

NBER WORKING PAPER SERIES

INTERNATIONAL DIFFERENCES IN CAPITAL TAXATION AND CORPORATE BORROWING BEHAVIOR:
EVIDENCE FROM THE U.S. WITHHOLDING TAX

Leslie E. Papke

Working Paper No. 3129

NATIONAL BUREAU OF ECONOMIC RESEARCH
1050 Massachusetts Avenue
Cambridge, MA 02138
September 1989

I am indebted to James M. Poterba for suggesting this investigation of the Netherlands Antilles, and to Jeffrey M. Wooldridge for many helpful discussions. All errors remain mine alone. This paper is part of NBER's research program in Taxation. Any opinions expressed are those of the author not those of the National Bureau of Economic Research.

NBER Working Paper #3129
September 1989

INTERNATIONAL DIFFERENCES IN CAPITAL TAXATION AND CORPORATE BORROWING BEHAVIOR:
EVIDENCE FROM THE U.S. WITHHOLDING TAX

ABSTRACT

Securities transactions in the U.S. climbed on a net basis from \$19 billion in 1983 to \$50 billion in 1985. This rise was due almost entirely to an increase in foreign purchases of U.S. securities - largely corporate and government bonds. One reason suggested for this phenomenon is foreign investors' perception that the U.S. is a safe haven: there are strong investment fundamentals in the U.S. relative to other industrialized countries. Moreover, since the summer of 1984, these instruments have been free from withholding tax on interest paid to foreign holders of notes and bonds issued by U.S. entities.

Recently, there has been discussion of re-imposing the withholding tax. A common counter argument to re-imposition is that such a tax is notoriously ineffective at raising revenue. As evidence, opponents point to the U.S. experience with the now-repealed withholding tax on the interest earned by foreigners. This paper explains the reasons that the tax was ineffectual. It is essentially a case study of the earlier U.S. experience with a withholding tax. In particular, the paper focuses on corporate borrowing behavior during the tenure of the tax and the change which took place after repeal.

Leslie E. Papke
MIT
E52-446
Cambridge, MA 02139

I. Introduction

"Large direct and portfolio capital flows [to the U.S.] reflect the relative attractiveness of the U.S. as a place to invest both for U.S. and foreign residents. This attractiveness clearly includes the relative political stability and safety investors perceive in the U.S. compared with the uncertain climate in many parts of the world, including Europe and Canada," (World Financial Markets, Morgan Guarantee Trust Company, April 1982, p. 6).

Securities transactions in the U.S. climbed on a net basis from \$19 billion in 1983 to \$50 billion in 1985. This rise was due almost entirely to an increase in foreign purchases of U.S. securities - largely corporate and government bonds. One reason suggested for this phenomenon is foreign investors' perception that the U.S. is a safe haven: there are strong investment fundamentals in the U.S. relative to other industrialized countries. These include political stability, robust economic recovery and healthy corporate profits. In addition, rapid deregulation and innovation in the U.S. financial markets have provided investors with a wide array of instruments with substantial breadth and depth. Moreover, since the summer of 1984, these instruments have been free from withholding tax on interest paid to foreign holders of notes and bonds issued by U.S. entities.

Recently, there has been discussion of re-imposing the withholding tax. For example, Dornbusch [1986] argues that "Rather than attracting capital ...by offering a tax haven, ... the United States should charge rent on the place in the sun. ...[I]n the process of constructing a system of reasonable taxation of footloose capital, the United States would create an administrative framework that would make it possible to implement ad hoc temporary interest equalization taxes that are complements of major macroeconomics shifts in monetary or fiscal policy." A common counter argument to re-imposition is that such a tax is notoriously ineffective at raising revenue. As evidence, opponents point to the U.S. experience with the now-repealed withholding tax on the interest earned by foreigners.

While interest payments to foreigners totaled \$6 billion in 1983, the final full year in which the tax was in effect, it raised only \$1.26 million; therefore, it is pointless to impose a similar tax. This paper explains the reasons that the tax was ineffectual. It is essentially a case study of the earlier U.S. experience with a withholding tax. In particular, the paper focuses on corporate borrowing behavior during the tenure of the tax and the change which took place after repeal.¹

The paper is divided into five sections. Section II uses a simple two country model to analyze the effects on U.S. interest rates of a withholding tax imposed on interest paid to foreigners. The result is shown to depend (not surprisingly) on the elasticity of the supply of foreign savings to the U.S. In the safe haven case, where the supply of savings from foreigners is relatively inelastic, the imposition of a tax will not raise the U.S. interest rate and the tax has a small welfare cost.

Section III describes the U.S. experiment with a withholding tax on interest paid to foreign recipients and presents statistics from the early 1980's on the magnitude and whereabouts of U.S. income flows to foreigners. It demonstrates that the withholding tax raised no revenue because most countries had tax treaties with the U.S. which often reduced the tax rate to zero, not because of tax evasion.

Section IV describes corporate borrowing behavior before and after repeal of the withholding tax. It chronicles the development of the Netherlands Antilles finance subsidiaries that corporations employed to borrow in the Eurobond market tax-free. Section V concludes with a

¹This discussion should be distinguished from the literature, surveyed by Slemrod [1986], concerning the taxation of the foreign source income of U.S. multinational corporations. The present paper concerns financial investment, while that literature is concerned with the welfare consequences of tax rules applied to multinationals on real capital flows.

discussion of the U.S.'s status as a tax haven and its implication for tax policy. It suggests that the earlier experiment is no guide to the revenue raising potential of a uniformly imposed withholding tax. Proposed future lines of research place these findings in the broader context of the effect of interjurisdictional tax differentials on corporate behavior.

II. A Model of a Withholding Tax on the Interest Income of Foreigners

The U.S.'s role as a safe haven for foreign funds has been advanced as an explanation for the prolonged strength of the dollar in this decade.² In addition to being a safe debt instrument, U.S. securities offer unique characteristics for foreign investors:

"As well as their apparent insulation from external threats, a major attraction of U.S. markets is their liquidity, especially in U.S. government securities.... The absence of any exchange controls is another factor that encourages capital inflows to the U.S." (World Financial Markets, Morgan Guarantee Trust Company, September, 1982).

Similar observations have led proponents of a withholding tax to argue that the U.S. is free to tax foreign interest earnings with little change in either the supply of foreign funds or the domestic interest rate.

The effect of a withholding tax on foreign earnings on the domestic interest rate is central to the debate over the re-imposition of the tax. While those who believe the "U.S. as safe haven" view think the domestic interest rate will be unaffected, others wish to impose the tax as part of a macroeconomic stabilization policy precisely because of its effect on the

²"Other factors which contributed to the dollar's strength were the low U.S. inflation rate, strong economic expansion and the attractiveness of the U.S. as a haven for foreigners to hold their financial assets in times of economic and political uncertainties." Bach, [1983]. See also Dooley and Isard, "The Appreciation of the Dollar: An Analysis of the Safe Haven Phenomenon," DM/85/20, the IMF, 1985.

interest rate. The final outcome of the tax policy will hinge on the change, if any, in the domestic interest rate. For example, suppose the government desires to raise the level of domestic saving in the economy. It wishes to raise the domestic interest rate and does so by imposing a withholding tax on interest income earned by foreigners. If the supply of foreign savings is elastic, some revenue will be raised with the tax accompanied by the desired increase in the domestic interest rate. On the other hand, if the supply of savings is inelastic, the withholding tax will raise more revenue, but the domestic interest rate will be unaffected. This is the standard result that a tax is non-distortionary when a factor is in inelastic supply. This change in the real interest rate on securities will change the price of intertemporal consumption. A complete analysis of the efficiency consequences of this price change is tangential to the focus of this paper. However, we begin the analysis by examining the conditions under which interest rates will be distorted.³

This section models the flow of saving between two countries and examines the effect of a withholding tax imposed on foreign interest income on the interest rate in the home country. In a simplified model such as this one, the safe haven scenario is represented by the assumption that the supply of foreign funds to the safe haven country is inelastic.⁴

Throughout this discussion, it is assumed that the interest rates in

³ See Feldstein [1978] for a discussion of the welfare costs of a capital income tax.

⁴ A simple representation of the factors which define a safe haven country is difficult. In a world with a large Euromarket, the currency of the country, rather than the country itself, may be the haven for foreign funds. Isard and Stekler [1985] discuss possible manifestations of the safe haven phenomenon and the difficulty in determining empirically if a country has attained that status.

the two countries differ. The issue of international capital mobility and the existence of a world interest rate are ongoing debates in the international economic literature. Several attempts have been made to test whether there is complete international linkage of real rates (for example, Hodrick [1979], Mishkin [1984], Cumby and Obstfeld [1984] and Mark [1985]). These tests have generally provided evidence against the hypothesis that real short term interest rates in industrialized countries have been equal during the past decade. Further support for sustained interest differentials is offered by Feldstein and Horioka [1980] who find a strong correlation between countries' saving and investment rates. Theoretical models in the exchange rate literature, such as Dornbusch [1986] and Frankel [1979], depend on real rates differing between countries. Recent work by Obstfeld [1986], however, suggests a high degree of capital market integration. In light of these disagreements, this paper presents a model of countries with two different interest rates with the caveat that this situation may exist only in the short run.

The most general model assumes that the supply of saving from the residents of each country to their home market and to the other country depends on the real after-tax rates of return available in the two countries. S_i^j is the supply of saving from the residents of country i to country j . D_i is the demand for funds in country i . The tax rates τ_1 and τ_2 are levied on the interest income of foreigners investing in countries 1 and 2 respectively. The tax rates τ_1^* and τ_2^* are levied by each country on residents' income. The country's real interest rates are r_1 and r_2 respectively, so the after-tax rate of return facing each investor is of the form $(1-t_i)r_i$.

$$(1) \quad S_1^1((1-\tau_2)r_2, (1-\tau_1^*)r_1) + S_2^1((1-\tau_1)r_1, (1-\tau_2^*)r_2) - D_1$$

$$(2) \quad S_2^2((1-\tau_1)r_1, (1-\tau_2^*)r_2) + S_1^2((1-\tau_2)r_2, (1-\tau_1^*)r_1) - D_2$$

With this model, two effects of the imposition of a withholding tax may be examined: the resulting changes in the after-tax rate of return will call forth a saving response in the two countries, and the change in the relative after-tax rates of return will cause a reallocation of portfolios across the two countries.

To further simplify the discussion, we ignore the overall saving effects and focus on a special case which isolates the substitution effects of a tax change. This is accomplished by making saving a function of relative after-tax rates of return. Country 2, referred to as the "home" country, imposes a withholding tax r_2 on the interest income earned there by residents of country 1. All other income taxes are set to zero.

A. Model 1: Fixed Demand for Funds in Each Country

Initially, demand for funds is fixed. Equilibrium in the funds markets is defined by

$$(3) \quad S_1^1(r_2(1-r_2) - r_1) + S_2^1(r_2 - r_1) - \bar{D}_1$$

$$(4) \quad S_2^2(r_2 - r_1) + S_1^2(r_2(1-r_2) - r_1) - \bar{D}_2$$

The relationship between the tax-induced changes in the two interest rates is found by totally differentiating either (3) or (4). From (4), assuming country 2 initially has no tax and then imposes a small tax on foreign investors, we evaluate the expression at $r_2 = 0$, which yields

$$(5) \quad dr_2/dr_2 = dr_1/dr_2 + \left[\frac{\partial S_1^2/\partial R}{\partial S_1^2/\partial R + \partial S_2^2/\partial R} \right] r_2$$

where R denotes the dummy argument of each saving function. Define

$$\alpha_2 = \frac{\partial S_1^2/\partial R}{\partial S_1^2/\partial R + \partial S_2^2/\partial R} = \frac{\omega_1^2 \eta_1^2}{\omega_1^2 \eta_1^2 + \omega_2^2 \eta_2^2}, \quad 0 \leq \alpha_2 \leq 1$$

where η_1^j is the elasticity of saving from country i to country j, and ω_1^j is the proportion of total saving in country j which come from country i.

For example, $\omega_1^2 = S_1^2 / (S_1^2 + S_2^2)$ and $\omega_2^2 = 1 - \omega_1^2$. Rewriting,

$$(6) \quad dr_2/dr_2 = dr_1/dr_2 + \alpha_2 r_2.$$

In a model with fixed demand, where the saving functions depend on relative rates of return, only the relationship between the changes in interest rates, not the direction of the change, may be determined. From equation (6), if both the home and foreign rates change by a positive amount, the change in the home rate may exceed the change abroad. Specific assumptions are examined below.

Special Cases

1. The supply of saving from country 1 to country 2 is inelastic ($\eta_1^2 = 0$).

Then $\alpha_2 = 0$ and $dr_2/dr_2 = dr_1/dr_2$. The relative position of the two interest rates is unchanged. Further, $dr_2/dr_2 - dr_1/dr_2 = 0$ since, having set $\eta_1^2 = 0$, the domestic response will determine the equilibrium between r_1 and r_2 . Since there is no change in the after-tax rate of return for domestic residents, there will be no change in the flow of saving between the two countries.

2. The supply of savings from country 1 to country 2 is elastic ($\eta_1^2 > 0$).

If there is some elasticity of supply of funds from residents of country 1 to country 2, the change in r_2 exceeds that in r_1 by some fraction of the original interest rate in country 2. This fraction, α_2 , increases with the share of total foreign saving in country 2 and with the supply elasticity of foreign saving.

3. The largest change in country 2's interest rate relative to r_1 occurs when either the domestic supply of funds schedule is inelastic, $\eta_2^2 = 0$, or when the supply of saving from the residents of country 1 to country 2 is infinitely elastic, i.e., $\eta_1^2 = \infty$.⁵ Then $dr_2/dr_2 = dr_1/dr_2 + r_2$.⁶

This model implies a relationship between the changes in the interest rates in both countries. However, a richer model is required to determine the direction of the change in r_2 . In this second model, demand for funds in each country is a decreasing function of the own interest rate.⁷

B. Model 2: Demand in each country is a function of the own interest rate

$$(7) \quad S_2^1(r_2 - r_1) + S_1^1(r_2(1-r_2) - r_1) = D_1(r_1)$$

$$(8) \quad S_1^2(r_2(1-r_2) - r_1) + S_2^2(r_2 - r_1) = D_2(r_2)$$

The effects of imposing a withholding tax on the home country interest rate are found by totally differentiating (7) and (8), and setting $r_2 = 0$. Define

⁵With fixed demand, this case requires that the supply of saving to both markets from country 2 be perfectly inelastic.

⁶The condition for the after-tax rate of return to residents of country 1 to be unchanged is that $d[r_2(1-r_2)]/dr_2 = [dr_2/dr_2](1-r_2) - r_2 = 0$, or, at $r_2 = 0$, $dr_2/dr_2 = r_2$. Thus, the after-tax rate of return will be unchanged if $dr_1/dr_2 = 0$.

⁷This is a somewhat restrictive assumption since the demand for funds is the sum of corporate and Treasury demand. Corporate demand depends on the foreign interest rate as well as the domestic rate. However, since the majority of Treasury debt, which exceeds the volume of corporate debt, is sold domestically, we simplify by assuming that the total demand is a decreasing function of the own interest rate.

$$\bar{\alpha}_1 = \frac{\partial S_1^1 / \partial R}{\partial S_1^1 / \partial R + \partial S_2^1 / \partial R + \partial D_1 / \partial r_1} \quad 0 \leq \bar{\alpha}_1 \leq 1,$$

$$\bar{\beta}_1 = \frac{\partial S_1^1 / \partial R + \partial S_2^1 / \partial R}{\partial S_1^1 / \partial R + \partial S_2^1 / \partial R + \partial D_1 / \partial r_1} \quad 0 \leq \bar{\beta}_1 \leq 1,$$

$$\bar{\alpha}_2 = \frac{\partial S_1^2 / \partial R}{\partial S_1^2 / \partial R + \partial S_2^2 / \partial R - \partial D_2 / \partial r_2} \quad 0 \leq \bar{\alpha}_2 \leq 1,$$

$$\bar{\beta}_2 = \frac{\partial S_1^2 / \partial R + \partial S_2^2 / \partial R}{\partial S_1^2 / \partial R + \partial S_2^2 / \partial R - \partial D_2 / \partial r_2} \quad 0 \leq \bar{\beta}_2 \leq 1.$$

Recall that in the fixed demand case $dr_2/dr_2 = dr_1/dr_2 + \alpha_2 r_2$. With variable demand, $dr_1/dr_2 = \bar{\beta}_1 dr_2/dr_2 - \bar{\alpha}_1 r_2$ and $dr_2/dr_2 = \bar{\beta}_2 dr_1/dr_2 + \bar{\alpha}_2 r_2$. Since $\bar{\beta}_2 \leq 1$ and $\bar{\alpha}_2 \leq \alpha_2$, the change in r_2 relative to r_1 will be smaller than in the fixed demand case for all the special cases examined below.

As long as demand for funds in at least one country is interest rate sensitive, dr_1/dr_2 and dr_2/dr_2 can be solved for:

$$(9) \quad dr_1/dr_2 = \left[\frac{\bar{\beta}_1 \bar{\alpha}_2 - \bar{\alpha}_1}{1 - \bar{\beta}_1 \bar{\beta}_2} \right] r_2,$$

$$(10) \quad dr_2/dr_2 = \left[\frac{\bar{\alpha}_2 - \bar{\beta}_2 \bar{\alpha}_1}{1 - \bar{\beta}_1 \bar{\beta}_2} \right] r_2.$$

Special Cases

1. The supply of saving from country 1 investors is inelastic, i.e., $\partial S_1^2 / \partial R = 0$ (note that because the total amount of saving is fixed, $\partial S_1^1 / \partial R = -\partial S_1^2 / \partial R$, and similarly, $\partial S_2^2 / \partial R = -\partial S_2^1 / \partial R$). In this safe haven scenario, $dr_2/dr_2 = 0$ and $dr_1/dr_2 = 0$. Neither home nor foreign interest rates will change as a result of the imposition of the withholding tax.

2. The supply of saving from residents of country 1 to country 2 is elastic, i.e., $\partial S_1^2 / \partial R > 0$. Simple algebra shows that $\bar{\alpha}_2 \geq \bar{\beta}_2 \bar{\alpha}_1$ so that $dr_2 / d\tau_2 \geq 0$. In fact, with a positive elasticity of foreign funds, $dr_2 / d\tau_2 > 0$ except in the case where demand for funds in the foreign country is interest insensitive.

Summary

Under either demand specification, these models demonstrate that a safe haven country is free to impose an interest income tax on foreigners without affecting their own interest rate. Even when the supply of funds from foreigners is elastic, a withholding tax may be imposed without a change in interest rate if foreign country demand for funds is independent of the interest rate. In general, however, with an elastic supply of foreign funds, the home country faces increased interest rates, with the magnitude of the increase depending on the relative elasticities of own source funds and on the demand elasticity in the foreign country. These results, while generated by a highly stylized model, are suggestive of the economic effects of a withholding tax.

These results presume, however, that the withholding tax is actually imposed on foreign investors. The remainder of this paper explains how a variety of features of the pre-1984 U.S. withholding tax effectively disabled the revenue raising potential of the tax. This suggests that past experience has little predictive value for current proposals of a withholding tax on foreign interest income.

III. The U.S. Withholding Tax on Interest Income

A. Pre-1984 Tax Code

The U.S. taxes the worldwide income of U.S. citizens, residents and corporations. Nonresident aliens and foreign corporations, however,

generally are taxed on only their income which is from U.S. sources or which is effectively connected with a business conducted by them in the U.S.⁸

Prior to July 18, 1984, in situations where the U.S. source income received by a nonresident alien or foreign corporation was interest, dividends or other similar types of investment income, the U.S. imposed a flat 30 percent withholding tax if the income was not effectively connected with the conduct of a trade or business by the taxpayer within the U.S.⁹

There were various statutory exemptions to the withholding taxation of foreign income. The interest paid on deposits with domestic banks, savings and loan associations or similar financial institutions was classified as foreign source income and exempted. Other exemptions included the original issue discount on obligations with maturities of six months or less, interest paid by U.S. corporations that earned less than 20 percent of gross income from sources within the U.S., interest paid by foreign governments not related to their commercial activities, if any, in the U.S., and amounts paid by insurance companies under agreement to pay interest.

In addition to statutory exemptions and provisions, income tax treaties also generally eliminated or reduced the withholding tax on a reciprocal basis. The rate was reduced to zero under treaties with

⁸ A nonresident alien is an individual whose residence is not within the U.S. and who is not a U.S. citizen. Corporations, private foundations and partnerships created or organized outside the U.S. are also considered nonresident aliens.

⁹ If the income was effectively connected with a U.S. trade or business of the foreign investor, the income was not subject to the withholding tax but instead was included in the U.S. tax return filed for the business and was taxed at ordinary graduated rates.

Austria, Denmark, Finland, West Germany, Greece, Hungary, Iceland, Ireland, Luxembourg, the Netherlands, the Netherlands Antilles, Norway, Poland, Sweden, the USSR, and the United Kingdom. Reciprocal rate reductions were provided under treaties with Belgium, Canada, Egypt, Morocco, and the Philippines (15 percent), Jamaica and Malta (12.5 percent), Korea (12 percent), France, Japan and Romania (10 percent) and Switzerland (five percent). Under some other treaties, only certain interest (such as bank interest or interest on public debt) was exempt.¹⁰

To have secured a treaty exemption from, or reduction of, U.S. withholding tax, a foreign investor must have provided the withholding agent with Form 1001, which indicated his identity and address and proved that he was entitled to treaty benefits. In the case of a bearer bond, this information was required with each interest payment.¹¹ This same information was required even when the foreign investor presenting a coupon was not entitled to a treaty rate reduction. While in general, a payor of interest on U.S. corporate or Treasury securities was required to file an information return with the Internal Revenue Service (IRS), no such filing

¹⁰Other treaty countries as of 1984 included Australia, Italy, New Zealand, Trinidad and Tobago. Non-treaty countries included Argentina, the Bahamas, Barbados, Bermuda, Brazil, British Virgin Islands, Cayman Islands, Hong Kong, Israel, Jersey, Kuwait, Liberia, Liechtenstein, Mexico, Panama, Portugal, Puerto Rico, Saudi Arabia, Singapore, Spain, Taiwan, United Arab Emirates, and Venezuela. See Lewis [1986] for a detailed list of income paid and tax withheld for each of these countries.

¹¹While interest deductions were generally disallowed to the issuer of corporate debt that was in bearer form, an exception was provided if the bearer bonds were issued under arrangements reasonably designed to insure that they were sold only to persons who were not United States citizens and the interest on the obligations was payable only outside the U.S. and its possessions. In addition, a statement appeared on the face of the obligation to indicate that any U.S. person who held the obligation would be subject to limitations under U.S. income tax laws. These rules were enacted in the Tax Equity and Fiscal Responsibility Act of 1982 ("TEFRA").

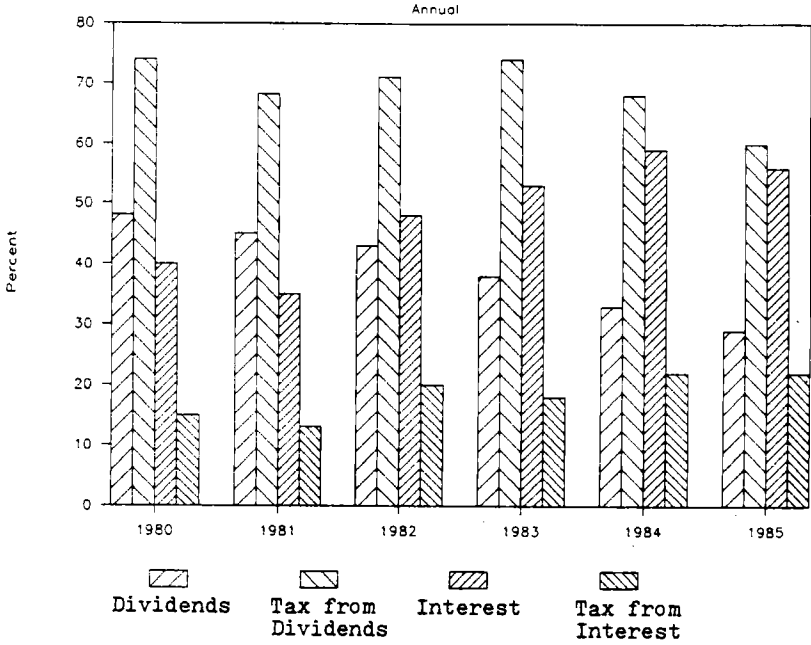
was required in the case of interest paid to foreign investors, provided the payor withheld tax or received the required form.¹² This practice that the tax be withheld, or that detailed information about the interest recipient be provided even on external foreign debt issues, stood in marked contrast to other industrial countries: West Germany, the U.K. and Japan imposed a withholding tax on interest paid on domestic securities but allowed certain targeted Eurobond issues to be sold externally, free of tax.

Since tax treaties applied to most foreign investors in U.S. securities, it is not surprising that the withholding tax raised little revenue. Dividend and interest payments were the two most common types of income paid to foreigners. Typically, the treaties specified a larger rate reduction for interest payments. The percent of total income paid and tax withheld for dividend and interest payments for the years surrounding the repeal of the withholding tax are displayed in Chart A. Interest income surpassed dividends as the most common type of income paid to nonresident aliens during 1982, largely due to U.S. corporations borrowing large amounts of money from foreign countries with tax treaties with the U.S. As a result, tax withheld on interest represented 20 percent of all tax, while interest income comprised 48 percent of all income. Conversely, tax withheld on dividend payments made up a considerably higher portion (71 percent) of all taxes than dividend income represented of all income (43 percent). Since 1980, interest's share of all income increased 16 percentage points, from 40 to 56 percent (after peaking in 1984 at 59 percent) while the corresponding

¹² Where the owner of the bond is unknown to the person presenting the coupons for payment, the regulations further provided that the first bank to which the coupons were presented for payment is to require of the payee a statement showing the name and address of the person from whom the coupons were received by the payee (Treas. Reg. sec. 1.1461-1).

CHART A

Income Payments and Tax Withheld



Source: SOI Bulletin, selected issues

share for dividends fell by 15 percent from 48 to 29. Thus, the gap between interest and dividends as a percent of total income widened to 27 percentage points in 1985.

Note that the prevalence of reciprocal rate reductions in existing tax treaties with virtually every country suggests that, at a minimum, the imposition of a uniform withholding tax would involve substantial renegotiation of U.S. tax treaties. Proponents must recognize that imposing such a tax which does not suffer from treaty rate reductions will entail large transactions costs in the early stages of implementation. In addition, the renegotiations, should they occur, will be a sharp departure from our previous tax position toward these countries. A further issue for research is the possibility of retaliation by other countries and its consequences for the efficacy of the withholding tax.¹³

B. Post-1984 Tax Regulations

In early 1984 renewed attention was given to earlier proposals to exempt certain interest from U.S. taxation regardless of what country the interest was paid to. The amount of revenue loss was estimated to be relatively small as only \$1.26 million of tax was withheld on interest income for 1983. The Treasury, supporting repeal, argued that it was effectively precluded from tapping the Eurobond market directly because of the withholding tax. Efficiency arguments were also put forth - the Reagan Administration strongly supported "removing artificial barriers which prevent access to markets."¹⁴

¹³See Mintz and Tulken [1984] for a discussion of these issues.

¹⁴See the statement of Ronald A. Pearlman, Assistant Secretary of the

The Deficit Reduction Act (DRA) went into effect on July 18, 1984. The Act exempts from tax most types of interest payments, mainly portfolio interest made to foreign persons.¹⁵ U.S. corporations found it feasible for the first time to sell Eurobonds directly to foreigners.¹⁶ A second provision of DRA reclassified certain corporate income payments in such a way as to reduce the parent company's foreign tax credit limitation.

From this brief history, it is apparent that it is inaccurate to argue that a re-imposition of the withholding tax on interest income would be worthless because the previous tax raised no revenue. As explained above, tax treaties with other countries, not willful tax evasion within the U.S., emasculated the earlier tax. This past experience should not be used as a guide to the revenue raising potential of future withholding taxes.

The next section sheds further light on the tax treaty answer to the revenue puzzle. It contains an in-depth examination of the withholding tax on corporate behavior and focuses on the use of finance subsidiaries in the Netherlands Antilles - the corporate mechanism most frequently employed to avoid the withholding tax. Their borrowing behavior provides an interesting study of how corporations respond to changes in tax policy, and the speed with which they respond.

Treasury (for Tax Policy) reported in Tax Notes, September 2, 1985.

¹⁵ For an explanation of portfolio interest and other types of interest that are exempt from the tax, see the U.S. Department of the Treasury, IRS Publication 515, Withholding of Tax on Nonresident Aliens and Foreign Corporations, November 1985.

¹⁶ Interest paid to a foreign individual or corporation owning 10 percent or more of the voting shares of the U.S. payor does not qualify for the exemption.

IV. Corporate Borrowing Behavior and the Withholding Tax

Prior to 1984, the corporations who wished to borrow from foreigners directly could only avoid the withholding tax on interest payments by selling bonds to a treaty country recipient who must have revealed his/her identity. This was extremely unpopular with foreign investors who preferred bearer bonds precisely because of their anonymity. As a result, few bonds were issued directly into the foreign bond markets. In the 1960's, however, the Internal Revenue Service engineered a way for corporations to avoid the withholding tax: the Netherlands Antilles finance subsidiary.

A. Pre-1984 Operations of a Netherland Antilles Subsidiary

In 1955, the United States' tax treaty with the Netherlands was extended to the Netherlands Antilles, a country composed of six islands in the Caribbean.¹⁷ Subsequently, the Netherlands Antilles (N.A.) amended its internal law to encourage third-country persons to invest money through the Antilles.

At that time, there was only limited U.S. corporate activity in the form of international borrowing. But corporations nonetheless desired to develop a means for gaining access to foreign capital at costs below those paid for U.S.-source borrowing. During the early 1960's, the U.S. government, in an effort to prevent a devaluation of the dollar in a time of fixed exchange rates, decided that providing such access would be in the

¹⁷The Netherlands Antilles is made up of six islands in the Caribbean Basin area. Aruba, Bonaire and Curaco are located approximately 30 miles north of Venezuela. St. Maarten, St. Eustatuis and Saba are about 500 miles further northeast, about 100 miles east of Puerto Rico. The total land area is approximately 394 square miles and the population slightly more than 250,000.

best interests of the nation's economy. The program included several measures to encourage U.S. companies to borrow overseas: the Interest Equalization Tax (IET), the Foreign Direct Investment Program, and the related, voluntary Foreign Credit Restraint Program.¹⁸ The key mechanism for U.S. corporations was an IRS ruling authorizing the use of Netherlands Antilles financial subsidiaries to avoid the U.S. withholding tax.

Following the decision by the U.S. to abandon the fixed exchange system, these measures designed to support the dollar were terminated. The future of Eurobond offerings by U.S. corporations became uncertain when the IRS, citing the expiration of the IET, revoked its prior rulings that properly structured financial subsidiaries would qualify.¹⁹ In 1974, the IRS did not challenge a legal opinion which stated that the U.S. 30 percent withholding tax did not apply to certain forms of overseas borrowing and subsequently, the process of obtaining a similar legal opinion for each overseas offering became standard practice among corporate borrowers.²⁰

The N.A. financial subsidiary was a shell company which acted as a

¹⁸ The IET was a tax on interest earned on loans from the U.S. to foreign borrowers. It was in effect from 1964 to 1974. The Foreign Credit Restraint Program closed off access to medium-term debt in the U.S. to foreign borrowers, including the affiliates of U.S. owned companies.

¹⁹ Offerings by a financial subsidiary involved difficult U.S. tax issues in the absence of a favorable IRS ruling because financial subsidiaries generally have limited activities, lack significant independent earning powers, and appear to have no substantial business purpose other than avoidance of U.S. withholding tax. Since the marketing of a Eurobond offering is based upon the reputation and earning power of the parent, and since the foreign investor is ultimately looking to the U.S. parent for payment of principal and interest, the bonds might, in substance, be treated by the IRS as debt of the parent, rather than the subsidiary, and withholding would be required. Alternatively, the creation of financial subsidiary might be viewed as having as its principal purpose the avoidance of the withholding on the U.S. parent with the result that the exemption might not apply.

²⁰ A discussion of these developments is contained in the Statement of

conduit for U.S. corporate overseas borrowing. The shell company in the Antilles floated a bond issue in a European financial market (typically in London) and the borrowed funds simply passed through the Antilles en route to U.S. or foreign subsidiaries of the U.S. parent corporation. Subsequently, interest payments on the bonds made by the parent corporation flowed out of the U.S. tax-free through the Antilles to foreign investors.

The subsidiary issued its bonds in bearer form in either a public underwriting or private placement.²¹ Bonds issued by the financial subsidiary were traded actively in secondary markets and listed on foreign exchanges. The U.S. parent of the international financial subsidiary typically guaranteed the obligations of the subsidiary to its foreign investors and the subsidiary in most cases loaned the proceeds of its borrowing to the parent or other affiliate at a slightly higher rate of interest than it paid on its own bonds.

The unique character of the Eurobond market made it a highly desirable place to issue debt.²² Three factors differentiate Eurobonds from domestic

William J. Anderson, Director, General Government Division of the U.S. General Accounting Office, before the Committee on Ways and Means House of Representatives, May 1, 1984.

²¹In order to avoid registering the bonds with the U.S. S.E.C, the subsidiary issued bonds pursuant to the so-called "lock-up" procedure designed to ensure that the bonds are distributed upon issuance only to foreign persons: the underwriters promise not to sell the bonds to U.S. persons, and the bonds are delivered to the ultimate purchasers only upon receipt of a certification that the purchaser is not a U.S. person (or is not purchasing on behalf of a U.S. person).

²²The Eurobond market is not an organized exchange, but rather a network of underwriters and financial institutions which market bonds issued by private corporations (including finance subsidiaries of U.S. corporations), foreign governments and agencies and other borrowers. In addition to individuals, purchasers of the bonds include institutions such as banks (frequently purchased on behalf of investors with custodial accounts managed by the bank, investment companies, insurance companies and pension funds). There is a liquid and well capitalized secondary market for the bonds. Although at this time a majority of bond issues in the Eurobond

bonds. First, an issue of Eurobonds pays interest, premiums and principal net of any tax which might be withheld at the source.²³ Absence of withholding makes the Eurobond attractive to those who either want to evade taxes or cannot recover taxes withheld. Second, since Eurobonds are not subject to domestic reserve requirements, deposit insurance fees, official or private restrictions on the level of interest rates offered, they yield more competitive interest rates than domestic U.S. counterparts. From 1983:3 to 1986:1, for example, the Eurobond rate was as much as one percent below the domestic Aaa corporate bond rate. Third, unlike bonds issued in the U.S. capital market, Eurobonds are issued in bearer, rather than registered form.²⁴ Thus, the anonymity of the holder of the bond is protected - the holder's identity is not disclosed to the issuer, the U.S. or the government where the holder resides.

The importance of foreign capital markets to U.S. corporations is illustrated with securities industry data in Table 1 below. U.S. corporation reliance on the foreign markets as a source of long term debt financing increased steadily for 1974-1982, declining somewhat in 1983.

market were denominated in dollars (whether or not the issuer was a U.S. corporation), Eurobonds were also frequently denominated in other currencies (even when issued by U.S. multinationals).

²³This is usually subject to the right of the issuer to call the obligation in the event a withholding tax is imposed as a result of law change or reinterpretation.

²⁴This distinguishes Eurobonds from the foreign or Yankee bond sold in the U.S. A Yankee bond is an offering by non-U.S. issuers through American underwriting syndicates denominated in U.S. dollars. They must be registered with the Securities and Exchange Commission (SEC). Dollar Eurobonds do not. As a consequence, disclosure requirements are much less stringent in the Eurobond market than in the U.S. Non-U.S. firms prefer Eurodollar bonds to foreign bonds sold in the U.S. because they avoid the cost and disclosure required to register with the SEC. In addition, U.S. firms find that much less time is needed to bring a new issue to market abroad.

Overseas financing as a percent of all bond financing by U.S. corporations had been at least 10 percent a year and as much as 25 percent over this period. On average, over 16 percent of corporate bond issues had been done through overseas markets during the last four years of the withholding tax.²⁵

Table 1.

	Eurobond and Foreign Currency Borrowings by U.S. Corps. in Foreign Markets	Public Corp. Debt Offerings in U.S. Market	% of Foreign Borrowing to Total
	(in billions of \$)		
1980	4.4	41.6	10
1981	6.8	38.1	15
1982	14.6	43.8	25
1983	7.5	47.3	14

Source: The statement of John W. Hyland for Securities Industry Association before the Committee on Ways and Means of the House of Representatives on May 1, 1984.

Eurobond issues through the Antilles represented virtually all U.S. corporate bond issues abroad. This resulted in large, tax-free interest payments to Antilles residents. Interest and dividend payments by country are displayed in Table 2 for 1983, the final full year in which interest withholding was in effect. Also included are the total tax withheld by country and the country's treaty status with the U.S. Interest payments to residents of Canada, France, Japan and the U.K. are substantial - 8.78, 3.50, 8.14, and 12.39 percent of total interest payments,

²⁵ U.S. corporate bonds sold in the Eurobond market comprise only a portion of the foreign-owned portfolio of U.S. assets. At the end of 1982, U.S. assets held by foreign investors totaled \$665.5 billion, including \$76.8 billion of corporate equity, \$189.2 billion of U.S. government securities, \$280.2 billion of deposits in U.S. banks, and \$101.8 billion of direct investment in the U.S.

Table II Interest and Dividend Income Paid and Tax Withheld
By Country of Recipient

1983

COUNTRY	Interest	Income Paid	Dividend	Income Paid	Tax Withheld	Treaty Status
	Thousand \$	% of Total	Thousand \$	% of Total	Thousand \$	(Tax Rate)
All						
Countries	5,905,657	100.00	4,168,145	100.00	698,390	100.00
Argentina	231,442	3.92	2,248	.81	1,250	.18
Australia	69,490	.16	13,330	.32	5,508	.79
Austria	2,724	.05	6,018	.14	1,153	.17
Bahamas	8,097	.14	16,908	.41	6,817	.98
Barbados	538	.01	18,053	.43	2,859	.41
Belgium	33,908	.57	51,076	1.23	12,254	1.75
Bermuda	17,250	.29	17,127	.41	10,635	1.52
Brazil	6,974	.12	2,326	.06	1,655	.24
British V.I.	3,439	.06	4,394	.11	1,041	.15
Canada	518,414	8.78	538,184	12.91	108,849	15.59
Cayman Islands	24,131	.41	5,567	.13	2,603	.37
China	135	.00			297	.04
China (Taiwan)	12,117	.21	757	.02	346	.05
Denmark	1,513	.02	1,982	.05	322	.05
Finland	1,353	.02	647	.02	208	.03
France	206,859	3.50	259,995	6.24	47,907	6.86
Germany, W.	394,864	.02	222,182	5.33	35,081	5.02
Greece	582	.01	2,002	.05	679	.10
Hong Kong	7,344	.12	22,680	.54	8,437	1.22
Ireland	2,202	.04	5,482	.13	918	.13
Israel	2,763	.05	1,645	.04	1,305	.19
Italy	11,312	.19	9,153	.22	5,425	.78
Jamaica	93	.00	220	.01	82	.01
Japan	480,960	8.14	198,217	.07	76,089	10.89
Kuwait	1,478	.03	1,377	.03	1,212	.17
Liberia	837	.01	14,008	.34	4,418	.63
Liechtenstein	3,497	.06	8,604	.21	3,160	.45
Luxembourg	27,808	.47	30,041	.72	5,082	.72
Mexico	7,183	.12	6,617	.16	6,438	.92
Monaco	623	.01	1,467	.04	656	.09

Table II. (continued)

Country	Interest		Income Paid		Dividend		Income Paid		Tax Withheld		Treaty Status	
	Thousand	% of Total	Thousand	% of Total	Thousand	% of Total	Thousand	% of Total	Thousand	% of Total	(Tax Rate)	
Morocco	1,031	.02	115	.00	335	.05					T (15)	
Netherlands	554,799	9.39	797,196	19.13	61,552	8.81					T (0)	
Netherlands												
Antilles	1,972,339	33.40	66,338	1.59	9,174	1.31					T (0)	
New Zealand	152	.00	662	.02	204	.03					T (10)	
Norway	2,093	.04	3,266	.08	693	.10					T (0)	
Panama	20,050	.34	20,577	.49	8,685	1.24					N	
Philippines	523	.01	890	.02	926	.13					T (15)	
Poland	123	.00	124	.00	61	.01					T (0)	
Portugal	531	.01	513	.01	186	.03					N	
Puerto Rico	3,414	.06	490	.01	403	.06					N	
Saudi Arabia	105,181	1.78	2,053	.05	1,525	.22					N	
Singapore	10,791	.18	3,086	.07	652	.09					N	
Spain	7,754	.13	3,942	.88	2,663	.38					N	
Sweden	2,892	.05	36,586	.88	4,366	.63					T (0)	
Switzerland	361,733	6.13	630,212	15.12	105,071	15.04					T (5)	
United Kingdom	731,896	12.39	1,069,647	25.66	128,326	18.37					T (0)	
Venezuela	8,418	.14	6,478	.16	2,065	.30					N	
Other												
Countries	102,014	1.73	61,741	1.48	18,250	2.60						

Source: Derived from Table 1, Carson, 1985. Detail may not sum to total because of rounding.

respectively. However, the Netherlands Antilles received the largest fraction of interest payments in 1983. Recipients in the Antilles received almost \$2 billion in interest payments, 33.40 percent of the total. Dividend payments to the N.A. were smaller, only 1.59 percent of the total. Taxes withheld from N.A. recipients, however, were a much smaller fraction of total tax withheld (1.31 percent) because the N.A. tax treaty with the U.S. reduced the withholding tax rate on interest to zero. The U.S.-N.A. treaty was referred to as a "one-way treaty with the world" because of the U.S. tax benefits which flowed through to third-country investors.²⁶ Despite the statutory withholding rate of 30 percent, the effective tax rate for most investors was much lower, and often zero.

B. Transactions of the N.A. Affiliates

New bond issues made directly in the Eurobond market through the finance subsidiaries in the Antilles are displayed in Chart B. Chart C shows intercompany debt flows (flows from the affiliate to the parent are positive). Chart D displays equity and interest flows between parent and affiliate. The volume of bond issues made through the Antilles averaged \$2.4 billion per quarter through the third quarter of 1984, peaking at almost \$4 billion in the first quarter of 1984. In the quarters of 1984

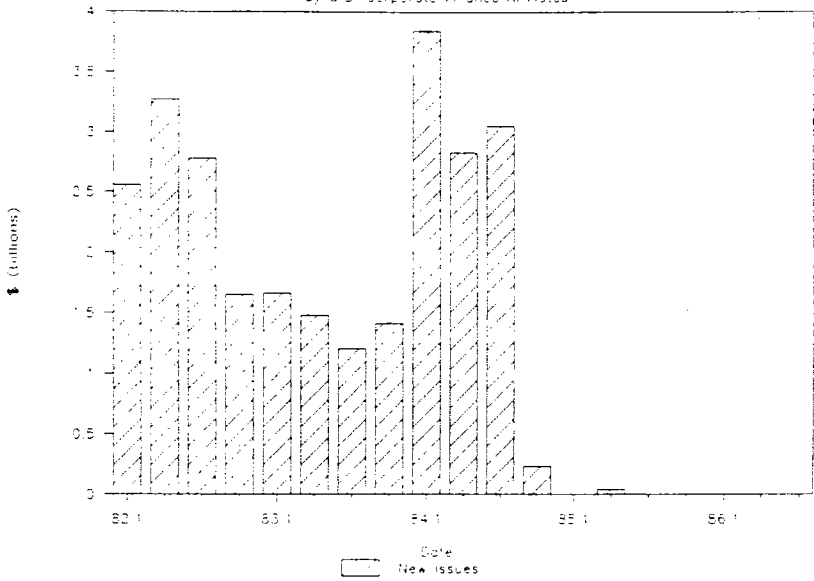
²⁶ The following example was provided in testimony before the Committee on Ways and Means of the House of Representatives by William J. Anderson, Director, General Government Division of the GAO, May 1, 1984.

A real estate company is used primarily to channel funds into U.S. real property, such as apartment buildings and shopping centers. Foreign investors can invest funds directly in U.S. real estate. But rents and royalties arising from such investment generally are taxed at the 30 percent rate. Also, any capital gains would be subject to tax. By structuring such investments through a N.A. company, however, an investor can avoid the 30 percent withholding tax. Furthermore, such investors currently are able to avoid U.S. tax on any capital gains arising from their investments.

CHART B

Bond Issues from Netherlands Antilles

by U.S. Corporate Finance Affiliates

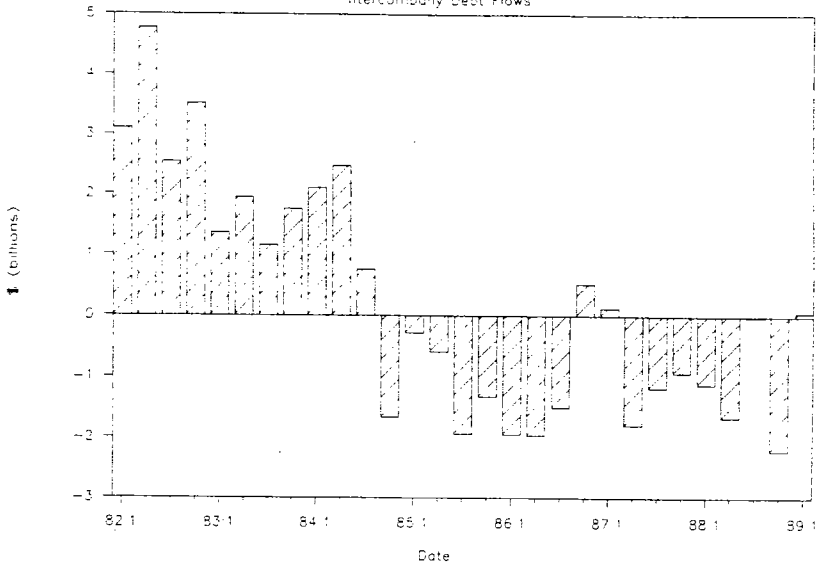


Source: "U.S. International Transactions," selected years, Survey of Current Business

CHART C

Transactions with N.A. Affiliates

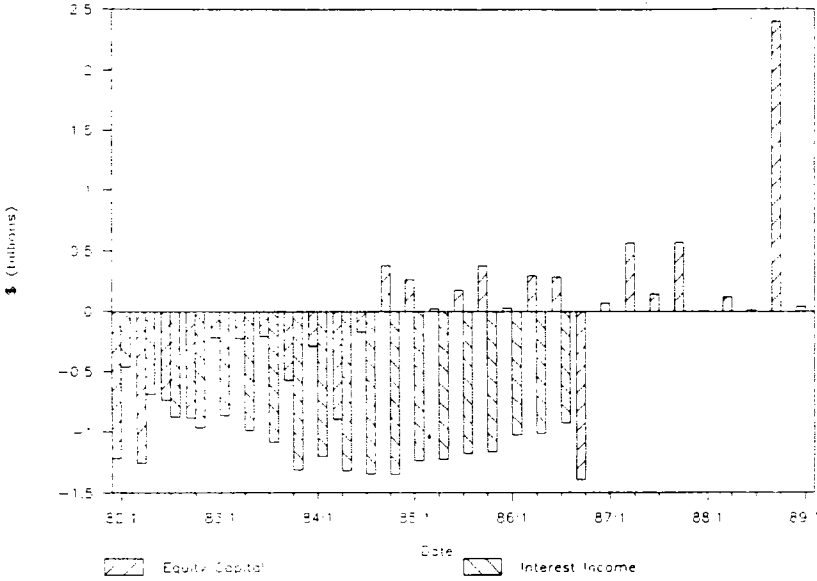
Intercompany Debt Flows



Source: "U.S. Direct Investment Abroad," selected years, Survey of Current Business

CHART D

Transactions with N.A. Affiliates Equity and Interest Flows



Source: "U.S. Direct Investment Abroad," selected years, Survey of Current Business

which preceded repeal of withholding, the Antilles finance affiliates issued substantial amounts of debt, with over half of the \$2.8 billion total in the second quarter associated with a single large merger-related transaction.²⁷ Equity capital outflows increased \$0.6 billion to \$0.9 billion as U.S. parents of N.A. finance affiliates increased their equity in these affiliates in conjunction with these borrowings. Net inflows slowed as borrowing to finance mergers subsided in the third quarter. In the first three quarters, intercompany debt flows from the affiliates had been substantial, averaging over \$2.0 billion per quarter.²⁸

The bonds placed through the affiliates provided intermediate maturity funds for the parent at rates between 1/4 and 3/4 of one percent below the cost of funds available in the domestic market. This privilege was generally limited to only the largest corporations which could afford to establish and maintain a subsidiary and which issued bonds in blocks of \$1 million or more in the wholesale Eurobond market. Examples of the costs savings of corporations which used their subsidiaries to float debt abroad at rates well below their domestic yields are illustrated in Table 3 below.

While the use of a N.A. subsidiary resulted in a net savings on interest payments (as well as the 30 percent tax exemption), it also resulted in annual N.A. income tax, levied at rates from 24 to 30 percent on the subsidiary's net income. This income tax was estimated to add from

²⁷Detailed discussion of finance affiliates' transactions can be found in "U.S. International Transactions", selected quarters in the Survey of Current Business.

²⁸Around the time of the repeal of the withholding tax, it was widely speculated that the entrance of smaller U.S. companies and the U.S. Treasury into the Eurobond market would drive up foreign rates closer to the U.S. level. It is suggested (Scholl [1984]) that this expectation may be the reason that some U.S. corporations issued hundreds of millions of dollars in Eurobonds in the third quarter of 1984.

Table 3. Illustrative Cost Savings for U.S. Corporations
in the Eurodollar Bond Market

<u>Guarantor</u>	<u>Amount</u> (million \$)	<u>Maturity</u> (years)	<u>Net Savings</u> <u>vs Domestic</u> <u>Market</u> (basis points)
American Savings and Loan Association	125	5	64
Citicorp	100	3	70
Communications Satellite Corporation	100	7	65
Digital Equipment Corp.	150	5	23
Illinois Power Company	100	8	35
GTE Finance Corp.	75	3	55
Macy Credit Corp.	100	7	58
Morgan Guaranty Trust Co.	150	5	47
Sears, Roebuck & Co.	150	7	58
Shearson/American Express	100	10	10

Note: All bonds issued in March and April, 1984.

Source: Loverd and Mendoza [1984]

.54 percent to more than one percent of the principal to the borrowing costs.²⁹ According to the IRS Statistics of Income data for the tax year 1980, the U.S. subsidiaries paid approximately \$41 million in taxes to the Antilles. The parent corporation, however, could receive a foreign tax credit from the U.S. government for taxes paid to the N.A.³⁰

²⁹ See the statement of John E. Donaldson, Jr., Vice President and Treasurer, Avon Products, Inc. and Richard K. Bushey, Vice President and Controller, Southern California Edison Co. on behalf of 58 American companies in testimony before the Committee on Way and Means, U.S. House of Representatives. May 1, 1984.

³⁰ A frequently used measure of a country's tax haven status *vis a vis* the U.S. is the ratio of U.S. source income to the country's GNP. In 1980, U.S. source income was greater than 57 percent of the GNP figure for the Antilles, rising to 117.6 percent of GNP in 1981. The ratio was 115.4 in 1982 (the most recent year for which GNP figures are available), the highest for all countries followed by Bermuda with a ratio of 6.2. Remaining countries' ratios were 2.9 or less. (See Lewis [1986] for details).

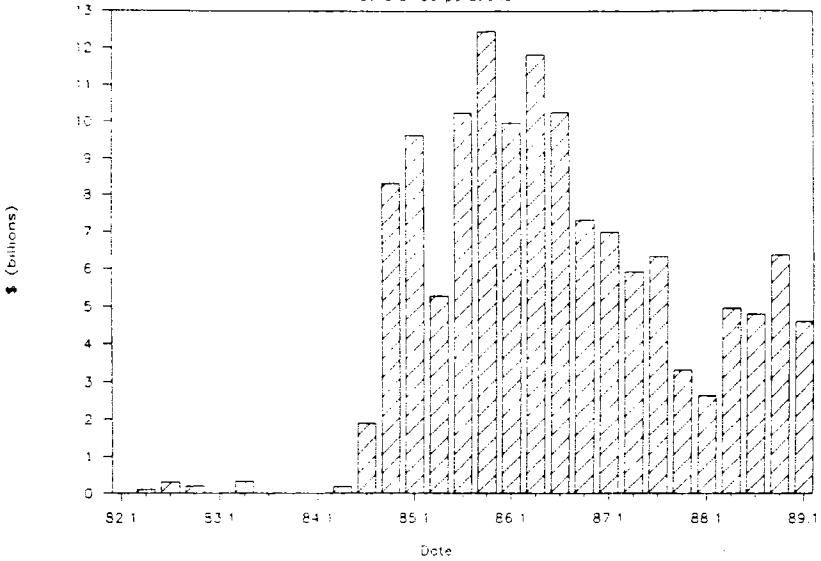
B. Post-Repeal Borrowing Behavior

The effect of the repeal on the method of corporate debt financing became apparent immediately in the second half of 1984. Chart E displays the new bond issues sold directly abroad by U.S. corporations. In the third quarter of 1984, the change in the withholding tax regulations spurred the direct sale abroad of \$1.9 billion in new bond issues by U.S. corporations, which jumped to \$8.8 billion in the fourth quarter. These were the first sizable amounts issued directly in the Eurobond market in ten years. Combined with \$9.9 billion issued through finance subsidiaries, the combined amount of overseas financing was triple the 1983 total. Foreign interest in U.S. bonds carried over into 1985. By year end, 1985, foreigners held \$81.8 billion, \$49.1 billion more than at prior year end. Overseas issues have continued up through the current period.

Foreign holdings of Treasury securities increased as well. In 1984, there was a tripling of net purchases of U.S. Treasury securities by private foreigners and international financial institutions to \$22.4 billion. Chart F details the quarterly net increase of foreign holdings of U.S. securities and securities other than Treasury securities (which includes corporate Eurobond placements). Much of the increase occurred in the second half of the year, after the removal of the withholding tax and delayed clarification of Treasury regulations regarding identification of buyers. As part of a program to increase foreign holdings of its securities, the Treasury placed two foreign-targeted issues abroad, amounting to \$2.0 billion, which were offered at a price 30 basis points below domestically available Treasury securities of comparable maturities. The Treasury placed \$1.0 billion in foreign targeted issues in 1985. They

CHART E

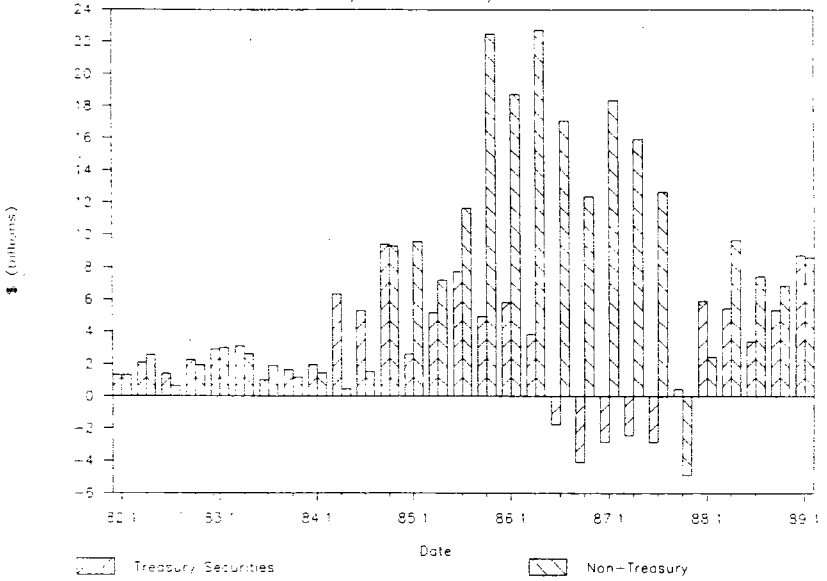
New Bond Issues Sold Abroad
by U.S. Corporations



Source: "U.S. International Transactions," selected years, Survey of Current Business

CHART F

Foreign Holdings of U.S. Securities
Treasury vs. Non-Treasury Securities



Source: "U.S. International Transactions," selected quarters, Survey of Current Business

were marketed abroad in special registered form and were not eligible for resale to U.S. residents for 90 days. Since the Treasury would not sell bearer bonds, some investment firms repackaged federal agency and U.S. Treasury securities in the form of stripped interest coupons, which were sold separately as zero-coupon securities in bearer form to foreigners.³¹

This experiment with the repeal of withholding raises the interesting issue of the price of anonymity in the world capital market. Prior to repeal, the domestic bond market differed from the Eurobond market in two significant ways. Domestically issued bonds were subject either to withholding or strict information requirements, and the Eurobonds were issued in bearer form. After repeal, bonds in both markets were tax free, but the Treasury bonds were still issued in registered form. Anonymity is clearly of some value, since the repackaged Treasury securities, differing from those issued to U.S. residents only in their identification requirements, were popular with foreign investors. Data from these issues may allow estimation of the price of anonymity. Information on corporate issues may be useful as well. Corporations preferred to issue bearer bonds through N.A. subsidiaries despite evidence that the N.A. income tax approximately canceled the cost savings from access to the Eurobond market. This evidence points to the importance of investor anonymity.

Repeal of the withholding tax appears to have had an effect on volume as well as the method of issuing corporate debt since direct new bond

³¹One form of a stripped bond sold by a syndicate headed by Salomon Bros. were CATS - Certificates of Accrual on Treasury Securities. First offered in August, 1984, as deep discount bonds in bearer form to foreign investors and in registered form to U.S. investors. The two forms are interchangeable so that bearer bonds resold by foreigners to U.S. residents will be exchanged for registered certificates and vis versa. Deep discount bonds, sold at a fraction of their maturity value, are popular with investors in countries that consider all appreciation as capital gains subject to preferential tax treatment.

issues did more than merely substitute for issues through the Antilles. Beginning with the quarter in which repeal took place, 84:3, direct new issues abroad in every quarter exceeded all previous quarterly bond offerings through the Antilles (compare Charts B and E). It does suggest that an "implicit tax" in the form of higher domestic interest rates was being paid before repeal. While some corporations were willing to pay for a finance subsidiary in the N.A. and issue debt at lower rates, other firms chose to pay higher domestic interest rates on debt.

The re-sourcing provision included in DRA which reduced the parent company's foreign tax credit limitation led to hurried closings of the affiliates. By the fourth quarter of 1984, there was a marked turnaround in the activities of the affiliates. The issue of bonds through the Antilles (Chart B) ceased and outstanding debt to the affiliates began to be repaid.

After repeal of the withholding tax, corporations altered their borrowing patterns to accommodate the new tax law. A larger volume of bonds were sold directly into the Eurobond market than had previously been issued through N.A. affiliates. The paper subsidiaries were closed as soon as was feasible. This behavior suggests that debt policy may be flexible and responsive to changes in tax policy.³²

V. Conclusion

This halfhearted U.S. experiment with a withholding tax has no predictive value for a future tax on foreign interest earnings. The proliferation of tax treaties virtually eliminated any possibility of

³²See Myers [1994] for a discussion of the effects of tax policy on corporate borrowing behavior.

raising revenue, despite the high statutory tax rate. Indeed, in reviewing the U.S. experience, it is hard to understand why, assuming that they are not engaged in tax evasion, the investors were expected to respond to the "new" tax-free status of the U.S. debt issues. Since virtually all holders of significant amounts of U.S. debt had reciprocal tax treaties with the U.S., little or no withholding tax was paid prior to repeal. In addition, in most cases, any tax which they paid could be credited against their home income tax. While some had feared that repeal would strengthen the exchange value of the dollar, it is clear that since rates of return earned abroad were unchanged, the dollar would not be much affected.³³ Removal of withholding merely resulted in a small transfer from the U.S. Treasury to foreign treasuries without much effect on the investors' tax burden.

The principal beneficiaries of the withholding repeal would seem to be private portfolio investors from countries with which the U.S. has no tax treaty - largely oil producing countries and less developed countries of Latin America and elsewhere. Thus, the repeal of withholding did not alter taxes paid as much as it eliminated any trace of U.S. source income paid abroad. Foreign investors may now invest in the U.S. without a withholding tax. Since there is no withholding tax, there is no need to request a credit from their own government or even to report the U.S. source income at all. In short, the U.S. has become a tax haven for foreign investors.

The U.S.'s status as a tax haven raises several new issues for U.S. tax policy. First, repeal of withholding on interest opens up the possibility of international tax avoidance. If tax is not withheld on

³³Rep. Byron L. Dorgan, D.-N. Dakota, complained in a June 27, 1984 statement that the repeal of withholding on portfolio interest would exacerbate the harmful impact of the budget deficits on the U.S. balance of trade because the power of foreign investors to bid up the exchange value of the dollar was not adequately considered. (Tax Notes, July 23, 1984.)

interest paid to foreign investors and U.S. borrowers issue foreign bonds in bearer form, then the interest income may not be taxed in any country. In this case, the borrower deducts interest paid abroad, reducing domestic tax liability, without an offsetting interest increase in the tax base of any jurisdiction. Ultimately, such unrestricted cross-border lending could cause substantial tax base erosion in both borrowing and lending countries. Also, as a result of enforcement difficulties, some of these tax-free bonds might be held by U.S. persons evading U.S. tax. This possibility prompted the Treasury to decide against issuing bonds in bearer form. However, if evasion by U.S. citizens is small and the Treasury issued targeted bearer bonds abroad, it would benefit from substantially lower borrowing costs at the expense of other governments.

Second, repeal could spur a round of international tax competition. In the year following repeal, other governments such as France, West Germany and Japan liberalized their tax rules as a defensive measure to avoid capital outflow.³⁴ It was feared that the tax change would result in worldwide tax competition for international capital, a phenomenon often observed between neighboring states within the U.S.³⁵

³⁴In 1985 Japan repealed a 20 percent withholding tax levied on interest paid to foreign bondholders by Japanese corporations. The withholding tax had prevented corporations in Japan from raising funds in the Euroyen markets. The West German government briefly imposed a ten percent withholding tax on interest income from January 1, 1989 to July 1, 1989. The tax was blamed for a large capital outflow and damaged confidence in Chancellor Helmut Kohl's financial policies. However, a uniform withholding tax within the European Community is under consideration.

³⁵See the statements of Peggy Musgrave, and Hugh J. Ault, before the House Committee on Ways and Means on the Subject of the Tax Treatment of Interest Paid to Foreign Persons, May 1, 1984. This issue had been examined in the literature both theoretically by Mintz and Tulkens [1984] and empirically by Papke [1987a] and [1987b].

Whether or not a withholding tax affects the U.S. interest rate has important implications for the efficiency of U.S. tax policy. If the tax is imposed, but investors choose dollar denominated Euromarket securities instead of U.S. securities, a substantial welfare cost in terms of increased domestic interest rates may be borne in this country. A complete analysis of the welfare effects of such a tax begins with the effect on the domestic interest rates as I've sketched. A more complete model of intertemporal behavior is needed to decide whether the economy is better or worse off.

Finally, further work would integrate this analysis into the larger issue of the effect of interjurisdictional tax differentials on corporate behavior. It may be possible to estimate the implicit taxes paid by corporations who chose to borrow domestically at higher rates rather than to establish finance subsidiaries and borrow at the lower Eurobond rates abroad.³⁶ It may be possible to measure the elasticity of demand for and supply of corporate debt in the domestic and Eurobond markets before and after repeal. This would shed further light on the responsiveness of corporate debt policy to tax policy changes and the pace of that response.

³⁶See Gilson, Scholes and Wolfson [1986] for an example of inferring implicit taxes from tax-motivated behavior.

Bibliography

- Bach, C.L., "U.S. International Transactions, Fourth Quarter and Year 1983," Survey of Current Business, March 1984, pp. 38-66.
- , "U.S. International Transactions, Fourth Quarter and Year 1984," Survey of Current Business, March 1985, pp. 29-52.
- , "U.S. International Transactions, Fourth Quarter and Year 1985," Survey of Current Business, March 1986, pp. 24-48.
- , "U.S. International Transactions, Fourth Quarter and Year 1986," Survey of Current Business, March 1987, pp. 32-62.
- , "U.S. International Transactions, Fourth Quarter and Year 1987," Survey of Current Business, March 1988, pp. 27-53.
- , "U.S. International Transactions, Fourth Quarter and Year 1988," Survey of Current Business, March 1989, pp. 26-51.
- Boskin, M.J., and Gale, W.G., "New Results on the Effects of Tax Policy on the International Location of Investment," NBER Working Paper No. 1862, March 1986.
- Carson, C., "Nonresident Alien Income and Tax, 1971-1979," SOI Bulletin, Department of the Treasury, Internal Revenue Service, Volume 1, No. 4, Spring 1982, pp. 34-38.
- , "Nonresident Alien Income and Tax, 1980," SOI Bulletin, Department of the Treasury, Internal Revenue Service, Volume 2, No. 1, Summer 1982, pp. 15-19.
- , "Nonresident Alien Income and Tax, 1981," SOI Bulletin, Department of the Treasury, Internal Revenue Service, Volume 3, No. 1, Summer 1983, pp. 35-80.
- , "Nonresident Alien Income and Tax, 1982," SOI Bulletin, Department of the Treasury, Internal Revenue Service, Volume 4, No. 2, Fall 1984, pp. 21-32.
- , "Nonresident Alien Income and Tax, 1983," SOI Bulletin, Department of the Treasury, Internal Revenue Service, Volume 5, No. 2, Fall 1985, pp. 39-53.
- Cumby, R.E., and Mishkin, F.S., "The International Linkage of Real Interest Rates: The European-U.S. Connection," Journal of International Money and Finance, Volume 5, March 1986, pp. 5-23.
- Cumby, R.E., and Obstfeld, M., "International Interest-Rate and Price-Level Linkages under Flexible Exchange Rates: A Review of Recent Evidence," in J.F.O. Bilson and R. Marston, eds., Exchange Rates: Theory and Practice, Chicago, University of Chicago Press for the NBER, 1984.
- DiLullo, A.J., "U.S. International Transactions, Third Quarter 1984," Survey of Current Business, December 1984, pp. 41-57.

- , "U.S. International Transactions, Third Quarter 1985," Survey of Current Business, December 1985, pp. 58-82.
- , "U.S. International Transactions, Second Quarter 1986," Survey of Current Business, September 1986, pp. 40-57.
- , "U.S. International Transactions, Third Quarter 1986," Survey of Current Business, December 1986, pp. 23-40.
- , "U.S. International Transactions, Third Quarter 1987," Survey of Current Business, December 1987, pp. 20-44.
- , "U.S. International Transactions, Second Quarter 1988," Survey of Current Business, September 1988, pp. 33-56.
- , "U.S. International Transactions, Third Quarter 1988," Survey of Current Business, December 1988, pp. 19-35.
- Dornbusch, R., "Flexible Exchange Rates and Excess Capital Mobility," Brookings Papers on Economic Activity, Volume 1, 1986, pp. 209-226.
- Eiteman, D.K. and Stonehill, A.I., Multinational Business Finance, Fourth Edition, Addison-Wesley Publishing Co., 1986.
- Feldstein, M.S., "The Welfare Cost of Capital Income Taxation," Journal of Political Economy 88, pp. S29-S51.
- George, A.M., and Giddy, I.H., eds, International Finance Handbook, Wiley & Sons, Inc., Volume 1, 1983.
- Gilson, R.J., Scholes, M.S., and Wolfson, M.A., "Taxation and the Dynamics of Corporate Control: The Uncertain Case for Tax Motivated Acquisitions," Research Paper 873, Graduate School of Business, Stanford University, Stanford, CA, 1986.
- Hodrick, R.J., "Some Evidence on the Equality of Expected Real Rates Across Countries," Working Paper, Carnegie-Mellon University, 1979.
- Isard, P. and Stekler, L., "U.S. International Capital Flows and the Dollar," Brookings Papers on Economic Activity 1:1985, pp. 219-236.
- Krueger, R.C., "U.S. International Transactions, First Quarter 1984," Survey of Current Business, June 1984, pp. 35-73.
- , "U.S. International Transactions, Second Quarter 1984," Survey of Current Business, September 1984, pp. 34-57.
- , "U.S. International Transactions, First Quarter 1985," Survey of Current Business, June 1985, pp. 34-69.
- , "U.S. International Transactions, Second Quarter 1985," Survey of Current Business, September 1985, pp. 28-46.
- , "U.S. International Transactions, First Quarter 1986," Survey of Current Business, June 1986, pp. 36-73.

- , "U.S. International Transactions, First Quarter 1987," Survey of Current Business, June 1987, pp. 46-53.
- , "U.S. International Transactions, Second Quarter 1987," Survey of Current Business, September 1987, pp. 32-49.
- , "U.S. International Transactions, First Quarter 1988," Survey of Current Business, June 1988, pp. 28-45.
- , "U.S. International Transactions, First Quarter 1989," Survey of Current Business, June 1989, pp. 50-92.
- Lewis, M.P., "Foreign Recipients of U.S. Income, and Tax Withheld, 1984", SOI Bulletin, Department of the Treasury, Internal Revenue Service, Volume 6, No. 2, Fall 1986, pp. 61-77.
- , "Foreign Recipients of U.S. Income, and Tax Withheld, 1985", SOI Bulletin, Department of the Treasury, Internal Revenue Service, Volume 7, No. 2, Fall 1987, pp. 27-43.
- Loverd, R.L., and Mendoza, R.G., Statement before the House Committee on Ways and Means, of the House of Representatives, May 1, 1984.
- Mark, N.C., "Some Evidence on the International Inequality of Real Interest Rates," Journal of International Money and Finance, June 1985, 4: 189-208.
- Mishkin, F.S., "Are Real Interest Rates Equal Across Countries: An Empirical Investigation of International Parity Conditions," Journal of Finance, December 1984, 39: 1345-1357.
- Mintz, J. and Tulkens, H., "Commodity Tax Competition Between Member States of a Federation: Equity and Efficiency," CORE Discussion paper No. 8427, June 1984.
- Myers, S.C., "Presidential Address: The Capital Structure Puzzle," Journal of Finance, Volume 39, No. 3, July 1984, pp. 575-592.
- Obstfeld, M., "How Integrated Are World Capital Markets? Some New Tests," NBER Working Paper No. 2075, November 1986.
- Papke, L.E., "Subnational Taxation and Capital Mobility: Estimates of Tax-Price Elasticities," National Tax Journal Vol. XL, No. 2, June 1987.
- , "The Influence of Interstate Tax Differentials on the Birth of New Firms: Estimates of a Poisson Process," Boston University Working Paper 89-02, 1989.
- Rodriguez, R.M., and Carter, E.E., International Financial Management, Third Edition, Prentice-Hall, Inc., 1984.
- Scholl, R.B., "The International Investment Position of the U.S. in 1983," Survey of Current Business, June 1984, pp. 74-77.
- , "The International Investment Position of the U.S. in 1984," Survey

of Current Business, June 1985, pp. 25-33.

-----, "The International Investment Position of the U.S. in 1985," Survey of Current Business, June 1986, pp. 26-35.

-----, "The International Investment Position of the U.S. in 1986," Survey of Current Business, June 1987, pp. 38-45.

-----, "The International Investment Position of the U.S. in 1987," Survey of Current Business, June 1988, pp. 76-84.

-----, "The International Investment Position of the U.S. in 1988," Survey of Current Business, June 1989, pp. 41-49.

Slemrod, J., "International Capital Mobility and the Theory of Capital Income Taxation," Brookings Tax Conference paper, September, 1986.

Tax Notes Complete Access Service, "Documents from the House Ways and Means Committee on the Subject of the Tax Treatment of Interest Income Paid to Foreign Persons," May 1, 1984 (summary in Tax Notes, May 7, 1984).