Travel	π_{112}	π_{122}	
Nonbusiness Travel	π_{212}	π_{222}	
Total Travel			1

where $\pi_{112} + \pi_{212} + \pi_{122} + \pi_{222} = 1$

The hypothesis to be tested may then be stated as below:

$$H_0: \left(\frac{\pi_{112}}{\pi_{112} + \pi_{212}} - \frac{\pi_{111}}{\pi_{111} + \pi_{211}}\right) - \left(\frac{\pi_{122}}{\pi_{122} + \pi_{222}} - \frac{\pi_{121}}{\pi_{121} + \pi_{221}}\right) = 0$$

$$H_1: \left(\frac{\pi_{112}}{\pi_{112} + \pi_{212}} - \frac{\pi_{111}}{\pi_{111} + \pi_{211}}\right) - \left(\frac{\pi_{122}}{\pi_{122} + \pi_{222}} - \frac{\pi_{121}}{\pi_{121} + \pi_{221}}\right) > 0$$

As $n_{..2} \to \infty$ such that $n_{..2}/n_{..1}$ converges to a positive constant, it is true from Central Limit Theory that

$$\sqrt{n_{..2}} \ (p_{111}, \ p_{211}, \ p_{121}) \xrightarrow{d} N(\Pi_1, \ (n_{..2}/n_{..1}) \Sigma_1)$$

$$\sqrt{n_{..2}} \ (p_{112}, \ p_{212}, \ p_{122}) \xrightarrow{d} N(\Pi_2, \Sigma_2)$$

where p_{ijk}'s are sample estimates of the π_{ijk}'s and the symbol $\xrightarrow{d}$ indicates convergence in distribution.

The dispersion matrices of the two 4-nomial distributions are given as follows:

$$\Sigma_1 = \begin{bmatrix} \pi_{111}(1 - \pi_{111}) & -\pi_{111}\,\pi_{211} & -\pi_{111}\,\pi_{121} \\ -\pi_{111}\,\pi_{211} & \pi_{211}(1 - \pi_{211}) & -\pi_{211}\,\pi_{121} \\ -\pi_{111}\,\pi_{121} & -\pi_{211}\,\pi_{121} & \pi_{121}(1 - \pi_{121}) \end{bmatrix}$$

$$\Sigma_2 = \begin{bmatrix} \pi_{112}(1 - \pi_{112}) & -\pi_{112}\,\pi_{212} & -\pi_{112}\,\pi_{122} \\ -\pi_{112}\,\pi_{212} & \pi_{212}(1 - \pi_{212}) & -\pi_{212}\,\pi_{122} \\ -\pi_{112}\,\pi_{122} & -\pi_{212}\,\pi_{122} & \pi_{122}(1 - \pi_{122}) \end{bmatrix}$$

The independent statistics may be expressed in the following forms:

$$g_1(p_{111}, \ p_{211}, \ p_{121}) = \frac{p_{111}}{p_{111} + p_{211}} - \frac{p_{121}}{1 - p_{111} - p_{211}}$$

$$= \frac{n_{111}}{n_{.11}} - \frac{n_{121}}{n_{.21}}$$

$$g_2(p_{112}, \ p_{212}, \ p_{122}) = \frac{p_{112}}{p_{112} + p_{212}} - \frac{p_{122}}{1 - p_{112} - p_{212}}$$

$$= \frac{n_{112}}{n_{.12}} - \frac{n_{122}}{n_{.22}}$$

The δ - method was used to obtain the standard error of the distribution under the null hypothesis. For more information on this method, see C. Radhakrishna Rao's <u>Linear Statistical Inference and Its Applications</u>, 2nd ed. (New York: John Wiley & Sons, 1973), pp. 386-89. The distributions of the independent statistics above under the null hypothesis are given as follows:

$$\sqrt{n_{..2}}\left[g_1(p_{111}, p_{211}, p_{121}) - \left(\frac{\pi_{111}}{\pi_{111} + \pi_{211}} - \frac{\pi_{121}}{\pi_{121} + \pi_{221}}\right)\right]$$

$$= \sqrt{n_{..2}}\left[g_1(p_{111}, p_{211}, p_{121}) - g_1(\pi_{111}, \pi_{211}, \pi_{121})\right] \xrightarrow{d}$$

$$N\left(\underline{0}, \left[\frac{\partial g_1}{\partial \pi_{111}}, \frac{\partial g_1}{\partial \pi_{211}}, \frac{\partial g_1}{\partial \pi_{121}}\right] \left(\frac{n_{..2}}{n_{..1}}\right)\Sigma_1 \begin{bmatrix} \frac{\partial g_1}{\partial \pi_{111}} \\ \frac{\partial g_1}{\partial \pi_{211}} \\ \frac{\partial g_1}{\partial \pi_{121}} \end{bmatrix}\right) = N\left(\underline{0}, \left(\frac{n_{..2}}{n_{..1}}\right)\sigma_1^2\right)$$

$$\text{as } n_{..2} \longrightarrow \infty$$

where $\dfrac{\partial g_1}{\partial \pi_{111}} = \dfrac{\pi_{211}}{(\pi_{111} + \pi_{211})^2} - \dfrac{\pi_{121}}{(1 - \pi_{111} - \pi_{211})^2}$

$$\frac{\partial g_1}{\partial \pi_{211}} = -\left(\frac{\pi_{111}}{(\pi_{111} + \pi_{211})^2} + \frac{\pi_{121}}{(1 - \pi_{111} - \pi_{211})^2}\right)$$

$$\frac{\partial g_1}{\partial \pi_{121}} = -\left(\frac{1}{1 - \pi_{111} - \pi_{211}}\right)$$

Similarly,

$$\sqrt{n_{..2}}\left[g_2(p_{112}, p_{212}, p_{122}) - \left(\frac{\pi_{112}}{\pi_{112} + \pi_{212}} - \frac{\pi_{122}}{\pi_{122} + \pi_{222}}\right)\right]$$

$$=\sqrt{n_{..2}}\left[g_2(p_{112}, p_{212}, p_{122}) - g_2(\pi_{112}, \pi_{212}, \pi_{122})\right] \xrightarrow{d}$$

$$N\left(\underline{0}, \left[\frac{\partial g_2}{\partial \pi_{112}}, \frac{\partial g_2}{\partial \pi_{212}}, \frac{\partial g_2}{\partial \pi_{122}}\right]\Sigma_2 \begin{bmatrix} \frac{\partial g_2}{\partial \pi_{112}} \\ \frac{\partial g_2}{\partial \pi_{212}} \\ \frac{\partial g_2}{\partial \pi_{122}} \end{bmatrix}\right) = N(\underline{0}, \sigma_2^2)$$

as $n_{..2} \longrightarrow$

where $\dfrac{\partial g_2}{\partial \pi_{112}} = \dfrac{\pi_{212}}{(\pi_{112} + \pi_{212})^2} - \dfrac{\pi_{122}}{(1 - \pi_{112} - \pi_{212})^2}$

$$\frac{\partial g_2}{\partial \pi_{212}} = -\left(\frac{\pi_{112}}{(\pi_{112} + \pi_{212})^2} + \frac{\pi_{122}}{(1 - \pi_{112} - \pi_{212})^2}\right)$$

$$\frac{\partial g_2}{\partial \pi_{122}} = -\left(\frac{1}{1 - \pi_{112} - \pi_{212}}\right)$$

Then, the following statistic may be derived under the null hypothesis:

$$\sqrt{n_{..2}}(g_2(p_{112}, p_{212}, p_{122}) - g_1(p_{111}, p_{211}, p_{121})) \xrightarrow{d}$$

$$N\left(0, \sigma_2^2 + \left(\frac{n_{..2}}{n_{..1}}\right)\sigma_1^2\right) \text{ or}$$

$$\frac{g_2(p_{112}, p_{212}, p_{122}) - g_1(p_{111}, p_{211}, p_{121})}{\sqrt{\dfrac{n_{..1}\hat{\sigma}_2^2 + n_{..2}\hat{\sigma}_1^2}{n_{..1}\, n_{..2}}}} \xrightarrow{d} N(0, 1)$$

where $\hat{\sigma}_1^2$ and $\hat{\sigma}_2^2$ are sample estimates for the corresponding parameters, to be obtained on substituting sample

relative frequencies for the parameters appearing

in the quadratic forms defining σ_1^2 and σ_2^2.

APPENDIX C

AVERAGE ANNUAL EXCHANGE RATES
(NATIONAL CURRENCY UNITS PER U.S. DOLLAR)

	1975	1976	1977	1978	1979	1980
Australia	.76389	.81828	.90183	.87366	.89468	.87830
Austria	17.417	17.940	16.527	14.522	13.368	12.243
Belgium	36.779	38.605	35.843	31.492	29.319	29.243
Colombia	30.929	34.694	36.775	39.095	42.550	47.280
Germany	2.4603	2.5180	2.3222	2.0086	1.8329	1.8177
Ireland	.45204	.55651	.57327	.52151	.48860	.48665
Italy	652.85	832.28	882.39	848.66	830.86	856.45
Japan	296.79	296.55	268.51	210.44	219.14	226.75
Netherlands	2.5290	2.6439	2.4543	2.1636	2.0060	1.9881
Panama	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Sweden	4.1522	4.3559	4.4816	4.5185	4.2871	4.2296
Thailand	20.379	20.400	20.400	20.336	20.419	20.476

Source: International Monetary Fund, International Financial
         Statistics: Supplement on Exchange Rates.

APPENDIX D

COMPUTATION OF THE STATISTIC FOR TESTING
HYPOTHESIS THREE

(3a)

1978	High Cost Countries	Low Cost Countries	
Business Travel	6,302	2,886	
Nonbusiness Travel	36,327	22,550	
Total Travel	42,629	25,436	68,065
1979	High Cost Countries	Low Cost Countries	
Business Travel	7,689	3,505	
Nonbusiness Travel	26,326	17,206	
Total Travel	34,015	20,711	54,726

$P_{111} = 6,302/68,065 = .0925880$

$P_{211} = 36,327/68,065 = .5337104$

$P_{121} = 2,886/68,065 = .0424006$

$P_{112} = 7,689/54,726 = .1404999$

$P_{212} = 26,326/54,726 = .4810511$

$P_{122} = 3,505/54,726 = .0640463$

$$\frac{\partial g_1}{\partial \pi_{111}} \doteq 1.3606395 - .3036142 = 1.0570253$$

$$\frac{\partial g_1}{\partial \pi_{211}} \doteq -(.2360435 + .3036142) = -.5396577$$

$$\frac{\partial g_1}{\partial \pi_{121}} \doteq -1/.3737016 = -2.6759318$$

$$\frac{\partial g_2}{\partial \pi_{112}} \doteq 1.2451955 - .4471765 = .798019$$

$$\frac{\partial g_2}{\partial \pi_{212}} \doteq -(.3636826 + .4471765) = -.8108591$$

$$\frac{\partial g_2}{\partial \pi_{122}} \doteq -1/.378449 = -2.642364$$

where the symbol "$\doteq$" means "is estimated by."

$$\hat{\Sigma}_1 = \begin{bmatrix} .0840155 & -.0494152 & -.0039258 \\ -.0494152 & .2488636 & -.0226296 \\ -.0039258 & -.0226296 & .0406028 \end{bmatrix}$$

$$\hat{\Sigma}_2 = \begin{bmatrix} .1207597 & -.0675876 & -.0089985 \\ -.0675876 & .2496409 & -.0308095 \\ -.0089985 & -.0308095 & .0599444 \end{bmatrix}$$

$$\hat{\sigma}_1^2 = \begin{bmatrix} 1.0570253 & -.5396577 & -2.6759318 \end{bmatrix} \hat{\Sigma}_1 \begin{bmatrix} 1.0570253 \\ -.5396577 \\ -2.6759318 \end{bmatrix}$$

$$\hat{\sigma}_2^2 = \begin{bmatrix} .798019 & -.8108591 & -2.642364 \end{bmatrix} \hat{\Sigma}_2 \begin{bmatrix} .7980190 \\ -.8108591 \\ -2.6423640 \end{bmatrix}$$

$$\hat{\sigma}_1^2 = .4703146 \qquad \hat{\sigma}_2^2 = .6529728$$

$$Z = \frac{.2260473 - .1478336 - .1692337 + .1134612}{\sqrt{\dfrac{68,065(.6529728) + 54,726(.4703146)}{68,065(54,726)}}} = 5.17$$

(3b)

1977-1978	High Cost Countries	Low Cost Countries	
Business Travel	14,483	6,946	
Nonbusiness Travel	91,260	56,757	
Total Travel	105,743	63,703	169,446

1979-1980	High Cost Countries	Low Cost Countries	
Business Travel	13,666	6,139	
Nonbusiness Travel	66,044	37,059	
Total Travel	79,710	43,198	122,908

$P_{111} = 14,483/169,446 = .0854727$

$P_{211} = 91,260/169,446 = .5385787$

$P_{121} = 6,946/169,446 = .0409924$

$P_{112} = 13,666/122,908 = .1111889$

$P_{212} = 66,044/122,908 = .5373450$

$P_{122} = 6,139/122,908 = .0499479$

$$\frac{\partial g_2}{\partial \pi_{111}} \doteq 1.3829563 - .2900323 = 1.092924$$

$$\frac{\partial g_2}{\partial \pi_{211}} \doteq - (.2194758 + .2900323) = -.5095081$$

$$\frac{\partial g_2}{\partial \pi_{121}} \doteq - 1/.3759486 = -2.6599381$$

$$\frac{\partial g_2}{\partial \pi_{112}} \doteq 1.2775792 - .4043434 = .8732358$$

$$\frac{\partial g_2}{\partial \pi_{212}} \doteq - (.2643602 + .4043434) = -.6687036$$

$$\frac{\partial g_2}{\partial \pi_{122}} \doteq -1/.3514661 = -2.8452246$$

$$\hat{\Sigma}_1 = \begin{bmatrix} .0781671 & -.0460338 & -.0035037 \\ -.0460338 & .2485117 & -.0220776 \\ -.0035037 & -.0220776 & .0393120 \end{bmatrix}$$

$$\hat{\Sigma}_2 = \begin{bmatrix} .0988259 & -.0597468 & -.0055537 \\ -.0597468 & .2486054 & -.0268393 \\ -.0055537 & -.0268393 & .0474531 \end{bmatrix}$$

$$\hat{\sigma}_1^2 = \begin{bmatrix} 1.092924 & -.5095081 & -2.6599381 \end{bmatrix} \hat{\Sigma}_1 \begin{bmatrix} 1.0929240 \\ -.5095081 \\ -2.6599381 \end{bmatrix}$$

$$\hat{\sigma}_2^2 = \begin{bmatrix} .8732358 & -.6687036 & -2.8452246 \end{bmatrix} \hat{\Sigma}_2 \begin{bmatrix} .8732358 \\ -.6687036 \\ -2.8452246 \end{bmatrix}$$

$$\hat{\sigma}_1^2 = .4478231 \qquad \hat{\sigma}_2^2 = .5659175$$

$$Z = \frac{.1714465 - .1369641 - .1421131 + .1090373}{\sqrt{\dfrac{169,446(.5659175) + 122,908(.4478231)}{169,446(122,908)}}} = .52$$

AN INVESTIGATION OF THE RELATIONSHIP BETWEEN
THE PRESENCE OF U.S. EMPLOYEES ABROAD AND
THE CHANGES IN THE TAXATION OF THEIR
FOREIGN EARNED INCOME

by

Ernest R. Larkins

(ABSTRACT)

Since 1926, Congress has granted substantial tax benefits to encourage U.S. citizens to accept employment positions abroad so that they might, in turn, support the export of U.S. goods and services. The purpose of this study was to determine whether changes in the taxation of foreign earned income have any effect on the presence of American employees in foreign countries.

The results of prior studies disagree on whether the U.S. income tax law may be used as an incentive to encourage Americans to work abroad. The present research addressed this issue once more using an ex post facto analysis of changes in American employment abroad following two recent tax law changes--the Tax Reform Act (TRA) of 1976 and the Foreign Earned Income Act (FEIA) of 1978. Since employment data for Americans working abroad are not available, the annual number of passports issued to individuals traveling for business purposes was selected as a suitable surrogate.

The first hypothesis tested was that American employment declined subsequent to the TRA. This hypothesis was divided into four sub-hypotheses, three of which were supported by the ensuing analysis. Therefore, it was concluded that American employment did decline as a

result of the TRA.

The second hypothesis stated that American employment abroad changed subsequent to the FEIA. This hypothesis was divided into two sub-hypotheses. The analysis supported both sub-hypotheses indicating that the presence of American workers abroad increased as a result of the FEIA.

The third hypothesis also centered around the FEIA. Since the provisions of this act granted larger tax deductions to American employees residing in high-cost countries relative to those residing in low-cost countries, it was hypothesized that American employment in high-cost countries increased more than did American employment in low-cost countries subsequent to the FEIA. This hypothesis was divided into two sub-hypotheses, only one of which was supported by the analysis. No conclusion could be reached regarding hypothesis three.

The overall conclusion of the study was that changes in U.S. income tax laws do affect the decisions of U.S. citizens to accept employment decisions abroad.