How to Tax the House that Jack Built

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INTRODUCTION

The appropriate income tax treatment of taxpayers who use capital on their own behalf raises difficult technical and conceptual issues. These issues relate to two, sometimes competing, policy goals of our federal income tax system: measuring income accurately and stimulating capital formation. The purpose of this article is to provide an in-depth exploration of these issues and to determine how those who use capital on their own behalf should be treated under a well-designed income tax.

Absent a legislative mandate to the contrary, a well-designed income tax should measure income as accurately as is administratively possible. In this way, the tax system will not unintentionally create biases in favor of (or against) any particular type of economic behavior or group of taxpayers. Two major issues of income measurement arise when a taxpayer uses capital on its own behalf. They are: (1) When to tax the economic income generated by the use of the capital, and (2) what costs to capitalize into the basis (or cost of goods sold) of the asset constructed.

There is little doubt that the use of capital on one's own behalf generates economic income, akin to the imputed income generated by consumer durables. If this economic income is not included in the tax base as it accrues, eventually, unlike imputed income from consumer durables, it will be reflected in the tax base through a lower basis in the assets produced. Under an ideal income tax system, the income is properly taxed as it accrues. This presents serious measurement problems because the taxpayer has not entered into a market transaction and there is no ready measure of the amount of income produced. This article takes the position that these measurement problems can be overcome and that the advantages of including the income as it accrues outweigh the administrative burdens.

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The second issue with respect to income measurement concerns determination of the costs to be capitalized. In a tax system designed only to raise revenue, rather than to stimulate capital formation, the resolution of this issue is relatively straightforward: A taxpayer who engages in self-construction or produces inventory must capitalize all of its costs into the asset produced. Two of these costs deserve special note. First, when a taxpayer uses capital on its own behalf, the economic income\(^1\) generated by the capital is properly treated as a cost of the constructed asset. The taxpayer should be treated just as if it rented the capital from itself; viewed this way, the rent paid clearly would be a capitalized cost. The second construction cost deserving special consideration is construction-related depreciation incurred on any equipment used during self-construction. It is well settled that this is just as much a cost of construction as an out-of-pocket expense.\(^2\)

The analysis is made significantly more complicated by the reality that our tax system is not used exclusively to raise revenue, but is also used to stimulate capital investment. This alternative goal was dramatically evidenced by the enactment in 1981 of the Accelerated Cost Recovery System (ACRS).\(^3\) In contrast to its predecessors, ACRS does not attempt to measure income accurately on an annual basis. Under this system, a taxpayer’s investment in a depreciable asset is recovered over an arbitrarily shortened period bearing little relationship to the asset’s useful life. Although the changes made by the Tax Reform Act of 1986\(^4\) considerably scaled back the use of ACRS to stimulate capital formation, it is clear that our cost recovery system does not provide a deduction for what we have traditionally thought of as depreciation. The first issue raised is whether the enactment of ACRS (and the abandonment of traditional depreciation) should affect the amount of construction-related depreciation that must be capitalized when the taxpayer uses depreciable capital for self-construction or to produce inventories.

This article considers three possible approaches to this issue: (1) capitalize the entire ACRS deduction as if ACRS were simply a very accelerated method of depreciation; (2) require no construction-related depreciation to be capitalized, treating ACRS as an arbitrary method of cost recovery totally unrelated to depreciation; and (3) disregard the amount of the deduction determined under ACRS, but require capitali-

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\(^1\) By economic income, we mean net income, that is, gross economic rent less all costs, including depreciation.


\(^3\) Pub. L. No. 97-34, § 201(a), 95 Stat. 172.

zation of all economic depreciation\(^5\) incurred during self-construction. In evaluating these alternatives, we use both the legislative goals of ACRS and parity among taxpayers as the appropriate criteria. We conclude that the third alternative—capitalizing economic depreciation is far superior to the other two.

Use of the tax system to stimulate capital formation raises an additional issue: Should a manufacturer or builder who has invested in capital that is subsidized be entitled to enjoy the subsidy while using the capital on its own behalf? We believe it should if the tax system requires inclusion and capitalization of the economic income generated by capital, lest those who choose to self-construct be prejudiced.

Suppose, however, as under current law, the economic income is not included in the tax base as it accrues. Is it then still appropriate to permit one who uses capital on its own behalf to enjoy the subsidy? Arguably not, on the theory, among others, that the denial of the benefit is a surrogate for taxing the excluded economic income. We maintain, however, that denying the subsidy aspects of ACRS in a rational way would be quite complex and would not generally approximate the benefits of the exclusion. We therefore conclude that denying the benefits of ACRS is a poor surrogate for exclusion and, if exclusion is a serious problem, the more effective and less complex solution is simply to require inclusion of the income.

Although this article focuses almost exclusively on a taxpayer that constructs a facility for its own use, the principles and analysis apply equally to any situation in which a taxpayer uses capital on its own behalf, as, for example, in the manufacture of inventories. We chose self-construction because it is relatively simple and illustrates well all of the issues raised. Furthermore, the stakes are higher in this context than in others because of questions of timing.

I. Economic Income

A. The Self-Constructor

When economic income arises outside of a market transaction, it is often referred to as imputed income. Imputed income has been defined "as a flow of satisfactions from durable goods owned and used by the taxpayer, or from goods and services arising out of the personal exertions of the taxpayer on his own behalf."\(^6\) Most tax theorists would tax im-

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5 Economic depreciation is the actual decline in the value of an asset during the period in which it is used. See Samuelson, Tax Deductibility of Economic Depreciation to Insure Invariant Variations, 72 J. Pol. Econ. 604 (1964).

puted income associated with consumption as it accrues, since there will never be a market transaction that will reflect that income. In a sense, it is a "now or never" situation.

Taxpayers can also generate economic income outside a market transaction in a variety of commercial settings. One of these is self-construction. Economic income is generated as the self-constructor uses his capital on his own behalf. Under current law this income is not currently includible in the tax base, but generally will be reflected in the value of the constructed property. In contrast with imputed income associated with consumption, if this economic income is not taken into account when it accrues, it generally will be reflected, directly or indirectly, in one or more subsequent market transactions. Thus, the issue relating to the self-constructor's economic income, unlike that of the consumer's imputed income, is not whether the income should be taxed, but when. The tax system has several options. These include:

(1) **Accrual Option**: Require the economic income to be included while the self-constructor's capital is deployed. This rule is the equivalent of requiring the self-constructor to accrue rental income to itself for the use of its own capital. This treatment parallels closely the treatment the self-constructor would have been accorded if it had invested its capital in the marketplace and had received an annual return on the investment.

(2) **Realization Option**: Treat the self-constructor as having engaged in a taxable transaction when the newly constructed asset is completed and placed in service. This option would comport, at least in a rough way, with the concept of realization. All of the economic income from the self-construction would be taken into account at one time.

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7 See, for example, R. Haig, The Concept of Income—Economic and Legal Aspects, The Federal Income Tax (1921), reprinted in Readings in Economics of Taxation (Musgrave & Shoup eds. 1959); W. Vickrey, Agenda for Progressive Taxation 17-52 (1947). In deciding whether specific examples of imputed income should be included in the tax base, theorists generally use four criteria: (1) Can the income be easily valued? (2) Is the income significant from a revenue standpoint? (3) Is the audit and enforcement burden on the Internal Revenue Service manageable? (4) Does the imputed income arise from economic activity or from the use of leisure time? For a discussion of these criteria, see Haskell & Kauffman, Taxation of Imputed Income, 17 Nat'l Tax J. 232 (1964).

8 Where the taxpayer adds value to an existing asset, for example, by building an addition to a residence, a subsequent sale could trigger the income.

9 To the extent the self-constructor performs services in constructing the facility, this cost also should be included in income and capitalized. The scope of this article is limited to the use of capital.

10 One situation in which the income would never be reflected in the tax base is where the self-constructor dies after self-construction and § 1014 awards a fair market value basis to his estate or heirs.
(3) **Current Law Option:** As under current law, reflect the income in the tax base over time as the newly constructed asset produces income in the marketplace. Unlike a purchaser of a similar asset, the self-constructor's basis does not reflect the profit element normally charged by an independent contractor and therefore generally would be lower than the basis of the purchaser. The self-constructor's lower basis results in lower cost recovery deductions and correspondingly higher taxable income over time. In effect, the economic income generated by self-construction is includible in the tax base over the life of the constructed asset.

As is demonstrated below, both the accrual and the realization options are far superior to the current law option, and only the accrual option can create parity in all situations between those who self-construct and those who purchase.

To appreciate how poorly the current law option works, consider the following oversimplified situation:

*B* Corp. is in the business of constructing facilities, which take exactly one year to construct and have a recovery period of 31.5 years for tax purposes. *B* has $120,000 of its capital invested in its construction business. *P* Corp. also has $120,000 in capital but its capital is invested in AAA taxable bonds that yield 10% annually. *B* and *P* both pay tax at a 30% marginal rate and are otherwise similarly situated. As alternatives, assume that *B* builds a facility for *P*, and that *B* builds the same facility for itself.

If *B* builds the facility for *P*, *B* normally will charge *P* an amount equal to all of *B*’s out-of-pocket expenses, depreciation on *B*’s equipment, and *B*’s profit for building the facility. This last element of cost is principally compensation for the use of *B*’s capital. Since *B* could have invested its capital at the rate of 10% per year in relatively risk-free bonds, it is reasonable to assume that *B* would charge *P*, in addition to all other amounts, at least $12,000 for the use of its capital. This amount would be included in *B*’s income and reflected in *P*’s basis in the facility. *P* will also have $12,000 of income from the bonds. Thus, on our limited facts, *P* has $12,000 of taxable income from the bonds and an additional

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11 For example, if a taxpayer uses equipment to build a factory where widgets are manufactured, the selling price of the widgets would reflect the cost of the warehouse which would reflect the cost of the equipment used to build it. The same would hold true if the taxpayer ultimately sold services generated in the building.

12 As discussed below, this option is the equivalent of allowing a self-constructor to expense this portion of its cost in the facility. See note 61.

13 This is the general recovery period of nonresidential real property. IRC § 168(c).

14 Technically, this $12,000 constitutes part of *B*’s amount realized. IRC § 1001(b).

15 IRC § 1012.
basis of $12,000 in the facility which $P$ will be able to recover over 31.5 years.

If $B$ builds the facility for its own use, a well-designed system that is neutral with respect to purchasers and builders would place $B$ and $P$ in the same position. Under the current law option, however, the economic income generated by self-construction, is neither includable in $B$'s income\(^\text{16}\) nor reflected in $B$'s cost in the new facility. Economically, this has precisely the same effect as requiring $B$ to include the economic income generated by the self-construction in the tax base and, concurrently, allowing $B$ to "expense" this element of its cost in the facility.

The current law option obviously creates a bias in favor of self-constructors. The magnitude of this bias can be quantified by comparing the value of the tax benefits received by $B$ and $P$ individually for that element of the cost of the facility that represents the use of capital. $P$ must pay $B$ $12,000 after-tax dollars for this element of cost. $P$ will recover this $12,000 (along with the rest of its investment) through ratable deductions over 31.5 years. The present value of the tax benefits from these deductions is approximately $1,507.\(^\text{17}\) $B$, on the other hand, by essentially being allowed to expense this portion of its cost in the facility is entitled to the present tax benefit of a $12,000 deduction, or $3,600.\(^\text{18}\) If

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\(^\text{16}\) There is no specific statutory authority for this proposition. See Morris v. Commissioner, 9 B.T.A. 1273, 1278 (1928), in which the court refused to tax a farmer on the value of garden produce he consumed. The court also noted that if the produce were to be taxed, it would follow that the rental value of the home, the services of his family, and the value of the power derived from farm animals would have to be taxed. See also Nowland v. Commissioner, 244 F.2d 450 (4th Cir. 1957); Miller v. Commissioner, 34 TCM (CCH) 37 (1975); Rink v. Commissioner, 51 T.C. 746 (1969).

Presumably, Congress has the power under the sixteenth amendment to provide for the taxation of imputed income. For a discussion of the constitutional meaning of income, see Wright, The Effect of the Source of Realized Benefits upon the Supreme Court's Concept of Taxable Receipts, 8 Stan. L. Rev. 164 (1956). In dicta in an early income tax case, the Supreme Court surmised that the taxation of imputed income would be unconstitutional. Helvering v. Independent Life Ins. Co., 292 U.S. 371 (1934). After Commissioner v. Glenshaw Glass Co., 348 U.S. 426 (1955), in which the Court said the intention was to tax "all gains except those specifically exempted," and eliminated an earlier stringent test applied in Independent Life Insurance, the constitutionality of the taxation of imputed income no longer seems in doubt. See Pechman, Erosion of the Individual Income Tax, 10 Nat'l Tax J. 1 (1957). For a general discussion of the constitutionality of imputed income, see Note, The Constitutionality of the Taxation of Imputed Income, 9 Val. U.L. Rev. 221 (1974).

\(^\text{17}\) The present value of these deductions depends upon the discount rate used. The higher the rate used, the lower the present value. The appropriate discount rate is the taxpayer's after-tax rate of return. On the assumption that this rate is 7% (that is, 10% before-tax rate of return, less a tax of 30%), the present value of the deductions is $1,507. To the extent a higher discount rate is used, the value of the deductions is reduced. Hereafter, we shall assume an after-tax rate of return of 7%.

\(^\text{18}\) Since $B$ is in the 30% bracket, the value of a deduction is equal to 30% of the amount of that deduction.
parity is desired, the current law option is a poor choice. If we assume that all the construction occurs during the same taxable year, either the accrual or the realization option works well. Under either option, $B$ has $12,000 of taxable income and this amount is treated as part of the cost of the new facility. This will result in $B$ being placed in precisely the same position as $P$.

If the construction spans more than one taxable year, however, a difference in timing emerges. Under the accrual option, the income is includible as the capital is used, while under the realization option, the income is not included until the facility is placed in service.

In evaluating which of these two options is preferable, another issue of parity should be considered: A self-constructor should be treated in the same fashion as an independent contractor who is constructing for someone else. To illustrate, consider the following example: $B_1$ uses equipment to construct a facility for its own use. The facility takes exactly two years to construct. $B_2$, acting as an independent contractor, constructs a similar facility to be purchased by $P$. As before, it is reasonable to assume that $B_2$ would charge $P$, in addition to all other amounts, approximately $24,000 for the use of its capital for two years. Under current law, $B_2$ would include the $24,000 in income upon sale of the asset to $P$ at the end of year two. Under the accrual option, $B_1$ would have $12,000 of income each year as the economic income generated by the self-construction accrues. If $B_1$ must include its income annually and $B_2$ is al-

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19 One might argue that this rule is nevertheless appropriate because $B$ has not engaged in a market transaction. If $B$ had used its capital to construct a facility for an unrelated party, such as $P$, $B$ would have generated taxable income. Similarly, if $B$ had invested this amount of capital in bonds at 10% interest, $B$ would have received income of $12,000 for the year. Should $B$ be able to avoid being taxed on the income from its capital simply by using it on its own behalf? Since this lost profit, or imputed income, is both an accession to wealth and a real economic cost of self-construction, tax theorists generally answer this question in the negative.

Almost all of the literature is devoted to a discussion of the use of durable goods for a taxpayer’s own personal consumption (see, for example, Marsh, note 6, at 521-26, R. Haig, note 7, at 72-73, and W. Vickrey, note 7, at 18-20, 24-26). However, Treasury Dep’t, Blueprints for Basic Tax Reform, 66, 67 (1977), deals with the income generated by a taxpayer’s utilization of capital to build assets for use in a business and concludes the income should be taxed as it accrues. Similarly, see S. Surrey, P. McDaniel, H. Ault & S. Koppelman, Federal Income Taxation, Cases and Materials 493 (1986).

Under current law the income is not taxable. Therefore, the temporary regulations under the uniform capitalization rules of § 263A (Temp. Reg. § 1.263A-1T(a)(6)(i)) do not require the inclusion (or capitalization) of such income.

20 This is not the precise amount that $B_2$ would charge for the use of its capital for two reasons. First, it does not take into account the effect of compounding. For example, at the end of year one, $B_2$ will have earned approximately $12,000 for the use of its capital. If $B_2$ is not paid this amount at that time, $B_2$ will also expect a return on this newly accumulated capital. Second, the $24,000 does not take into account any depreciation in the value of $B_2$’s equipment. As $B_2$’s equipment depreciates in value, $B_2$ will require less return on its capital.

21 See generally IRC § 460.
lowed to defer inclusion until sale, the system tilts against those who self-
construct.

One might eliminate the bias by adopting the second option and not tax-
ing $B_1$ until self-construction is completed and the new asset is placed in service. In effect, $B_1$ would trigger the income by engaging in a con-
structive sale to itself at fair market value. While this would create parity between $B_1$, the self-constructor, and $B_2$, who constructs for others, there would still be a lack of parity between $B_1$ and $P$, the pur-
chaser, who will report the income from the bonds on an annual basis. As noted above, this bias can be eliminated only if $B_1$ reports the lost profit or opportunity cost on an annual basis. Although $B_1$ then would suffer some inequity vis-a-vis $B_2$ who constructs for others and delays income until completion of the project, it is less inequitable than not tax-
ing $B_1$, the self-constructor. The best alternative would be to tax not only $B_1$ and $P$, but also $B_2$ on the use of their capital on an annual basis if the construction period exceeds a year, a direction in which Congress seems to be moving.

Although requiring self-constructors to include the economic income in the tax base on an annual basis is theoretically called for, measuring the income is not without its difficulties. These difficulties, however, are far from insurmountable. For example, this income might be measured by requiring those who self-construct to establish a special account to record the amount of capital devoted to self-construction. At the end of each accounting period, a guideline rate of return would be imputed to

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22 An analogy is found in the temporary regulations issued for the uniform capitalization rules, which require a taxpayer to capitalize all inventory production costs. Where an item is provided by a related person at a bargain price, the taxpayer is treated as if it purchased the item for the arm's length charge. The related person includes that amount in income and the taxpayer capitalizes the imputed purchase price. Temp. Reg. § 1.263A-1T(b)(2)(vi)(A).

23 In addition to the problems discussed immediately above, this solution is complex in that the fair market value of the facility would have to be determined. Where $B_1$ constructs a facility for its own use, it may not have an obvious market value. For purposes of this exam-
ple, we assume that the value includes $B_1$'s $24,000 capital cost of using its construction equipment.

24 Under current law, such a constructive sale might not always create parity. If $B_2$ sold the facility on the installment method to $P$, $B_2$ might be able to defer reporting the income until actual receipt, while $B_1$ would have immediate income on the constructive sale. See IRC § 453.

25 $B_2$ would receive a basis increase in the constructed asset which would offset a corre-
sponding amount of purchase price received upon completion and sale.

26 This is an arbitrary period. Anything longer than a year creates the inequity described above. However, the complexity of taxing the income produced by the capital used in a 15-month project, for example, may not be worth the additional equity.

27 The Tax Reform Act of 1986 tightened the rules for long-term contracts by requiring that 70% of the items from such contracts be reported under the percentage of completion method. IRC § 460(a).

28 The account would include all capital used in the construction project, including allocable working capital.
the average balance in this account.\textsuperscript{29} This imputed income would then be included in the tax base and added to the cost of the constructed asset.\textsuperscript{30} To illustrate, if the guideline rate of return were 10% compounded annually, \( B \) would report $12,000 of imputed income with respect to its equipment and add this amount to the basis of the new facility. Notice that this places \( B_1, \ B_2, \) and \( P \) in precisely the same position.\textsuperscript{31} While this method does not provide individualized measurement of \( B \)'s imputed income, it does (assuming \( B \) could otherwise have utilized the capital) objectively determine a minimum value that \( B \) places on the use of the equipment.\textsuperscript{32}

If the choice is between measuring this type of income indirectly by use of a guideline rate of return and not taxing the imputed income at all, the former is clearly more rational and will result in more accurate income measurement in most cases.\textsuperscript{33} For those cases in which the guideline rate of return overstates the income, the taxpayer would be afforded some relief by virtue of larger cost recovery deductions. Where the rate

\textsuperscript{29} The guideline rate of return should represent a modest rate of return. One possibility would be a rate determined at periodic intervals by the Treasury based on market rates of interest, such as the "applicable Federal rate." This method is already used for other purposes. See, for example, IRC §§ 7872 and 1274. See also IRC § 809, which uses an "imputed earnings rate." Marsh, note 6, at 523, determined the value of imputed income for consumer durables by using a similar method. He referred to this as imputed interest. For a discussion of this and other methods of determining the amount of imputed income, see Vickrey, note 7, at 20, 21.

\textsuperscript{30} This is the method suggested by Treasury Dep't, Blueprints for Basic Tax Reform 66, 67 (1977).

\textsuperscript{31} In order that \( B_1 \) and \( B_2 \) be in precisely the same position as \( P \), each must also capitalize the depreciation on the equipment used to construct the facility since \( P \)'s bonds do not depreciate. Commissioner v. Idaho Power Co., 418 U.S. 1 (1974). How that depreciation is to be calculated is the subject of the next section.

Another way to view \( B_1 \) is as if it had rented the equipment to itself. Presumably, the fair rental value charged by \( B_1 \), the lessor, would reflect depreciation on the equipment and profit for the use of its capital. Assuming one year's depreciation on the equipment equalled $14,000, \( B_1 \) would charge $26,000 in rent. \( B_1 \), as lessor, would receive $26,000 of income and have a $14,000 depreciation deduction, or $12,000 net taxable income. \( B_1 \), as lessee, would then capitalize the $26,000 rental payment as part of the cost of constructing the facility. The $26,000 is the equivalent of capitalizing the depreciation ($14,000) and imputing income on capital at the guideline rate of return ($12,000).

\textsuperscript{32} One often-asserted objection to the taxation of imputed income is the difficulty of valuation. This obstacle is more real in the case of services performed by the taxpayer for himself than in the use of his own property. In the former case, a lack of an objective market price for many services is thought to make taxation of the services administratively infeasible and politically unacceptable. See Halperin, Business Deductions for Personal Living Expenses: A Uniform Approach to an Unsolved Problem, 122 U. Pa. L. Rev. 859, 882 (1974). It is much less difficult to approximate the return from the use of capital.

\textsuperscript{33} Presumably this was the question before Congress when it opted to use a guideline rate of return in §§ 1272, 1274 and 7872. See Land, Contingent Payments and the Time Value of Money, 40 Tax Law. 237 (1987), which discusses the problems caused when the tax system uses a null hypothesis to cope with contingencies.
undertakes the income, adjustment is made through lower cost recovery deductions.34

B. Extending the Analysis

Although it is beyond the scope of this article, the above analysis implicitly argues for imposing a guideline rate of return on other capital investments which generate economic income not currently includable in the tax base.35 There are certainly many types of capital investments similar to self-construction for which the imposition of a guideline rate of return might work quite well, although there may be collateral consequences not present in self-construction. However, there are other capital investments for which a different approach would be more appropriate.

We hypothesize that the type of investment for which the application of this rule would be appropriate is one with two characteristics: (1) economic income which does not lend itself to direct measurement so that imposing a guideline rate of return on capital is a reasonable way to approximate this income, and (2) economic income which must be included (and capitalized) in order to maintain parity. An example of such a capital investment which would lend itself to this rule would be land held for investment. Consider a land developer who buys a large tract of land for $1 million cash, planning to hold the land for future development. If we assume a 10% rate of return, each year the land lies fallow the developer incurs a foreseeable opportunity cost of $100,000 on the $1 million investment. It is difficult to distinguish the developer from the self-constructor on an analytical level: The investment in the land generates economic income not includable in the base and the amount of that income is difficult to measure directly. The inclusion and capitalization of the income is the only way to create parity between a taxpayer who

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34 These adjustments are not perfect in that the adjustment for understatement ignores the time value of the delay in taxing the income and the overstatement ignores the decreased value of the time-delayed deduction. We are persuaded, however, that the distortion caused by using the "wrong" guideline rate of return is much smaller than the distortion due to not taxing the income at all. Furthermore, an arbitrary rule provides certainty and eliminates the possibility of litigation with the Service over the actual market rate, but offers little opportunity for tax-motivated behavior. See Land, note 33 at p. 283.

35 Self-construction is a particularly good candidate because Congress arguably has approved taxing the return on capital used in self-construction and similar activities. Section 263A(f), which requires capitalization of interest in connection with construction, has the effect of taxing the economic income generated by the use of the constructor's assets. For example, assume X has $100 of assets which produce $10 of income. X purchases another asset for $100 to be used in his business with $100 of debt on which he pays $10 of interest. Used in self-construction, the asset produces $10 of economic income. If the economic income were taxed and X had a deduction for interest, X would have $10 net income. Alternatively, Congress could choose to deny the interest deduction and not tax the economic income, and X would also have $10 of net income.
holds land for future development and one who purchases land to develop immediately.\textsuperscript{36}

There are other capital investments for which imposing a guideline rate of return would not be the best approach. Consider, for example, an investor who acquires a share of stock for $100 which is not currently paying an annual dividend (or, in the alternative, paying a current dividend but at a rate well below the market rate of return). If we assume a market rate of return of 10%, it is clear that the market anticipates that the value of the share of stock will be approximately $110 at year end.\textsuperscript{37} Imposing the guideline rate of return on such an investment would require the inclusion and capitalization of $10 (or, in the case of the low-paying dividend, the difference between $10 and what is actually paid). Although we would not oppose the extension of the suggested rule to such investments, there may be better alternatives. In contrast to self-construction, if the stock is marketable, a mark-to-market system would be preferable because it would reflect the actual increase or decrease in the value of the stock during a given period.

In sum, except for those capital investments that are relatively easy to value, we believe that imposing a guideline rate of return on a whole range of capital investments is a promising thesis.

II. Construction Related Depreciation

Depreciation—the wear and tear on a taxpayer's assets—has long been recognized as a cost of earning income and is generally deductible.\textsuperscript{38} In a well-designed tax system, however, "construction related depreciation," that is, depreciation incurred on equipment used to construct a capital

\textsuperscript{36} The type of parity described in the above paragraph is not the only desirable parity. Neutrality among all investments is generally thought to be appropriate. Under current law, the investment in the land is obviously favored as compared with self-construction. Parity among investments would require the extension of § 263A and a rule similar to the one we have suggested.

\textsuperscript{37} In the case of the share of stock paying a dividend at a percentage rate below market, the value of the share plus the amount of the dividend (adjusted to year end values) is expected to equal $110.

\textsuperscript{38} The United States income tax laws have provided for a depreciation deduction since 1909, in recognition that the physical consumption of an asset during a given period is a true cost of earning the income during that period. Tariff Act of 1909, Ch. 6, § 38, 36 Stat. 11, 113. The earliest federal income tax statute was enacted in 1861 and did not provide for a depreciation allowance. Similarly, the tax laws enacted in 1862, 1864, 1865, 1867, and 1870 were silent as to depreciation, while the Act of August 27, 1894 disallowed deductions with respect to capital expenditures. The 1909 Act permitted "a reasonable allowance for the depreciation of property, if any." Ch. 6, § 38, 36 Stat. at 113. For a thorough and detailed history of both financial and tax depreciation practices, see Lischer, Depreciation Policy: Whither Thou Goest, 32 Sw. L.J. 545 (1978).
asset, must be capitalized along with all other costs of construction, and made a part of the cost of the newly constructed asset. Suppose, however, that in lieu of a depreciation allowance, Congress intentionally adopts cost recovery provisions specifically designed to stimulate investment, not to measure the cost of using the underlying asset. How much, if any, construction related depreciation should be capitalized?

This is not an abstract academic question. Prior to 1981, our federal income tax system permitted an allowance for depreciation of property that was meant to cover the "the loss in value that arises from exhaustion, wear and tear, or obsolescence out of the uses to which the property is put." In 1981, however, Congress enacted ACRS to replace the more traditional depreciation system. Under ACRS, taxpayers are permitted to recover their investments over arbitrary periods, unrelated to (and shorter than) the useful lives of the underlying property. ACRS was intended to accelerate recovery of investment in order to stimulate economic growth. Cost recovery deductions are greater than those to which one would be entitled under a system that calls for economic depreciation. Although Congress revised ACRS in 1986 to provide

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39 In this context, capital asset is intended to mean any asset with a useful life that extends substantially beyond the end of the taxable year. This includes the cost of acquisition, construction, or erection of buildings, machinery, equipment, furniture, fixtures, and similar property. Reg. § 1.263(a)-2(a).

40 Until 1974, it was unclear whether the limitations of § 263 applied to depreciation on equipment used by a taxpayer to construct the taxpayer's own capital facilities. Although taxpayers had argued that depreciation was not an "amount paid out" within the meaning of § 263 and, therefore, should not be subject to capitalization, the Supreme Court disagreed, and held that construction related depreciation must be capitalized. Commissioner v. Idaho Power Co., 418 U.S. 1 (1974). The Court's rationale was based upon the fundamental objective of depreciation policy—to measure income accurately. The Court held that the depreciation allowance was a proxy for the cost of using the underlying asset during a given period and, like all other costs incurred in the acquisition or construction of a capital asset, was subject to capitalization.

41 Reg. 31 (1909); T.D. 1571, 12 Treas. Dec. Int. Rev. 131, 140 (1909). The Supreme Court has further explained that the aggregate of these yearly allowances would, at the end of the useful life of the asset, equal the original cost of the asset, and the deduction in any one year was supposed to approximate the actual decline in value of the asset during that particular taxable year. United States v. Ludey, 274 U.S. 295, 300-301 (1927).

42 Pub. L. No. 97-34, § 201(a), 95 Stat. 172.


44 Congress had previously used the depreciation provisions as an instrument of fiscal policy designed to stimulate capital formation. See, for example, Internal Revenue Code of 1954, Pub. L. No. 591, 68A Stat. 3. One of the stated justifications for the institution of accelerated methods of depreciation was to stimulate capital investment and economic growth. S. Rep. No. 1622, 83d Cong., 2d Sess. (1954); accord H.R. Rep. No. 1337, 83d Cong., 2d Sess. (1954). By concentrating the bulk of the deductions in the early years of service, these provisions were
longer useful lives and less accelerated recovery methods, unlike historical
depreciation systems.\textsuperscript{45} ACRS still makes no attempt to measure the
cost of using an asset on an annual basis.\textsuperscript{46}

In deciding how much construction related depreciation should be
capitalized, at least three possible alternatives should be considered, all
of which are plausible under the current language of the Code.\textsuperscript{47}

(1) \textit{No Capitalization:} If ACRS is viewed as an arbitrary method
of cost recovery designed solely to permit an investor to recover its

\begin{quote}
“anticipated to have far-reaching economic effects. . . . [L]iberalized depreciation policies
should assist modernization and expansion of industrial capacity, with resulting economic
growth, increased production, and a higher standard of living.”
\end{quote}

\textsuperscript{45} Before 1981, Congress had adopted accelerated methods believing they would result in a
more accurate computation of the cost of using an asset to generate income. Indeed, the
House Report accompanying the 1954 bill states that an accelerated method of depreciation,
such as the declining balance method, “results in a timing of allowances more in accord with
presented to Congress overwhelmingly indicated that economic depreciation occurred in larger
amounts in the initial years of asset use. See Davidson, Accelerated Depreciation, 2 House
Comm. on Ways and Means, 86th Cong., 1st Sess., Tax Revision Compendium 807, 808
(Comm. Print 1959); J. Ryan, Current Depreciation Allowances 15 (1963); G. Terborgh, Real-

\textsuperscript{46} The current version of § 168, which was adopted as part of the Tax Reform Act of 1986,
is generally effective for property placed in service after December 31, 1986.

The cost of property (other than real estate) is recovered over a 3-, 5-, 7-, 10-, 15-, or 20-year
period (IRC § 168(c)) depending on its class life and is computed without regard to salvage
value. IRC § 168(b)(4). Depreciation for property in the 3-, 5-, 7-, and 10-year classes is
calculated using the 200% declining balance method, switching to the straight line method
when it yields a larger allowance. IRC § 168(b)(1). The depreciation method for 15-year and
20-year property is 150% declining balance with a switch to straight line. IRC § 168(b)(2).
The taxpayer may, however, elect to use either the straight line method or 150% declining
balance (with a switch to straight line) over the applicable recovery period. IRC § 168(b)(2),
(b)(3), (b)(5). In most cases, a half-year convention applies. IRC § 168(d)(1).

For real estate, the recovery period is 27.5 years for residential rental property and 31.5
years for nonresidential real property. IRC § 168(c). The straight line method is used with a
mid-month convention. IRC § 168(d)(2).

\textsuperscript{47} The Supreme Court has held that, based upon statutory directives, in cases where §§ 167
263 applies to all “costs” incurred in acquiring long-lived assets. This same directive
would also give priority to § 263 or § 263A over § 168 to the extent that the deductions under
§ 168 represent those costs. The question is whether an ACRS deduction, or a portion thereof,
is properly viewed as a cost of using the underlying asset.

\textsuperscript{48} The statutory language can be read to support not requiring any capitalization of con-
struction related depreciation. Since § 263 applies only to the costs of acquiring or construct-
ing long-lived assets, and since the deductions under ACRS are arbitrary amounts that bear no
relationship to the cost of using the underlying assets (see text accompanying notes 62-66),
§§ 263 and 168 are mutually exclusive. Since there is no overlap, the statutory directives are
not called into play and therefore, the taxpayer should be entitled to his full ACRS deduction.
Furthermore, since there is no statutory authority to bifurcate an ACRS deduction, bifurca-
tion must be based on the theory that economic depreciation is a subset of ACRS. Since
ACRS deductions are determined without reference to those factors that are used to determine
depreciation, however, the amount of an ACRS deduction for a given period and the amount
of depreciation for that period can also be viewed as totally unrelated.
original cost in an asset, then, arguably, since an ACRS deduction bears no relationship to the cost of using the asset, the deduction should not be subject to § 263 and should be completely deductible. Under this alternative, no construction related depreciation would be capitalized.

(2) Full Capitalization: If ACRS is viewed as no more than an accelerated method of depreciation, arguably, the cost recovery deduction prescribed under § 168 should be treated as a proxy for the cost of using the asset. Under this rule, where a builder uses equipment exclusively for self-construction during any year within the statutory recovery period, the entire ACRS allowance would be capitalized; if the self-construction occurs thereafter, no capitalization would be required. This is the rule chosen by the Treasury in temporary regulations promulgated under § 263A requiring capitalization of production costs.

The statutory argument for full capitalization is based on the language of § 167(a) which tells us that an ACRS deduction shall be deemed to be a reasonable allowance for depreciation. Since depreciation has been defined as an accounting device used to determine the cost of using an asset, the entire ACRS deduction could be subject to § 263 and, thus, capitalization in full. Although this argument is not entirely satisfactory, cases and rulings that refused to bifurcate deductions generated under pre-ACRS accelerated methods of depreciation would support this position. See Rev. Rul. 77-325, 1977-2 C.B. 67; Pacific Power & Light Co. v. United States, 644 F.2d 1358 (9th Cir. 1981), aff’g 44 AFTR 2d 79-5319 (D. Ore. 1979), cert. denied, 454 U.S. 896 (1981).

See text accompanying notes 67-71.

See note 46 for a description of the current ACRS.

The statutory recovery period is the time provided in § 168(c) over which the cost of an asset may be recovered through depreciation allowances. The applicable recovery period for an asset depends on its class life. For example, if the property has a class life of four years or less the property is treated as having a recovery period of three years. For this purpose, class life is determined under the Asset Depreciation Range. IRC § 168(i)(1); Rev. Proc. 87-56, 1987-2 C.B. 674.

See text accompanying notes 90-93.

(3) **Capitalize Economic Depreciation:** If ACRS is viewed as a method of cost recovery designed not only to permit an investor to recover his original investment but to subsidize that investment as well, then arguably a builder should be required to capitalize only that portion of an ACRS deduction representing the actual economic depreciation incurred during self-construction. The balance of the deduction, if any, would be currently deductible. If this rule were adopted, it would be necessary to design a mechanism to measure economic depreciation.

The principal criteria used in evaluating each of these rules are the legislative objectives of cost recovery and parity among taxpayers. As is demonstrated below, using this framework, the third alternative—the capitalization of economic depreciation—is clearly superior.

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Taxpayers subject to the rule are required to capitalize not only direct costs, but also an allocable portion of indirect costs. IRC § 263A(a).

The statute does not enumerate the types of costs required to be capitalized. Section 263A(h) provides that regulations are to be issued which will define indirect costs. Congress indicated that the rules are to be patterned after the rules for extended period long-term contracts under the § 451 regulations. See 1986 Senate Report at 141; 1985 House Report at 626. Reg. § 1.451-3(d)(6) provides: "Depreciation, amortization and cost recovery allowances on equipment and facilities (to the extent allowable as deductions under Chapter I of the Code) . . . must be capitalized." Temporary regulations issued for § 263A include identical language. Temp. Reg. § 1.263A-1T(b)(2)(iii)(J). Thus, the Treasury proposes to require capitalization of the entire ACRS deduction during the statutory recovery period and, apparently, no capitalization thereafter. It is interesting to note that the regulations do not follow the former rules for long-term contracts under § 471, which only required capitalization of the depreciation allowable for tax purposes in excess of that reported for financial accounting purposes. Reg. §§ 1.451-3(d)(3)(iii)(I), 1.471-11(c)(2)(ii).

The temporary regulations also provide that depreciation on equipment and facilities that have been placed in service but are temporarily idle is not required to be capitalized. Temp. Reg. § 1.263A-1T(b)(2)(v)(F).

55 The statutory argument for partial capitalization is based on the notion that ACRS does not attempt to measure the cost of using an asset (see text accompanying notes 62-66), and that § 263 applies only to the costs of acquiring long-lived assets. Thus, § 263 should not be interpreted as applying to more than that portion representing the economic depreciation on the underlying equipment. This was the position taken under prior law by the regulations for capitalization of costs for long-term contracts. Reg. § 1.471-11(c)(2).

56 See text accompanying notes 72-75.

57 The Supreme Court in Commissioner v. Idaho Power Co., 418 U.S. 1 (1974), bottomed its opinion on the underlying policies of depreciation. Although the current policy of ACRS differs from that of the cost recovery system under review in *Idaho Power*, the Court's mandate to treat construction related depreciation in a manner which carries out the objectives of the appropriate cost recovery system is still valid.

58 These are two of the criteria used by the Supreme Court in Commissioner v. Idaho Power Co., 418 U.S. 1 (1974), in deciding that the taxpayer must treat depreciation on equipment it owned and used in the construction of its facilities as a nondeductible capital expenditure under § 263(a)(1). The Court also based its opinion on statutory interpretation (see notes 48, 49, and 55) and conformity with accounting principles.

The Supreme Court emphasized that its "primary concern" was to treat construction related depreciation in a manner that comport with "accounting and taxation realities." As depreciation is appropriately described as an accounting device which measures the cost of using...
Since the analysis depends in part on how economic income generated by self-construction is treated, this section of the article is divided into two parts. In the first part we assume, as to this income, that: (1) it is included in the tax base as it accrues; (2) it is capitalized as part of the cost of the newly constructed property; and (3) its amount is determined by applying a guideline rate of return to the average balance of capital devoted to self-construction during the year. In the second part, we assume, as under current law, that this income is not included in the tax base as it accrues.

capital, it is desirable to treat cost recovery deductions in a manner that comports with accepted accounting practices.

When depreciable property is used for self-construction, accounting principles mandate that all depreciation incurred be treated as a cost of construction and that it be capitalized. Financial accounting standards generally require a business that constructs a long-lived asset for its own use to include all direct costs in the total cost of the asset, which is then capitalized. Direct costs include construction related depreciation. See Miller’s Comprehensive GAAP Guide 11.03 (1983). Not requiring a self-constructor to capitalize any depreciation would clearly violate these principles.

Full capitalization is also inappropriate. Before enactment of ACRS, generally accepted accounting principles (GAAP) permitted (but did not require) a taxpayer to use the same method of depreciation both for financial and for tax purposes as he did for tax purposes. Even if a taxpayer elected to use an accelerated method of depreciation for tax purposes, he was also entitled to use this method for financial purposes. One of the reasons for this flexibility was that there was no agreement as to the most appropriate way to measure depreciation. All methods predating ACRS, though, have at least two things in common: They attempt to match the cost of using the asset with related revenue and they are permissible methods to determine cost under GAAP.

ACRS, however, is not a permissible method of depreciation for financial accounting purposes. The overall purpose of financial accounting is to provide economic data and information which are useful to those making decisions on the basis of such data. L. Bernstein, Financial Statement Analysis: Theory, Application and Interpretation 16 (1974). To be acceptable for this purpose, a method of depreciation must systematically and rationally allocate the cost of an asset over its estimated useful life. See S. Davidson, C.P. Stickney, & R. Weil, Financial Accounting (4th ed. 1985). Since ACRS does not allocate cost in this fashion and makes no attempt to measure income accurately on an annual basis, ACRS is not, nor is it likely ever to be, a “generally accepted accounting method.”

The only way for the tax law to comport with accepted accounting principles is to require those who self-construct to capitalize construction related depreciation determined in accordance with a permissible method of depreciation. As discussed later, one appropriate and simple way to approximate the construction related economic depreciation that must be capitalized is by reference to the amount that is required to be capitalized for financial accounting purposes. See text accompanying notes 102-105. The only one of the three alternatives listed in the text that meets this requirement is to require the capitalization of economic depreciation. Although there are occasions when the policies served by financial accounting lead to different accounting practices for tax purposes (for example, Thor Power Tool Co. v. Commissioner, 439 U.S. 522 (1979); see note 104), we agree with the Supreme Court that the capitalization of construction related depreciation is an occasion where conformity is appropriate.
A. Assuming Economic Income from Self-Construction Is Included and Capitalized, What Is the Appropriate Treatment of an ACRS Deduction and Construction Related Depreciation?

1. Legislative Objectives of ACRS

The stated legislative goals of ACRS were to simplify the cost recovery provisions, offset the effects of inflation, and stimulate capital formation. Congress hoped to accomplish this third goal by prescribing cost recovery schedules that were more accelerated than ones that would have been provided under a system of depreciation. In doing so, Congress effectively abandoned income measurement as a goal of cost recovery. There is very little direct guidance, however, as to how one should treat construction related depreciation. Based upon the history and legislative objectives of ACRS, each of the three alternatives is plausibly supportable. We find, however, the arguments in favor of capitalizing economic depreciation the most compelling.

a. Arguments in Favor of No Capitalization

Until 1981, it is clear that the primary goal of depreciation was income measurement. With the enactment of ACRS, however, stimulation of

59 See note 43.
60 Id.
61 At the time of the 1981 amendments, taxpayers were also allowed an investment tax credit (ITC) for any tangible depreciable property used in a trade or business or for the production of income for the year the property was placed in service. The amount of the credit was 10% of cost for property other than three-year property and 6% for three-year property. IRC § 46 (before amendment in 1981). The combination of the tax benefits from the investment tax credit and the ACRS deductions for three- and five-year property approximated, in present value terms, the benefits from simply expensing the asset, that is, deducting the full cost of the asset in the year it is placed in service. At a constant rate of tax, the tax benefits associated with expensing an asset are the economic equivalent of imposing a zero rate of tax on the income from that asset. This relationship was first identified in E. Brown, Business Income Taxation and Investment Incentives in Income Employment and Public Policy 309, 310 (1948), reprinted in Readings in the Economics of Taxation, 302 (Musgrave & Shoup eds. 1969).

Whether ACRS was the equivalent of expensing depended on the taxpayer's marginal tax rate and the discount rate used. At some discount rates, the combination of the ITC and ACRS would actually be better than expensing, at others, less so. See Johnson, Tax Shelter Gain: The Mismatch of Debt and Supply Side Depreciation, 61 Tex. L. Rev. 1013, 1020-25 (1983).

Since expensing is the method of cost recovery that is generally associated with a tax based on consumption, rather than income, it is not properly viewed as a method for measuring the cost of using an asset in a given period. Arguably, with the adoption of ACRS, Congress no longer considered the measurement of income as a function of depreciation.

62 Beginning in 1954, Congress had provided for accelerated methods of depreciation to spur investment. Over the next three decades, legislative and administrative changes also were made that were quite generous to taxpayers in order to avoid disputes about useful life and salvage value. Still, there was no evidence that either the Treasury or Congress intended to
capital investment supplanted income measurement as the principal objective of cost recovery policy. Although ACRS undeniably was intended to spur capital investment\textsuperscript{63} while also reducing complexity associated with the prior system,\textsuperscript{64} it is unlikely that Congress intended ACRS to conform to the traditional theoretical premises of cost recovery. Under ACRS, a taxpayer's cost recovery deductions are not dependent on useful life.\textsuperscript{65} The cost of a depreciable asset is not allocated in any meaningful way over the income-producing life of that asset. Rather, that cost is simply recovered according to a fixed schedule.\textsuperscript{66} Given the significant divergence of recovery periods from asset class life, it is reasonable to conclude that, with ACRS, Congress simply abandoned the basic objective of prior cost recovery systems to measure income accurately.

At least superficially, the twin goals of simplification and capital stimulation would appear to be best served by not requiring any construction related depreciation to be capitalized: Certainly, that approach is simple and, of the three alternatives, is the one that would most stimulate capital formation.

b. Arguments for Full Capitalization

Several arguments support characterization of ACRS as simply a standardized, albeit very accelerated, method of depreciation. Under this view, the 1981 changes are thought to be more rhetorical than substantive, and ACRS allowances were merely the legislatively sanctioned proxy for measuring the cost of an asset used in a given year, irrespective of economic accuracy. Since 1954, when Congress first blessed acceler-
ated depreciation, cost recovery schedules have become more and more accelerated. ACRS can be viewed as no more than a logical extension of this process, less radical in many ways than earlier changes. From this perspective, ACRS deductions should be fully capitalized.

From a purely statutory point of view, full capitalization is an appealing option. The language of the statute itself, as well as portions of the legislative history of the 1981 Act, support the view that ACRS is not different from its predecessors. By statute, an ACRS deduction "shall be deemed to constitute the reasonable allowance provided by this [depreciation] section." Congress has therefore explicitly provided that cost recovery deductions are to be treated just as if they are depreciation allowances and therefore deemed to be an adequate proxy for measuring the cost of an asset used in a given period.

Historically, cost recovery allowances, whether accelerated or not, have been determined with reference to the useful life and salvage value of each particular asset. These characteristics vary depending on how long, and for what purpose, a taxpayer plans to hold the asset. Since one of the stated goals of the enactment of ACRS was to reduce both the complexity of the prior provisions and the number of administrative disputes they provoked, it is arguable that, when Congress abandoned useful life and salvage value, it did so to simplify cost recovery, not to change its basic purpose.

ACRS can also be viewed as another step in the evolution of an arbitrary cost recovery system. Although prior depreciation regimes may have paid lip service to the goals of measuring income and of matching revenues with related expenses, as a practical matter, none ever accurately measured economic depreciation. Depreciation has never been more than a rough prognostication of the cost of asset use and, arguably, it has not even been that. Under this view, cost recovery is merely a proxy for the cost of using assets, and attempts to accurately measure that cost were abandoned well before the enactment of ACRS. Thus, the

Indeed, in many cases the deductions under ACRS will more closely reflect the amount of economic depreciation actually experienced than that previously available under the depreciation provisions. To illustrate, if a taxpayer in 1980 placed in service new equipment costing $120,000 with a 10-year present class life, he would have been entitled to elect to use ADR, the modified half-year convention, an 8-year recovery period, and the 200% declining balance method of depreciation. Collectively, these elections would have resulted in a depreciation allowance of $30,000 for 1980. If this equipment were placed in service in 1986, however, under ACRS it would be classified as 7-year property and the taxpayer would only be entitled to a deduction of $17,143—an amount far less (and probably closer to the "true cost" of using the equipment) than the amount previously available under ADR.

IRC § 167(a).
Reg. § 1.167(a)-1(b) and (c).
See note 43.
The deductions under these regimes were treated as proxies for the cost of using the asset. Hulten & Wykoff, note 66.
cost recovery deduction under § 168 should be treated as a proxy for the cost of using the asset for self-construction and should be fully capitalized.

c. Arguments for Partial Capitalization

There is significant evidence that Congress intended ACRS to serve two purposes: to permit an investor to recover his investment in an asset, and to subsidize investment. Congress designed ACRS so that it would generate deductions in excess of economic depreciation during the first few years of the statutory recovery period. The excess is a subsidy from the federal government to those who invest in certain types of property. The subsidy is in the nature of an interest-free loan from the government to the taxpayer in an amount equal, at any point in time, to the investor's marginal rate of tax, multiplied by the excess of the aggregate ACRS deductions taken over actual economic depreciation incurred. Thus, the ACRS deduction must be bifurcated. The portion representing economic depreciation, that is, the cost of using the asset, should properly be capitalized. The subsidy portion, because it is not a cost, should not be.

This, certainly, is the most complex of the three alternatives. It is also the most difficult to justify statutorily. Nevertheless, if we assume that the different cost recovery schedules that Congress has enacted reflect an intention to tax some investments more favorably than others, only capitalization of economic depreciation accomplishes this goal.

This difference in tax treatment can be quantified in a variety of ways. One way is to express the differential in terms of effective rates of tax.

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72 After 1981, Congress retreated from expensing and again sent mixed signals about cost recovery policy, reflecting its concern not only with income measurement, but also with capital formation. For example, the Tax Reform Act of 1986 repealed the ITC in recognition that the tax benefits arising from the combination of the ITC and ACRS were, in some cases, more generous than expensing. S. Rep. No. 313, 99th Cong., 2d Sess. 96 (1986), reprinted in 1986-3 C.B. (vol. 3) 1. At the same time Congress provided more accelerated depreciation for certain personalty, partly to compensate for repeal of the ITC.

73 ACRS, by its own terms, can be considered a subsidy above economic depreciation. See, for example, IRC §§ 168(g), 312(k), and 56(a)(1), all of which provide for less generous forms of depreciation.


75 For a more detailed discussion of the mechanics of the subsidy, see text accompanying notes 121-123.

76 Not requiring capitalization might be defended on the grounds that partial capitalization is too complex. One of the stated goals of ACRS was the elimination of complexity in the prior cost recovery system. See note 43. Partial capitalization, however, needs not be unduly complex. See text accompanying notes 106-111, which suggests that the amount to be capitalized as economic depreciation could be the amount of depreciation calculated under § 168(g).

77 See note 55.

78 Another way to accomplish this is through a subsidy analysis. See discussion below.

79 Effective marginal tax rates are technically defined as:
Permitting an accelerated method of cost recovery with respect to an investment is equivalent to reducing the effective rate of tax on the income from that investment.\(^8\) The more accelerated the cost recovery, the lower the effective rate of tax. Under any reasonable set of assumptions, the effective rates of tax for equipment and realty are different. For example, a recent study reflecting the 1986 Act estimates the effective rate of tax on investments in equipment to be 34.1\% and the corresponding rate for facilities to be 47.1\%.\(^8\) Congress apparently intended to tax the income from different investments at different rates. To carry out this congressional policy, it is therefore necessary to identify the true nature of a taxpayer's investment so that the income from the investment can be taxed at the appropriate rate.

When a builder uses equipment to construct a facility for its own use, the builder is actually changing the nature of its capital investment from "equipment" to "facility." The value of its equipment is reduced by the amount of wear and tear (depreciation) incurred. This reduction is usually offset by an increase in the value of the facility.\(^8\) Conceptually, the builder who self-constructs could be viewed as if he is disposing of a portion of his equipment for value and investing the proceeds in the facility.\(^8\) Given the differential in the effective tax rates imposed on the in-

\[
\begin{align*}
\text{Before-tax rate of return} & - \text{After-tax rate of return} \\
\text{Before-tax rate of return} & \text{Before-tax rate of return}
\end{align*}
\]

Generally, effective tax rates are determined over the life of an asset.


\(^8\) These effective tax rates are based on models developed in Fullerton, Indexation of Interest, Depreciation and Capital Gains, J. Pub. Econ., 36-37 (Feb. 1987). They are based upon several simplifying assumptions, the most important of which are:

1. The top federal statutory rate is 34\%, the weighted average of the states' top bracket is 6.6\%, and state corporate taxes are deductible for federal purposes. The highest marginal corporate rate bracket is therefore 38.3\% (that is, 34\% plus 6.6\% of \((1 - .34)\)). Taxpayers are able to fully utilize all tax benefits.

2. The inflation rate is 4\% per year, and the after-tax rate of return is 5\%.


4. The impact of the alternative minimum tax and the passive loss rules is ignored.

The accuracy of these rates is not important. What is important for our purposes is that the effective tax rates for equipment and realty are different.

\(^8\) See Mundstock, Taxation of Business Intangible Capital, 135 U. Pa. L. Rev. 1179, 1224 (1985) (in which it is noted that these amounts are not necessarily equal).

\(^8\) The Supreme Court recognized this change-in-investment rationale in Commissioner v. Idaho Power Co., 418 U.S. 1 (1974). Although this change in investment has never been considered a realization event, one might maintain that it should be. Even if it were, as long as the builder has basis in the equipment being used in an amount at least equal to the depreciation incurred, there would not necessarily be any gain or loss on the change in investment. The amount realized for the portion of the equipment given up is presumably equal in value to the increase in value of the facility, both amounts being equal to the economic depreciation incurred. See United States v. Davis, 370 U.S. 65 (1962); Philadelphia Park Amusement Co.
come from the two investments, a change in the nature of the investment must be taken into account for tax purposes. Since the depreciation incurred on the equipment is an economic cost of constructing the facility, this amount should be capitalized and recovered in the manner prescribed for such facilities.

To illustrate, consider the following hypothetical:

HYPO #1

In 1987, B Corporation acquires equipment for $120,000 to use in its construction business. The equipment has a present class life of eight years and is five-year property. In 1988, B uses the equipment solely to construct a facility for its own use. The facility is nonresidential real property with a recovery period of 31.5 years. During 1988, as a result of wear and tear during self-construction, the equipment declines in value by $15,000. Had B not used this equipment for self-construction during 1988, B would have been entitled to an ACRS deduction of $38,400 for that year. At all times, B pays tax at the marginal rate of 30%.

As a result of self-construction, B changed $15,000 of its capital investment from equipment to facility. This fact must be taken into account so that, to the extent of the change, income from this portion of B’s invest-

v. United States, 126 F. Supp. 184 (Ct. Cl. 1954). If one adopts a rule permitting complete basis recovery before any gain is recognized (see Inaja Land Co. v. Commissioner, 9 T.C. 727 (1947)), there would not be any reportable gain. Under this rule, whenever the basis in the equipment is at least equal to depreciation incurred, there would be no gain or loss (that is, the amount realized would always equal basis). As is discussed at note 128, this approach presents technical problems when economic depreciation exceeds basis (that is, after the statutory recovery period) and would also present problems if the complete basis recovery rule were not adopted.

To be consistent, if self-construction results in a disposition of a portion of the constructing equipment, then ITC recapture should be triggered if the builder had previously taken advantage of the credit. If the constructed property is creditable, the taxpayer should be given credit for the full amount of the depreciation capitalized. But see Reg. §§ 1.46-3, 1.48-1, as interpreted by United Telecommunications, Inc. v. Commissioner, 589 F.2d 1383 (10th Cir. 1978). The issue in the case was how much of the basis in the self-constructed property was eligible for the ITC when the basis otherwise included capitalized depreciation on equipment used to construct the property. The court upheld the validity of Reg. §§ 1.46-3(c)(1), 1.48-1(b)(4), which provide that, for ITC purposes, the basis does not include the capitalized depreciation. It found this to be a proper method of avoiding a double benefit, but did not consider the alternative of ITC recapture and a subsequent credit on the self-constructed property.

With respect to the ITC, this theory has obvious limitations. If a manufacturer uses a machine to produce inventory, the manufacturer should certainly not have to recapture a portion of the credit granted because he disposed of the machine. Arguably, this is different from self-construction, in that the machine used to produce inventory is being used for the purposes for which the credit was granted.

IRC § 168(c).

Assuming B did not make any special elections, B would have recovered its cost in this equipment over a 5-year recovery period using the double declining balance method and a half-year convention. IRC § 168. In the absence of self-construction, B’s cost recovery schedule for this equipment would be as follows:

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ment might be taxed at the effective rate implied for facilities. Assuming the implicit effective tax rate for investments in equipment over their useful life is 34.1%, and the corresponding rate for facilities is 47.1%, income from B’s investment in the facility, including the investment represented by construction related depreciation, should be subject to a 47.1% tax rate.86 This can easily be accomplished by requiring B to capitalize the construction related economic depreciation and treat this amount as part of the cost of the facility.

Applying the same analysis to the other two options produces unacceptable results, for neither option would subject B to tax at the appropriate effective rate. If no capitalization were required, B would, in effect, be permitted to expense this portion of its cost in the facility. That is, not requiring capitalization of construction related depreciation is the same as (1) requiring this amount to be capitalized, and (2) allowing it to be immediately deducted. Under this regime, then, instead of being taxed at the implicit 47.1% statutory rate for facilities, B would be taxed at an effective tax rate of zero87 on the income from that portion of its equity investment in facility represented by the construction related depreciation.88 While, at one time, ACRS may have been intended as a system of selective expensing, at no point was an investment in real estate to be expensed.89

<table>
<thead>
<tr>
<th>YEAR</th>
<th>RATE OF COST RECOVERY</th>
<th>UNRECOVERED COST</th>
<th>ACRS DEDUCTION</th>
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<tr>
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<td>40% X 1/2</td>
<td>$120,000</td>
<td>$24,000</td>
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<tr>
<td>1988</td>
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<tr>
<td>1990</td>
<td>40%</td>
<td>34,560</td>
<td>13,824</td>
</tr>
<tr>
<td>1991</td>
<td></td>
<td>20,736</td>
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</tr>
<tr>
<td>1992</td>
<td></td>
<td>6,912</td>
<td>6,912</td>
</tr>
</tbody>
</table>

*According to § 168(b)(1)(B), in 1991 B is required to switch to the straight line method and recover its remaining $20,736 of cost in the equipment ratably over the remaining 1 1/2 years of the recovery period.

86 The rates used in the text are those identified by Fullerton, note 81. They exceed the nominal rate because they take into account inflation and state and local taxes. Again, the exact rates are not important.

87 At a constant tax rate, expensing an investment is the present-value equivalent of imposing a zero rate of tax on the yield from that investment. See note 61.

88 Capitalization of economic depreciation would not be required under a system of expensing. Under this system of cost recovery, all business expenditures, both current and capital, are deductible. No costs are capitalized. In effect, a zero rate of tax is imposed on the income from all equity investments. For this reason, although a builder would still be changing the nature of his capital investment from equipment to facility when he self-constructs, requiring capitalization would be of no consequence: All of the builder's construction related costs, including depreciation, would be immediately deductible.

89 See note 61. It is not clear whether Congress intended the 1981 ACRS amendments to approximate expensing. In the legislative debate surrounding the adoption of ACRS, however, the relationship between ACRS and expensing was identified and its implications were debated.
Capitalization of the entire ACRS deduction is also inappropriate. Under this rule, a builder that self-constructs during the early years of the statutory recovery period would usually capitalize more depreciation than that actually incurred, and would be overtaxed as a result. For example, would capitalize, and treat as part of its cost in the facility, $38,400, an amount more than two and a half times B's actual construction related depreciation. In effect, this rule would deny B the statutory benefits to which it otherwise would have been entitled on $23,400 of its remaining investment in equipment, and would increase the effective tax rate on B's investment in equipment to more than 34.6%. On the other hand, if self-construction occurs after the statutory recovery period, and capitalization only of the ACRS amounts were required, no capitalization would be required and the builder would have an effective tax rate of zero on this portion of its investment in the facility.

In sum, despite the complexity, the legislative objectives of ACRS are best served by requiring builders to capitalize all construction related economic depreciation. Capitalization of economic depreciation permits...
the builder to enjoy the subsidy portion of ACRS on the equipment while conforming to the mandate to capitalize the cost of constructing the facility. Adoption of either of the other two options results in the builder being taxed at the wrong effective tax rate on income from the portion of the facility represented by the construction related depreciation.

2. Parity

The appropriate theoretical framework for treating construction related depreciation should promote parity between taxpayers (B) building their own facilities (builders) and those (P) hiring independent contractors to construct them (purchasers). In this context, parity means that builders and purchasers should be treated similarly to the extent this is a practical possibility. Construction related depreciation is an economic cost to both the builder and the purchaser. One element of the price paid by a purchaser for an asset is the economic depreciation incurred by the independent contractor on its equipment. Similarly, the builder realizes a decline in value of its equipment used during self-construction. Only if the builder capitalizes depreciation is parity between purchasers and builders maintained with respect to this element of cost.\(^9\)

If no capitalization were required, the tax system would create a bias in favor of builders. B, free of the need to capitalize any portion of its ACRS deduction, could expense this element of its cost in the facility. On the other hand, P’s basis in its facility would be its purchase price, which reflects the independent contractor’s depreciation on equipment used during construction. P would have to recover this element of cost over the 31.5-year recovery period prescribed for facilities.

Moreover, full capitalization would not promote parity, regardless of when self-construction occurs. If self-construction occurs during the early years of the statutory recovery period, when ACRS generates deductions in excess of economic depreciation,\(^9\) this rule would require B to capitalize more depreciation than the actual cost of using the equipment, and would thereby favor P.\(^9\) If, on the other hand, self-construction occurs after the statutory recovery period, this rule would favor B by

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\(^9\) The Supreme Court in Commissioner v. Idaho Power Co., 418 U.S. 1 (1974), stated that the appropriate treatment of construction related depreciation should maintain parity between taxpayers that construct their own facilities and those that hire independent contractors for the construction. 418 U.S. at 15. Since taxpayers that hire independent contractors must capitalize construction related depreciation, and must recover this element of their cost over the life of the newly acquired asset, the Court believed that self-constructors would have an unfair advantage if permitted to currently deduct construction related depreciation.

\(^9\) See note 73.

\(^9\) P’s cost for the building will reflect only economic depreciation or the cost of using the contractor’s equipment to build the facility. The contractor will not charge P for the “subsidy” portion of ACRS.
relieving it of the need to capitalize its depreciation.\textsuperscript{97} In terms of maintaining parity between builders and purchasers, capitalization of economic depreciation is the only acceptable option.

3. Measuring Economic Depreciation

Capitalization of economic depreciation requires a mechanism to determine its amount, but its measurement is difficult because of complications in ascertaining actual decline in value.\textsuperscript{98} A surrogate for economic depreciation would have to be chosen.

Prior to the enactment of ACRS, the Service\textsuperscript{99} and the courts supported the use of depreciation for tax purposes as the amount of construction related economic depreciation.\textsuperscript{100} Since ACRS does not

\textsuperscript{97} After the statutory recovery period, \(B\) already would have recovered his cost for the equipment and would have nothing to capitalize. \(P\)'s cost, however, would reflect the economic depreciation that the contractor continues to incur.


\textsuperscript{100} In Commissioner v. Idaho Power, 418 U.S. 1 (1974) the amount of construction related depreciation was not at issue because the taxpayer used the same method of depreciation for both financial accounting purposes and tax purposes. The issue was whether construction related depreciation had to be capitalized at all. The amount of this depreciation was stipulated by the parties. In the absence of this stipulation, the Court would have had to address more closely the issue of whether a deduction generated under an accelerated method of depreciation, as a matter of law, must be considered to be the cost of using the asset during a given period. It is thus unsettled how \textit{Idaho Power} should apply to a taxpayer who uses a different method of depreciation for financial accounting purposes than for tax purposes, as would be the case with a taxpayer using ACRS.

Before enactment of ACRS, the Service took the position, and the Ninth Circuit held, that \textit{Idaho Power} applied with full force to deductions based upon accelerated methods of depreciation. Taxpayers had sought a partial capitalization rule, arguing that accelerated depreciation deductions should be bifurcated, and that only the economic depreciation portion of the deduction should be capitalized. These arguments were rejected. Accelerated methods of depreciation were held to relate only to the computation of the depreciation allowance, not to the basic income-matching function of the allowance. Therefore, all accelerated depreciation amounts were held to be subject to \textit{Idaho Power}. If ACRS is viewed as no more than another standardized, albeit extremely accelerated, method to determine depreciation, there is authority to support treating the full ACRS allowance as a proxy for construction related depreci-
attempt to measure the cost of using an asset during a given period, this method should not be utilized.

Other depreciation methods are possibilities. Some studies found that for equipment, the declining balance method over an asset's useful life, and for real estate, straight line depreciation over the useful life, approximates economic depreciation. Alternatively, the self-constructor could use as economic depreciation the amount capitalized for financial accounting purposes. Since this amount is determined in any event, this solution would add minimal complexity to the system. Although the basic objectives of financial accounting and tax accounting often differ, in this context their objectives are similar enough to warrant using  

102 No single method would be mandated. For financial accounting purposes, so long as a reasonable method is chosen, the self-constructor has great latitude in choice of depreciation methods. See Handbook of Modern Accounting 18, 19 (Davidson ed. 1970). ACRS, however, is not a reasonable method. See note 58.
103 Certain small cash method taxpayers that do not keep books for financial accounting purposes would need a different rule.
104 See Thor Power Tool Co. v. Commissioner, 439 U.S. 522 (1979). The Court held that financial and tax accounting have vastly different objectives. The primary goal of financial accounting is to provide useful information to management, shareholders, creditors, and others properly interested. The primary goal of the income tax system, in contrast, is the equitable collection of revenue. Consistent with its goals and responsibilities, financial accounting has as its foundation the principle of conservatism, with its corollary that possible errors in measurement should be in the direction of understatement rather than overstatement of net income and net assets. Understatement of income is not consistent with tax accounting goals. In Commissioner v. Idaho Power Co., 418 U.S. 1 (1974), the Court found more compatibility
financial accounting depreciation as a proxy for economic depreciation for tax purposes.\textsuperscript{105}

For other purposes, Congress adopted a convention that can be viewed as a proxy for economic depreciation: straight line depreciation over a specified recovery period. This method is an alternative depreciation system electable by the taxpayer.\textsuperscript{106} It is used in several circumstances to more accurately measure economic income. For example, it determines the decrease in earnings and profits of a corporation due to depreciation for the taxable year.\textsuperscript{107} The objective of this provision is similar to the objective of identifying the appropriate amount of depreciation to capitalize. The corporate earnings and profits limit the amount of a distribution treated as a taxable dividend.\textsuperscript{108} It roughly measures economic profit: receipts less costs incurred to produce the receipts. To the extent the subsidy portion of the ACRS deduction decreases earnings and profits, costs are overstated and profits are understated.\textsuperscript{109} The alternative depreciation system, in determining earnings and profits, attempts more accurately to measure economic depreciation so that corporations will not generate tax-free dividends out of accelerated depreciation reserves.

A similar provision applies to calculations of the alternative minimum
tax,\textsuperscript{110} which treats the subsidy portion of ACRS as a tax preference.\textsuperscript{111} Congress uses the alternative depreciation system as a proxy for economic depreciation, with the excess of ACRS over this amount treated as the subsidy or preference.

Any depreciation method that seeks to spread the cost of an asset over its useful life can be a surrogate for economic depreciation. Use of either the financial accounting method or the alternative depreciation system would serve this purpose. Because of the latitude in permissible accounting methods, we would favor the rather arbitrary, but consistently applied, alternative depreciation system. Nevertheless, any method is appropriate so long as it approximates economic depreciation.

4. Interim Summary

Imputed income generated by self-construction should be included in both the tax base and the cost of newly constructed property. This amount should be determined by (1) keeping a separate account for the amount of capital devoted to self-construction, and (2) imputing a rate of return based upon a guideline rate. Also, construction related economic depreciation should be capitalized and made part of the newly constructed facility. The alternative depreciation system could be used to determine the amount of economic depreciation actually incurred. Last, to the extent an ACRS deduction exceeds construction related depreciation, this excess should be currently deductible.\textsuperscript{112}

To illustrate how these rules would work together when self-construction occurs during the statutory recovery period, consider the following hypothetical:

HYPO #2

\(B\) is an accrual basis, calendar year corporation engaged in a construction business. \(B\) pays income tax at a 30\% marginal rate, and its before-tax rate of return is 10\%.

\(B\) plans to construct a facility for use in its business. The facility will be placed in service on January 1, 1988. On June 30, 1987, \(B\) purchases, for $120,000, heavy-duty equipment with a present class

\textsuperscript{110} Section 56(a) requires taxpayers, using ACRS, to recompute their depreciation deduction for minimum tax purposes by using the alternative depreciation system of § 168(g). The 150\% declining balance method over the ADR class life is used for personal property, while the straight line method over a recovery period of 40 years is used for real property.

\textsuperscript{111} The excess of the ACRS deduction over the depreciation amount determined under the alternative method is treated as a tax preference. Id.

\textsuperscript{112} If only the economic depreciation is capitalized as a construction cost, there is no reason to deny the self-constructor the benefits of the subsidy portion of ACRS. This assumes the self-constructor includes the economic income associated with the use of its assets. See text accompanying notes 8-34. Where such income is not included, the treatment of the subsidy portion of ACRS is problematic. See text accompanying notes 146-175.
of eight years. During 1987, B uses the equipment exclusively for construction of its facility. B completes the facility on January 1, 1988, and at all times thereafter uses the equipment solely on construction projects for customers.\footnote{114}

For financial accounting purposes, B depreciates this equipment using the straight line method based upon an estimated useful life of eight years and a salvage value of zero. On its books for 1987, B reduces its basis in this equipment by $7,500, and treats this amount as part of the cost of the new facility. Thereafter, B depreciates the equipment for financial accounting purposes at $15,000 per year. The depreciation schedule used for financial reporting purposes is precisely the one that would be prescribed for this equipment under the alternative depreciation system.\footnote{115}

For tax purposes, both B's equipment and its facility are recovery property. The equipment is five-year property and the facility is nonresidential real property with a recovery period of 31.5 years.\footnote{116}

Had B not used the equipment for self-construction, B would have been entitled to a cost recovery deduction of $24,000 for 1987.\footnote{117} Because B used its own equipment to self-construct, B must include, in the tax base, the economic income generated by that use. On these limited facts, B devoted $120,000 of capital to self-construction for six months, and therefore, has $6,000 of income.\footnote{118} This amount is also treated as part of the cost of the new facility. In the absence of self-construction, B would have been entitled to an ACRS deduction of $24,000. However, since B incurred $7,500 of economic depreciation which must be capitalized,\footnote{119} B's net cost recovery deduction for 1988 is $16,500. In sum, as a result of this self-construction, B has income of $6,000, a deduction of $16,500, and capital expenditures of $13,500 which will be treated as part of the cost of the newly constructed facility.

\begin{footnotes}
\footnote{113} See note 52.
\footnote{114} It is assumed that the equipment is placed in service and is being used at all times in the taxpayer's trade or business. This assumption is not free from doubt. It can be argued that while a taxpayer uses equipment for self-construction, he is not using it in his regular trade or business, and therefore, should not be entitled to a cost recovery deduction with respect to that equipment. In Commissioner v. Idaho Power, 418 U.S. 1, (1974) the Supreme Court recognized this as a possible issue, but saw no need to address it.
\footnote{115} IRC § 168(g).
\footnote{116} IRC § 168(c).
\footnote{117} In general, § 168 provides that the cost of five-year property is recovered using the double declining method of depreciation, over a five-year recovery period, using a half-year convention. On the facts of Hypo #2, the cost recovery for 1987 is: 40% x 1/2 x $120,000 = $24,000.
\footnote{118} This is the product of the assumed guideline rate (10%) and the average balance for the year of capital devoted to self-construction ($120,000/2).
\footnote{119} On the facts of Hypo #2, and throughout the balance of this article, depreciation determined for financial accounting purposes is identical to the amount under § 168(g).
\end{footnotes}
5. Post-Recovery Period

Self-construction that occurs after the recovery period for the construction equipment creates additional problems. At that time, the builder will have recovered its cost in the equipment for tax purposes, even though the equipment will not have completely depreciated economically. Unless the builder reflects economic depreciation in the cost of its newly constructed facility, the tax system will create a bias in favor of builders over purchasers. The reasons for this conclusion parallel those for capitalization of construction related depreciation during the recovery period: Construction related depreciation remains a real economic cost of construction, and would be reflected in the price a purchaser would pay for a similar facility. The purchaser would be required to recover this element of its cost over 31.5 years. If builders were not required to capitalize economic depreciation during the post-recovery period, this would be tantamount to allowing builders to expense this element of their cost, and would give them an advantage compared to purchasers.\footnote{120 If no capitalization were required during the post-recovery period, the amount of construction related depreciation a builder would be required to capitalize would depend entirely on the age of the equipment used instead of on the actual economic cost of construction.}

Although tax law should account for economic depreciation incurred by builders during the post-recovery period, doing so raises difficult technical and conceptual problems. Before addressing these problems, it will be helpful to explore the nature of the subsidy granted investors by ACRS.

ACRS deductions comprise two elements: an allowance for depreciation and an investment incentive or subsidy.\footnote{121 See text accompanying notes 72-75.} The subsidy element, though not an outright grant, is in the nature of an interest-free loan from the government to investors. The “balance” of this loan, at any given time, equals the additional amount of taxes investors would have paid if, instead of taking ACRS deductions, they took only deductions measuring economic depreciation. The balance of this loan also can be described as “deferred taxes,” and is the product of multiplying the taxpayer’s marginal tax rate by the excess of (1) aggregate ACRS deductions taken, over (2) aggregate deductions that would have been permitted under a system of economic depreciation.

To illustrate, consider the facts of Hypo #2, except assume that $B$ never uses the equipment for self-construction and holds it for its entire useful life. The balance of the interest-free loan, that is, the amount of deferred taxes, as of the end of each year would be:
Since the ACRS benefit is in the nature of an interest-free loan and not a grant, the principal amount of this loan must be "repaid." The method of repayment depends on whether the investor keeps the equipment throughout its useful life. If the investor does, the principal of the loan is repaid automatically, as Chart I illustrates. During 1987 through 1989, the balance of the loan increases because current ACRS deductions exceed economic depreciation. From 1990 through 1995, the balance of the loan decreases because economic depreciation exceeds current ACRS deductions. Generally, at the end of the asset's useful life, aggregate ACRS deductions equal aggregate economic depreciation (plus salvage value, if any), and the balance of the interest-free loan is zero.

The method of repayment differs if the investor disposes of the underlying property before the end of its useful life. For example, on January 1, 1993, the balance of B's interest-free loan relating to the equipment is $11,250. Because of excess ACRS deductions, if B sells the equipment on this date for $37,500 (its undepreciated cost), B's gain would be $37,500 and its tax liability, $11,250. Since this tax equals the balance of the interest-free loan, B repays the balance of the loan by paying the tax.

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122 For convenience we used the alternative depreciation system of § 168(g). See text accompanying notes 106-111.
123 An exception to this general rule might occur if the property were appropriated to personal use prior to the end of the asset's useful life.
124 This is the product of B's tax rate (30%), and the excess of aggregate ACRS deductions ($120,000) over aggregate economic depreciation ($82,500).
125 B's basis in the equipment would be zero in 1993.
126 The simplifying assumption that the equipment is sold for exactly its undepreciated economic cost of $37,500 is not critical to the analysis. This amount represents a prognostication of the value of this equipment on this date. The selling price is simply the actual value. At this point in time, the deferred taxes can be more accurately determined. If the selling price (amount realized) were less than $37,500, then the property depreciated more than the table suggests and therefore the amount of taxes actually deferred was less. Conversely, if the selling...
Using one's own equipment for self-construction is in the nature of a disposition of a portion of the equipment. As discussed above, the self-constructor changes the nature of its investment from one asset to another. If this occurs during the recovery period, the conversion does not necessarily result in any gain or loss. Rather, the basis in one asset decreases and the basis of another increases. The self-construction, however, reduces, by the amount required to be capitalized, both aggregate ACRS deductions that eventually will be taken, as well as aggregate economic depreciation that would have been permitted. For example, in Hypo #2, B constructed its facility in 1987 and capitalized $7,500 of equipment depreciation into the cost of the facility. With respect to the equipment, this would reduce aggregate ACRS deductions and aggregate economic depreciation by $7,500 to $112,500. If B holds the equipment for its useful life, B will repay the principal amount of the interest-free loan.

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<table>
<thead>
<tr>
<th>YEAR</th>
<th>AGGREGATE ACRS</th>
<th>AGGREGATE ECONOMIC DEPRECIATION</th>
<th>EXCESS</th>
<th>TAX RATE</th>
<th>BALANCE AT YEarend</th>
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<td>30%</td>
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price were more than $37,500, the property depreciated less than the table suggests and the amount of taxes actually deferred was more.

127 See text accompanying notes 82-83.
128 See note 83. Even if this were viewed as a taxable exchange, it would not necessarily result in any gain or loss to the investor as long as the complete basis recovery rule is adopted. Under this rule there would be no gain until the remaining basis was less than the economic depreciation. At that point, gain would be recognized. For example, if the property were dedicated to self-construction in 1992, the remaining basis would be only $6,912 (see Chart I). As a result, the conversion would result in $8,088 of gain.

Note that allowing a taxpayer to recover his entire basis before reporting any gain is an exception to the general rule. Under the general rule, if a portion of the property is disposed of, basis should be allocated in proportion to the fair market value. Recovering the entire basis in an asset before reporting any gain is only appropriate where it is difficult or impossible to allocate the basis of the underlying asset to the portion sold. See Inaja Land Co. v. Commissioner, 9 T.C. 727 (1947). Arguably, such basis allocation is possible here. For example, if the conversion occurred in 1988, when the equipment is worth $112,500, the basis could be calculated as follows. The property disposed of, which has a value of $15,000, represents 15,000/112,500 of the remaining value of the property. Thus 15,000/112,500 x $96,000 (the remaining basis), or $12,800, would be allocated to the portion sold. Gain of $2,200 would be recognized. This latter rule is obviously far more complex.

129 On these assumptions, the balance of the interest-free loan, that is, the amount of taxes deferred, as of the the end of each year, would be:
When self-construction occurs during the post-recovery period, the results are less clear. Consider the following variation:

HYPO #3
Same facts as in Hypo #2, except that until January 1, 1993, B uses the equipment solely for its customers. On that date, and for the rest of its useful life, the equipment is dedicated to self-construction. On January 1, 1993, B's adjusted basis in the equipment for tax purposes is zero.\(^{130}\) For purposes of both financial accounting and § 168(g), B's basis is $37,500.\(^{131}\) For 1993, B capitalizes $15,000\(^{132}\) of the equipment's original cost for financial accounting purposes and includes it in the cost of one of its new facilities.

In 1993 and each year thereafter, B converts part of its capital investment from equipment to facility. However, B's basis in the equipment is zero. If B is not required to capitalize any economic depreciation incurred, two anomalous results follow. First, B will enjoy an advantage compared with purchasers (and with all other builders that use equipment to self-construct during the statutory recovery period). As discussed above,\(^{133}\) requiring no capitalization of economic depreciation is the equivalent of allowing a builder to expense this portion of its cost. Second, to the extent B incurs depreciation during self-construction, and for lack of basis is not required to capitalize it, the interest-free loan is extended for the life of the newly constructed asset. This is illustrated by the following chart which lists the balance of the interest-free loan at the end of each year.

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\(^{130}\) The recovery period for the equipment ends in 1992, at which time B will have entirely recovered its cost. See note 85.

\(^{131}\) As stated earlier, we will use the depreciation amounts determined under § 168 as a surrogate for economic depreciation. B would, therefore, have incurred $7,500 of economic depreciation in 1987 and $15,000 annually in 1988-1992. The aggregate amount of economic depreciation of $82,500 would have reduced basis to $37,500.

\(^{132}\) See note 119.

\(^{133}\) See text accompanying notes 87-88.
### Chart II

<table>
<thead>
<tr>
<th>YEAR</th>
<th>AGGREGATE ACRS</th>
<th>AGGREGATE ECONOMIC DEPRECIATION</th>
<th>EXCESS</th>
<th>TAX RATE</th>
<th>BALANCE AT YEarend</th>
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<tr>
<td>1992</td>
<td>120,000</td>
<td>82,500</td>
<td>37,500</td>
<td>30%</td>
<td>11,250</td>
</tr>
</tbody>
</table>
| 1993 | 120,000        | 82,500                         | 37,500 | 30%      | **11,250**
| 1994 | 120,000        | 82,500                         | 37,500 | 30%      | 11,250            |
| 1995 | 120,000        | 82,500                         | 37,500 | 30%      | 11,250            |

ACRS allows investors current deductions that are assumed to equal those which eventually would have been allowed under an economic depreciation system. On these facts, however, B would not be allowed depreciation deductions during 1993-1995 because it used the equipment solely for self-construction. Under a system calling for economic depreciation, depreciation incurred on the equipment during those years would have been capitalized as part of the cost of the new facilities. Therefore, over the useful life of the equipment, ACRS will have generated $37,500 more in cost recovery deductions than B would have been entitled to under a system of economic depreciation. For this reason, the balance of the interest-free loan at the end of the equipment's useful life remains "unpaid." On these facts, the balance arguably will be "repaid" through lower cost recovery deductions on the facility over a period extending as much as 31.5 years beyond the useful life of the subsidized equipment. This apparently unintended outcome is hard to justify.

Viewing self-construction as a taxable disposition avoids these results. As B converts its investment from equipment to facility through

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134 Beginning in 1993, the balance of the interest-free loan may be somewhat overstated. To the extent that one of the facilities is placed in service and depreciation thereon taken, the balance of the loan is reduced. This is true because depreciation on the facility is less than it would have been if construction related depreciation had been capitalized.

135 These deductions are lower because, since the construction related depreciation is not capitalized, the basis in the facility is lower. Repayment could also occur as a result of sale of the constructed asset.

136 This is a substantial additional benefit. Using a discount rate of 7%, the present value of a $100 interest-free loan to be repaid ratably over 31.5 years is $38.44.

137 It might be said that self-construction is an act "fundamentally inconsistent" with the premises upon which the original ACRS deductions were granted, and that, therefore, an analogue of the tax benefit rule should apply and trigger recapture. See Hillsboro Nat'l Bank v. Commissioner, 460 U.S. 370 (1983). It can be argued that the benefits of ACRS were granted on the assumption that the asset would be used exclusively for income producing purposes until disposed of by the taxpayer. Although this seems an unlikely extension of Hillsboro, it
self-construction, B disposes of its equipment. B’s amount realized is the value added to the facility, which presumably equals the amount of construction-related depreciation. Viewed this way, in 1993, B’s amount realized is $15,000, and, since B’s basis at this time is zero, it is all includable income. Concurrently, $15,000 would be added to the basis of the newly constructed facilities. B, in effect, must recapture and capitalize the economic depreciation currently incurred for which a deduction was previously granted. Since B continues to use the equipment for self-construction in 1994 and 1995, B would recapture and capitalize $7,500 and $15,000 for each of these years, respectively.

The effect of this rule would be twofold. First, since B would be required to capitalize its construction related depreciation, B would be treated fairly in relation to purchasers. Second, by recapturing a portion of the ACRS deductions previously granted, B is “repaying” the interest-free loan from the government. Under this rule, the balance of the loan will always be repaid during the life of the equipment. The following chart relates to the facts of Hypo #3 and assumes that the recapture and capitalization rule is in place.

could be accomplished statutorily. See, e.g., §§ 280F and 179(d), which recapture cost recovery deductions when property is no longer used in a qualified manner.

138 Other ways in which an investor could change his investment include selling the underlying property or appropriating it for personal purposes.

139 The portion disposed of by B equals the amount of economic depreciation sustained during self-construction.

140 This amount would be extremely difficult to measure directly, but this seems to be an appropriate place to presume that both the value of what is given up and what is received are the same. That this is not a market transaction should not matter in this instance. See Davis v. United States, 370 U.S. 65 (1962); see also Mundstock, Taxation of Business Intangible Capital, 135 U. Pa. L. Rev. 1179, 1224 (in which it is noted that these amounts are not necessarily equal).

141 B’s basis is zero since it recovered its entire cost through ACRS deductions during the recovery period.

142 B should receive whatever benefits are available to those that similarly invest.
In summary, under the advocated regime, self-construction occurring after the statutory recovery period creates difficult problems. In the absence of a special rule, the interest-free loan generated by ACRS may be extended for as long as 31.5 years beyond the useful life of the property for which the loan was granted.\textsuperscript{143} To avoid this anomalous result, if self-construction occurs during the post-recovery period, the taxpayer should be required to recapture and capitalize an amount equal to the economic depreciation actually incurred. This rule would not only maintain parity between builders and purchasers, but it would also, during the useful life of the equipment, result in repayment of the interest-free loan created by ACRS.

\textbf{B. If Economic Income from Self-Construction Is not Included and Capitalized, Should the Self-Constructor Be Denied an ACRS Deduction on the Theory that it Is Either (1) an Expense of Producing Tax-Exempt Income, or (2) a Surrogate for Taxing Economic Income?}

Throughout this analysis, the discussion of ACRS deductions assumed that B's economic income from self-construction is included in the tax base.\textsuperscript{146} As this type of income is not currently taxed, and probably will not be includible in the tax base in the near future, we now relax this assumption and ask whether a builder should benefit from both the subsidy element of ACRS and the income exclusion. Furthermore, since this type of imputed income is not likely to be taxed directly, it is appro-

\begin{table}[h]
\begin{tabular}{|c|c|c|c|c|c|}
\hline
\textbf{YEAR} & \textbf{AGGREGATE ACRS} & \textbf{AGGREGATE ECONOMIC DEPRECIATION} & \textbf{EXCESS RATE} & \textbf{BALANCE AT YEAREND} \\
\hline
1987 & $24,000 & $7,500 & $16,500 & 30\% & $4,950 \\
1988 & 62,400 & 22,500 & 39,900 & 30\% & 11,970 \\
1989 & 85,440 & 37,500 & 47,940 & 30\% & 14,382 \\
1990 & 99,264 & 52,500 & 46,740 & 30\% & 14,029 \\
1991 & 113,088 & 67,500 & 45,588 & 30\% & 13,676 \\
1992 & 120,000 & 82,500 & 37,500 & 30\% & 11,250 \\
1993 & 105,000\textsuperscript{143} & 82,500 & 22,500 & 30\% & 6,750\textsuperscript{144} \\
1994 & 90,000 & 82,500 & 7,500 & 30\% & 2,250 \\
1995 & 82,500 & 82,500 & 0 & 30\% & 0 \\
\hline
\end{tabular}
\end{table}

\textsuperscript{143} B would recapture $15,000, report this as income in 1993, and thus reduce the aggregate ACRS deductions by this amount.

\textsuperscript{144} The balance of the loan is reduced as a result of the recapture of the ACRS deductions.

\textsuperscript{146} See discussion of this issue in text accompanying notes 6-34.
appropriate to address whether there exists a suitable proxy. Therefore, this section also explores whether denial of the subsidy portion of ACRS is an accurate and feasible substitute for taxing the imputed income of the self-constructor.\textsuperscript{147}

To illustrate, assume the facts of Hypo #2, except that \( B \) uses the equipment solely to construct its own facilities, and never uses the equipment for any other purpose.

Viewing ACRS as a system providing for both cost recovery and subsidy,\textsuperscript{148} economic depreciation incurred during self-construction must be capitalized as part of the cost of the facility.\textsuperscript{149} The portion of the ACRS allowance in excess of economic depreciation is not a current expense and, therefore, is not properly treated as a cost of producing income. It is, rather, an investment incentive or subsidy.\textsuperscript{150} The question is whether there is any reason to deny the incentive when the purchased asset produces income currently not subject to tax. Since this equipment is used exclusively for self-construction, income generated by its use is not includible in the tax base as it accrues.\textsuperscript{151} This income is not, however, permanently tax exempt. The tax base reflects it over time by virtue of lower cost recovery deductions on the facility.\textsuperscript{152} As inclusion of the in-

\begin{tabular}{|c|c|c|c|}
\hline
YEAR & § 168 AMOUNT & CAPITALIZED \ DEPRECIATION & NET COST RECOVERY \ DEDUCTION \\
\hline
1987 & $24,000 & $ 7,500 & $16,500 \\
1988 & 38,400 & 15,000 & 23,400 \\
1989 & 23,040 & 15,000 & 8,040 \\
1990 & 13,824 & 15,000 & (1,176) \\
1991 & 13,824 & 15,000 & (1,176) \\
1992 & 6,912 & 15,000 & (8,088) \\
1993 & 0 & 15,000 & (15,000) \\
1994 & 0 & 15,000 & (15,000) \\
1995 & 0 & 7,500 & (7,500) \\
\hline
\end{tabular}

If the equipment were used for self-construction in 1996 and thereafter, no amounts would be capitalized or deducted under the suggested regime.\textsuperscript{151}

\begin{flushleft}
\textsuperscript{147} The portion of each ACRS deduction representing economic depreciation is, in any event, a properly capitalized cost of the newly constructed facility.
\textsuperscript{148} As discussed in text accompanying notes 67-71, if ACRS is viewed as no more than a very accelerated method of depreciation, the entire ACRS allowance would have to be capitalized as a cost of producing the facility, and the issue would not arise.
\textsuperscript{149} See text accompanying notes 72-97.
\textsuperscript{150} The subsidy portion of the deduction is the excess of the ACRS deduction over economic depreciation for any particular year. If \( B \) were entitled to ACRS benefits even though it used the equipment solely for self-construction, \( B \) would have to capitalize the following amounts of economic depreciation, and would be entitled to the following net cost recovery deductions during the equipment’s useful life:
\textsuperscript{151} See note 16.
\textsuperscript{152} If the economic income is not included as it accrues, it would not be capitalized into the cost of the facility.
\end{flushleft}
come may be deferred for as long as 31.5 years, benefits from deferral are substantial. For this reason, the combined benefits of both deferral and ACRS arguably are too generous.

The ACRS incentive is not unlimited. Congress extended the incentive only to those who acquire tangible depreciable property for use in a trade or business or for the production of income. Property held for personal use is not eligible for the subsidy. One rationale for the treatment of personal use property is that Congress intended to stimulate the purchase only of property that produces taxable income. Since imputed income generated by personal use property is not subject to tax, the subsidy is unwarranted for such property. By extension, the subsidy could be denied for property that produces income not currently subject to tax, even if the property is used in a trade or business.

This conclusion, however, is somewhat difficult to reach via statutory analysis, especially in light of the legislative history of ACRS. In contrast with personal use property, equipment which is concededly used in a trade or business appears to be eligible for the deduction under the literal language of the statute. Furthermore, the income generated by self-construction, as opposed to that generated by personal use assets, will eventually be reflected in the tax base, albeit at a later date. This is not a case of permanent exclusion. Finally, Congress has enacted legislation to encourage taxpayers to invest in certain types of property as long as they use such property in their trade or business. It is not at all clear

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153 See note 136.
154 Id. By way of analogy, because there are squirrels in the courtyard, trash baskets would be superfluous.
155 By contrast, the incentive for tax-exempt bonds is unlimited as to the purchaser, who may exclude the interest earned on the bond regardless of the use to which it is put. For example, the purchaser may consume the interest for personal purposes and not lose the benefit of the tax exemption.
156 IRC § 168(a).
157 IRC § 167(a).
158 Id.
159 This argument is somewhat analogous to the general principle that one cannot ordinarily deduct the expenses of producing tax-exempt income, on the theory that, since the income is not includible, the expenses attributable to earning it should not be deductible. See Miller v. Commissioner, 34 TCM (CCH) 37, 38 (1975); Rink v. Commissioner, 51 T.C. 746, 753 (1969); Rev. Rul. 87-102, 1987-2 C.B. 78. For example, one cannot deduct interest on debt used to purchase or carry tax-exempt bonds. IRC § 265(a)(2). Another analogy is § 163(h)(1), which prohibits the deduction of interest on debt used to purchase personal use property that produces nontaxable imputed income. Note, however, that Congress continues to permit the deduction of interest on debt used to acquire a primary or second residence even though the imputed rental income is not taxed. IRC § 163(h)(3).
160 The self-constructor, who is clearly in a trade or business, appears entitled to the deduction under the literal language of § 167(a). Arguably, when property is used for self-construction, it is not used in a trade or business and therefore depreciation is not available. The Supreme Court sidestepped that argument in Commissioner v. Idaho Power Co., 418 U.S. 1 (1974).
why the taxpayer is not engaged in precisely the economic behavior that Congress sought to induce when it enacted ACRS. The self-constructer has invested its capital in the designated property and is using it in its trade or business.

It can also be argued, however, that denying the benefits of ACRS to a builder who self-constructs will promote parity between those who self-construct and those who purchase by indirectly taxing a portion of the builder's imputed income. The inquiry is whether denying the net cost recovery deduction, or requiring it to be capitalized, is a feasible and close approximation of taxing imputed income.

In the example given, denial of ACRS benefits is administratively simple since the asset will never produce taxable income. B merely would never be entitled to the benefits of ACRS. In that case, economic depreciation can be capitalized and the timing advantage of ACRS forfeited. Where, however, B uses the equipment at times to produce taxable income, and at other times for self-construction, denying the benefits of ACRS is much more complex.

If self-constructors are denied ACRS benefits, one simple but unsatisfactory solution is to deny the net cost recovery deduction for any year in which B uses the equipment for self-construction. First, this suggestion only works if the conversion occurs during the beginning of the equipment's useful life. In later years, when economic depreciation exceeds the ACRS deduction, there will be no net recovery deduction to deny. Second, this solution denies only a portion of the ACRS benefits.

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161 The effect of permitting a builder to exclude from the tax base the economic income generated during self-construction is the equivalent of the builder including this amount in income, capitalizing it, and then immediately deducting it. In other words, excluding this income from the tax base is the equivalent of allowing a builder to expense this element of his cost. In contrast, the purchaser must pay a price which includes the independent contractor's profit margin. This element of the purchaser's cost must be recovered over the 31.5-year recovery period prescribed for facilities. As a result of this disparate treatment, builders have always been treated better than purchasers.

162 Another way to indirectly tax the imputed income, if the builder acquired the equipment with debt, is by prohibiting deductions for interest on the indebtedness. In some cases, this already occurs. Section 263A(f) requires builders to capitalize certain interest costs which are paid or incurred during the construction period. Interest on indebtedness directly attributable to production expenditures, as well as interest on indebtedness that could have been reduced if production expenditures had not been incurred, must be capitalized. This subsection, which covers real and personal property, applies to property with (1) a long useful life, (2) an estimated production period exceeding two years, or (3) an estimated production period exceeding one year with a cost exceeding $1 million. If, however, the equipment is not debt financed, the imputed income escapes taxation.

163 One might also preclude any depreciation for the equipment during self-construction by disallowing a deduction. However, this treatment has no theoretically sound basis.

164 This is the method chosen when a taxpayer stops using property in a business and then converts it to personal use. Reg. § 1.167(g)-1.

165 For example, in the present context, B has a positive net cost recovery deduction only for the years 1987 through 1989. See note 85.
to the self-constructor. To illustrate, suppose $B$ uses the equipment in the normal course of its business until January 1, 1989. At that time, the balance of the interest-free loan is $11,970.\textsuperscript{166} If $B$ devotes this equipment to self-construction during 1989, denying $B$ a net cost recovery deduction for that year will not reduce the outstanding balance of the loan, and $B$ will continue to enjoy the benefits of the interest-free loan. If the incentive nature of the interest-free loan is premised on the assumption that the equipment will be used to produce taxable income, when $B$ engages in self-construction, it should no longer be entitled to the interest-free loan. Simply denying the net cost recovery deduction for the year of conversion does not accomplish this.

There are at least two ways to retract these benefits. The first method is (1) to include the cumulative excess of ACRS deductions over aggregate economic depreciation in $B$'s gross income at the time of conversion,\textsuperscript{167} and (2) to permit $B$ a deduction at the end of self-construction equal to the amount of the excess cost recovery as if he had never used the property for self-construction.\textsuperscript{168} Although this approach, in effect, would reduce the balance of $B$'s interest-free loan during the period of self-construction, it is ineffective if self-construction begins and ends within the same taxable year.\textsuperscript{169}

The second method of terminating ACRS benefits upon self-construction is to increase $B$'s taxes by an amount equal to the tax benefits of the

\textsuperscript{166} The following chart, which was discussed earlier, identifies the amount of the interest-free loan at the end of each year of the equipment's useful life.

<table>
<thead>
<tr>
<th>YEAR</th>
<th>AGGREGATE ACRS</th>
<th>AGGREGATE ECONOMIC DEPRECIATION</th>
<th>EXCESS</th>
<th>TAX RATE</th>
<th>BALANCE AT YEAREN</th>
</tr>
</thead>
<tbody>
<tr>
<td>1987</td>
<td>$24,000</td>
<td>$7,500</td>
<td>$16,500</td>
<td>30%</td>
<td>$4,950</td>
</tr>
<tr>
<td>1988</td>
<td>62,400</td>
<td>22,500</td>
<td>39,900</td>
<td>30%</td>
<td>11,970</td>
</tr>
<tr>
<td>1989</td>
<td>85,440</td>
<td>37,500</td>
<td>47,940</td>
<td>30%</td>
<td>14,382</td>
</tr>
<tr>
<td>1990</td>
<td>99,264</td>
<td>52,500</td>
<td>46,974</td>
<td>30%</td>
<td>14,029</td>
</tr>
<tr>
<td>1991</td>
<td>113,088</td>
<td>67,500</td>
<td>45,588</td>
<td>30%</td>
<td>13,676</td>
</tr>
<tr>
<td>1992</td>
<td>120,000</td>
<td>82,500</td>
<td>37,500</td>
<td>30%</td>
<td>11,250</td>
</tr>
<tr>
<td>1993</td>
<td>120,000</td>
<td>97,500</td>
<td>22,500</td>
<td>30%</td>
<td>6,750</td>
</tr>
<tr>
<td>1994</td>
<td>120,000</td>
<td>112,500</td>
<td>7,500</td>
<td>30%</td>
<td>2,250</td>
</tr>
<tr>
<td>1995</td>
<td>120,000</td>
<td>120,000</td>
<td>0</td>
<td>30%</td>
<td>0</td>
</tr>
</tbody>
</table>

\textsuperscript{167} This is column four in the above chart. By way of example, assume that $B$ dedicated the equipment to self-construction on January 1, 1991. At that point, $B$ will have taken $99,264 in ACRS deductions. If, however, $B$ had only been permitted deductions for the economic depreciation on the equipment, it would have taken $52,500 in depreciation deductions. The $46,974 excess could be included in gross income.

\textsuperscript{168} Assuming the self-construction began on January 1, 1991, and lasted for two years, $B$ could deduct $37,500. This amount represents the excess of the aggregate ACRS deductions over the aggregate economic depreciation which would have been taken had $B$ never used the equipment for self construction.

\textsuperscript{169} The inclusion and the deduction would wash out.
outstanding interest-free loan for the year (or a portion thereof) during which the equipment was used for self-construction.\textsuperscript{170} While more precise, this method is much more complex.

Even if one of the two methods were adopted, there still would be a significant bias in favor of the self-constructor. Chart IV, which identifies the relative values of both the exclusion of imputed income and the subsidy portion of the ACRS deduction, demonstrates this. The after-tax value of the subsidy component of ACRS is tabulated in column five for each year of the equipment's useful life, and the after-tax value of not including imputed income in the tax base for each year is found in column eight.

For any given taxable year the value of excluding economic income exceeds the benefits of ACRS. Chart IV illustrates that limiting the benefits of ACRS is not an adequate proxy for taxing imputed income because, under current law, the benefits of the exclusion of imputed income always exceed those of ACRS.\textsuperscript{171}

One final way to deny the benefits of ACRS to one who self-constructs is to require capitalization of the entire ACRS deduction.\textsuperscript{172} Although one might try to justify this solution as a surrogate for taxing imputed income,\textsuperscript{173} it is a poor alternative in every case. In fact, full capitalization may overcompensate for not including imputed income in the tax base in the early years by taxing the self-constructor more heavily than it would have been taxed under a system which taxed imputed income.\textsuperscript{174} In later years, however, full capitalization is far more favorable to the self-constructor than excluding imputed income and capitalizing eco-
### CHART IV

<table>
<thead>
<tr>
<th>Year</th>
<th>ACRS</th>
<th>Econ. Depr.</th>
<th>Excess</th>
<th>$30% \times$ Excess</th>
<th>After-tax Value of Equip at Beg. of Yr.</th>
<th>Remaining Value of Equip at Beg. of Yr.</th>
<th>Imputed Income [10% of (6)]</th>
<th>Tax on Imputed Income [30% of (7)]</th>
</tr>
</thead>
<tbody>
<tr>
<td>1987</td>
<td>$24,000</td>
<td>$7,500</td>
<td>$16,500</td>
<td>$4,950</td>
<td>$174</td>
<td>$120,000</td>
<td>$12,000</td>
<td>$1,800</td>
</tr>
<tr>
<td>1988</td>
<td>$38,400</td>
<td>$15,000</td>
<td>$29,900</td>
<td>$11,970</td>
<td>$838</td>
<td>$112,500</td>
<td>$11,250</td>
<td>$3,375</td>
</tr>
<tr>
<td>1989</td>
<td>$23,040</td>
<td>$15,000</td>
<td>$47,940</td>
<td>$14,382</td>
<td>$1,007</td>
<td>$97,500</td>
<td>$9,750</td>
<td>$2,925</td>
</tr>
<tr>
<td>1990</td>
<td>$13,824</td>
<td>$15,000</td>
<td>$46,764</td>
<td>$14,029</td>
<td>$982</td>
<td>$82,500</td>
<td>$8,250</td>
<td>$2,475</td>
</tr>
<tr>
<td>1991</td>
<td>$13,824</td>
<td>$15,000</td>
<td>$45,588</td>
<td>$13,676</td>
<td>$957</td>
<td>$67,500</td>
<td>$6,750</td>
<td>$2,025</td>
</tr>
<tr>
<td>1992</td>
<td>$6,913</td>
<td>$15,000</td>
<td>$37,501</td>
<td>$11,250</td>
<td>$788</td>
<td>$52,500</td>
<td>$5,250</td>
<td>$1,575</td>
</tr>
<tr>
<td>1993</td>
<td>$15,000</td>
<td>$22,501</td>
<td>$6,750</td>
<td>$475</td>
<td>$37,500</td>
<td>$3,750</td>
<td>$1,125</td>
<td></td>
</tr>
<tr>
<td>1994</td>
<td>$15,000</td>
<td>$7,500</td>
<td>$2,250</td>
<td>$158</td>
<td>$22,500</td>
<td>$2,250</td>
<td>$675</td>
<td></td>
</tr>
<tr>
<td>1995</td>
<td>$7,500</td>
<td>-0-</td>
<td>-0-</td>
<td>-0-</td>
<td>$7,500</td>
<td>$750</td>
<td>$225</td>
<td></td>
</tr>
</tbody>
</table>

* It is assumed that B can take advantage of this deduction on the date the equipment is placed in service (July 1, 1987). Therefore B will enjoy the benefits of the interest-free loan on the excess deduction for one-half of 1987.

** Since B placed the equipment in service on July 1, 1987, B's capital is invested in this equipment for only one-half of 1987.
nomic depreciation. A fortiori, the self-constructor would be taxed far more favorably under this system than under one requiring inclusion of imputed income and capitalization of economic depreciation.

In conclusion, denying ACRS benefits to taxpayers while they self-construct would generally reduce the lack of parity caused by failure of the system to tax imputed income. This would be far more complex, however, and would produce less satisfactory results, than simply requiring inclusion of the economic income generated by self-construction in the first place.

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175 For example, if B used the equipment solely for self-construction in 1991, it would only capitalize $13,824. Under a system requiring capitalization of economic depreciation, it would capitalize $15,000. The advantage is more significant after the recovery period. For example, if B were to self-construct after 1993, it would capitalize no construction related depreciation.