Some Observations on a Pure Income Tax System

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I. Introduction

Tax scholars have developed a number of theories over the years with respect to a pure or normative income tax system. These theories seem to be more important than ever, particularly with the increasing use of derivatives and financial instruments in business transactions. As Professor Alvin Warren noted six years ago, "innovative financial contracts provide a serious challenge to an income tax based on realization, even in the simplest case of purely domestic transactions without special treatment for capital gains and losses."[1]

It appears that in developing a pure income tax system, three theories are of overwhelming importance. These three theories are the Haig-Simons definition of income, Samuelson depreciation and the Cary Brown model. In this paper, I will discuss the history behind each theory and demonstrate an application of the theory. It should be noted that while it is critical to understand these three theories in setting up a pure income tax system, complying with them may not be feasible or desirable in all cases. Issues of equity, efficiency and administrability may arise in establishing a pure income tax system. As a result, these issues must be considered in utilizing or implementing the three theories.

II. The Haig-Simons Definition of Income

The Haig-Simons definition of income is generally considered by most tax scholars to be the ideal definition of income. It is sometimes referred to as the Schanz-Haig-Simons definition of income, reflecting the early contribution of Georg von Schanz.[2] This definition is the accretion concept of income, which defines income as the sum of consumption and accumulation. Robert Haig published his definition of income in 1921.[3] Haig wrote that income is "the increase or accretion in one's power to satisfy his wants in a given period in

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1. Alvin C. Warren, Jr., *Financial Contract Innovation and Income Tax Policy*, 107 HARV. L. REV. 460, 461 (1993).
2. *See* Georg von Schanz, *Der Einkommenbegriff und die Einkommensteuergesetze*, Finanz-Archiv, vol. 13, no. 1 (1896), at 23.
3. Robert M. Haig, *The Concept of Income—Economic and Legal Aspects, in* THE FEDERAL INCOME TAX 1 (Robert M. Haig ed., 1921).

so far as that power consists of (a) money itself, or, (b) anything susceptible of valuation in terms of money. More simply stated, the definition of income which the economist offers is this: Income is the *money value of the net accretion to one's economic power between two points of time*."[4] Haig focused on the point in time when the power to satisfy one's wants is increased, not necessarily the point in time when the wants are actually satisfied.[5] As a result, Haig included savings in income even though it had not yet been consumed.

Henry Simons published his definition of income in 1938. Simon's definition is considered a refinement of Haig's definition, and it is Simon's definition that is often cited today. Simons wrote that income is the "algebraic sum of (1) the market value of rights exercised in consumption and (2) the change in the value of the store of property rights between the beginning and end of the period in question."[6] Simons also noted that "[I]n other words, it [income] is merely the result obtained by adding consumption during the period to 'wealth' at the end of the period and then subtracting 'wealth' at the beginning."[7]

Probably, the single largest violation of the Haig-Simons definition of income is the realization doctrine.[8] Under the realization doctrine, appreciation in property is not taxed until the property is sold or otherwise disposed of. For example, assume an individual owns publicly traded stock that has appreciated in value. Under a realization-based income tax system, the individual will defer paying taxes on the appreciation until a realization event, most likely a sale, takes place. As a result, much of the wealth of Bill Gates and Warren Buffet, two of the wealthiest Americans, has never been taxed because, in each case, the bulk of their wealth is held in stock of corporations that they created, Microsoft and Berkshire Hathaway, respectively.[9] In other words, Gates and Buffet have pretax wealth while most individuals have after-tax wealth. Professor William Andrews refers to the realization doctrine as the "Achilles' heel" of the income tax system, in large part, because of the tax deferral benefit of the realization doctrine.[10] A leading practitioner has noted that "so long as we continue under a realization system of tax accounting, it is not possible to achieve an equivalent tax treatment of economically equivalent financial investments."[11]

The most discussed method for eliminating the tax deferral benefit of the realization doctrine is a "mark-to-market method" of accounting. Most agree that a mark-to-market method is a theoretically correct approach in an ideal income tax system. Mark-to-market accounting implements the Haig-Simons definition of income, which most tax theorists feel is the ideal definition of income. As many commentators have noted, however, eliminating the realization requirement and adopting a mark-to-market approach for unrealized appreciation in property could lead to numerous problems. These problems include liquidity in paying the resulting income tax, administrability in determining the changes in

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4. *Id.* at 7.

5. *See* STANLEY S. SURREY ET AL., FEDERAL INCOME TAXATION 61 (1986).

6. HENRY C. SIMONS, PERSONAL INCOME TAXATION 50 (1938).

7. *Id.*

8. *See* BORIS I. BITTKER & LAWRENCE LOKKEN, FEDERAL TAXATION OF INCOME, ESTATES AND GIFTS § 3.1.1 (1989).

9. Microsoft has never paid a dividend (on its common stock), while Berkshire Hathaway has not paid a dividend since 1967.

10. William D. Andrews, *The Achilles' Heel of the Comprehensive Income Tax*, *in* NEW DIRECTIONS IN FEDERAL TAX POLICY FOR THE 1980s 278, 280 (Charls E. Walker & Mark A. Bloomfield eds., 1983).

11. David P. Hariton, *The Accrual of Interest on Derivative Investments: Where Do We Go From Here?*, 74 TAXES 1011, 1012 (1996).

fair market value of the taxpayer's assets (particularly those not traded on a publicly traded exchange), and possible political problems. It appears, however, that a strong argument could be made to partially or completely repeal the realization doctrine, at least as to publicly traded property where problems of liquidity and valuation generally are not present. With the increasing use of derivatives in the business world, a mark-to-market approach may also be needed for assets whose value is dependent on publicly traded property.[12]

III. Samuelson Depreciation

The second important tax policy theory is closely linked to both the Haig-Simons definition of income and the Cary Brown model. In a famous paper published in 1964, Massachusetts Institute of Technology economics professor Paul Samuelson introduced the concept of economic depreciation, many times referred to as Samuelson depreciation.[13] This concept has been most clearly described in the tax law literature by Professor Marvin Chirelstein, and it is his example that will be used here.[14]

Assume a taxpayer purchases equipment for 4,000u. In theory, the proper amount of depreciation deduction each year is equal to the decline in value of the equipment each year. This is consistent with the Haig-Simons definition of income, in which income is defined as consumption plus (or minus) the change in the value of assets. Also, in theory, the taxpayer purchased the equipment for the income stream that the equipment will generate for the taxpayer's business. Let's assume that the equipment is expected to generate income of 1,200u each year for five years. The pretax rate of return for the taxpayer's investment in the equipment is slightly greater than fifteen percent, compounded annually. In other words, 1,200u a year for five years discounted at a fifteen percent rate of return, compounded annually, equals 4,000u.

As a result, the present value of each payment is as follows:

Year	1	2	3	4	5	Total
Expected Receipt	1,200u	1,200u	1,200u	1,200u	1,200u	6,000u
Present Value	1,045u	905u	790u	687u	573u	4,000u

The total present value of all payments equals 4,000u, which is the original cost of the equipment.

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12. It is quite simple for a wealthy individual or corporation to enter into a derivative whose value mimics or tracks the value of publicly traded property. In fact, United States Congressman Richard E. Neal introduced a bill (H.R. 1703) on May 5, 1999 to prevent both the time value of money and characterization benefits of this type of transaction. *See generally* Daniel I. Halperin, *Saving the Income Tax: An Agenda for Research*, 77 TAX NOTES 967 (1997) (discussing the need for mark-to-market for certain derivatives).

13. *See* Paul A. Samuelson, *Tax Deductibility of Economic Depreciation to Insure Invariant Valuations*, 72 J. POL. ECON. 604 (1964).

14. *See* MARVIN A. CHIRELSTEIN, FEDERAL INCOME TAXATION § 6.08 (rev. 8th ed. 1999).

At the beginning of year one, the present value of the expected income stream is $4,000u$. At the end of year one, there are only four $1,200u$ payments left to be received. When these four payments are discounted back to the end of year one at a fifteen percent rate of return, compounded annually, the present value is $3,427u$. The loss in present value for year one is $573u$. As Professor Chirelstein has written:

> As each year of useful life expires the expected stream of payments become shorter and the present value of the sum of all remaining payments necessarily declines. There is just that much less to anticipate in the way of future returns. The taxpayer's economic loss from the year's operations—his annual cost—is measured by the decline in the present value of antic-ipated receipts which takes place between the beginning and the end of the taxable year. In effect, the difference between the value of the future income stream on January 1 and its value on January 1 of the following year represents the cost of using the machine for the year in question. If the object of the depreciation allowance is to reduce gross income by the true cost of operations, then the annual allowance should be no more or less than that amount.[15]

The schedule of the annual decline in the present value of the income stream that rep-resents the taxpayer's investment in the equipment is as follows:

	Present Value of the Invest-ment	Present Value of Payment (1)	Present Value of Payment (2)	Present Value of Payment (3)	Present Value of Payment (4)	Present Value of Payment (5)	Annual Loss in Present Value
Beginning of Year 1	$4,000u$	$1,045u$	$905u$	$790u$	$687u$	$573u$	$0u$
End of Year 1	$3,427u$		$1,045u$	$905u$	$790u$	$687u$	$573u$
End of Year 2	$2,740u$			$1,045u$	$905u$	$790u$	$687u$
End of Year 3	$1,950u$				$1,045u$	$905u$	$790u$
End of Year 4	$1,045u$					$1,045u$	$905u$
End of Year 5	$0u$						$1,045u$
Total							$4,000u$

From the above chart, the taxpayer's depreciation deduction each year should be: $573u$ in year one; $687u$ in year two; $790u$ in year three; $905u$ in year four; and $1,045u$ in year five. As a result, the theoretically proper amount of depreciation increases each year—the exact opposite of accelerated depreciation. It should be noted, however, that if the expected income stream is not level but rather decreases over time, then the theoretically proper

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15. *See id.*

amount of depreciation each year would be more level or may even decline over time. It is generally conceded that it would be very difficult to adopt Samuelson depreciation. The primary reason is the difficulty in predicting the income stream that the equipment is expected to generate. This is in contrast to assets such as mortgages, leases and zero coupon bonds, in which the future payments are generally fixed by contract and, therefore, can be easily determined. As shown, Samuelson depreciation "is simply a function of expected cash flows."[16] Despite the difficulty in applying Samuelson depreciation, however, it "is the *only* proper method of apportioning the taxpayer's capital investment in accordance with the economic cost of use."[17]

It should be noted, however, that the United States has adopted principles based on Samuelson depreciation in areas even where the future payments are not fixed. For example, the rules for contingent payment debt instruments require adoption of a rate of return even though the actual payments may vary from the projected payment schedule using the rate of return.[18] Any difference between the projected payments and the actual contingent payments is accounted for at a subsequent period in time when the actual contingent payments are made.

IV. The Cary Brown Model

A. INTRODUCTION

The Cary Brown model, sometimes referred to as the MIT model, generally holds that immediately deducting the cost of an asset is equivalent to excluding from income the future annual return of the asset. The Cary Brown model is named after its founder, Dr. Edgar Cary Brown. Dr. Brown, an economics professor at the Massachusetts Institute of Technology, published his model as a seventeen-page article in 1948 in a book containing a collection of essays, *Income, Employment and Public Policy, Essays in Honor of Alvin H. Hansen.*[19] It has been reprinted since then.[20] The Cary Brown model, as it is currently understood today, is discussed in less than one and a half pages of the article.[21] The model will be discussed in two parts, in Sections B. and C. below.[22]

The Cary Brown model, although it has been in existence since 1948, did not seem to attract much attention in either the tax law or economic literature until the late 1960s and then throughout the 1970s.[23] In fact, the awareness in the late 1960s seemed to be primarily

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16. *Id.*

17. *Id.*

18. Treas. Reg. § 1.1275–4.

19. *See* E. Cary Brown, *Business Income Taxation and Investment Incentives, in* INCOME, EMPLOYMENT AND PUBLIC POLICY: ESSAYS IN HONOR OF ALVIN H. HANSEN 300, 309–10 (1948).

20. *See* AMERICAN ECONOMICS ASS'N, READINGS IN THE ECONOMICS OF TAXATION 525–37 (Richard A. Musgrave & Carl S. Shoup eds., 1959).

21. *See* Brown, *supra* note 19, at 309–10.

22. This discussion of the Cary Brown model has been partially adapted from Christopher H. Hanna, *The Virtual Reality of Eliminating Tax Deferral,* 12 AM. J. TAX POL'Y 449 (1995).

23. *See, e.g.,* CARL S. SHOUP, PUBLIC FINANCE 302 (1969); Stanley S. Surrey, *The Tax Reform Act of 1969— Tax Deferral and Tax Shelters,* 12 B.C. INT'L & COMP. L. REV. 307, 313 (1970); United States Treasury Department, Tax Depreciation Policy, 116 Cong. Rec. E6963–6975 (daily ed. July 23, 1970); STANLEY S. SURREY, PATHWAYS TO TAX REFORM 123 (1973); William D. Andrews, *A Consumption-Type or Cash Flow Personal Income Tax,* 87 HARV. L. REV. 1113, 1127 (1974); Alvin C. Warren, Jr., *Fairness and a Consumption-Type or Cash-Flow Personal Income Tax,* 88 HARV. L. REV. 931 (1975); INSTITUTE FOR FISCAL STUDIES, THE STRUCTURE AND REFORM

by public finance experts, with a limited number of tax experts focusing on the Cary Brown model. Not until the 1970s and 1980s, did a number of tax articles appear discussing the Cary Brown model.

Much of the early awareness of the Cary Brown model may have been due to the appointment of Professor Stanley S. Surrey to the post of Assistant Secretary of the Treasury for Tax Policy in 1961 by President John F. Kennedy. Professor Surrey continued to serve as Assistant Secretary of the Treasury for Tax Policy until 1969, when he returned to the Harvard law faculty. While serving at the Treasury Department, Professor Surrey raised Congress' and taxpayers' awareness of the benefits of tax deferral. His tenure at Treasury culminated in the Tax Reform Act of 1969, a large tax reform package that began to seriously address issues of tax deferral.[24] The awareness of the benefits of tax deferral increased during the late 1970s and early 1980s, partly as a consequence of the persistence of high interest rates.[25]

Professor William Andrews should also be given credit for developing interest in the Cary Brown model among American tax academics. In 1974, Professor Andrews wrote what some scholars consider to be the finest tax article in the American legal literature.[26] In the article, he discussed the time value of money benefit of tax deferral and spent a substantial portion of the article discussing the Cary Brown model and its importance to understanding tax deferral.

During the 1980s and 1990s, a number of articles have appeared in the American tax literature discussing the Cary Brown model. Sadly, much of it has focused on its application to expensing and depreciation and very little to its application to other areas of the income tax laws, for example, prepaid income and installment sales. This is unfortunate because the model can be applied to an almost endless number of areas of the income tax laws. In fact, one leading American tax commentator has remarked that all or almost all of the time value of money provisions in the income tax laws can be described through the Cary Brown model.[27]

B. PRESENT VALUE OF TAX SAVINGS

The critical passage from the Cary Brown article is as follows:

As they [taxpayers] telescope the depreciation deduction, the present worth of the tax rebates from the depreciation increases as the rebates are shifted closer to the present. In the limiting case, the asset could be written off in one year. In such an event, the tax rebate from depreciation would be proportional to the tax. Investment incentives would be restored to the pretax level, since the tax would proportionately reduce both the prospective net receipts from in-

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OF DIRECT TAXATION: REPORT OF A COMMITTEE CHAIRED BY PROFESSOR J. E. MEADE 37 (United Kingdom 1978); Michael J. Graetz, *Implementing a Progressive Consumption Tax*, 92 HARV. L. REV. 1575, 1602 (1979). For an earlier work by a public finance scholar, see RICHARD A. MUSGRAVE, THE THEORY OF PUBLIC FINANCE 262–67 (1959).

24. Tax Reform Act of 1969, Pub. L. No. 91–172 (1969).

25. *See generally* Lawrence Lokken, *The Time Value of Money Rules*, 42 TAX L. REV. 1 (1986).

26. *See* Andrews, *supra* note 23.

27. *See Interview with Martin D. Ginsburg, Professor of Law, Georgetown University Law Center*, 12 ABA SEC. TAX'N NEWSL. 6, 10 (Fall 1992) ("One of Dan Halperin's greater achievements has been to generalize what I just described [applying the Cary Brown model to installment sales] and to show that it fairly explains almost everything in the tax law dealing with time value of money issues.").

vestment and its cost. By paying the entrepreneur the tax on the asset's cost, the Government would literally be a partner in the firm. It would make a capital contribution on new investments at the same rate at which it shared in the future net receipts of the enterprise. The contribution would be made at the same time the investment was undertaken. In contrast, the full-loss-offset system with economic-life depreciation would spread the Government's contribution out over the life of the investment, and would require the firm to carry a larger debt and interest cost until this contribution was finally received.[28]

In the above passage, the author is describing the tax effect when the cost of an asset can be spread (or recovered) over a shorter period than its economic life or, in the extreme case, be immediately deducted in computing taxable income. By shortening the period during which an asset's cost can be recovered, the present value of the tax savings is increased. For example, assume that an asset used in business has an economic life of ten years. The cost of the asset is 10,000u. If the asset is depreciated over its economic life of ten years, using straight line depreciation and a tax rate of forty percent, the taxpayer would have 1,000u of depreciation each year for ten years. This would save 400u in taxes each year for ten years. Using a discount rate of six percent, the present value of 400u each year (beginning with the current year) for ten years would be 3,120.68u.

If, however, the asset can be depreciated over four years, then the taxpayer would have 2,500u of depreciation each year for four years. This would save 1,000u in taxes each year for four years. Using a discount rate of six percent, the present value of 1,000u each year (beginning with the current year) for four years would be 3,673.01u, which is greater than the present value of the tax savings if the asset were depreciated over ten years. This difference in present value is what Cary Brown is referring to when he states that "the present worth of the tax rebates from the depreciation increases as the rebates are shifted closer to the present."[29]

If the cost of an asset can be deducted immediately, or "expensed," the amount of tax saved is equal to the tax rate times the cost of the asset. In the above example, if the asset's cost of 10,000u could be deducted immediately, the taxpayer would save an immediate 4,000u in taxes. Of course, the present value of the tax savings would also be 4,000u because of the immediate deduction.

The taxpayer could take this immediate tax savings and invest it. If this additional 4,000u capital investment could also be deducted, the taxpayer would save another 1,600u in taxes, which could be invested in another deductible capital investment. By expensing the cost of the investment, the investor can increase the investment to $I/(1 - t)$, where I is the amount of income to be invested and t is the tax rate. In this case, it would be $10,000u/(1 - .40)$ equaling 16,667u.

C. INVESTMENT INCENTIVES RETURNED TO PRETAX LEVEL

Expensing, or immediate deduction of an expenditure, is the classic situation to which the Cary Brown model has been applied.[30] Taking the above analysis one step further, expensing the cost of an asset is equivalent to exempting from income the future annual

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28. *See* Brown, *supra* note 19, at 309–10.

29. *See id.*

30. For a thorough discussion of the Cary Brown model as it applies to expensing, see Calvin H. Johnson, *Soft Money Investing Under the Income Tax*, 1989 ILL. L.R. 1019 (1990).

return on the asset. This is what Cary Brown is referring to when he states that "[i]nvestment incentives would be restored to the pretax level, since the tax would proportionately reduce both the prospective net receipts from investment and its cost."[31] To illustrate this equivalence in its most basic form, assume investor A has received 16,667u in salary income. Assume that A is subject to tax at a forty percent tax rate and that any tax liability is due immediately. Also assume that A has three investment options. First, she can invest in a tax-free municipal bond paying ten percent interest annually. Second, she can invest in a regular bond paying ten percent interest annually. Finally, A can invest in a regular bond paying ten percent interest annually, and the cost of the bond is immediately deductible, i.e., expensed.

Under the first option, investing in a tax-free municipal bond, A will only have 10,000u to invest because she has to pay 6,667u (forty percent multiplied by 16,667u) in taxes on her salary income of 16,667u. Using a rate of return of ten percent annually, A will earn 1,000u of tax-free interest income each year until maturity. At maturity, A will not recognize gain or loss because her basis in the bond is 10,000u.

Under the second option, investing in a regular bond, A again will only have 10,000u to invest because she must pay 6,667u in taxes on her salary income of 16,667u. A will earn 1,000u of interest income each year until maturity. At a forty percent tax rate, A will pay 400u in taxes on the 1,000u of interest income leaving A with 600u in cash. At maturity, A will not recognize gain or loss because her basis in the bond is 10,000u.

Under the third option, investing in a regular bond in which the investment is deductible, A will have 16,667u to invest because the amount is fully deductible. By investing 16,667u in a deductible bond, A can utilize the deduction to offset A's salary income of 16,667u, leaving A with zero taxable income at the time of the original investment. A will earn 1,667u in interest income each year until maturity (ten percent multiplied by 16,667u). At a forty percent tax rate, A will pay 667u in taxes on the 1,667u of interest income, leaving A with 1,000u in cash. By immediately deducting the cost of the bond, A will receive 1,000u after-tax each year—the exact same position A would be in by investing in a tax-free municipal bond. When A collects 16,667u on the bond's maturity, A will have gain of 16,667u. At that time, A will owe taxes of 6,667u (forty percent multiplied by 16,667u).

The following table summarizes the three options:

	Tax-Exempt Bond	Taxable Bond	Deductible Taxable Bond
Gross Income	16,667u	16,667u	16,667u
Deductions	0	0	16,667
Taxes (40%)	6,667	6,667	0
Cash to Invest	10,000	10,000	16,667
Return at 10%	1,000	1,000	1,667
Taxes (40%)	Exempt	400	667
Net Return	1,000	600	1,000

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31. *See* Brown, *supra* note 19, at 309–10.

By allowing A to deduct immediately the cost of the bond, the government, according to Cary Brown, "would literally be a partner in the firm."[32] According to the Cary Brown model, it is as if the government had contributed $6,667u$ toward purchase of the bond. Because the government contributed this amount, which is forty percent of the cost of the bond ($6,667/16,667$), it seems only fair that the government collect forty percent of the interest on the bond. As a result, the government will collect $667u$ of each interest payment on the entire investment ($667/1,667$) and will recoup its "investment" when the bond matures (or is sold). At maturity, the investor will have gain of $16,667u$, resulting in taxes of $6,667u$, assuming that the tax rate remains at forty percent. The government will, therefore, receive $6,667u$ in taxes from the investor, which is equal to the amount that the government originally "contributed."

By expensing the cost of the investment, the investor can increase the investment to $I/(1 - t)$, where I is the amount of income to be invested and t is the tax rate. In the above example, investor would only have $10,000u$ to invest if the investment were not deductible. By being allowed to immediately deduct the cost of the investment, investor would have $16,667u$ to invest ($10,000u/(1 - .40)$). Another way of looking at this is that investor can increase the amount to be invested by the tax savings generated by expensing the cost of the investment.

D. ASSUMPTIONS UNDERLYING THE MODEL

A number of assumptions or conditions must be made in order for the Cary Brown model to apply.[33] At first glance, these conditions appear to make the Cary Brown model very limited in scope. But this is deceptive. The conditions are in some cases not unreasonable as a practical matter, and as a result, the Cary Brown model has substantial practical application. In addition, even if some of the conditions are relaxed, much can still be learned by utilizing principles derived from the Cary Brown model.

The following list is taken from Professor Michael Graetz' excellent treatment of the subject in his textbook.[34] First, the applicable tax rates must remain constant. They can neither increase nor decrease over the time period in question. Second, interest rates must also remain constant. Like tax rates, they can neither increase nor decrease over time. Third, the deduction (or exclusion) must produce an immediate tax savings equal to the deduction (or exclusion) multiplied by the tax rate. This also means that the deduction must offset income from other sources and is not lost or delayed. In other words, the deduction results in an immediate tax benefit. Fourth, taxpayers must be concerned with their after-tax position and can invest the tax savings from the deduction at a rate of return equal to the original investment. The opportunities for investment at the original rate of return are assumed to be unlimited. Fifth, "where borrowing is involved (again with constant tax and

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32. *See id.*; *see also* Christopher H. Hanna, *Demystifying Tax Deferral*, 52 SMU L. Rev. 383 (1999) (analyzing in detail the partnership aspect of the Cary Brown model).

33. *See, e.g.*, MICHAEL J. GRAETZ & DEBORAH H. SCHENK, FEDERAL INCOME TAXATION: PRINCIPLES AND POLICIES 306–07 (1995) [hereinafter PRINCIPLES AND POLICIES]; Michael J. Graetz, *Implementing a Progressive Consumption Tax*, 92 HARV. L. REV. 1575, 1602 (1979); Musgrave, *supra* note 23, at 262–67; MYRON S. SCHOLES & MARK A. WOLFSON, TAXES AND BUSINESS STRATEGY (1992); Johnson, *supra* note 30, at 1031–36; SHOUP, *supra* note 23, at 266–69; Alvin C. Warren, *Accelerated Cost Recovery, Debt and Tax Arbitrage*, 38 TAX LAW. 549, 552 n.12.

34. *See* PRINCIPLES AND POLICIES, *supra* note 33, at 306–07.

interest rates), the equivalence would hold only if the ratio of borrowing to after-tax investment were the same under a yield exemption and an immediate deduction. If speculative investment opportunities (or borrowing opportunities) were limited, after-tax differences between winning and losing taxpayers would be lessened under the immediate deduction method."[35] Sixth, "the system must be closed. Tax is collected at an identical rate on the earnings from an asset immediately deducted and on amounts received at the close of the transaction (whether by the disposition of the asset or by some other event, such as the taxpayer's death)."[36]

V. The Interaction of the Three Theories

The Haig-Simons definition of income and Samuelson depreciation establish a pure income tax system.[37] More specifically, Samuelson depreciation complements Haig-Simons. The second component of the Haig-Simons definition is the net change in the value of the assets. Samuelson depreciation correctly demonstrates the change in the value of business or investment assets that are subject to depreciation. As Professor Chirelstein has noted, Samuelson depreciation "is the *only* proper method of apportioning the taxpayer's capital investment in accordance with the economic cost of use."[38]

The Cary Brown model demonstrates the time value of money advantage that a taxpayer obtains by immediately deducting the cost of an asset. It also applies to a taxpayer deducting a portion of the cost of an asset that is greater than the decline in the value of the asset, for example, accelerated depreciation versus Samuelson depreciation. As a result, it demonstrates the advantage a taxpayer receives if a pure income tax system, using the Haig-Simons definition of income and Samuelson depreciation as models, is not adopted.[39]

It is possible that a government may want to adopt a tax system using the Cary Brown model as its baseline, i.e., allowing an immediate deduction for capital expenditures or its equivalence (no immediate deduction but exempting the income generated by the asset). If, for example, a government were to permit a taxpayer to immediately deduct the cost of an asset, then the tax system is really a consumption tax system, as opposed to an income tax system. In an income tax system, an individual is taxed once from labor (wages and salaries) and again from any investment or capital (interest, dividends, rents, and capital gains).[40] In a consumption tax system, all investments would be either immediately deductible or, in the alternative, the income from the investments would be exempt from tax. Consequently, investment or capital income is exempted from tax and the consumption tax is, in general, equivalent to a wage tax.[41]

A number of countries in the world have some form of a consumption tax. The United States' tax system is primarily an income tax system but has elements of a consumption tax.

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35. *See id.* at 307.

36. *Id.*

37. One consequence of a pure income tax system utilizing the Haig-Simons definition of income and Samuelson depreciation is that the basis of property will always equal its value (or presumed value).

38. CHIRELSTEIN, *supra* note 14, § 6.08.

39. PRINCIPLES AND POLICIES, *supra* note 33, at 308 (it is necessary to distinguish between immediately deductible expenses and capital expenditures; too rapid deduction of capital expenditures undermines the income tax system).

40. Income can derive from only two sources, labor and investment. *See* CHIRELSTEIN, *supra* note 14, at 386.

41. *See* Warren, *supra* note 23, at 938–41.

For example, the interest on certain municipal bonds is excluded from tax.[42] Also, the United States permits individuals to immediately deduct certain amounts contributed to a retirement plan, generally known as an Individual Retirement Account (IRA).[43] Bermuda, however, is an example of a country that has a consumption-based tax system. And, of course, countries using a value-added tax (VAT) are utilizing a type of consumption tax.[44]

In 1996, a presidential election year in the United States, two tax proposals generated a tremendous amount of attention. The first proposal, advanced by Congressman Richard Armey, was known as the Armey flat tax.[45] The basic idea was to exempt the income from investments from tax. The second proposal, advanced by Senators Sam Nunn and Pete Domenici, was known as the USA Tax (Unlimited Savings Allowance Tax).[46] The basic idea behind this proposal was to allow an immediate deduction for amounts saved or invested and to later tax that amount and its returns when removed from savings and consumed. As a result, if the conditions of the Cary Brown model are met, the Armey flat tax and the USA Tax are equivalent. As Professor Ginsburg later wrote in reference to the Armey flat tax and the USA Tax, "I announce this [the equivalence of the Armey flat tax and the USA Tax] with confidence, although I am not sure that all of the legislative sponsors have as yet figured this out."[47]

VI. Conclusion

The Haig-Simons definition of income, Samuelson depreciation and the Cary Brown model are important theories in understanding an income tax system. The first two theories evidence a pure income tax system, while the Cary Brown model evidences a consumption tax system. But the Cary Brown model is also important with respect to adopting an income tax system. It demonstrates the time value of money benefit that a taxpayer receives if a pure income tax system is not adopted. One could decide among these three models (pure income tax system versus consumption tax system) or adopt some hybrid based on notions of equity, efficiency and administrability. In addition, nontax goals, as evidenced by the tax expenditure idea, should also be considered.

42. I.R.C. § 103 (1999).

43. I.R.C. § 219 (1999).

44. Of the 29 OECD countries, 28 have adopted a VAT, with the United States being the lone holdout. Australia is the most recent OECD country to adopt a VAT, with the VAT becoming effective on July 1, 2000.

45. *See* Freedom and Fairness Restoration Act of 1995, H.R. 2060, 104th Cong. (1995); *see generally* ROBERT E. HALL & ALVIN RABUSHKA, THE FLAT TAX (2d ed. 1995).

46. *See* USA Tax Act of 1995, S. 722, 104th Cong. (1995); *see generally USA Tax System: Description and Explanation of the Unlimited Savings Allowance Income Tax System*, 66 TAX NOTES 1483 (Special Supp.) (1995).

47. Martin D. Ginsburg, *Taxing the Components of Income: A U.S. Perspective*, 86 GEO. L.J. 123, 132 (1997).

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