

2023

Capital Equipment Expensing: Incremental Tax Reform for a Transition Realization-Based Income Tax

Charles T. Terry
University of Illinois College of Law

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Terry, Charles T. (2023) "Capital Equipment Expensing: Incremental Tax Reform for a Transition Realization-Based Income Tax," *Florida Tax Review*. Vol. 7, Article 5.
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FLORIDA TAX REVIEW

VOLUME 7

2006

NUMBER 4

CAPITAL EQUIPMENT EXPENSING: INCREMENTAL TAX REFORM FOR A TRANSITION REALIZATION-BASED INCOME TAX

by

Charles T. Terry

I. INTRODUCTION	217
II. TAXING EQUIPMENT INVESTMENT IN A REALIZATION-BASED INCOME TAX	223
<i>A. Realization, Basis and Earnings-Financed Investment</i>	223
<i>B. Capital Cost Recovery</i>	227
<i>C. Interim Findings</i>	229
III. TAX CAPITAL CREATION AND TAX CAPITAL FORMATION IN THE U.S. RBIT BASE	230
<i>A. Loss Offsets and the Impact of Various Cost Recovery Methods on Pre-Investment Tax Capital Creation</i>	230
<i>B. Loss Offsets and the Impact of Various Cost Recovery Methods on Post-Investment Tax Capital Formation</i>	234
IV. STRUCTURAL CAPITAL CREATION, FORMATION AND RECOVERY ISSUES CREATED BY CURRENT EQUIPMENT EXPENSING SCHEMES	236
<i>A. Unlimited Full Offset Expensing</i>	236
<i>B. Limited and/or Partial Offset Expensing</i>	238
1. <i>Under-Expensing</i>	238
2. <i>Over-Expensing</i>	239
V. NORMATIVE CAPITAL CREATION, EQUIPMENT EXPENSING AND CAPITAL FORMATION IN A TRANSITION INCOME TAX BASE	239
<i>A. Defining the Problem</i>	239
<i>B. Developing a Basic Proposal for Normative Capital Equipment Expensing</i>	240
1. <i>The Basic Proposal</i>	240
2. <i>The Treatment of Excess Tax Capital Creation or Equipment Investment</i>	241
3. <i>The Treatment of Excess Non-Tax Capital Investment</i>	241

VI. A PRELIMINARY LOOK AT ADMINISTERING CAPITAL

EQUIPMENT EXPENSING	242
<i>A. Areas of Possible Administrative Simplification</i>	243
1. <i>Aggregating Expensing Deduction Computations</i> . . .	243
2. <i>Simplifying the Treatment of Asset Dispositions</i>	243
3. <i>Treatment under the Alternative Minimum Tax</i>	244
<i>B. Areas of Possible Administrative Complexity</i>	244
1. <i>Defining the Scheduler Contours of Capital</i> <i>Equipment Expensing</i>	244
2. <i>Defining the Proper Treatment of Debt Financing</i> <i>in Relation to Capital Equipment Expensing</i>	246
VII. NORMATIVE CAPITAL EQUIPMENT EXPENSING AS AN AGENT OF CAPITAL CREATION, REVENUE GENERATION AND CAPITAL FORMATION IN A TRANSITION REALIZATION-BASED INCOME TAX	249
<i>A. Unlimited Capital Equipment Expensing</i>	249
<i>B. Limited Capital Equipment Expensing</i>	250
<i>C. A Deeper Analysis of the Model</i>	252
1. <i>Moderately High Earnings Levels</i>	252
2. <i>Low Earnings Levels</i>	253
3. <i>Very High Earnings Levels</i>	254
VIII. SUMMARY	255
CONCLUSION	257

**CAPITAL EQUIPMENT EXPENSING: INCREMENTAL TAX REFORM FOR A
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by

*Charles T. Terry**

I. INTRODUCTION

Three years ago, I published an article that characterized the U.S. income tax as a specialized variant of a true income tax and dubbed it a “realization-based income tax” (RBIT).¹ It analyzed then current cost recovery theory and policy with respect to equipment.² The earlier article argued that normative cost recovery policy for a tax on capital income in a RBIT should exhibit two financial features: first, it should provide for the complete financial

* Professor of Law, University of Illinois College of Law. B.A., Stanford University; J.D., Southwestern University School of Law; LL.M. (Taxation), New York University School of Law. This article could literally not have been written without the extraordinary assistance of student research assistants, Ji Kim, Amina Kaal, Kurt Meyer, and Amy Tomaszewski. Professor Deborah Schenk graciously provided invaluable comments. Any remaining errors are my sole responsibility.

1. Charles T. Terry, Normative Cost Recovery Policy for a Realization-Based Income Tax, 5 Fla. Tax Rev. 467, 470-76, 498-510 (2002). The term “realization-based income tax” has begun to acquire wide currency. See e.g., Michael J. Graetz, 100 Million Unnecessary Returns: A Fresh Start for the U.S. Tax System, 112 Yale L.J. 261 (2002); Jeff Strnad, Some Macroeconomic Interactions with Tax Base Choice, 56 SMU L. Rev. 171, 172, 185-87 (2003); Deborah H. Schenk, A Positive Account of the Realization Rule, 57 Tax L. REV. 355 (Spring 2004).

2. That article actually discussed cost recovery theory and policy with respect to “short-lived and completely wasting assets.” Terry, *supra* note 1, at 472. At that time, I did not want to be viewed as specifically discussing the particular characteristics of IRC § 179; although it was, and still is, the closest real world manifestation of the issues addressed in that article.

This article focuses on “Section 179 property,” which is defined in IRC § 179(d) as property (A) which is (i) tangible personal property (to which § 168 applies), or (ii) computer software (as defined in § 197(e)(3)(B) which is described in § 197(e)(3)(A)(i), to which § 167 applies, and which is placed in service in a taxable year beginning after 2002 and before 2008, (B) which is § 1245 property (as defined in § 1245(a)(3), and (C) which is acquired by purchase for use in the active conduct of a trade or business. Such term shall not include any property described in § 50(b) and shall not include air conditioning or heating units. IRC § 179 (2003).

However, the focus of this article is on the functional structure of § 179 within the U.S. income tax base as of Jan. 1, 2005, and the tax policy implications of that structure, rather than on the specific provisions of IRC § 179.

recovery of all capital³ invested in equipment; and second, it should financially measure any realized income produced by the investment in the equipment accurately. The earlier article evaluated three prototypical cost recovery approaches,⁴ and concluded that only immediate expensing produced financial characteristics consistent with those features of a normative realization-based income tax when applied to equipment purchases financed exclusively with “tax capital.”⁵

As that analysis demonstrated, only what I now call “capital equipment expensing” (CEE) provides complete recovery of tax capital investment *financially*,⁶ and only expensing as a cost recovery method causes *realized* income to be taxed *financially* in exact proportion to the tax rate across a wide range of contextual financial variables.⁷

The previous article concluded that a normative RBIT can and should allow a given taxpayer’s investment in short-lived depreciable assets (i.e., equipment) to be expensed, but only to the extent such investment is made with

3. The term “capital” is difficult to define, and is often defined in terms of what it is not. For example, “. . . generally, a taxpayer’s adjusted basis in property. The term is undefined, yet is of vital importance in that the 16th Amendment allows the taxation of income, but implicitly disallows the taxation of capital.” WF&L Tax Dictionary. In addition to difficulty of definition, the term capital has different meanings depending on the context. Generally, the term is used to refer to tangible income producing assets, such as real property and equipment, as well as intangible assets such as intellectual property, in order to distinguish property from services as a general source and *type* of income. See *infra* note 5.

4. Those three cost recovery approaches were economic cost recovery, accelerated cost recovery and immediate expensing.

5. This article refers to economic, non-debt financing in general as “capital” or “economic capital” and to financing from after-tax or contemporaneously taxed dollars in particular, as “tax capital.” Within the context of a RBIT base, economic capital can consist of pre-tax or untaxed dollars in whole or in part, while tax capital consists exclusively of after-tax dollars or “nascent after-tax dollars.” These are potential after-tax dollars at any point in time. They are derived from “contemporaneously taxed dollars” (dollars which would be available for investment from current earnings if tax was hypothetically imposed on those earnings immediately before “tax capital” investment could take place). In this article, nascent after-tax dollars are only determined and utilized at the end of a taxpayer’s taxable period. See discussion *infra*, text accompanying notes 26 and 73. In a general sense, the word nascent means “the state of coming into existence, beginning to form or develop, etc.” Oxford English Dictionary (2003).

6. See Terry, *supra* note 1, at 510-15, 542. (“In other words, in a state of financial equilibrium, only with expensing does the financial return to capital provided by the federal government’s cost recovery system ‘pay for’ the financial cost of the tax imposed on depreciable asset investments by the same government.”)

7. *Id.* at 530-38.

and offsets tax capital.⁸ Therefore, that article only proved that immediate expensing produces *financially* normative capital cost recovery for such investment *under those circumstances*.⁹

This article picks up where the other one left off, and asks whether equipment expensing as a RBIT cost recovery method for *all* earnings-financed equipment purchases can ever be made *economically consistent* with two additional norms of a realization-based income tax.¹⁰ Those seemingly contradictory norms are: 1) the *appropriate taxation* of all invested earnings that are allowed to be expensed,¹¹ and 2) the contemporaneous existence or creation of “tax capital”¹² in an amount equal to whatever amount of current earnings are allowed to be expensed.

This article pursues this inquiry not only for its own sake but in the hope of furthering a broader purpose. Multiple forms of equipment cost recovery and/or expensing now exist under the Internal Revenue Code that arbitrarily apply to different classes of taxpayers, and there is already support to reinstate newly expired partial expensing (50% bonus depreciation) despite its recent expiration.¹³ This situation raises important immediate tax policy issues involving capital formation, the equitable and efficient taxation of investment in depreciable and non-depreciable assets, tax law complexity, and the impact of these multiple cost recovery techniques and paradigms on revenue collection.

8. This condition was imposed on the analysis in the earlier article in order to exclude the *economic* effects of loss offsets, thus creating a narrow economic context that allowed me to focus exclusively on the *financial* characteristics of the three archetypical RBIT capital cost recovery methods. See Terry, *supra* note 1, at 506-10.

9. In this article, that constraint has been relaxed. Since this article focuses on the interaction between expensing as a cost recovery method and capital creation and formation, the existence of loss offsets are taken as a given. Instead, this article focuses on the economic creation, utilization, and post-investment formation of after-tax capital within the context of contemporaneously taxed earnings.

10. See discussion of debt-financed equipment investment *infra* Part VI.B.2.

11. This article uses the term “earnings” to refer to income that is produced by a taxpayer’s ongoing trade or business or income producing activities exclusive of any income produced by the particular equipment asset under analysis. This article focuses on “earnings financed” purchases of equipment, and thus the term “invested earnings.” The treatment of debt-financed purchases of equipment is explored briefly in Part VI.B.2., *infra*. This article ultimately defines “appropriate taxation of invested earnings” as subjecting capital expensed equipment investment to roughly the same effective tax rate as other forms of capital investment. See *infra* note 106.

12. See *supra* note 5.

13. See H.R. 1388, 109th Cong. (2005) (proposing to make permanent the increase from \$25,000 to \$100,000 in § 179 expensing of depreciable business assets). See also H.R. 364, 109th Cong. (2005) (proposing to extend both 50% and 30% bonus depreciation for 2 years, until Jan. 1, 2008).

To make matters worse, in 2005, we are beginning to engage in a transition from an income tax base to either some form of a consumption tax¹⁴ or, at a minimum, a major attempt to “simplify and restructure the tax code.”¹⁵ Assuming these efforts may take some time to unfold,¹⁶ there seems to be a small window of opportunity to propose a transition method of equipment expensing that can be implemented quickly, that is relatively simple to administer, that can be scaled outward and upward to include all classes of business taxpayers at all levels of taxable income, that is comparatively revenue neutral, and that is a more efficient method of capital cost recovery, and more importantly, capital formation than we have now.

My hope is that at least a partial scheme of normative capital creation, equipment expensing, and capital formation for a RBIT, although eventually transitory, can provide a temporary but stable transaction platform from which federal tax policy, at least with respect to equipment investment, may be developed principally and deliberately, rather than politically and hastily, over the next few years. Ideally, this process could also help to develop a more comprehensive and coherent overall U.S. tax policy during the current decade. My goal is to enable decision makers to either move forward to a consumption tax or backward to a better designed income tax base,¹⁷ without losing unnecessary revenue relative to existing law, and without introducing unnecessary and unproductive complexity into the U.S. tax system during this critical period of tax reform transition.

14. Recently, in a continuing process of evaluating particular forms of consumption tax, the Congressional Research Service recently listed and described four major types of broad-based consumption taxes with at least some Congressional backing: 1) the Hall-Rabnushka Flat Tax, 2) a national retail sales tax, 3) a consumed income tax, and 4) a Value-Added Tax. See James M. Bickley, *Flat Tax Proposals and Fundamental Tax Reform: An Overview*, Congressional Research Service, March 23, 2005.

15. Dustin Stamper, *Gop Sweeps Elections: Is Tax Reform Next?*, 2004 Tax Notes 214-1 (quoting Finance Committee Chair Charles E. Grassley, R-Iowa). Four proposals can be mentioned in this “non true consumption tax” category: 1) The Gephard proposal to broaden the base and lower tax rates; 2) a dual-rate income tax in which capital income would be taxed at a lower flat rate than other income, which would be taxed at a higher flat rate; 3) a dual-structure tax in which all but the wealthiest income taxpayers would be removed from the income tax and pay a consumption tax, and 4) the recent Burgess proposal to let taxpayers elect out of the current tax system and pay an initial flat tax rate of 19%.

16. But, as one of the main architects of the Bush II revolution puts it, “We want to move toward fundamental tax reform incrementally. Every piece of getting to fundamental tax reform is more popular than doing it all at once.” *Id.* (quoting Grover Norquist, president of Americans for Tax Reform).

17. See James M. Bickley, *CRS Issues Overview of Tax Reform Proposals*, 2004 Tax Notes 196-32.

Part II of this article defines and illuminates the basic underlying structural framework and principles of our traditional U.S. tax base that relate to equipment expensing and other cost recovery schemes. Those principles are realization, basis, and capital cost recovery. This part concludes that realization necessitates capitalization, capitalization requires capital recovery, and capital recovery should always and only consist solely of capital available for recovery at the time of investment.

Because the current cost recovery methods within the U.S. tax base today function as agents of both capital cost recovery and capital creation, Part III of this article explores this broader role. This Part shows that U.S. cost recovery methods theoretically can run a range from cost recovery methods that allow invested earnings to be fully taxed,¹⁸ to a cost recovery method which figuratively causes invested earnings to be exempt from taxation.¹⁹ Not surprisingly, those cost recovery methods which produce no loss-offset against invested earnings pay the highest amount of tax and form the least amount of after-tax capital of any cost recovery methods within the U.S. income tax base today. Conversely, the cost recovery methods that produce the greatest amounts of loss-offset²⁰ pay the least amount of tax, and form the greatest amount of after-tax capital.

Part IV of the article explores the structural capital creation, capital formation and capital cost recovery issues created by the current U.S. equipment expensing schemes in effect today. This analysis shows that none of these schemes succeed in limiting expensing deductions to available tax capital, and none succeed in *not allowing* pre-tax earnings to be offset by expensing deductions. Existing equipment expensing methods in the U.S. either deny immediate recovery of invested capital (under-expensing) or allow immediate recovery of untaxed earnings (over-expensing). The technical problem is that, when expensing is limited to dollar amounts or percentages of investment in equipment, both under-expensing and over-expensing can, and most likely, will occur.

Thus, the underlying tax base structural problem is two-fold. First, tax capital creation is not measured or accounted for under any existing expensing method. Second, no current expensing methods are structured to relate expensing deductions to tax capital creation and availability. Only when such accounting and matching is *structurally* assured globally within our subsidiary business income tax base, will any form of equipment expensing properly reflect the normative structure and dynamics of our hybrid, transitory, realization-based income tax. My proposed solution is to carve out a business

18. Economic depreciation in theory satisfies this criterion. The vestigial ACRS cost recovery method also satisfies this condition under some circumstances. See Terry, *supra* note 1, at 504-06.

19. Theoretical instantaneous expensing. See discussion in Terry, *supra* note 1, at 506.

20. Full and partial expensing.

income sub-RBIT for equipment investment, and apply to it the complementary principles of: 1) tracking tax capital creation, and 2) both allowing and requiring tax capital, *and only tax capital*, to be recovered tax-free completely and immediately through CEE.

Part V of the article develops a preliminary proposal for implementing normative capital creation, capital equipment expensing, and capital formation within our current transitional RBIT base. This proposal describes a way to measure and compare the concurrent tracks of tax capital creation and equipment investment on an annual basis. Aggregate equipment investment for a given taxable year is allowed to be expensed to the extent that sufficient tax capital creation has been generated to support the CEE deduction during that taxable year.

It then describes a way to measure and carry over excess capital creation and investment concurrently, in separate tracks, to succeeding taxable years, so that they may be added to new capital creation and equipment investment that occurs in those succeeding taxable years. Annually, investment in equipment would be allowed to be expensed to the extent excess tax capital creation has occurred previous to that taxable year of investment, as well as concurrently during the current taxable year in which that new investment occurs.

On the separate concurrent track, equipment investment in a given taxable year that exceeds the amount of tax capital both carried over and created concurrently during that taxable year, would be carried over to succeeding taxable years and tested for immediate expensing deduction, based on the amount of current and cumulative tax capital creation that is available then.

Part VI of the article offers preliminary observations on how CEE can be implemented and administered within our current tax base. It first looks at areas of possible administrative simplification. These include how to aggregate equipment investment; how to compute tax capital formation broadly, but efficiently; and how to simplify record-keeping. It also offers thoughts on how capital equipment expensing can simplify tax accounting, as well as reduce the cost of administration and compliance.

CEE also offers an opportunity to simplify the complex area of asset dispositions. It should be possible to simplify, if not completely repeal, the provisions that deal with depreciation recapture, as well as gain or loss characterization, at the time of equipment asset dispositions. Finally, as a preliminary thought, it might be possible to eliminate the application of the Alternative Minimum Tax to equipment investments that are subject to capital expensing. Part VI also briefly discusses two other areas of possible administrative complexity, such as defining the scheduler contours of CEE administration, and defining the proper treatment of debt financing of equipment purchases.

Part VII analyzes the comparative characteristics of CEE as a systemic level agent of capital creation, capital formation, and revenue production. It

finds that capital equipment expensing would provide the best combination of capital formation and revenue production of any current cost recovery method. In addition, it would produce the same amount of capital formation as full expensing at high earnings levels, but more revenue than full expensing at lower earnings levels.

This article concludes that overall, CEE can be a tax-sustaining, economic capital-generating engine, which produces more tax capital bang for every revenue dollar lost than any current cost recovery or equipment expensing provision. And, although we have not yet moved to full expensing, it is the best engine for both revenue sustenance and capital formation that we could have for equipment cost recovery during this critical period of tax reform transition today.

II. TAXING EQUIPMENT INVESTMENT IN A REALIZATION-BASED INCOME TAX

A. Realization, Basis and Earnings-financed Investment

For purposes of this article, a realization-based income tax (RBIT) will be viewed simplistically as an accretion-measured income tax (AMIT) with a realization requirement superimposed on AMIT base structural principles. Therefore, the RBIT base can be represented by the following variation of the Haig-Simons definition of economic income where R represents the realization requirement.²¹

Equation 1: Formula defining a Realization-based Income Tax

$$I_R = C_R + W_R$$

Although realization may seem like a mere tax base accounting convention, it has substantial structural implications. For example, under traditional U.S. income tax principles, imputed income is not included in the tax base;²² nor are interim fluctuations in the value of property.²³

21. Realization basically refers to the acquisition of wealth or consumption rather than a mere increase in the value of those items. Realized changes of wealth are usually evidenced by a conversion of an asset into money or other property differing materially in kind or extent from the asset itself. See Regs. § 1.1001-1(a).

22. Imputed income is the consumption of self-produced goods or services, or the use of personally or family owned property. It is generally excluded from the tax base as a matter of administrative convenience.

23. For a brief, thorough and fascinating history of the evolution of “mark-to-market” tax accounting for commodities and securities dealers in the United States, see Book-Tax Conformity and the Corporate Tax Shelter Debate: Assessing the Proposed § 475 Mark-to-Market Safe Harbor, Linda M. Beale, 24 Va.Tax.Rev. 301, 323-301 (2004)

The greatest difference between an AMIT and a RBIT for purposes of the analysis undertaken in this article, is the use of tax basis rather than the initial value of an asset as an initial element for measuring net income. In an AMIT base, assuming a non-bargain purchase, tax base accounting begins with the value of an asset, such as equipment, at acquisition. Assuming the purchased equipment has the same value as the amount paid for it, all subsequent increases or decreases in the tax base stem from net changes in the equipment's value from one taxable period to another.

In a RBIT base, however, income does not enter the tax base until a realization event such as a sale or exchange occurs, often after several taxable periods have transpired.²⁴ The baseline for measuring the net amount of income to be taxed at that time depends upon the relationship between the amount realized and the initial amount paid for the equipment, as represented by its tax basis. Tax basis is widely viewed to be that amount which corresponds to the amount invested in the equipment by the taxpayer at its acquisition.²⁵

However, in one key way, a RBIT base is identical to an AMIT base. A RBIT is still an "income" tax rather than a consumption tax. Therefore, in a manner similar to AMIT base treatment, but in contrast to cash-flow income tax (CFIT) base treatment, the act of investing earnings does not structurally decrease a RBIT base. As a result, as a practical matter, equipment purchases financed from current earnings must ultimately come from after-tax or concurrently-taxed dollars.

The overall operation of an RBIT base with respect to invested earnings can be illustrated using the following example.

Example 1 – A RBIT base taxpayer who has annual net income of \$200,000 purchases equipment costing \$100,000. The tax rate is 40%. Because a RBIT base fully taxes invested earnings, the taxpayer is only able to invest the after-tax dollars that remain after paying (or setting aside) \$80,000 in tax. That after-tax dollar investment can never exceed \$120,000. In this case the taxpayer

24. "[I]f the taxpayer's money is still tied up in the same kind of property as that in which it was originally invested, he is not allowed to compute and deduct his theoretical loss on the exchange, nor is he charged with a tax upon his theoretical profit. The calculation of the profit or loss is deferred until it is realized in cash, marketable securities, or other property not of the same kind having a fair market value.")

Glen Arlen Kohl, *The Identification Theory of Basis*, 40 *Tax L. Rev.* 623, 624-625 (1984-1985) (quoting H.R. Rep. No. 704, 73d Cong., 2d Sess. 13 (1934), reprinted in 1939-1 C.B. (Part 2) 554, 564 (emphasis added)).

25. See C.F.R. § 1.1012-1(a) (2003) (defining the basis of property as its cost, the cost being "the amount paid for such property in cash or other property," subject to exceptions). *But cf.* Kohl, *supra* note 25 (opining that basis in terms of cost is a misconception and proposing a new system of classifying transactions according to whether the Code defers calculation of any realized gain or loss, a system thought to be more useful for understanding basis than the current system of distinguishing transactions according to whether realized gain or loss must be recognized).

pays \$80,000 in tax, purchases equipment for \$100,000 and retains \$20,000 after tax.

Three characteristics of RBIT base capital income taxation are revealed in this example. First, the taxpayer has *created* \$120,000 of nascent tax capital and made it available for investment in equipment, simply by concurrently generating \$200,000 of net business pre-tax income during the taxable year.²⁶ This article terms this process the “tax-capital creation” process.

Second, the taxpayer has *formed* \$20,000 of new tax capital after investing and paying tax on his net post-investment income. This article terms this normative or prototypical taxation of earnings and generation of after-tax dollars for investment as “tax capital formation.”

Third, a RBIT base taxpayer (subject to a 40% tax rate) with \$200,000 of current earnings will have to pay up to \$80,000 of tax in order to make up to \$120,000 of new “tax capital” available to purchase equipment. This article terms this process the after-tax cost of investment (ATCOI).²⁷

The notion of “tax capital” used in this article merely puts a name to what is clearly a long-standing and fundamental structural principle of the U.S. realization-based income tax – capital.²⁸ That the notion of tax capital formation dovetails with the realization requirement can be seen in the context of §

26. The formula for nascent tax capital creation can be expressed as $Cap = E \times (1-t)$, where E represents net earnings, and t represents the tax rate. See definition and discussion of nascent tax capital, *supra* note 5, and accompanying text. See also, *infra* note 73 and accompanying text.

27. As a practical matter, the ATCOI for the \$100,000 investment is really only \$40,000. The theoretical definition of after-tax cost of investment (ATCOI) is the amount of tax concurrently imposed (\$40,000) on the amount invested (\$100,000) in order to generate the amount invested in after-tax dollars.

28. “Whatever difficulty there may be about a precise and scientific definition of ‘income,’ it imports . . . something entirely distinct from principal or capital either as a subject of taxation or as a measure of the tax; conveying rather the idea of gain or increase. . . . Understanding the term in this natural and obvious sense, it cannot be said that a conversion of capital assets invariably produces income. If sold at less than cost, it produces rather loss or outgo. . . . In order to determine whether there has been gain or loss, and the amount of the gain, if any, we must withdraw from the gross proceeds an amount sufficient to restore the capital value that existed at the commencement of the period under consideration.”

Doyle v. Mitchell Brothers Co., 247 U.S. 179, 185 (1918).

1001(a) of the Internal Revenue Code.²⁹ That provision prescribes the method for computing the amount of the “gains derived from dealings in property” that section 61(a)(3) includes in the gross income of all taxpayers.³⁰ Section 1001(a) simply states that “[t]he gain from the sale or other disposition of property shall be the excess of the amount realized therefrom over the adjusted basis provided in section 1011 for determining gain.”³¹ The regulations under section 1001 make clear, however, that the “adjusted basis” represents amounts which a taxpayer must be allowed to “recover” tax-free.³² Both commentators³³ and the courts³⁴ have suggested that one of the chief rationales for the tax-free recovery

29. “The gain from the sale or other disposition of property shall be the excess of the amount realized there from over the adjusted basis provided in § 1011 for determining gain, and the loss shall be the excess of the adjusted basis provided in such section for determining loss over the amount realized.” IRC § 1001(a).

30. “Gain realized on the sale or exchange of property is included in gross income, unless excluded by law. . . . The specific rules for computing the amount of gain or loss are contained in § 1001 and the regulations thereunder.” Regs. § 1.61-6(a).

31. IRC § 1001(a) (2000).

32. “The general method of computing such gain or loss is prescribed by § 1001(a) through (d), which contemplates that from the amount realized upon the sale or exchange there shall be withdrawn a sum sufficient to restore the adjusted basis prescribed by § 1011. . . . The amount which remains after the adjusted basis has been restored to the taxpayer constitutes the realized gain.” 26 C.F.R. § 1001-1(a) (2002).

33. See Charles Terry, *supra* note 1, at 500. “As an asset (or its successor) moves through the tax system, its tax basis moves along with it as an ongoing measure of the continuing amount of after-tax (or already-taxed) dollars invested in the asset. When a taxable disposition occurs (one in which gain or loss is both realized and recognized), the difference between the original basis (plus or minus any adjustments to that basis allowed for certain intervening events) and the amount realized produces either an increase or a decrease in the taxable income of the taxpayer disposing of the asset at that time.” *Id.* See also Kohl, *supra* note 26, at 631 (stating, “the role of basis as the measure of prospective tax exemption sheds light on the nature of gain and loss realized . . . under § 1001”).

34. See e.g., *Allied Corp. v. U.S.*, 685 F.2d. 396, 404 (Ct. Cl. 1982) (citing § 1001(a) in stating “[t]he Internal Revenue Code provides that a taxpayer is entitled to a tax-free recovery of his capital investment”); *Brea Canon Oil Co. v. Comm’r*, 29 BTA 1134, 1137 (1934) (stating “[I]t is well established that allowances for depreciation are based upon the principle that a taxpayer is entitled to tax-free recovery of his capital investment”). For examples of how the tax-free recovery of capital concept is so basic to the federal income tax law that it has been permitted in situations in the absences of explicit statutory authorization, see *Clark v. CIR*, 40 BTA 333 (1939) (allowing a taxpayer who was reimbursed by a tax adviser for an error resulting in an overpayment in a prior year to exclude the amount from his gross income); *Cox v. Kramer*, 88 F.Supp. 835 (D. Conn. 1948) (permitting a taxpayer to exclude a grant, even though the legal expenses for which he was reimbursed were deducted when incurred); *Raytheon Prod. Corp. v CIR*, 144 F.2d. 110 (1st Cir.), cert denied, 323 US 779 (1944) (recognizing that a taxpayer whose business goodwill is tortiously destroyed by a

of amounts paid for property through the operation of section 1001(a) is that this computation allows taxpayers to *recover tax-free all previously-taxed dollars that were invested in the property.*

A similar rationale applies to the notion of what has been called “tax cost” basis in situations involving methods of property acquisition other than purchase.³⁵ In circumstances where property is acquired through the medium of an event that causes gain recognition and results in a “stepped up” cost basis to the person acquiring the property, some or all of the amount credited to the asset’s basis consists of contemporaneously taxed dollars rather than after-tax dollars. For example, if a taxpayer receives equipment worth \$100,000 as compensation for services provided to his or her employer, the fair market value of the equipment becomes the taxpayer’s cost basis in the equipment.³⁶ The justification for including \$100,000 in the basis of the equipment is that the taxpayer has been taxed once on that amount upon receipt of the equipment, and should not be taxed on that amount again if the asset is later disposed of in a taxable transaction involving section 1001.³⁷

B. Capital Cost Recovery

In the case of many assets, the Internal Revenue Code prescribes an alternative manner of recovering basis tax-free prior to an asset’s disposition, and that is through depreciation or cost recovery deductions.³⁸ Specifically,

competitor is taxable on damages paid by the wrongdoer only to the extent the recovery exceeds the cost or other basis of the lost goodwill).

35. See e.g., *Philadelphia Park Amusement Co. v. United States*, 126 F.Supp. 184 (Ct.Cl.1954) (holding that where the value of the property given up differs from the value of the property received, the taxpayer’s basis in the property received is its value).

36. See Regs. § 1.61-2(d)(1).

37. Where an employee makes a bargain purchase from her employer, the Regulations prescribe a total basis in the purchased property that consists in part of the amount *paid* in after-tax dollars and in part the amount of compensation gross income (the excess of the value of the in-kind compensation over its adjusted basis), which is treated as tax capital. See Regs. § 1.61-2(d)(2).

38. See e.g., Regs. § 1.167(a) – 1. Section 167(a) provides that “a reasonable allowance for the exhaustion, wear and tear, and obsolescence of property used in the trade or business or of property held by the taxpayer for the production of income shall be allowed as a depreciation deduction.” The Accelerated Cost Recovery System (ACRS) and the Modified Accelerated Cost Recovery System (MACRS) are two different depreciation systems currently in use. ACRS was introduced by the Economic Recovery Tax Act of 1981 in order to stimulate capital formation and simplify cost recovery. Depreciation under ACRS is calculated by determining the asset’s basis, and multiplying the unadjusted basis of the asset by the appropriate recovery percentage for the tax year. The cost of ACRS property is generally recoverable in 3, 5, 10, 15, 18, or 19 years, with most personal property in the 3-year or 50-year class. MACRS was introduced by the Tax Reform Act of 1986 and is a different system of deducting the

section 167(a) states that “there shall be allowed as a depreciation deduction a reasonable allowance for the exhaustion, wear and tear (including obsolescence) of property used in the trade or business or of property held for the production of income.”³⁹ The theory of cost recovery has been discussed extensively elsewhere,⁴⁰ but for purposes of this article, it can be viewed as a means of recovering the after-tax dollars (or other form of “tax capital”) invested in a depreciable asset *tax-free* from business income generated at some point over the course of its useful life, rather than exclusively from the amount realized resulting from a disposition of the asset at the time realization occurs.⁴¹

Throughout most of its history, the U.S. income tax has prescribed systems of “reasonable allowances” that follow certain mathematically uniform

cost of tangible depreciable property. To calculate depreciation under MACRS, one must use 1) the applicable depreciation method; 2) the applicable recovery period; and 3) the applicable convention. MACRS has two depreciation systems: MACRS general depreciation system (GDS) and MACRS alternative depreciation system (ADS). Using GDS, each class of property has an applicable depreciation method, such as the 200% declining-balance method, the 150% declining-balance method, and the straight-line method. The ADS system uses straight-line. A half-year or mid-quarter convention applies to personal property, and a mid-month convention applies to real property. In contrast to ACRS, under which an annual deduction is generally a constant percentage of unadjusted basis, MACRS may require basis adjustments to compute subsequent years’ deductions identifying the class to which the asset belongs and the recovery period and statutory recovery percentages corresponding to the class. ACRS was supplementary to a general 10 percent credit for the cost of most tangible personal property and other categories of property; therefore, merely comparing MACRS rules to ACRS rules does not allow for a meaningful analysis of differences in tax effects.

39. IRC § 167(a) (2002).

40. See e.g., Fiddlers on the Tax: Depreciation of Antique Instruments Invites Reexamination of Broader Tax Policy, 13 Am.J.Tax Pol’y 87 (1996). “The place of the depreciation allowance in the United States income tax regime has always been somewhat anomalous. In a transaction-based income tax regime that generally does not account for gains or losses until they have been realized, the estimated decrease in an asset’s value resulting from physical deterioration is accounted for even in the absence of any realization event. The depreciation allowance exists, at least in principle, to bring the measure of realization-based taxable income more in line with the economic measure of income, as it would be determined by mark-to-market accounting. Nevertheless, the putative decrease in depreciable assets’ value is reflected in taxable income according to accounting conventions that have never traced the assets’ actual; decline in value. In fact, the depreciation allowance has long tended to be accelerated in some degree relative to economic depreciation. It thereby inches the taxation of businesses closer toward a consumption tax, in which the cost of an investment assets is deducted in the year incurred.” *Id.* at 87.

41. The “business income” from which tax-free recovery occurs need not be generated exclusively by the asset itself.

formulae.⁴² As Regulation 1.167(a)-1 notes, however, “the allowance is that amount which should be set aside for the taxable year in accordance with a reasonably consistent plan (*not necessarily at a uniform rate*), so that the aggregate of the amounts set aside, plus the salvage value, will, at the end of the estimated useful life of the depreciable property, equal the cost or other basis of the property as provided in section 167(g) . . .”(emphasis added).⁴³ This language suggests two things: first, that a cost recovery allowance may take place all in one year in the form of an immediate total capital recovery deduction, and second, that the amount of total cost recovery deductions, in whatever form it takes, should equal the amount of “tax capital” invested in the asset.

The open question is whether the structure of a RBIT requires that the total restoration of capital investment *only* occur at the “end of the estimated useful life of the depreciable property?”

C. Interim Findings

Overall, one can now state three broadly-defined fundamental principles of a Realization-based Income Tax: 1) realization necessitates capitalization, 2) capitalization requires capital recovery, and 3) capital recovery should equal and consist of capital available for recovery.

The theory of “capital expensing” espoused by this article is that when “tax capital” is recovered tax-free through expensing deductions, the amount recovered tax-free should equal (but not exceed) the amount of tax capital invested in the asset. Conversely, the amount of an asset’s cost that is *allowed to be expensed*, should not exceed the amount of “tax capital” available to be invested in the asset at the time of the investment. The combination of these principles, as applied to equipment, constitutes what I call “normative capital equipment expensing in a realization-based income tax.”

42. For example, straight-line depreciation is calculated by dividing the original cost of the asset less salvage value (if any) by the expected useful life of the asset. Sum-of-the-Years’-Digits Depreciation is calculated by multiplying the depreciable value of the asset (which is original cost less salvage value) by the ratio of the remaining number of years over the sum of the digits (the sum of the digits can be expressed by the formula $n(n+1)/2$). Double-declining balance method of depreciation basically allows deductions equal to 200% of straight line deductions.

43. See Regs. § 1.167(a)-1(a).

III. TAX CAPITAL CREATION AND TAX CAPITAL FORMATION IN THE U.S. RBIT BASE

A. Loss Offsets and the Impact of Various Cost Recovery Methods on Pre-Investment Tax Capital Creation

If economic depreciation could be used as a RBIT base cost recovery method and applied to the facts in Example 1, that cost recovery method would offset no current earnings in the year of investment, and the equipment purchase would be made entirely from pre-investment tax capital.⁴⁴ The maximum investment of tax capital available for investment with such a “no loss-offset” cost recovery method (\$120,000 in the above example) would exactly match the amount of tax capital created after all current earnings were concurrently taxed. In contrast, partial and full-offset expensing cost recovery methods do offset contemporaneous earnings, and this produces two significant and related tax-driven consequences.

The first consequence of a cost recovery method that causes a loss offset against contemporaneous earnings is an increase in the amount of pre-investment tax capital that can be created from a given amount of earnings. As a practical matter this means that the maximum amount of nominal investment that can be made from a given amount of current earnings in a RBIT base increases as the amount of loss offset created by a given cost recovery method increases.

The structure of a given tax base with respect to capital income taxation determines the maximum amount of economic capital that may be invested within that particular tax base, given identical economic contexts.⁴⁵ Cost recovery can take one of many different forms in a RBIT base. Therefore, which form of cost recovery is applied to a given equipment purchase determines how much economic capital can be invested in equipment from a given amount of

44. See Table 1, Terry, *supra* note 1, 477-80, and accompanying discussion. See esp., 479, note 33.

45. The maximum amount that may be invested from earnings in a tax base is the amount of investment for which the tax burden plus the amount invested equals the total earnings available. In other words Earnings equals Investment plus Tax ($E = I + t$). Therefore, Maximum Investment equals Earnings minus Tax. ($I_{\max} = E - t$).

In a consumption tax base, the tax is imposed on Consumption which equals Earnings minus Savings, such as Investment. ($C = E - I$). Therefore, the maximum amount of Investment in a consumption tax base equals total Earnings. ($I_{\max} = E$). Where all earnings are invested, no tax is imposed, so ($I_{\max} = E$).

In an Income tax base, however, Income equals the sum of consumption plus changes in wealth. ($I = C + \Delta W$), pursuant to the Haig-Simons definition. Therefore savings, such as investments in equipment, do not reduce the income tax base. Therefore, it can be said that investments must be made with after-tax dollars, because investment represents a change in the form of wealth, rather than in the amount of a taxpayer's wealth.

current earnings. Rather than one maximum amount of tax capital that may be invested from current earnings, RBIT base cost recovery methods create a spectrum of “maximum tax capital thresholds” within a RBIT base.

The following Table 1 shows the maximum amount of pre-investment tax capital that is possible in a RBIT base using three cost recovery methods: zero loss-offset cost recovery methods,⁴⁶ partial expensing,⁴⁷ and full expensing. From left to right, the second and third columns of the Table show the formula for the tax base, taking into account the effect of each cost recovery method, and the formula for determining the maximum possible economic capital investment, using each cost recovery method. The fourth through sixth columns apply the formulas to investments made from \$200,000 of earnings using a 40% tax rate. Those columns show the amounts of the earnings, maximum investment, and tax paid for those investments, when subject to each of these three cost recovery methods. The seventh column proves that the formula produces the correct result by showing that the sum of the Investment (I) and Tax Paid (t) equals Earnings (E), the necessary source of both payments.

Table 1: Comparison of Maximum Investment Amounts Allowed by Various RBIT Cost Recovery Methods

(1) Cost Recovery Method	(2) Tax Base	(3) Maximum Investment	(4) Earnings	(5) Maximum Investment	(6) Tax Paid	(7) Invest + Tax = Earnings
0 offset	E	$E(1 - t)$	200	120	80	$120 + 80 = 200$
50% Expensing	$E - .5I$	$E(1 - t)/1 - .5t$	200	150	50	$150 + 50 = 200$
Full Expensing	$E - I$	$E(1 - t)/1 - t$	200	200	0	$200 + 0 = 200$

As the first row of Table 1 shows, when a cost recovery method that produces no loss offset (economic depreciation) is applied to an earnings-financed equipment purchase, the formula for determining the maximum amount of investment possible from earnings is identical to that for economic depreciation within an AMIT base: $AMIT I_{max} = E \times (1 - t)$. Because such a cost recovery method produces no loss offset in the year of investment,⁴⁸ the

46. Zero loss-offset cost recovery methods produce no deduction in the year of equipment acquisition which offsets taxable income other than that generated by the equipment investment itself. Under conventions adopted in this article, only the economic depreciation and ACRS cost recovery methods produce a zero loss-offset in the year of acquisition. See Table 2 *infra*, and accompanying discussion.

47. This article uses the term “partial expensing” to refer to the 50% bonus depreciation deduction which was allowed under IRC § 168(k) until Jan. 1, 2005, in which a “50% bonus depreciation” deduction was allowed in the year in which some property was placed in service. See *supra* note 13.

48. For a detailed discussion of the financial principles supporting and illustrating this statement, see Terry, *supra* note 1, at 477 – 80. See also, Terry,

maximum amount that may be invested equals the amount remaining after earnings have been concurrently taxed. That amount is expressed as $E(1 - t)$. Given \$200,000 of earnings and a 40% tax rate, for example, \$120,000 is the maximum amount remaining after those earnings are taxed and thus is also the maximum amount that may be invested in equipment that is subject to economic cost recovery.

When a cost recovery method that does produce a loss offset against earnings is employed (MACRS), the increase in the tax base represented by the receipt of earnings is offset to some extent by the immediate reduction in the tax base caused by any loss offset created by the cost recovery method. Where full loss offset expensing is allowed, as shown in Row 3 of Table 1, the after-tax amount available after the tax base increase [$E \times (1 - t)$] minus the after-tax amount available after the tax base decrease [$I \times (1 - t)$] should equal zero if all earnings that are not devoted to tax payments are invested. Thus;

Equation 2: Maximum Economic Capital Investment with Full Expensing

$$E(1 - t) - \text{Inv}(1 - t) = 0$$

This equation is solved for I as follows:

$$\text{Inv}(1 - t) = E(1 - t)$$

$$\text{Inv} = E(1 - t)/(1 - t)$$

$$\text{Inv} = E$$

Thus a RBIT base that allows full loss offset expensing may allow a taxpayer to invest all current earnings rather than simply the amount remaining after earnings are taxed. As Table 1 shows, all \$200,000 of earnings in our example may be invested if full loss offset expensing is available.

Finally, under the recently expired partial expensing method, only 50% of amounts invested in equipment may be expensed under certain conditions.⁴⁹ The balance of the cost must be recovered through MACRS deductions.⁵⁰

Leverage-Financed Tax Arbitrage: A Structural and Accounting Analysis, 7 Am. J. Tax Pol'y 109 (1988).

49. IRC § 168(k). Job and Growth Tax Relief Reconciliation Act of 2003, Pub. L. No. 108-27, 117 Stat. 752 (2003). The 50% additional depreciation allowance is applied in much the same way as the 30% allowance granted by Congress in 2002. Property must qualify as per the 2002 provisions in § 168(k). As long as the property meets the preceding acquisition and placed-in-service dates, any property that fulfilled the requirements for the 30% bonus depreciation deduction qualifies for the 50% additional depreciation. See *supra* note 13, for expiration date information.

50. Regs. § 1.168(k)-1T(d)(2).

The remaining adjusted depreciable basis of the qualified property or the 50% bonus depreciation property is then depreciated using the applicable depreciation provisions under the Internal Revenue Code for the qualified property or the 50% bonus depreciation property. The remaining adjusted depreciable basis of the qualified property or the 50% bonus depreciation property that is MACRS property is also

Where only 50% partial expensing is allowed, the maximum amount available after the tax base increase [$E \times (1 - t)$] minus the after-tax amount available after the tax base decrease [$Inv \times (1 - .5t)$] should equal zero if all earnings that are not devoted to tax payments are invested. Thus;

Equation 3: Maximum Economic Capital Investment with Partial Expensing

$$E(1 - t) - Inv_{\max}(1 - .5t) = 0$$

This equation is solved for I as follows:

$$Inv_{\max}(1 - .5t) = E(1 - t)$$

$$Inv_{\max} = E(1 - t)/(1 - .5t)$$

As the second row in Table 1 shows, when partial expensing is employed, the maximum amount that may be invested from current earnings while allowing the tax on earnings to be paid is \$150,000. The partial expensing deduction for that investment equals 50% of that amount or \$75,000. Taxable income therefore is \$125,000 (\$200,000 minus \$75,000). The tax liability equals 40% of that amount or \$50,000. If one subtracts the amount of the equipment purchase (\$150,000) and the tax liability (\$50,000) from the earnings, the remainder is zero, proving that \$150,000 is the maximum amount of expensed investment that may be made under these circumstances.⁵¹

As Table 1 shows and the previous discussion explains, the greater the amount of loss-offset produced by a recovery method, the greater the amount of economic capital investment can occur. Table 1 also shows that the greater the amount of loss-offset and investment created by a cost recovery method, the less tax is paid.⁵²

the basis to which the annual depreciation rates in the optional depreciation tables apply (for further guidance, see § 8 of Rev. Proc. 87-57 (1987-2 C.B. 687) and § 601.601(d)(2)(ii)(b) of this chapter. The depreciation deduction allowable for the remaining adjusted depreciable basis of the qualified property or the 50% bonus depreciation property is affected by a taxable year of less than 12 months.

Id. See also, Regs. § 1.168(k)-1T(e)(2) ex. 2.

51. \$200,000 - \$150,000 = \$50,000 which is the exact amount of the tax liability. Thus the entire positive cash flow is absorbed by the exact sum of the investment and the tax payment.

52. As Table 1 showed in columns 1 (Cost Recovery Method), 5 (Maximum Investment), and 6 (Tax Paid), the more loss-offset is created by a cost recovery method, the less tax is paid by a fixed amount of investment subjected to that recovery method. The relevant columns are reproduced below.

Cost Recovery Method	Maximum Invest	Tax Paid
0 Offset	120	80
50% expensing	150	50
Full expensing	200	0

B. Loss Offsets and the Impact of Various Cost Recovery Methods on Post-Investment Tax Capital Formation

The second consequence of a cost recovery method that causes a loss offset in a RBIT base is a decrease in the amount of post-investment tax capital that may be *formed* from a given amount of earnings. Full expensing, for example, offsets taxable income dollar-for-dollar and therefore decreases the amount of post-investment tax capital formed when earnings finance equipment purchases.

Example 2: A taxpayer with \$200,000 in earnings that is subject to a 40% tax rate creates \$120,000 of tax capital during a taxable year in which she purchases equipment for \$100,000 and expenses the cost. That taxpayer's taxable income is reduced to \$100,000 and the \$40,000 tax liability is paid. The taxpayer's after-tax cash flow is \$60,000,⁵³ which constitutes new tax-capital formation.

Each cost recovery technique currently employed in the United States offsets a different amount of invested earnings and therefore has a different economic impact on the tax capital formation process. The following Table is derived from my previous article⁵⁴ and shows the amount of tax capital that is formed under various cost recovery methods when equipment is purchased for \$100,000 under certain financial conditions.⁵⁵ The tax rate remains at 40% in all cases.

53. \$200,000 of earnings minus \$100,000 invested in equipment minus \$40,000 in tax paid.

54. See Tables 1, 2 and 3 in Terry, *supra* note 1, 478-482.

55. The most significant assumption made in both the previous article and this one is that a certain amount of income is produced by the purchased equipment, both over the equipment's useful life, and in the year of purchase. In the model used in the first article, the yield rate of the investment equaled the pre-tax discount rate used to determine the financial characteristics of "break-even investments" when subject to a variety of cost recovery methods. In the framework of this model, the income produced by the purchased asset in the year of purchase was more than the first year cost recovery deductions allowed under the economic and ACRS cost recovery methods. Thus neither of those cost recovery methods created a "loss offset" in the year of purchase. However, MACRS created a very small loss offset. Since current partial expensing allows a 50% "bonus depreciation" deduction, in addition to normal MACRS deductions on the remaining 50% of the purchase price, this article makes the simplifying assumption that the entire partial expensing deduction offsets earnings.

Table 2: Comparative Amounts of Tax Capital Formed by Various RBIT Cost Recovery Methods

Recovery Method	Earnings	Investment	Loss Offset ⁵⁶	T.I. ⁵⁷	Tax Paid	ATCF ⁵⁸	Tax Formed⁵⁹
Economic	200,000	100,000	0	200,000	80,000	20,000	20,000
ACRS	200,000	100,000	0	200,000	80,000	20,000	20,000
MACRS	200,000	100,000	1,780	198,220	79,288	20,712	20,712
50% Partial Exp	200,000	100,000	50,000	150,000	60,000	40,000	40,000
Full Exp	200,000	100,000	100,000	100,000	40,000	60,000	60,000

Table 2 shows, the amount of post-investment tax capital that can be formed in a RBIT base in the year a fixed amount of earnings is invested also depends directly on the cost recovery method employed. For a given amount of investment, economic cost recovery produces the least post-investment tax capital (e.g., \$20,000 in Table 2), and expensing produces the most (e.g., \$60,000 in Table 2). These results stem from the fact that economic cost recovery produces no loss offset in the year earnings are invested, while full expensing produces a loss-offset equal to the entire amount invested. Partial expensing creates a loss offset that falls in between the extremes of economic cost recovery and full expensing (\$50,000), and thus allows the formation of an amount of tax capital that falls in between the amounts created by those recovery methods as well.(e.g., \$40,000).

Overall, there is a direct relationship between the amount of loss offset produced by a given cost recovery method and post-investment tax capital formation: the greater the loss offset a cost recovery method produces, the more tax capital that cost recovery method causes to be formed, after tax, relative to other cost recovery methods. This increase in post-investment tax capital formation is shown by the increased after-tax cash flow and the corresponding decrease in tax paid in Table 2.

56. All of the figures are derived from a spreadsheet investment model of a \$100,000 investment that is subject to the various cost recovery methods shown. The term "loss offset" occurs when the act of investing creates a deduction or deductions that offset income from sources other than the investment itself during the taxable year in which the investment occurs. Under the assumptions used in Table 2, ACRS and MACRS offset non-asset income in subsequent years, but only MACRS creates immediate tax savings in the year of investment. For a fuller explanation of the methodology underlying Table 2, see Terry, Normatic Cost Recovery Policy for a Realization-Based Income Tax at pages 477-79 in note 1.

57. Earnings – Loss Offset.

58. Earnings – Investment minus Tax Paid.

59. Earnings – Loss Offset x (1 - t), supra Example 1 and accompanying discussion.

IV. STRUCTURAL CAPITAL CREATION, FORMATION AND RECOVERY ISSUES CREATED BY CURRENT EQUIPMENT EXPENSING SCHEMES

Under current (and/or recent) equipment expensing provisions, the amount of a taxpayer's expensing deduction bears no necessary relationship to the amount of tax capital created and actually invested in expensed equipment by the taxpayer. This frequently creates one of two tax base structural problems depending upon the specific characteristics of a given equipment purchase: 1) the ability to recover pre-tax earnings tax-free on one hand and 2) the inability to recover invested tax capital tax-free on the other. An examination of the various forms of expensing that are allowed under current or recent law illustrates how each current form of expensing raises one or both of these issues.

A. Unlimited full offset expensing

Unlimited full offset expensing is not currently prescribed with respect to equipment purchases under the Internal Revenue Code.⁶⁰ However, in recent years there has been growing support in Congress for increasing the cap on equipment expensing deductions.⁶¹ Nonetheless, the structural problems that

60. While unlimited full expensing is rarely proposed in Congress, a history of proposed legislation shows assorted attempts to increase the taxpayer's ability to more fully expense equipment, particularly in the realms of small business and agriculture. E.g., H.R. 2264, 103rd Cong. (1993) (originally proposing to increase the limitation on expensing certain depreciable business assets for small businesses, but enacted with an increase in the limitation only for enterprise zone business); H.R. 3824, 102nd Cong. (1991) ("allow[ing] a business expense deduction for up to \$250,000 ([then only] \$10,000) of depreciable business assets if property is used as an integral part of manufacturing, production, or extraction"); H.R. 5493, 101st Cong. (1990) ("amend[ing] the Internal Revenue Code of 1986 to allow small- and medium-sized manufacturers to expense certain acquisitions of productive equipment"); S. 3042, 98th Cong. (1984) ("permit[ting] the taxpayer to take a deduction with respect to expense-method property in the year it is placed in service equal to the basis of such property"); H.R. 3443, 97th Cong. (1981) (proposing an amendment to the Internal Revenue Code of 1954, "provid[ing] a capital cost recovery method which combines the investment credit with the depreciation deduction in a first-year allowance").

61. In 1996 Congress passed the Small Business Job Protection Act, Pub. L. No. 104-188, 110 Stat. 1755, that which raised the dollar limitation on expensing to \$25,000 from \$17,500 and provided a year-by-year increase through 2003 to facilitate its implementation. H.R. 3448, 104th Cong. (1996).

In 2002, Congress passed the Job Creation and Worker Assistance Act of 2002, Pub. L. No. 107-147, 116 Stat. 21 (2002), Act § 101(a) (adding IRC § 168(k)). This Act provided certain taxpayers with a first-year "bonus depreciation" deduction equal to 30% of the cost of equipment placed in service after September 11, 2001. *Id.*

Finally, in 2003, Congress passed the Jobs and Growth Tax Relief Reconciliation Act of 2003 Pub. L. No. 108-27, (2003), 117 Stat. 752. Act § 201 increased the amount of "bonus depreciation" to 50% of the cost of equipment

would be created by full loss offset expensing can be seen in a microcosm within the confines of recently expanded section 179, a limited equipment expensing provision, under certain circumstances.

Section 179 currently allows certain taxpayers to expense up to \$100,000 of equipment purchases in a taxable year, provided that this amount does not exceed the taxpayer's trade or business income for the year, and provided that the taxpayer has not purchased more than \$400,000 of equipment during that same year. A taxpayer in the 40% bracket who has exactly \$100,000 of net income from her trade or business for a year in which she purchases \$100,000 of equipment may expense the entire cost of the purchase, thus zeroing out her trade or business income and paying no tax. As shown above,⁶² the taxpayer recovers the entire cost of the equipment (\$100,000) tax-free from untaxed earnings and generates \$60,000 of post-investment tax capital. The net cost of the equipment to the taxpayer after tax is only \$40,000, because there is a negative 40% effective tax rate on the pre-tax earnings invested in the equipment.⁶³

The economic results produced by unlimited full-offset expensing are based on conscious policy reasons,⁶⁴ but this would be consumption, not income, taxation structurally and, therefore cannot serve as *normative* capital creation or equipment expensing for a transition realization-based income tax.

purchased in tax years ending after 2003. Act § 202 increased the amount of equipment expensing deduction under IRC § 179 to \$100,000 for taxable years 2003 through 2005. Id. § 202.

62. See *supra* Example 2 and accompanying text.

63. If expensing were not available, the taxpayer would have to pay \$40,000 in tax on her earnings and would only be able to purchase \$60,000 in equipment using pre-investment tax capital.

64. During testimony before the President's Advisory Panel on Federal Tax Reform, two experts discussed depreciation rules and capital cost recovery in tax reform. Kevin A. Hassett, of the American Enterprise Institute, testified that, because recent studies indicated the economic cost resulting from the differential tax treatment of capital goods is relatively inconsequential, almost all of the benefit from revising depreciation rules would come from the associated reduction of the tax on capital income, if depreciation allowances were expanded in the direction of expensing, and not from an improved allocation of business investment across assets.

On the other hand, Andrew B. Lyon, of PricewaterhouseCoopers, LLP testified that, if tax depreciation is not neutral, capital will be allocated inefficiently. The cost of an inefficient allocation of capital is fewer goods and services being produced than is otherwise achievable. He further testified that the efficient allocation of capital requires either expensing or tax depreciation that is related to economic depreciation for equity-financed investments. In comparing the two systems, he pointed out that the difficulty of ascertaining true economic depreciation requires extensive initial study and constant monitoring. Expensing, on the other hand, requires fewer factual determinations.

B. Limited and/or partial offset expensing

1. Under-expensing

While section 179 may cause the exemption of untaxed income (“over-expensing”) under some circumstances,⁶⁵ it is also likely to deny an expensing deduction for actual capital investment (“under-expensing”) in many other circumstances.

Example 3: A taxpayer who is eligible for section 179 expensing has \$400,000 of earnings and purchases \$200,000 of equipment. Despite the ability to piggyback the section 179 expensing deduction and the section 168(k) 50% bonus depreciation deduction,⁶⁶ this taxpayer is only able to generically “expense” the first \$150,000 of the purchase price and must recover the remaining \$50,000 over the life of the investment.⁶⁷ Assuming the MACRS deduction for the year of purchase does not produce an additional loss offset, the taxpayer would owe \$100,000 in tax,⁶⁸ and the taxpayer’s after-tax cash flow would also be \$100,000.⁶⁹ Because only \$150,000 of the equipment’s cost may be expensed, this taxpayer would actually create \$240,000 of tax capital and invest \$200,000 of it. However, the taxpayer would only recover \$150,000 of that tax-capital tax-free in the year of purchase. The remaining tax-capital investment (\$50,000) would eventually be completely recovered tax-free economically, but not financially, under section 168 (MACRS).⁷⁰

The treatment of this transaction combines normative capital expensing of the first \$150,000 of invested capital, with under-expensing of the second \$50,000. Normative capital equipment expensing should allow complete and immediate recovery of *all* invested tax capital when the entire amounts invested (e.g., \$200,000), do not exceed the natural tax capital creation threshold for a fully expensed equipment purchase in a RBIT base under these circumstances (\$240,000).⁷¹ The \$200,000 equipment purchase in the current example is below

65. Over-expensing would occur to the extent investment exceeded the natural capital creation threshold for full expensing. Based on \$400,000 of earnings, that threshold would be \$240,000. Any equipment purchase in excess of that amount would begin to offset pre-tax income, instead of nascent pre-investment tax capital, and, therefore, constitute non-normative RBIT treatment.

66. See Temp. Regs. § 1.168(k)-1T(a)(2)(iii).

67. Section 179(b)(1), the expensing deduction, is limited to \$100,000. However, § 168(k) also allows a 50% bonus depreciation deduction for the remaining uncovered cost of \$100,000, thus allowing a total first year deduction of \$150,000.

68. \$400,000 earnings minus the \$150,000 expensing deduction equals taxable income of \$250,000 x the 40% tax rate equals \$100,000.

69. \$400,000 of earnings minus \$200,000 (equipment purchase) minus \$100,000 (tax paid) equals \$100,000.

70. See Terry, Cost Recovery, *supra* note 1, at 488-494.

71. Under the facts of Example 3, where \$400,000 of earnings were subject to a 40% tax rate.

the capital creation threshold for a fully expensed asset under these circumstances. Therefore, the purchase price consists entirely of invested tax capital and, under normative capital creation and equipment expensing principles, a deduction for the full purchase price of the equipment should be allowed.

2. Over-expensing

Section 179 and section 168(k) combined produce under-expensing under the circumstances above, but in different circumstances, they can produce over-expensing.

Example 4: The same taxpayer as in the previous example has only \$250,000 of earnings and purchases the same \$200,000 of equipment. Due to the ability to piggy-back the section 179 expensing deduction and the section 168(k) 50% bonus depreciation deduction, the taxpayer is able to generically expense the entire first \$175,000 of the equipment purchase price.⁷² This taxpayer has only created \$150,000 of tax capital, which she properly recovers tax-free; but she also offsets \$25,000 of pre-tax income, which exempts that amount from tax.

This transaction combines normative capital expensing of the first \$150,000 of created tax capital, with over-expensing of the additional \$25,000 of investment that offsets pre-tax income, and thus exempts that amount from tax. When the amounts invested in equipment exceed the natural capital creation threshold for a fully expensed asset under these circumstances, normative CEE should allow only the recovery of the invested tax capital (\$150,000).

V. NORMATIVE CAPITAL CREATION, EQUIPMENT EXPENSING AND CAPITAL FORMATION IN A TRANSITION INCOME TAX BASE

A. Defining the Problem

Existing equipment expensing methods in the U.S. can either deny immediate recovery of invested capital, or allow immediate recovery of untaxed earnings. This happens for two basic reasons. When expensing is limited to dollar amounts or percentages of investment in equipment, both under-expensing and over-expensing can occur. To the extent that unlimited expensing is allowed, over-expensing alone will always occur.

The tax base structural problem is two-fold. First, tax capital creation is not measured or accounted for under any expensing method. Second, current expensing methods are not structured to relate expensing deductions to tax

72. After deducting \$100,000 under § 179, he is able to deduct 50% of the remaining basis of \$150,000 under § 168(k), which equals another \$75,000, for a total first year deduction of \$175,000.

capital creation and availability. While existing expensing methods are applied to myriads of individual transactions, the measurable economic and financial characteristic of those individual transactions, that *could* relate expensing deductions to capital creation, vary from taxpayer to taxpayer, and from equipment purchase to equipment purchase. Those characteristics include the tax rate of the investor, the taxable income available prior to taking the expensing deduction, and the amount of equipment investment relative to taxable income.

As just shown, only when actual investment falls within the variable, but precise parameters that economically determine the amount of tax capital created concurrent with that investment, can expensing deductions be *sure* to recover all invested tax capital tax-free, and *not* to recover pre-tax income. Only when such accounting and matching is *structurally* assured can any system of equipment expensing properly reflect the normative structure and dynamics of a realization-based income tax, and its complementary principles of creating tax capital and allowing it, *and only it*, to be completely recovered tax-free.

B. Developing a Basic Proposal for Normative Capital Equipment Expensing

1. The Basic Proposal

Designing a system of normative capital equipment expensing starts with the notion that nascent tax capital is created concurrently with pre-tax business income or earnings during a given taxable year. Nascent tax capital can be defined as the after-tax earnings potentially available at any interim point during a taxable year, and can be represented by the formula in Equation 4.⁷³

Equation 4: Tax Capital Available from Earnings

$$\text{Cap} = E(1 - t)$$

However, for administrative convenience and simplicity, I propose to measure the amount of tax capital created during a taxable year at the end of a given taxable year, also using Equation 4.⁷⁴

At that time, I basically propose to match the amount of investment in equipment made *during the taxable year* against the amount of tax capital created and available *at the end of the taxable year*. More specifically, I propose to aggregate all investment in section 179 property made by a taxpayer during a taxable year, and test the total amount of that investment against the total amount of tax capital created from the taxpayer's business income during that

73. Nascent tax capital (Cap) equals after-tax earnings [E(1-t)].

74. In addition to the problems of administration, employing mark-to-market accounting at other intervals would be contrary to normative realization based income tax principles.

taxable year. The amount of tax capital created and available at the end of the taxable year will also be determined by using Equation 4 above.⁷⁵

To the extent that, the taxpayer's aggregate investment in section 179 property equals, but does not exceed, the tax capital creation threshold for the taxable year, as defined in Equation 4, all of the taxpayer's equipment investment for the year will be allowed as an immediate deduction under section 179. For example, in Example 3, the taxpayer's net earnings were \$400,000, and she purchased \$200,000 of equipment. Applying Equation 4, her tax capital creation threshold was \$240,000. Thus, she will be allowed to deduct the entire cost of the equipment under normative capital equipment expensing.

2. The treatment of excess tax capital creation or equipment investment

Returning to Example 3, however, one also sees an example of excess capital creation. In Example 3, the taxpayer's net earnings in Year 1 were \$400,000, and she purchased \$200,000 of equipment. Again applying Equation 4, her tax capital creation threshold was \$240,000. Thus, she was allowed a deduction for the entire cost of the equipment she purchased, and \$40,000 of tax capital was left unused. If, in the following year, our Example 3 taxpayer produced the outcome just described in Example 4, a question would arise that illustrates the efficacy of carrying over unused tax capital.

Let us assume that our Example 3 taxpayer's net earnings in Year 2 were only \$250,000, and yet she purchased \$200,000 of new equipment for her business. Applying the tax capital creation formula in Equation 4, our Example 3 taxpayer would now be able to deduct only \$150,000 of the cost of the equipment because the amount she invested exceeded the tax capital creation for Year 2 by \$50,000. However, if the excess tax capital created in Year 1 (\$40,000) was carried forward to Year 2, our taxpayer would be able to expense all but \$10,000 of the entire cost of the equipment purchase that took place in Year 2 (\$190,000).

3. The treatment of excess non-tax capital investment

Now, our new question becomes how to treat the \$10,000 excess non-tax capital investment in Year 2's equipment purchase. Two options are available at first glance.

75. This basic calculation should not be inordinately difficult to administer or comply with, even for small businesses. Applying this formula within a progressive rate structure will clearly allow taxpayers who are subject to lower tax rates to deduct a greater percentage of their equipment investment. Several administrative and policy issues immediately pop into mind, but development of these issues are beyond the scope of this introductory Article.

The first alternative is to apply section 168 to the excess investment in equipment, as the IRC currently prescribes.⁷⁶ Existing law under sections 168 and 1012 does not require cost recovery deductions to consist of tax capital. However, this alternative would likely impose a significant compliance burden on both taxpayers and the government.⁷⁷ Perhaps more importantly, this alternative would cause unpredictable variations in the overall effective tax rate on income produced by equipment treated in this fashion.

As my previous Article showed, one of the benefits of equipment expensing as a recovery method is to equalize the *pre-tax and after-tax rates of return* from investments, making investment decisions more accurate and easier to make.⁷⁸ This characteristic can potentially make capital expensing, as such, the most efficient method of cost recovery available in a RBIT base.⁷⁹ As a result, there seems to be no compelling policy reason for maintaining a conflicting, counterproductive cost recovery method as a default rule, in an attempt to graft the old and the new recovery systems together. Furthermore, one of the goals of this proposal is to simplify this area of taxation, rather than to unnecessarily compound its complexity.

The second alternative is to carryover the excess non-capital equipment investment in the current year (\$10,000) to the following taxable year. It could be combined with new investment for the following year, and tested against the cumulative tax capital creation threshold for the succeeding taxable year. That cumulative capital creation threshold for the carryover year would consist of the sum of that year's *new* tax capital creation *plus* all unused and carried over excess tax capital created during the previous year, if any.⁸⁰

VI. A PRELIMINARY LOOK AT ADMINISTERING CAPITAL EQUIPMENT EXPENSING

This Part VI of the Article takes a preliminary and cursory look at how the theory of capital equipment expensing might be applied and administered within our current U.S. income tax base.

76. See discussion *supra* note 66.

77. Taxpayers would possibly have to disaggregate their equipment investments in order to apply MACRS rules to different classes and types of assets.

78. See Terry, *supra* note 1, at 487.

79. See testimony of Andrew S. Lyon, *supra* note 62.

80. In the current Example 4 scenario, there is no excess capital creation carryover from the previous taxable year because the amount of equipment investment in the first year exceeded the tax capital creation threshold for that taxable year.

*A. Areas of possible administrative simplification**1. Aggregating expensing deduction computations*

As suggested earlier, I propose to aggregate all of a taxpayer's equipment investment during a given taxable year, and test that amount for immediate expensing against the amount of nascent tax capital created during that same taxable year. Aggregating all equipment investment could possibly obviate the need to sub-classify many types of individual assets, to maintain as many asset specific records, and to make asset-by-asset cost recovery calculations on an annual basis. In most cases, tax payers should be able to administer and comply with this approach relatively easily, compared to the existing state of tax administration and compliance.

2. Simplifying the treatment of asset dispositions

Dispositions of individual equipment items at any point after their acquisition would not require identifying or quantifying an adjusted basis for any item, which would always remain at zero.⁸¹ Only gains would be realized at the time of such dispositions.⁸² At that time, it would not be necessary to characterize those gains as section 1245 gain, in whole or in part. There would be no previously taken cost recovery deductions that needed to be recaptured. The entire cost of the asset would have been recovered already at the time of its acquisition, and the recovery of the tax capital invested in it would not have offset any pre-tax earnings. Currently, section 1231 would still apply, however, resulting in potential capital gain treatment of the gain resulting from any disposition.⁸³

Dispositions that utilized non-recognition provisions of the IRC could be administered fairly simply as well. Once equipment assets have been capital-expensed, they will have a zero basis, which should make for smooth transfers into and out of business entities under existing law.⁸⁴

81. See e.g., Joseph M. Dodge & Jay A. Soledad, "Inflated Tax Basis and the Quarter-Trillion-Dollar Revenue Question," 106 Tax Notes 453 (Jan. 24, 2005) (asserting that inflated tax basis is a widespread phenomenon with significant revenue loss implications).

82. There would be no unrecovered basis to offset any amounts realized upon whatever type of disposition was involved. Equipment that has been capital expensed would have a zero basis throughout its useful life and until its disposition. As a result, only gains could be realized.

83. Section 1231 would cause recognition of capital gain in most circumstances.

84. E.g., §§ 351 and 721 would provide for no gain or loss recognition upon contribution of capital-expensed equipment to corporations or Subchapter K entities. Subsequent taxable or nontaxable dispositions of those assets by such business entities

3. Treatment under the Alternative Minimum Tax

Subject due a deeper analysis in the future, I would presently suggest that capital equipment expensing should not be subject to the AMT. Generally speaking, for purposes of the AMT, depreciation “is computed on a less accelerated basis or over a longer recovery period,” than regular tax depreciation.⁸⁵ The underlying rationale for the AMT is that many tax preferences, such as accelerated depreciation, are more generous to taxpayers than the normative treatment of such items would be handled in a normative income tax base. In 2005, there is little use for the pretense that the U.S. income tax has many, if any, characteristics of a normative income tax left to buttress. I suggest that the normative treatment of investment in equipment under a realization-based income tax is capital equipment expensing as such. Therefore, there is no reason to apply the AMT to investments subject to CEE at all.

B. Areas of possible administrative complexity

1. Defining the scheduler contours of capital equipment expensing

At first glance, there appear to be two potential types of issues that could revolve around the possible scheduler contours of capital equipment expensing.⁸⁶ The first type would be vertical schedularity, and the second type would be horizontal schedularity.

In this context, a vertical schedularity problem would arise if I proposed to let existing law with respect to equipment expensing under section 179 continue unimpeded indefinitely.⁸⁷ This would allow taxpayers with less than \$400,000 per year of equipment investment to continue applying existing law. I could suggest this because the accounting and record-keeping requirements for

could be treated under existing law with no additional adjustments or computations than already required.

85. Boris I. Bittker & Lawrence Lokken, 4 Federal Taxation of Income, Estates and Gifts, 111-94 (2d ed. Warren, Gorham & Lamont 1992).

86. Generally speaking, a scheduler tax system is one “under which each category of income is subject to separate taxation, thereby preventing income and losses from offsetting income from other sources.” See Richard A. Westin, WG&L Tax Dictionary, (2000) (emphasis omitted). The term has been used to describe the system prescribed by IRC § 469 passive activity loss limitation, under which a taxpayer’s income producing activities are divided into three “baskets” – investment income, active trade or business income, and a basket in the middle where a taxpayer’s income arises from trade or business activities in which the taxpayer does not materially participate. Losses from a taxpayer’s passive activity basket are not allowed to offset income produced from either of the other two baskets.

87. The current limitations on the amount of expensing deduction (\$100,000), and the maximum taxable income of taxpayers eligible to take the deduction (\$400,000), are scheduled to expire on Dec. 31, 2007.

the fairly different new system that I propose will require a period of adjustment, and because the current system may be more generous to this group of taxpayers than the new system that I propose.⁸⁸

Although I tentatively propose to create an element of vertical schedularity within the equipment investment sector of the tax base, I am even less certain about how to respond to the potential problems of horizontal schedularity exhibited in the following two examples.

Example 5: ABC Corp. owns one factory, two retail outlets, and a small service center in a moderate sized city. The net taxable income after all deductions (except cost recovery on \$200,000 of new equipment purchased for the factory) was \$1 million.

Example 6: XYZ Corp. owns 10 factories, 200 retail outlets, and a service center in each of the 30 states in which it does business. Its net taxable income after all deductions (except depreciation on \$20 million of new equipment purchased for its factories, retail outlets and service centers combined) was \$100 million.

In both Examples, equipment may be purchased and used in different locations, different types of businesses, different corporate divisions, or even different taxable entities, all under the ultimate direct or indirect control of one taxpayer.

Identifying the scope of operation of capital equipment expensing within these two examples can likely begin at the taxpayer level, whoever or whatever that taxpayer may be. ABC Corp. likely files one tax return, in which equipment investment from different locations and stages of production, distribution, sales and service could all be combined and administered centrally. On the other hand, an enterprise as large and compartmentalized as XYZ Corp. might present more challenges. XYZ could consist of various lateral and/or vertical departments, divisions, or units, including subsidiary entities. Defining the scope of operation of capital equipment expensing in this context will clearly require some careful additional work.

Fortunately, this is only a preliminary proposal, whose usefulness as such today lies largely in identifying issues that need to be addressed later on, rather than attempting to solve every conceivable problem that could arise in administering capital equipment expensing in the future.

88. See e.g., Equipment Leasing Association 2004 Survey of Industry Activity, v (2004) (showing that only the two smallest categories of equipment lease transactions showed growth during 2003 when the deduction limit under § 179 was increased from \$25,000 to \$100,000).

2. *Defining the proper treatment of debt financing in relation to capital equipment expensing*

The entire analysis so far has concentrated on the context of earnings-financed investment. Within that context, the analysis has focused specifically on the generation and use of after-tax, equity-financed capital investment. Within the year of investment, earnings are being generated and taxed, and nascent tax capital is being created and simultaneously invested in equipment. Within such a complex and dynamic milieu, is it not possible that some form of tax arbitrage can be created if the analysis shifts to debt-financed equipment purchases?

The term “tax arbitrage” has been used in the tax legal and policy literature to describe transactions in which opposing financial positions taken with respect to one underlying transaction enable one or more parties to the transaction to profit at the expense of the fisc after tax solely because of the income tax or income tax accounting treatment of the transaction.⁸⁹

Indeed, a small amount of tax arbitrage can be created when one is allowed to leverage the purchase of equipment that is subject to capital equipment expensing. A series of simple examples can illustrate the basic phenomenon, as well as the consequences of denying interest deductions as a potential way of dealing with the anticipated “problem” of tax arbitrage.

Example 7A: Savings-financed investment: A taxpayer, who employs capital equipment expensing, expects to have at least \$200,000 of net taxable income (prior to computing an equipment expensing deduction) available at the end of the next taxable year. He decides to purchase some important equipment for his business on the first day of the year that costs \$120,000,⁹⁰ using cash on hand. Under normative capital equipment expensing, he will be able to deduct the entire cost of the equipment, because his equipment expenditure does not exceed the tax capital creation threshold of \$120,000.

89. Charles T. Terry, *Leverage-Financed Tax Arbitrage: A Structural Tax Accounting Analysis*, 7 *Amer. J. Tax Pol’y* 109-10 (1988). For broader references to discussion of the term, see *id.*, at 110, n.2. The classic kind of tax arbitrage juxtaposes interest deductions against pre-tax income. Under CEE, debt financing to the extent of the maximum allowed CEE deduction would only offset nascent after-tax dollars. The use of debt financing in excess of the allowable CEE deduction for possible arbitrage purposes is the issue addressed by this part of the Article.

90. Under the assumptions used so far in this article, that amount equals the prospective capital creation threshold at the end of the taxable year of the purchase. $(E - Et) = (200 - [(200 \times .4)]) = 200 - 80 = 120$.

If his predictions are correct, he will have to pay \$32,000 in tax on \$80,000 of taxable income. Therefore, he will be able to retain \$48,000 after tax for future investment.⁹¹ His after-tax cash flow is 150% of his tax liability.

Allowing a deduction for the interest on indebtedness used to finance capital expensed equipment purchases will alter the economic consequences, but not in a way that produces tax arbitrage.

Example 7B: Interest Deduction Allowed – Alternatively, the taxpayer decides to borrow \$120,000 in order to purchase the equipment. He agrees to pay 10% of that amount as interest and to repay the debt at the end of the year. At that time, he will be able to deduct \$12,000 as an interest deduction, but only \$112,800 as a CEE deduction.⁹² As a result, he will reduce his net taxable income to \$75,200 and pay 40% of that amount in tax (\$30,080).⁹³

As a result of using debt financing to buy the equipment, he will retain only \$37,920 after tax, compared to the \$48,000 he retained by investing his own earnings.⁹⁴ By borrowing, he reduces his tax burden by only 6%,⁹⁵ but taxpayer friendly tax arbitrage does not occur because he decreases his after tax capital formation (cash flow) by 21%.⁹⁶ Based on this rough, preliminary analysis, CEE does not appear to be an equipment cost recovery regime that will encourage debt financing of equipment investment.

In addition, if interest deduction denial were actually implemented, Example 7C below suggests that it would likely constitute a counter-productive tax policy decision.

Example 7C: Interest Deduction Disallowed – If the taxpayer in Example 7B is *not allowed* to deduct the interest on his equipment acquisition indebtedness, the results will almost mimic those of the equity-financed

91. Earnings (\$200,000) minus CEE deduction (\$120,000) = taxable income (\$80,000). The amount of tax in Example 7A (\$32,000) equals 40% of that taxable income. The after-tax capital formation amount is the excess of the post-investment net taxable income of \$80,000 over the tax payment (\$32,000).

92. This is because his taxable income is first reduced to \$188,000 by the \$12,000 interest deduction before computing the CEE deduction, which now only equals 60% of *that amount*. Because the CEE deduction equals 60% of net taxable income (exclusive of equipment recovery deductions) (\$188,000), reducing taxable income by \$12,000 first, must reduce the CEE deduction by 60% of that amount (\$7,200) (\$120,000 minus \$112,800 equals \$7,200).

93. Taxable income = earnings (\$200,000) – interest deduction (\$12,000) – CEE deduction (\$120,000) = \$75,200. Forty percent of that amount equals the amount of tax paid (\$30,080).

94. From \$200,000 of earnings, he will have to pay \$132,000 to repay the loan principal and accrued interest. He will also have to pay \$30,080 in tax, leaving him only \$37,920 after tax for future investment. His after-tax cash flow cum after-tax capital formation amount is now only 126% of his tax liability, compared to a ratio of 150% for the debt-financed investment in Table 7A.

95. Tax burden is reduced from \$32,000 to \$30,080.

96. After tax capital formation reduced from \$48,000 to \$37,920.

investment in Example 7A. His taxable income will again be reduced to \$80,000; and he will again have to pay \$32,000 in tax. However, he will only be able to retain \$36,000 after all his expenditures for the loan repayment, the nondeductible interest, and the tax liability,⁹⁷ (compared to \$48,000 after-tax for the equity-financed investment in Example 7A), thus potentially forming \$12,000 less tax capital for future reinvestment. In terms of after-tax capital formation, the ATCF in Example 7C (\$36,000) is now only 113% of the amount of tax paid (\$32,000). This is less than the ratio for both the equity and the unfettered debt-financed investments.

Essentially, denying interest deductions for debt-finance of capital expensed equipment purchases serves no purpose other than to further reduce the after tax benefit of the investment to taxpayers, thus reducing the likelihood that such debt-financed investments would occur at all. Since it also produces no increase in revenue, denial of interest deductions based on a theory of non-existent tax arbitrage should be a contra-indicated addition to any potential future CEE legislation.

Finally, on the systemic level, in many cases, the lender in the transaction above will have paid a sufficient amount of tax on the interest income it earned from financing this taxpayer's equipment acquisition, to justify continuing the status quo with respect to debt financed equipment acquisitions.⁹⁸

Overall, my tentative conclusion is that there is no immediate pressing need to counter the potential minor negative effects of debt financing at this stage of the development of CEE theory, at least not with the complete denial of interest deductions for debt-financed equipment investment. Before any legislation is introduced, more analysis of this question should be done.

97. From \$200,000 of earnings, he will have to spend \$132,000 to repay the loan and interest plus \$32,000 in tax liability based on \$80,000 of taxable income.

98. In my earlier Article, I suggested that tax arbitrage transactions should be analyzed on two levels. The transactional level, as illustrated in Example 7 itself, and the systemic level, where one evaluates the impact of a leverage-financing transaction with respect to all of the parties to the transaction, and the combined impact of the transaction on the fisc. Of course the simple analysis in this article is incomplete at this time. For example, one can argue that lenders are likely to be subject to a lower effective tax rate than the borrowers in many equipment finance transactions.

For an example of such a broader tax arbitrage analysis, see Terry, *Indexed Capital Assets and Tax Arbitrage: A Preliminary Tax Accounting Policy Analysis*, 361-372, *The Capital Gains Controversy: A Tax Analysts Reader* (Tax Analysts, 1992) 45 *Tax Notes* 605 (Oct. 30, 1989) (Describes how to further the tax policy aims implicit in indexing capital assets while preventing tax arbitrage that would otherwise arise from debt-financing such assets).

**VII. NORMATIVE CAPITAL EQUIPMENT EXPENSING AS AN AGENT OF
CAPITAL CREATION, REVENUE GENERATION AND CAPITAL FORMATION IN A
TRANSITION REALIZATION-BASED INCOME TAX**

If normative CEE were introduced into the U.S. income tax base today, how would it compare to existing cost recovery methods with respect to the amount of revenue loss it would potentially create, as well as the amount of after-tax capital formation it would also potentially create to help compensate for such a revenue loss?⁹⁹ This section of the article conducts a preliminary analysis of these questions on the tax base level.

A. Unlimited capital equipment expensing

This section provides a model to define the quantitative factors which will help answer the question raised by the examples in the Introduction to this article. In Example 1, the taxpayer had \$200,000 of earnings and invested \$100,000 in equipment.¹⁰⁰ As a result, he paid \$80,000 in tax and formed only \$20,000 of after-tax tax capital.

In order to compare and analyze the effect of the three prevailing cost recovery methods in use today and the most likely “cost recovery method” of the future (full expensing), I have constructed Table 3. Table 3 compares the effects of a taxpayer with \$200,000 of earnings investing \$100,000 in equipment under MACRS, 50% bonus depreciation, capital equipment expensing, and full or 100% expensing.

With respect to each cost recovery method, from left to right, the columns display the values for Earnings, Investment, Taxable Income (TI), Tax, and After-tax Capital Formation (ATCF).¹⁰¹

Table 3: Comparative Amounts of Tax Characteristics Under 2004 Equipment Cost Recovery Methods and Full Expensing: Investment below Tax Capital Creation Threshold.

99. I have intentionally declined to address the application of capital equipment expensing to the equipment leasing industry, although it is a major source of capital formation and financing for equipment acquisitions in the U.S., as well as a source of job creation. See discussion *supra* note 88 (discussing the effect of § 179 limits on economic growth in particular sectors). See also discussion *infra* note 116 (discussing effect of equipment investment on job creation). I intend to address this particular subject further in a subsequent article.

100. This was below the \$120,000 tax capital creation threshold.

101. These amounts represent after-tax funds (*viz.*, tax capital) that may be immediately reinvested in subsequent equipment purchases, saved in other forms of investment, or consumed at the taxpayer’s choice. This comparative analysis is designed to illustrate to what extent various cost recovery methods create new tax capital (after tax has been imposed), which *may potentially be used for reinvestment*.

Recovery Method	Earns	Invest	T.I.	Tax	ATCF
MACRS 200	100	200	80	20	
50% Bonus	200	100	150	60	40
Capital Expensing	200	100	100	40	60

Table 3 illustrates the fact that when MACRS is applied, equipment investment does not reduce the tax base as a result of that investment. Thus, TI equals Earnings, and the Tax/ATCF ratio is 4:1. On the other end of the spectrum, this table also shows that, by allowing the entire investment to reduce the tax base under full expensing,¹⁰² the amount of tax is cut in half, and the ATCF is tripled, which produces a Tax/ATCF ratio of 4:6, which reflects the application of the nominal tax rate.¹⁰³

This Table also shows that because the amount of investment (\$100,000) does not exceed the tax capital creation threshold of \$120,000, (CEE) does not limit full equipment expensing deductions, relative to full expensing. Thus, the full amount invested in equipment (\$100,000) can be immediately deducted; and all of the tax-generated economic consequences of normative capital equipment expensing are identical to those of full expensing.

The tax-generated economic consequences of CEE and full expensing are only identical under circumstances such as those portrayed in Table 3. Part VII.C of this article reveals the disparate economic consequences produced by CEE and full expensing under a broader range of economic circumstances.

B. Limited capital equipment expensing

On the other hand, when the amount invested in equipment *does exceed* the natural tax capital creation threshold, CEE *will limit* capital expensing deductions, and produce economic consequences that differ from both 50% bonus depreciation, as well as unlimited expensing. These statements are supported by Table 4, which demonstrates the consequences of applying the four cost recovery methods to a taxpayer, who has only \$150,000 of current year earnings, but decides to invest \$100,000 in new equipment for his business.

Table 4: Comparative Amounts of Tax Characteristics Under 2004 Equipment Cost Recovery Methods and Full Expensing: Investment Above the Tax Capital Creation Threshold

Recovery	Earns	Invest	T.I.	Tax	ATCF
MACRS	150	100	150	60	-10
50% Bonus	150	100	100	40	10
Capital	150	100	60	24	26
Full Exp	150	100	50	20	30

102. Taxable Income equals Earnings minus the entire Investment.

103. The Table also reveals the fact that the results of 50% bonus depreciation are exactly halfway between the extremes of MACRS and full expensing.

In Table 4, the tax capital creation threshold is only \$90,000 based on the \$150,000 of earnings from which the investment was made.¹⁰⁴ This situation affects the use of MACRS cost recovery because taxpayers cannot invest more than the nascent after-tax dollars available to them without resorting to borrowing or withdrawing from savings. Thus, in Table 4, an investment subject to MACRS cost recovery cannot exceed \$90,000.¹⁰⁵

Under full expensing, however, taxpayers can always choose to invest up to the full amount of their current earnings because their investment reduces their tax base dollar for dollar. Under full expensing, there will always be enough earnings left, after investment, to pay 40% of whatever earnings remain as tax. Under the scenario displayed in Table 4, the full expensing deduction reduces the tax base to \$50,000, which results in 40% allocated to tax, and the other 60% allocated to the taxpayer after-tax. This allocation is proportional to the nominal tax rate.¹⁰⁶

Under 50% bonus depreciation, the taxable income equals the amount of earnings, reduced by half of the amount invested, which equals \$100,000. At low earnings levels relative to investment, the amount of the investment plus the tax burden leaves a relatively small amount of after-tax capital for future reinvestment (\$10,000). As with MACRS, at relatively low earnings levels, tax consumes most of the remaining earnings after investment is made (\$40,000). Unlike MACRS, however, the taxpayer does not have to resort to funding tax payments with savings.

Under capital equipment expensing, only \$90,000 of the \$100,000 invested is allowed to be deducted as a CEE deduction. This reduces the taxable income to \$60,000, which produces \$24,000 in tax revenue, plus \$26,000 of ATCF. *CEE produces more tax revenue but less ATCF than full expensing under these circumstances.* But, like full expensing, and unlike MACRS and 50% bonus depreciation, CEE does not allocate so much of the taxable income to tax payments, that ATCF is either severely reduced, or completely eliminated. Overall, CEE creates the best *combination* of revenue collection and capital formation of any existing equipment cost recovery scheme today.

104. Applying the formula for tax capital ($E \times [1-t]$) to the facts of the example results in a tax capital threshold equal to 60% (\$90,000) of the earnings involved (\$150,000).

105. The MACRS taxpayer must pay \$60,000 in tax, in order to be able to invest a maximum of \$90,000 in equipment.

106. Of the \$50,000 Taxable Income, 40% (\$20,000) is allocated to tax, and the remaining 60% (\$30,000) is retained as ATCF.

C. A Deeper Analysis of the Model

1. Moderately high earnings levels

Table 5 isolates and summarizes the key economic characteristics of the existing and potential methods of taxing earnings-financed investment in equipment portrayed in Table 3, in which the taxpayer had \$200,000 of earnings and invested \$120,000 in equipment. The key economic characteristics are the amount of tax paid and the amount of after-tax cash flow. The amount of after-tax cash flow represents the amount generated for potential subsequent capital investment and is, therefore, characterized as (ATCF).

Table 5: Comparative Amounts of Revenue and after-tax Capital Formed by Various Equipment Cost Recovery Methods at Moderately High Earnings Levels

200k earns	Tax	ATCF
MACRS	80	20
50% Bonus Dep	60	40
Full expensing	40	60
Cap equip exp	40	60

At moderately “high” earnings levels (\$200,000) (significantly above both the \$120,000 tax capital creation threshold and the amount invested), when \$100,000 investments in equipment are subjected to the four types of cost recovery displayed in Table 5, MACRS produces the highest amount of tax revenue (80), and the lowest amount of post-investment tax capital formation (20). Therefore, this current prevailing cost recovery method is best for revenue generation, but the worst for ongoing tax capital formation.

At the other end of the spectrum, full expensing produces the lowest amount of tax revenue (40), and the corresponding highest amount of post-investment tax capital formation (60).

Resting halfway between these polar opposites, not surprisingly, 50% bonus depreciation produces the mid-level amount of tax revenue (60), and the mid-level amount of post-investment tax capital formation (40). In terms of revenue generation, bonus depreciation is not as bad for revenue raising as full expensing. In fact, it causes 50% more tax to be paid (60) than full expensing (40). On the other hand, it is clearly not as good for revenue collection as MACRS, because the amount of tax generated by bonus depreciation (60) is 25% less than the amount of tax paid under MACRS (80).

In terms of ATCF, bonus depreciation is not as beneficial as full expensing. Its ATCF amount (40) is only 67% of the ATCF produced by full expensing (60). However, in comparison to MACRS, the prevailing cost recovery system for most investments in equipment, 50% bonus depreciation

produces 100% more tax capital formation,¹⁰⁷ while at the same time also producing 75% as much tax revenue.¹⁰⁸

CEE provides the best combination of revenue and capital formation among all of the alternatives currently available or likely to be available in the near future. Although it produces the least relative amount of revenue tied with full expensing it also produces the greatest amount of ATCF tied with full expensing. At moderately high earnings levels, the relative proportions of revenue and capital formation generated by capital expensing and 50% bonus depreciation, respectively, place them on opposite sides of the tax policy direction the country seems to be heading. In Table 5, bonus depreciation produces \$60,000 of revenue compared to only \$40,000 of ATCF. In direct contrast, CEE produces \$40,000 of revenue compared to \$60,000 of AFTC. Many tax policy makers today believe that capital formation is relatively more important than revenue generation.

2. Low earnings levels

In order to get a better idea of how CEE functions when investments occur below the natural capital creation threshold, Table 6 presents the same data as that presented in Table 5, with the exception of the amount of earnings employed. This time, our taxpayer has only \$150,000 of earnings, but still invests \$100,000 in equipment.¹⁰⁹ That amount is only \$10,000 greater than the \$90,000 tax capital creation threshold. Table 6 reveals the same type of results as those shown in Table 5 for the same range of recovery methods.

Table 6: Comparative Amounts of Revenue and new Tax Capital Formed by Various Equipment Cost Recovery Methods at Relatively Low Earnings Levels

150k earns	Tax	ATCF
MACRS	60	- 10
50% Bonus Dep	40	10
Full expensing	20	30
Cap equip exp	24	26

In Table 6, the capital creation threshold limits the CEE deduction to only \$90 of the \$100 invested in the equipment. The result is \$60 of taxable income, which in turn creates \$24 in tax and \$26 of AFTC. In comparison to full expensing, CEE generates 20% more revenue and only 13% less after tax capital.

107. \$40,000 ATCF for 50% bonus depreciation, compared to \$20,000 for MACRS.

108. \$60,000 Tax Paid for bonus depreciation, compared to \$80,000 for MACRS.

109. The amounts in Table 6 are taken from the columns in Table 4 labeled Tax and ATCF.

CEE also performs well relative to 50% bonus depreciation. While it produces 40% less tax revenue than bonus depreciation, it forms 260% more after-tax capital. Again, CEE produces the most capital formation bang for every buck of tax revenue lost of any existing or likely future equipment cost recovery scheme.

3. *Very high earnings levels*

Lastly, I will explore the relative advantages of CEE in the context of relatively high earnings in relation to amounts of investment. In this type of environment, the computation of allowable deductions under CEE depends on the availability of nascent tax capital, which in the highest bracket of today's tax rate schedule, can equal 65% of taxable income remaining after all deductions, other than cost recovery for equipment, have been taken.¹¹⁰ On the other hand, deductions for equipment under sections 168(k) and 179 are limited by the amounts of the investments themselves and by arbitrary fixed ceilings, respectively. As a result, they cannot exceed 50% of the amount invested plus \$100,000.

As a result of the difference in deduction computation, at very high earnings levels, CEE deductions will always exceed deductions currently available under sections 168(k) and 179 combined at every level of investment. Table 7 compares the amounts of deductions allowed by the combination of sections 168(k) and 179, to the amount of CEE deductions allowed for the same amount of investment at various levels of investment between \$200,000 and \$800,000.

Table 7: Comparative Amounts of Revenue and Tax Capital Formed by Various Equipment Cost Recovery Methods at Relatively High Earnings Levels (\$1M)

Deduct	200k Investment		400k Investment		600k Investment		800k Investment	
Allow	179/168	Cap Exp	179/168	Cap Exp	179/168	Cap Exp	179/168	Cap Exp
1 mil								
800k						600		650
600k				400			450	
400k					350			

At even higher levels of earnings, the combination of sections 168(k) and 179 deductions, will max out at a little more than 50% of the amount

¹¹⁰. At this early stage of the development of CEE, I acknowledge the need to refine and/or modify the definition of the generic term "taxable income," to better accommodate the potential policy and administrative constraints that may come into play in the future, if CEE is to be further developed.

invested. CEE deductions will max out at 65% of net taxable income.¹¹¹ For a \$20 million investment for example, the 168k/179 deduction today will equal \$10.1 million, while a CEE deduction would equal \$13 million.

VIII. SUMMARY

This article is based on three fundamental principles of a realization-based income tax system: 1) realization necessitates capitalization; 2) capitalization requires capital cost recovery; and 3) capital cost recovery should consist entirely and exclusively of already or concurrently invested capital.

Within the U.S. realization-based income tax base, nascent tax capital creation consists of the generation of nascent tax capital concurrent with the generation of pre-tax earnings during a taxpayer's taxable year. Nascent tax capital is the amount of after-tax capital that would be available if net pre-tax earnings during a taxable year were instantaneously subjected to tax, and the amount of after-tax capital generated was allowed to be immediately invested, and simultaneously expensed. Within this hypothetical economic context, these instantaneous events would occur in a manner completely consistent with the three fundamental structural principles of a realization-based income tax described above.¹¹²

111. For single individuals with taxable income greater than \$319,100, and for corporations with taxable income greater than \$18.33million.

112. Essentially, CEE allows nascent capital investment to be expensed in the same year that nascent tax capital is created, rather than waiting until the succeeding year, in which the after-tax earnings that had been taxed but not invested the year before, were then free to invest, as true tax capital. The maximum amount available to invest in that succeeding taxable year will not exceed the amount allowed to be expensed during the prior year under CEE as described in this article.

In broad strokes, a RBIT with CEE can be viewed as a specialized sub-tax base, whose general dynamics, on one hand, can be compared to those of a consumption tax base. Rather than the formula for this tax base being E minus I (Earnings minus Investment), it can be represented as E minus Cap I (Earnings minus Tax Capital Investment). Only the nascent after-tax dollars invested in equipment investment is expensed within this novel and hybrid tax base.

In equally broad strokes, CEE can also be viewed as a dynamic, repetitive application of the principles of IRC § 1001(a), the cornerstone of our RBIT. However, in this context, these principles are used to determine the net income derived from equipment investment and income production, on an ongoing basis, rather than only at the termination of the investment by sale or other disposition, in order to determine the gain or loss realized by that particular disposition. It would be interesting to explore a unified theory of CEE in the future, because of both the similarities and dissimilarities between income and consumption tax base principles it exhibits.

For example, when CFIT base and RBIT base structural principles and elements are juxtaposed against each other in Year 1, through CEE, the CFIT base expensing treatment is allowed up to the extent that the RBIT base CEE deduction

Cost recovery, under the current, underlying MACRS regime, is financially insufficient to completely restore the amount invested in equipment by taxpayers (capital or not). Although, selectively overriding this cost recovery regime, none of the current partial or limited expensing deduction provisions under sections 168(k) and/or 179, bear any relationship to the amounts of tax capital concurrently created and actually invested in expensed equipment by taxpayers. This frequently creates one of two tax base structural problems depending on the specific characteristics of a given equipment purchase: 1) the ability to recover pre-tax earnings tax-free, on one hand, or 2) the inability to recover actual invested tax capital tax-free on the other hand.

At this preliminary stage of development, I basically propose matching the amount of investment in equipment made during a taxable year against the amount of tax capital created and available at the end of that taxable year. More specifically, I propose to aggregate all investment in equipment made by a taxpayer during a taxable year, and compare it to the total amount of tax capital created from that taxpayer's net business income as of the end of that taxable year. The amount of tax capital created and available at the end of a taxable year would be determined by using the simple formula in Equation 4.¹¹³

To the extent aggregate investment in section 179 property equals, but does not exceed, the tax capital creation threshold for that year at that time, all equipment investment for the year would be allowed as an immediate deduction under section 179. To the extent tax capital is created in excess of equipment investment for that year, it would be carried over to following years, to be matched against the aggregate equipment investment that occurs in those following years. Similarly, to the extent aggregate equipment investment in a given year is made in excess of tax capital created during that year, excess non-expenseable amounts of equipment investment would be carried over to following years to be tested for deductibility against current and any cumulative tax capital created or available in those following years.

treatment takes over. *The modified CFIT treatment accounts for the investment aspect of the transaction.* At this point, modified RBIT treatment takes over. The amount of taxable income generated from the transaction from this point on is the amount by which an "amount realized" from the remaining untaxed initial earnings exceeds an "adjusted basis," as represented by the nascent tax capital, *which has not yet been recovered through any interim RBIT base cost recovery deductions.*

While an amount *equal to* the nascent tax capital creation threshold was allowed to be deducted by the CFIT base treatment of the investment, *no true tax capital was affected by that treatment, in RBIT base terms.* At that moment, the remaining nascent tax capital still had significance for determining the RBIT base consequences of the Year 1 event. Thus, the net amount of gross income to be reported under our RBIT base, is the excess of the net amount of earnings yet to be realized from the initial earnings, after reduction for the CFIT base treatment (as implemented and limited by the CEE deduction.

113. $Cap = E(1 - t)$. Tax capital equals nascent after-tax earnings.

Administering CEE would create at least two areas of possible administrative complexity, but it would also create two areas of possible administrative simplicity. Aggregating expensing deduction computations into CEE would greatly simplify both the administration and compliance aspects of equipment acquisition, utilization and disposition. However, it would be necessary to supply rules to deal with some foreseeable horizontal and vertical aspects of this scheduled aggregation. However, as this article demonstrated, debt-financed tax arbitrage would not necessarily be a serious problem in the context of aggregate CEE.¹¹⁴ Indeed, normative CEE is likely to discourage, rather than encourage, debt financing of equipment investment that is subject to CEE, because inflating the amount of investment through debt financing increases the likelihood of creating non-deductible investment in equipment.

Finally, Section VII of this article demonstrated that, compared to all other forms of capital cost recovery for equipment now employed in the U.S., normative CEE produces the most tax capital formation bang for every buck of lost tax revenue that it causes. It accomplishes this regardless of the level of a taxpayer's earnings relative to the amount of a taxpayer's investment. In addition, it subjects the invested income to a 12.5% effective tax rate, which is similar to the 15% nominal tax rate now imposed on some net capital gain and qualified dividend income.¹¹⁵

CONCLUSION

Overall, CEE is a tax-sustaining, economic capital-generating engine. It produces more tax capital for every dollar of revenue lost than any existing equipment expensing or cost recovery method. And, since we have not moved to full expensing yet, it is the best engine for both revenue sustenance and capital formation that we can have during this transition period of unknown duration today. Furthermore, studies have shown that investment in equipment, in particular, is directly related to job creation, which makes this sector of the economy a proven job-creation source.¹¹⁶ Therefore, optimizing capital

114. Primarily because interest deductions will only be able to offset a small amount of pre-tax earnings, and by doing so, they will reduce both the tax capital creation threshold, as well as allowable expensing deductions. See discussion *supra* section VI.B.2.

115. See IRC § 1(h).

116. See Global Insight, Advisory Services Group, *The Economic Contribution of The Equipment Leasing Industry to the U.S. Economy*, (Equipment Leasing Association), Mar. 1, 2004 (measuring the contribution of the equipment leasing industry on the U.S. economy, asserting that over the 1997-2002 period, the Equipment Leasing Industry produced between \$100 billion - \$300 billion additional real GDP, \$227 billion - \$229 billion additional real equipment investment, and created between 3 million - 5 million jobs; further estimating that the higher level of sustainable jobs attributable to the leasing industry accounts for roughly \$375 billion of real personal

formation and reinvestment on an ongoing tax-sensitive basis through CEE should increase investment in equipment, as well as create more jobs associated with those equipment investments.¹¹⁷

CEE has tremendous efficacy as a transition sub-tax base structure for an important sector of our economy. How long this specialized sub-tax base would endure is open to question since the federal government is engaged in an ongoing major tax reform process. Nonetheless, CEE can create a stable transitional platform, from which a wide variety of subsequent tax reform options can be more easily and efficiently pursued in the near *or* distant future. Finally, CEE can likely be implemented without the immediate serious administrative and fiscal problems that would likely be caused by other transition platforms.

income annually, of which \$255 billion is concentrated in the leasing industry and all related supplier industries).

See also, J. Bradford De Long, Machinery Investment as a Key to American Growth, in *Tools For American Workers: The Role of Machinery and Equipment in Economic Growth 1* (American Council for Capital Formation Center for Policy Research, Dec. 1992) (concluding that (1) any nation wishing to be among the world's industrial leaders should shape its tax preferences and industrial policies in order to encourage the installation and use of machinery because policies that increase machinery investment carry benefits that far outweigh costs; (2) American workers are the highest paid workers in the world because of the U.S.'s position as a capital- and machinery-intensive economy; and (3) low US national savings and net machinery investment rates are concerning because low savings leads to low capital stock of machinery and structures with which employees work, and without machinery, the U.S. will lack new technology, leaving workers to fall behind in learning new technologies efficiently).

¹¹⁷ Note that both computer hardware and software qualify as § 179 property. See § 179(d)(1)(A).