2007

Taxing Income under Inflationary Conditions: The Israeli Experience

David Elkins

Follow this and additional works at: https://scholar.smu.edu/smulr

Recommended Citation

https://scholar.smu.edu/smulr/vol60/iss2/3

This Article is brought to you for free and open access by the Law Journals at SMU Scholar. It has been accepted for inclusion in SMU Law Review by an authorized administrator of SMU Scholar. For more information, please visit http://digitalrepository.smu.edu.
TAXING INCOME UNDER INFLATIONARY CONDITIONS: THE ISRAELI EXPERIENCE

David Elkins*

I. INTRODUCTION

INFLATION appears to be a prevalent phenomenon of the modern world. In the United States, one of the world’s most stable economies, the cost of living has doubled since 1980 and has more than quintupled since 1970.1 Since World War II, average prices have increased by a factor of more than ten.2

The income tax structure can ill afford to ignore the consequences of inflation. Bracket creep, for example, occurs when taxpayers with constant real incomes are subject to higher and higher rates of tax due to increasing nominal incomes.3 To avoid this phenomenon, tax brackets, credits, and exemptions must constantly be updated to account for the erosion in the value of the currency.4 The consequences of inaction can be demonstrated by noting that the Alternative Minimum Tax, originally intended as a supplemental tax on the wealthy, is presently affecting ever-greater numbers of middle-class taxpayers.5 The primary reason for this “trickle-down effect” is that the exemption amounts are not adjusted to

---

* Senior Lecturer, Netanya College School of Law, Israel; Visiting Professor of Law, Southern Methodist University Dedman School of Law; Ph.D. Bar Ilan University 1999, LL.M. Bar Ilan University 1992, LL.B. Hebrew University of Jerusalem 1982. Translations from the Hebrew are my own. I would like to thank Christopher Hanna for his comments on a draft of the article.

2. Mueller, supra note 1; see also Inflation Calculator, http://146.142.4.24/cgi-bin/cpicalc.pl.
5. MARVIN CHIRELSTEIN, FEDERAL INCOME TAXATION: A LAW STUDENT’S GUIDE TO THE LEADING CASES AND CONCEPTS 211 (10th ed. 2005).
Nevertheless, the need to adjust brackets, credits, and exemptions does not represent a phenomenon which is unique to the field of income taxation. Other fields of law are similarly affected by inflation. Were criminal fines not periodically adjusted, their deterrent effect would be gradually eroded. Fees of all kinds need to be constantly updated to reflect the fact that the currency loses value over time. In general, every legislative provision referring to an absolute number of dollars needs to be constantly revisited and revised.

The unique challenge which inflation presents to income taxation is how correctly to measure real accession to wealth during a period of rising prices.\(^7\) Taxing real instead of nominal accession to wealth is important for reasons both of horizontal equity and efficiency.\(^8\) To demonstrate, let us assume that the rate of interest a taxpayer is able to receive is equal to the rate of inflation; in other words, the quantity of goods and services which a person is able to purchase is the same whether she chooses to invest her income or consume it immediately. Under these conditions, consumers and savers are, by any reasonable measure, similarly situated.\(^9\) Taxing the saver's nominal interest, leaving her worse off than the consumer, would be horizontally inequitable. Taxing the nominal interest would be economically inefficient because, by creating a negative net real rate of return when the market is offering non-negative real interest, it would encourage immediate consumption over saving.\(^10\)

Furthermore, by reducing the real cost of borrowing, it would encourage debt financing over equity financing.\(^11\)

When the rate of inflation is relatively low, it is easy to ignore erosion in the value of the currency in which taxable income is computed and to consider nominal income as representing true accession to wealth. As the erosion of the currency's value becomes more pronounced, more and

---

6. I.R.C. § 55(d) (2006) (delineating the exemption amounts and containing no adjustment provision for adjustment); Chirelstein, supra note 5, at 211 ("[T]he alternative minimum tax has begun to reach many taxpayers much lower down the income scale . . . [because,] while major components of the regular income tax, including rate brackets, personal exemptions and the standard deduction, are annually adjusted for inflation, the AMT exemptions and rate brackets have not been so adjusted.")


8. Determining whether or not adjusting income for inflation is vertically inequitable would require empirical data regarding the relationship between nominal income and real income at various income levels.

9. When real interest is zero, consumers and savers would be similarly situated from both an income and a consumption perspective. When real income is positive, they are similarly situated only from a consumption perspective; from an income perspective, the saver is better off, although only to the extent of the real interest.


more attention is naturally focused on the incompatibility of nominal gain, on the one hand, and real increase in wealth, on the other. This is perhaps why, in the United States, public discussion of the effects of inflation on the computation of income is focused on such issues as long-term capital gain. Even when the annual rate of inflation is relatively low, the erosion in the value of the dollar over a long period of time is obvious.

When inflation is very high, it becomes readily apparent that even an intra-year adjustment for erosion in the value of the currency is necessary. During the late 1970s and early 1980s, the Israeli economy experienced a period of triple-digit inflation. Such a high rate of inflation constituted a threat not only to the functioning of the economy as a whole, but also to the integrity of the tax system. If the effects of inflation could not be neutralized, the concept of income would cease to have any meaning at all: any relationship between a taxpayer’s real accession to wealth and his nominal taxable income was likely to be no more than coincidental. Israel’s income tax system was, therefore, forced to adapt to inflation and devise methods by which to identify real gain as opposed to nominal gain.

Neutralizing the effects of inflation in the computation of income, especially when inflation is extremely high, would appear to be a daunting, perhaps even insurmountable, task. Almost every item of income and almost every deduction are affected by inflation and would require adjustment if only real income and real expenditures were to be taken into account. Nevertheless, Israel’s experience proves that not only is it possible to calculate real accession to wealth, but that it can be done surprisingly simply.

13. From 1979 to 1982, inflation varied from 101% to 132% a year. In 1983, inflation was 191%. In 1984, the rate of inflation was 445%. By April 1985, prices were galloping ahead at an annual pace of 740% before inflation was drastically and dramatically reduced to a 20% annual rate by a price stabilization program—the Economic Stabilization Policy instituted by the government in the summer of 1985. Israel Ministry of Foreign Affairs, Inflation—The Rise and Fall (2001), http://www.jewishvirtuallibrary.org/jsource/Economy/eco5.html. Data on the monthly change in Israel’s consumer price index can be found at http://www1.cbs.gov.il/reader/cw_usr_view_folder?ID=141. (The rate of inflation for any given month is computed by dividing the index for that month by the index for the previous month. The rate of inflation for any given year is computed by dividing the index for December of that year by the index for the previous December).
14. A significant exception is the income of an employee who takes no deductions and receives his entire salary in cash. In such a case, the nominal amount of cash received is the employee’s real income.
15. The Income Tax (Adjustments for Inflation) Law (hereinafter “ITAIL”) contains a total of thirty-four sections plus three schedules, which define key terms. 5745–1985, 1154 SH 172. The entire statute contains not much more than 10,000 words. It replaced a previous statute, the Income Tax (Taxation under Inflationary Conditions) Law (hereinafter “ITTICL”), which was based on the same principles but was significantly more complicated. 5742–1982, 1061 SH 234. See generally Yishai Beer, Taxation Under Conditions of Inflation: The Israeli Experience, 5 Tax Notes Int’l 299 (Aug. 10, 1992).
although originally introduced as a temporary measure for the period of rampant inflation, the legislation is still in effect over twenty years later, despite the fact that the rate of inflation in Israel today is similar to that of the United States or the European Union.\footnote{16}

This Article will present in broad outline the method adopted by Israeli legislation for the purpose of neutralizing the effect of inflation and determining the taxpayer's real accession to wealth. Although the tax system concerned is Israeli, I will, both for purely stylistic reasons and also to emphasize the universal applicability of the technique, use the dollar as the unit of currency in the explanations and examples which follow.

Part II will consider how inflation presents a challenge to the computation of income. It will discuss gains from sales of assets, interest income and deductions, and the consequences of holding cash and similar assets which neither produce income nor appreciate.

Attempting fully to neutralize the effects of inflation through a piece-meal, or item-by-item, approach is probably an exercise in futility: the technical difficulties involved in isolating the myriad of points at which nominal income or expense does not correspond to real income or expense and converting the nominal figures into real ones are formidable.\footnote{17}

In many cases, however, it turns out not to be necessary. Often inflationary income and inflationary expenses, neither of which should ideally be recorded, will exactly cancel each other out, so that taxable income is the same as it would have been had the effects of inflation been directly neutralized. Part III will explore the conditions which must exist for the self-adjustment to occur and will also present a simple, comprehensive method to convert nominal profit into real profit when they do not.

It turns out, however, that the comprehensive approach is problematic because of a serious timing issue. Therefore, Part IV will present the hybrid system adopted by Israeli legislation, a system incorporating much of the simplicity of the comprehensive approach and yet avoiding the timing problem.

The Israeli model of neutralizing the effects of inflation requires that the taxpayer's books be kept in accordance with the principles of double-entry accounting. For those taxpayers who don't use double-entry accounting, a piecemeal approach, involving a certain degree of estimation, is unavoidable. Part V reviews those provisions in the Israeli legislation which attempt to estimate the effect of inflation on the income of those who do not use double-entry accounting.

Finally, Part VI presents some concluding thoughts.

\footnote{16. With the exception of 2002, in which inflation was 6.5%, the annual rates of inflation between 1999 and 2005 varied between -1.2% and 3.4%. See supra note 13.}
\footnote{17. See Part V, \textit{infra}, for an explanation of Israel's attempt to convert nominal income into real income in a piecemeal fashion in those situations when a more comprehensive approach is unworkable.}
II. REAL INCOME AND NOMINAL INCOME

During periods of inflation, nominal income will not necessarily reflect real income. One aspect of this problem is the correct computation of multi-year income when deductions are carried from one tax year to another. For example, a loss carried forward and deducted in a subsequent tax year will result in multi-year income being overstated, unless the amount of the loss is adjusted to reflect the decreasing value of the currency.\(^\text{18}\) Nominal computation of depreciation deductions will similarly result in income being overstated.

In this type of situation, the remedy is fairly clear. Items such as losses and depreciation deductions need to be adjusted to reflect the loss in value of the relevant currency from the year of origin—the year in which the loss was sustained or in which the depreciated asset was purchased—to the year in which the deduction is actually claimed.\(^\text{19}\) As the number of items carried forward from one tax year to the next is ordinarily relatively small, the task of multiplying them by one plus the rate of inflation should not prove overly arduous.

Determining how inflation affects the computation of income within a single tax year requires a more complicated analysis. Part II will discuss those items of income and expenditure which are affected by inflation and will consider the piecemeal adjustments which would be necessary in order to convert nominal gain into real gain. Subsequent parts will consider more comprehensive solutions to the problem.

A. GAINS (AND LOSSES) FROM SALES OF ASSETS

A taxpayer who purchased property in 1970 for $100,000 and sold it in 2006 for $800,000 will report a nominal gain of $700,000. His real gain, however, is only about $285,000; the other $415,000 reflects, not any increase in value of the property, but a decrease in the value of the currency in which such value is measured. An increase merely in the dollar value of property concerned is one example of "inflationary profits," or nominal gain unsupported by any real accession to wealth. Such a phenomenon is well recognized with regard to long-term capital gain and is

---

\(^{18}\) Assume, for example, that a taxpayer reports a net real loss of $100,000 in year 1 and net real taxable income (before loss carryover) of $110,000 in year 2. After deducting the loss, taxable income in the second year will be $10,000. If, however, inflation is 10% a year, the net real accession to wealth in the two years would be zero.

\(^{19}\) ITAIL section 9 allows losses carried forward from one tax year to the next to be adjusted for inflation. 5745–1985, 1154 SH 172. It should be noted that Israeli tax law contains no provision for losses to be carried back. Were losses allowed to be carried back, see, e.g., I.R.C. § 172(b)(1)(A)(i)(2006), they would need to be adjusted downward to reflect the greater value of the currency in preceding year.

ITAIL section 3 provides that depreciation and amortization deductions be adjusted to account for inflation from the year of purchase to the year of deduction. 5745–1985, 1154 SH 172 § 3.

Sections 3 and 9, it should be noted, are only applicable to those taxpayers who keep their books in accordance with the principles of double-entry accounting. See Part V, infra. With regard to other taxpayers, while section 18 authorizes adjustment of depreciation deductions, there is no provision for adjusting losses. ITAIL, 5745–1985, 1154 SH 172 § 8.
cited as one of the justifications for the tax preference given to such gain.20

Less recognized, though just as significant, is the fact that all property, including inventory, suffers the same fate. The phenomenon of inflationary profits is less pronounced and less noticeable with regard to inventory simply because the holding period of inventory is ordinarily shorter than that of capital assets. Nevertheless, it is just as real.

Inflationary profit on the sale of an asset—whether a capital asset or inventory, and regardless of the length of time the asset was held—results from the fact that gain is defined as the difference between the amount realized at the time of sale and the taxpayer’s basis in the property.21 Seeing as assets are ordinarily sold after they are bought, it would follow that the dollars with which the asset was purchased were worth more than dollars received at the time of sale. Under a nominal tax system, the difference between the number of dollars received and the number of dollars originally paid is defined as the taxpayer’s gain. However, the difference between these two nominal sums tells us no more about the taxpayer’s accession to wealth than knowing that he purchased an asset for one hundred euros and sold it for one hundred and fifty dollars, without considering the fact that a euro and a dollar do not have the same value. Determining whether and how much he profited from the transaction requires first converting the two sums into units of a common currency and only then subtracting one from the other. Similarly, only when yesterday’s dollars are converted into today’s dollars does the difference between the amount realized and the basis have any meaning.

Where the holding period of an asset is short, the difference in value may indeed be negligible. Nevertheless, the quantity of inventory sold in a typical business will result in even a small inflationary effect becoming significant.

Inflation affects not only the computation of gain, but also the computation of losses. Where the basis is greater than the amount realized, simply subtracting one number from the other will understate the actual economic loss.22 Furthermore, the fact that the amount realized on the sale of an asset is greater than its basis—in other words, the fact that the sale produces a nominal gain—does not mean that the taxpayer did not suffer a loss in real terms.23


21. I will refer to “basis” rather than to “adjusted basis” so as to avoid confusion between a basis which has been adjusted to account for capital investment and depreciation, on the one hand, and a basis which has been adjusted for inflation, on the other.

22. If, for example, a taxpayer purchased property in 1970 for $100,000 and sold it in 2006 for $70,000, his real loss would not be $30,000, but fully $445,000.

23. Purchasing property in 1970 for $100,000 and selling it in 2006 for $400,000 will result in a nominal gain of $300,000, but in a real loss of $115,000.
The income produced by interest-earning assets—bonds, savings accounts, interest-bearing accounts receivable, and so forth—contains an obvious inflationary element. Interest constitutes a real accession to wealth only to the extent by which it exceeds the rate of inflation. That portion of the interest which merely compensates for the devaluation of the currency in which the loan is to be repaid is not real income. Similarly, nominal interest expenses must also be bifurcated into real interest, on the one hand, and interest which merely compensates for the erosion in the value of the currency, on the other. Only the real interest is an actual expense, and only it, therefore, should be permitted as a deduction.24

Some assets do not produce inflationary income. Cash—including checking account balances, non-interest-bearing accounts receivable, and so forth—is perhaps the foremost example. Nevertheless, this does not mean that the affects of inflation on a taxpayer's cash holdings can be ignored when attempting to compute the real accession to wealth.

The cost of holding cash is ordinarily twofold. First, there is the opportunity cost: cash does not earn interest. The tax structure takes this cost into account simply by not taxing the interest which could have been earned. The opportunity cost of not being able to earn interest on cash holdings and the tax structure's allowing an indirect deduction for this cost are common to both inflationary and non-inflationary environments.

During periods of inflation, however, holding onto cash involves an additional expense which is not accounted for merely by refraining from taxing the waived interest. Inflation erodes the value of cash holdings. This does not, of course, mean that holding onto cash in an inflationary climate is necessarily negligent. Usually businesses will need to keep a certain amount of cash on hand, despite the fact that each day it is held it is worth less. This erosion in value is an ordinary and necessary expense of doing business and should, therefore, be deductible.25

When an asset earns interest at less than the rate of inflation, accounting for inflation would require both refraining from taxing the interest—which does not represent a real accession to wealth—and allowing a deduction for the erosion in the value of the holding. The erosion in value in this case would be equal to the difference between the rate of inflation and the nominal interest earned.

25. Where cash is held outside of a business or investment context, the erosion in value will most likely be in the nature of a consumption expense and should not be deductible.
Similarly, one who succeeds in borrowing money at less than the rate of inflation not only incurs no real expense but actually repays less—in real terms—than the amount originally received. In addition, therefore, to denying a deduction for the interest paid, the difference between the real value of the money borrowed and the real value of the money repaid, including the interest, should be considered, in effect, a form of discharge of indebtedness and should be considered income in the hands of the borrower.

III. ACCOUNTING FOR INFLATION

Neutralizing the effects of inflation and determining the taxpayer’s real accession to wealth on a piecemeal basis would require (a) adjusting the gain or loss from every transaction in property (including sales of inventory), (b) isolating inflationary interest from real interest on both the income and the deduction sides, (c) allowing a deduction for the erosion in value of both cash holdings and interest-earning assets whenever the interest is insufficient to compensate for the effect of inflation, and (d) taxing as income from discharge of indebtedness the difference between the real value of borrowed funds and the real value of the amount repaid whenever the nominal interest charges incurred by the taxpayer are less than the rate of inflation.\(^2\) The practical difficulty of implementing these principles on a piecemeal basis would appear to be prohibitive.\(^3\) One can only imagine, for example, a department store attempting to isolate the real as opposed to the inflationary gain from every item of merchandise sold, to keep track of the erosion in value of its day-to-day non-interest-earning cash holdings, and to separate the real and inflationary components of the interest it pays and receives. The daunting nature of the exercise would appear to doom any attempt to impose tax on real accession to wealth.

A. THE PHANTOM DEDUCTION

The first step toward devising a technique by which to neutralize the effects of inflation on the computation of taxable income is to note that, while items of nominal income and nominal expenses are often inaccurate in real terms, the inaccuracies often cancel each other out. Let’s start with a simple example. Assume that a business borrows $1,000 with which it purchases inventory. It later sells the inventory for $1,200, and repays the loan. Interest charges amount to $80. Assume furthermore that during the time period concerned, inflation was 5%.

Since the nominal gain on the sale was $200 and the nominal interest incurred was $80, a tax structure which did not account for the effects of inflation would consider taxable income to be $120. We know, however,

\(^2\) See infra Part III.A–C.

that the real gain on the sale was not $200, nor was $80 the real interest incurred. Since date-of-purchase dollars were more valuable than date-of-sale dollars, the taxpayer's basis in the inventory, in terms of date-of-sale dollars, was actually $1050. The real gain on the sale was therefore only $150. Furthermore, of the $80 interest expense incurred, $50 was merely compensation for the fact that the repaid dollars were worth less than the borrowed dollars. The real interest expense—the actual cost of holding on to the lender's money—was only $30. The taxpayer's real accession to wealth was, therefore, $150 minus $30, or $120.

The fact that the nominal profit and the real profit are identical is not a mere coincidence, as the reader may ascertain by substituting any numbers he or she wishes for those chosen in the example. What happens is that when, as here, the purchase of business or investment property is financed by loans, the inflationary interest expense will equal the inflationary gain. When one is subtracted from the other in order to arrive at nominal taxable income, the inflationary expense will cancel out the inflationary gain and the difference will be equal to the real accession to wealth.

The same analysis would hold regardless of the use to which the taxpayer put the borrowed funds. Were he to lend the money at interest, the inflationary component of the interest received would be countered by the inflationary component of the interest paid. Were he to hold onto the borrowed funds in the form of cash, the inflationary component of the interest paid would properly quantify the erosion in the value of the cash holding. It would not, therefore, be inaccurate to state simply that where a business or investment is financed through borrowed funds, nominal taxable income is equivalent to real income and no adjustment is necessary.

When a business or investment is financed by equity, on the other hand, nominal income overstates real accession to wealth. Gains from sale of property and interest income both contain inflationary elements. Inflation erodes cash holdings. If practical considerations preclude the isolation of real profits on an item-by-item basis, the problem of determining real accession to wealth in such a case might again seem insurmountable.

Nevertheless, the previous analysis suggests a way around this difficulty. Where the business or investment is financed by loans, the inflationary interest deduction counteracts the inflationary income. We might, therefore, consider allowing an artificial interest deduction for equity to offset either the artificial income generated by assets financed by that equity or the erosion of those assets' value. To demonstrate, let us refer back to our previous example, but with the purchase of the inventory being financed this time by equity. Although the real profit earned

---

28. In the example above, were the purchase of the inventory financed by equity, nominal taxable income, in the absence of an interest deduction, would be $1200-$1000=$200. Real gain is only $150.
by the taxpayer was $150, nominal gross income on the sale was $200. Assume, however, that the taxpayer were allowed a phantom interest deduction equal to the equity investment times the rate of inflation: $1000 \times 5\% = $50. Taxable income would be $150, corresponding to real accession to wealth. The apparently intractable task of neutralizing the influence of inflation would be reduced to a grade school exercise in mathematics.

B. Timing Issues

Allowing the taxpayer a phantom interest deduction on equity investment would apparently suffice to convert nominal income into real income: debt-financed assets are self-adjusted for inflation, while equity-financed investments are adjusted for inflation by means of the phantom deduction. Such a simple solution, however, ignores the crucial issue of timing.

Consider the case of a debt-financed capital asset. An income tax based upon nominal values would allow the entire amount of the interest to be deducted and would tax the nominal appreciation of the value of the asset. The inflationary interest deduction is supposed to counterbalance the inflationary gain, so that nominal taxable income would equal real accession to wealth.\(^{29}\) Interest, however, is ordinarily deductible in the year in which it accrues. Appreciation in the value of the capital asset, on the other hand, is not recognized until the asset is sold. Were the tax system to adopt the inflation-neutralizing technique of simply allowing inflationary interest to offset inflationary capital gain, the taxpayer would, in effect, benefit from an interest-free loan.

Assume, for instance, that the taxpayer purchases rental land for $1,000,000, financed by a loan at 25% interest. Inflation, we will assume, is 20% a year and the fair market rent of the land is $50,000 a year. For the sake of simplicity, we will also assume that the real value of the land and the real fair market rent remain constant and that no deduction is allowed for depreciation.

Ignoring tax considerations, the investment would appear to generate neither profit nor loss. At the end of the first year, for example, the taxpayer would have land worth $1,200,000 along with $50,000 cash and would owe $1,250,000 on the loan. Should he use the cash to pay off part of the debt and continue renting out the land, he would, at the end of the second year, have land worth $1,440,000 along with $60,000 cash and a debt of $1,500,000.

Now let us assume that the taxpayer is subject to tax on nominal taxable income at the rate of 40%. For the first year, he would report income of $50,000 and would take an interest deduction of $250,000. The $200,000 loss would, let us assume, offset $200,000 of other income and would thus be worth $80,000. In the second year, he would report income

\(^{29}\) See supra Part III.A.
The Israeli Experience

of $60,000 and would take an interest deduction of $300,000, for a loss of $240,000 worth $96,000 when used to offset other income. Assume now that at the beginning of the third year, the taxpayer sells the land. He would report a nominal gain of $440,000 and pay tax of $176,000. This amount is equal to his total tax savings in previous years. Nevertheless, the taxpayer enjoyed free use of government money; not a bad outcome from his perspective, especially when the prevailing interest rate is 25% a year. Of course, the longer the property is held and the higher the relevant interest rate, the more advantageous this arrangement becomes.

C. Simplicity vs. Timing: The Dilemma

A comprehensive approach of simply allowing a phantom deduction for equity is technically simple, but problematic because of the timing issue. A piecemeal approach would obviate the timing problem of how to match inflationary interest deductions with inflationary gain—only real interest would be deductible each year and only real gain would be taxed at realization—but would face serious technical problems: isolating real interest from inflationary interest and isolating real gain from inflationary gain on the sale of every item of inventory. An acceptable solution would need to combine, to the extent possible, the simplicity of the comprehensive approach and the accuracy of the piecemeal approach.

We may now turn our attention to the solution adopted by the Israeli legislation.

IV. A Hybrid Approach

Israeli tax legislation adopted a hybrid approach to the problem of adjusting income for inflation. Under the provisions of Israeli tax law, capital assets are specifically protected from the effects of inflation: in computing taxable capital gain, the taxpayer's basis in the property is adjusted for inflation, so that only real gain is subject to tax. Other items of income and expenditure are adjusted in a comprehensive manner.33

30. Any tax preference given to capital gains would, of course, only exacerbate the situation. The ascription of phantom income solves this problem also. See infra Part IV.
31. The same problem would arise if the investment were financed by equity and the taxpayer were allowed a phantom deduction.
33. Taxing only real capital gains actually predates the current inflation-neutralizing legislation. In fact, neutralizing the effects of inflation has been an integral part of the Israeli capital gains tax since its introduction. Originally, inflation was accounted for by the crude method of taxing nominal gain but reducing the tax by a fixed percentage for each year the asset was in the possession of the taxpayer. Income Tax Ordinance, 5721–1961, 15 LSI 145 §§ 91(b), (c) (1960–61) (Isr.), as amended by Income Tax Ordinance Amendment Law (No. 6), 5725–1965, 19 LSI 24 § 23 (1964–65) (Isr.). Eventually, in 1975, the earlier method was replaced by the present one of adjusting the basis for inflation and thereby isolating the real capital gain, although prior to the introduction of the inflation-neutralizing legislation, full indexation was permitted only for long-term capital gain, de-
In addition to solving the timing issue, piecemeal provisions, such as the indexation of capital assets, might also appear to be a simplifying mechanism, neutralizing, where it is relatively simple to do so, the effect of inflation with regard to certain items of income and leaving those items of income and expenditure for which the application of a piecemeal approach is more difficult to be inflation-adjusted through other means. One might assume that, having fewer items of income and expenditure to consider, the process of inflation-adjusting taxable income would be easier.

However, this proves not to be the case. The comprehensive approach of neutralizing the effects of inflation by allowing a phantom deduction for equity relies upon the simplifying assumption that every asset either produces inflationary income or loses value because of inflation. A hybrid approach, by protecting some assets but not others, undermines that assumption and slightly complicates the task of determining real accession to wealth.

As we have already come to recognize, the effect of inflation on a particular item of income cannot be satisfactorily analyzed without also con-
The Israeli Experience

Considering how the asset producing that income was financed. When a capital asset is financed through an equity investment, the piecemeal technique of isolating the real capital gain and exempting from tax the inflationary gain produces the desired result. The problem arises when a capital asset is financed by means of a loan. Let us return to our original example, but with the property concerned being not inventory but a capital asset. Taxable capital gain—the difference between the amount realized at sale and the inflation-adjusted basis—would be $150. However, seeing as the investment was financed by a loan, the taxpayer would be entitled to an interest deduction of $80. Taxable income would be $70, which is less the real gain of $120. In this example, the taxpayer is being overprotected from the effects of inflation: on the one hand, he is entitled to exclude the inflationary capital gain; on the other hand, he is allowed to deduct the inflationary interest.

Since inflationary capital gain is excluded, inflationary interest expenses should not be deductible. However, isolating inflationary interest on a piecemeal basis is too difficult in practice; a more comprehensive solution is required. Taking a hint from the phantom interest deduction on equity-financed inventory, we might consider phantom income on debt-financed capital assets. That is, debt-financed capital assets might be considered to produce income equal to their cost times the rate of inflation, such income counteracting the inflationary income deduction. Thus, in our example, capital gain would be $150, phantom income would be $50 ($1000 x 5%) and the interest deduction would be $80. Taxable income would amount to $120, corresponding again to real accession to wealth.

This hybrid system retains much of the simplicity of the comprehensive approach, while avoiding the timing problems. Recall the example of the debt-financed rental property. Under a hybrid system, the taxpayer would report, in the first year, rental income of $50,000 and phantom income of $200,000 ($1,000,000 x 20%). The $250,000 interest deduction would result in taxable income of zero, reflecting economic reality. In the second year, rental income of $60,000 and phantom income of $240,000 ($1,200,000 x 20%) would exactly offset the interest deduction of $300,000. When the property was eventually sold, taxable gain would be zero.

The contours of the Israeli model are beginning to take shape. Equity-financed assets that are not independently protected from inflation are entitled to a phantom deduction. Debt-financed assets that are independently protected are subject to phantom income. In each of the other two permutations—equity-financed assets that are independently protected and debt-financed assets that are not—no adjustment is

34. Cf. Halperin & Steuerle, supra note 7, at 360.
35. See infra Part IV.A.
36. See infra Part IV.A.
necessary.  

A. THE TECHNIQUE OF THE ISRAELI LEGISLATION

Israel's inflationary tax statute distinguishes between "fixed assets" and "non-fixed assets."  

Fixed assets are those assets which are protected from inflation through piecemeal legislation, the primary example being capital assets, excluding those capital assets which produce interest.  

All other assets appearing in the taxpayer's balance sheet, including inventory, cash, and loans, are non-fixed assets.  

Equity-financed non-fixed assets need to be protected by a phantom deduction. Debt-financed fixed assets are overprotected and require the ascription of phantom income. How, though, can we determine how each particular asset was financed? The problems involved in tracing, after all, are legendary.  

The solution, beautiful in its simplicity, is that it doesn't matter. Any error will be rectified by an equal and opposite error.  

To demonstrate, consider a business that owns two assets, one fixed and one non-fixed, each of which cost $1000. Their purchase was financed by a loan of $1000 and equity of $1000. If we were to assume that the fixed asset was financed by the equity and that the non-fixed asset was financed by the debt, no adjustment would be necessary. If we were to assume that the fixed asset was financed by debt and the non-fixed asset by equity, the former will require phantom income while the latter will require a phantom deduction, each equal to $1000 times the rate of inflation. The phantom income and phantom deduction would cancel each other out.  

The two constructions yield equivalent results. Nevertheless, the former is simpler, so it served as the basis of the legislative scheme. In other words, debt is effectively attributed, to the extent possible, to non-fixed assets. Equity is effectively attributed, to the extent possible, to fixed assets. Adjustment is only necessary to the extent that debt exceeds the depreciated basis of non-fixed assets or, alternatively, that equity exceeds the depreciated basis of fixed assets.  

In technical terms, the statute provided that where equity exceeds fixed assets, the taxpayer is entitled to a deduction for inflation ("DFI") equal to the difference times the rate of inflation. Where, on the other hand, fixed assets exceed equity, an addition for inflation ("AFI"), again equal to the difference multiplied by the rate of inflation, is added to the

---

37. See infra Part IV.A.
38. ITAIL, 5745–1985, 1154 SH 172 Schedule B.
39. Id.
40. The term "fixed asset" is defined in ITAIL, Schedule B. Id. For convenience, I shall refer to any asset not so defined as a non-fixed asset.
42. ITAIL, 5745–1985, 1154 SH 172 § 7(b). The deduction is limited to 70% of the taxpayer's taxable income. Any amount not used is carried forward to subsequent tax years. Id. Carried-forward DFI is, of course, adjusted for inflation.
taxpayer's income for the year.\textsuperscript{43} The figures are taken from the taxpayer's opening balance sheet and are adjusted to reflect any discrepancy between financial and tax accounting.\textsuperscript{44}

To demonstrate, assume that the taxpayer's balance sheet for the close of the previous year appears as follows:

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-fixed assets</td>
<td>900</td>
<td>Debt</td>
</tr>
<tr>
<td>Fixed assets</td>
<td>1100</td>
<td>Equity</td>
</tr>
<tr>
<td></td>
<td>2000</td>
<td></td>
</tr>
</tbody>
</table>

Because fixed assets ($1,100) exceed equity ($700) by $400, the taxpayer would need to report an AFI, or phantom income, of $400 times the rate of inflation for the year. By examining the balance sheet, we can see why this adjustment is necessary. Where fixed assets exceed equity, some of those assets must have been financed by debt, giving rise to a double protection from inflation. The AFI is necessary to counteract the overprotection. Non-fixed assets are considered funded entirely by debt and no adjustment is therefore necessary with regard to them.

Consider now a balance sheet which looks like this:

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-fixed assets</td>
<td>1500</td>
<td>Debt</td>
</tr>
<tr>
<td>Fixed assets</td>
<td>500</td>
<td>Equity</td>
</tr>
<tr>
<td></td>
<td>2000</td>
<td></td>
</tr>
</tbody>
</table>

Equity ($1,200) exceeds fixed assets ($500) by $700. The taxpayer would therefore be entitled to a DFI equal to $700 times the rate of inflation. Again, the balance sheet provides the explanation as to why this is so. Fixed assets may be considered funded entirely by equity, necessitating no adjustment. Some of the equity must be viewed as funding the non-fixed assets. These assets are under-protected from the effects of inflation and require a phantom interest expense in the form of the DFI.\textsuperscript{45}

\begin{itemize}
  \item \textsuperscript{43} Id. § 7(d).
  \item \textsuperscript{44} Id. Schedule A, § 3.
  \item \textsuperscript{45} During times of inflation, the method of accounting for inventory—LIFO or FIFO—would appear to have far-reaching consequences. Where the nominal value of inventory increases consistently over time, the income reported under LIFO could be significantly less than the income reported under FIFO.
  
  The Israeli inflationary tax statute does not refer specifically to methods of accounting for inventory. The purpose of the statute is merely to neutralize the effects of inflation in computing taxable income, and the issue of whether LIFO or FIFO is a more appropriate method would exist even in the absence of inflation. What the technique adopted by the Israeli legislation does do is neutralize the inflationary component of the difference.
  
  To demonstrate, let us assume that a taxpayer purchases inventory on the last day of year 1 for \$100. We will assume that all purchases are financed with equity, that the real value of inventory remains constant, and that the rate of interest exactly equals the rate of inflation, which is 20% a year. At the end of year 2 the inventory will be worth \$120. Assume that the taxpayer now purchases another item of inventory at this price. At the end of year 3, he sells one of the items for \$144. At the end of year 4 he sells the other item for \$172.80.
  
  Under the inflation-neutralizing technique of the Israeli legislation, it makes no difference whether the taxpayer reports his income using LIFO or the FIFO. To show why this is so, let us look at the taxpayer's balance sheet for each of the years in question. At the end of year 1, it will show:
C. Intra-Year Changes

A balance sheet describes assets, liabilities, and equity as they were at a given moment. Over time these items change: assets are purchased and sold, debts accrue and are paid, equity is raised or distributed. Relying on the figures as they appeared on the balance sheet at the beginning of the year and ignoring changes in those figures as the year progressed would result in an inaccurate assessment of the extent to which a taxpayer's income is affected by inflation. Requiring a daily or monthly update of the balance sheet, on the other hand, could prove arduous.

Fortunately, here, too, the solution is simpler than it may appear at first glance. The first point to consider is that replacing one non-fixed asset with another non-fixed asset is insignificant. Thus, purchasing or selling inventory for cash—both of which are non-fixed assets—may be ignored. As accounts receivable—whether accruing interest or not—is also a non-fixed asset, selling on credit and collection of debt are also nonevents as far as inflationary effects are concerned.

<table>
<thead>
<tr>
<th>Inventory</th>
<th>100</th>
<th>Equity</th>
<th>100</th>
</tr>
</thead>
</table>

And at the end of year 2, it will show:

<table>
<thead>
<tr>
<th>Inventory</th>
<th>220</th>
<th>Equity</th>
<th>220</th>
</tr>
</thead>
</table>

The balance sheet for the end of year 3 will depend upon the accounting technique adopted. Under LIFO, it will show:

<table>
<thead>
<tr>
<th>Inventory</th>
<th>100</th>
<th>Equity</th>
<th>244</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash</td>
<td>144</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

While under FIFO, it will show:

<table>
<thead>
<tr>
<th>Inventory</th>
<th>120</th>
<th>Equity</th>
<th>264</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash</td>
<td>144</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Let us now calculate the annual taxable income which will be reported by the taxpayer. In year 2, the taxpayer will report no income. He will, however, be entitled to a DFI, based upon the balance sheet for the close of year 1, of $20. This deduction, if it cannot be used in year 2, will be carried forward.

In year 3, the taxpayer will report a gain of $24 from sale of inventory, under LIFO, or a gain of $44, under FIFO. In either case, he will be entitled to a DFI, based upon the balance sheet for the close of year 2, of $44. Furthermore, he will be entitled to deduct the carried-over DFI, which, adjusted for inflation, is now worth $24. Thus, under LIFO, the taxpayer will report a loss of $44, while under FIFO, he will report a loss of $24.

In year 4, a LIFO taxpayer will report a gain of $72.80 from sale of inventory and additional income of $28.80 from interest on the $144. He would have a DFI for the current year of $48.80, based upon the equity of $244 in the balance sheet for the close of year 3. The loss from the previous year, adjusted for inflation, would be equal to $52.80. Taxable income would be zero. A FIFO taxpayer, by contrast, would report a gain from sale of inventory of $52.80, interest of $28.80, a current DFI of $52.80, and an adjusted carry-over loss of $28.80. Again taxable income would be zero.

The difference between the two accounting methods might, of course, be significant, if the real value of the inventory increased or if real interest were positive and the taxpayer had other income in year 3, against which he could offset the DFI generated in that year or carried over from previous years. However, the question of when real interest should be taxed or deducted and when real gain should be reported is not an inflationary issue. Limiting itself to neutralizing the inflationary element of taxable income, the Israeli inflationary tax statute does not take a position on those substantive tax issues, which would arise even in the absence of inflation.
Consider now what happens when a taxpayer incurs debt in order to purchase inventory. Debt-financed non-fixed assets require no adjustment for inflation, so this event too can be ignored. Borrowing cash and repaying loans are also irrelevant.

In fact, the only events which would result in a relevant change in the balance sheet would be (a) the purchase or sale of a fixed asset and (b) an increase or decrease of equity. Such events are relatively few in number.46 Israeli legislation thus provides for what it refers to as "positive changes" and "negative changes."47 A positive change is the sale of a fixed asset or an increase in equity. A negative change is the purchase of a fixed asset or a decrease in equity. In either case, the amount of the change is multiplied by the rate of inflation from the month in which it occurred until the end of the year and is then either added to or subtracted from the DFI or the AFI.48

The final formula for neutralizing the effects of inflation would therefore be:

\[
[(\text{Equity} - \text{Fixed Assets}) \times (\text{Annual Inflation})] \pm [(\text{Changes}) \times (\text{Inflation from Month of Each Change})]
\]

V. SUPPLEMENTARY PROVISIONS IN THE ABSENCE OF DOUBLE-ENTRY ACCOUNTING

Neutralizing the effects of inflation through the application of a relatively simple formula based upon figures as they appear in the taxpayer's balance sheet requires that the taxpayer keeps his books in accordance with the principles of double-entry accounting.49 With regard to those

46. Publicly-traded securities are a notable exception. A far-reaching solution to the technical burden of treating each purchase or sale of a publicly-traded security as a change is to classify such securities as non-fixed assets and to tax them on a mark-to-market basis. Indeed, during the years 1982–1984, publicly-traded securities were taxed on a mark-to-market basis. ITTICL, 5742–1982, 1061 SH 234 § 20. The treatment of publicly-traded securities under ITAIL section 6 has varied over the years. From 1985–1991, publicly-traded securities were taxed mark-to-market in those years in which they were either purchased or sold; when they were held throughout the year they were classified as fixed assets, their real appreciation in those years going untaxed. ITAIL, 5745–1985, 1154 SH 172 § G. From 1992–1998, publicly-traded securities were taxed mark-to-market only in the year in which they were purchased and were considered fixed assets from the subsequent year forward, real appreciation being taxed upon sale. Id. Since 1999, publicly-traded securities have been classified as fixed assets, and real appreciation is taxed only in the year of sale. Id., as amended by Income Tax Law (Adjustments for Inflation) (Amend. No. 11) 5759–1998, 1690 SH 11. In 2002, ITAIL section 6 was cancelled. The taxation of capital gains from publicly-traded securities is now governed by the ordinary rules of capital gains tax. Income Tax Ordinance, 5721–1961, 15 LSI 145 § 91 (1960–61) (Isr.).

47. ITAIL, 5745–1985, 1154 SH 172 Schedule C.

48. Technically, the amount of the changes is multiplied by the inflation until the end of the year, divided by the rate of inflation for the whole year. Id. The result is added to or subtracted from the "capital sum," which is the difference between equity and capital assets as they appear on the taxpayer's balance sheet. Id. § 71(a). The capital sum is then multiplied by the rate of annual inflation in order to arrive at the DFI or the AFI. Id. §§ 7(b), (c). The presentation in the text is mathematically identical, yet more comprehensible.

taxpayers who do not do so and do not, therefore, prepare balance sheets, the preceding formulae are inapplicable.

For taxpayers who do not engage in double-entry bookkeeping, comprehensive inflation neutralization is replaced by a piecemeal approach, which focuses on three specific issues: fixed assets, inventory, and interest expenses. Fixed assets are protected from the effects of inflation by adjusting the basis of those assets both for the purpose of computing taxable gain upon sale and for the purpose of computing depreciation deductions. Inventory is protected by means of a phantom deduction (inventory deduction or ID), which is based on the average amount of inventory held by the taxpayer.

With regard to interest deductions, the legislation, unable to adopt a comprehensive approach, resorts to tracing the use of the borrowed funds. Where borrowed funds were used to purchase fixed assets, only 80% of the interest is deductible. The idea behind this limitation appears to be that, whereas fixed assets are already protected against inflation, only real interest, and not inflationary interest, should be deductible. However, because of the difficulty of separating real from inflationary interest, a rule of thumb was instituted, whereby 20% of the interest paid is considered to be inflationary and 80% was considered to be real. Other interest is deductible only to the extent that it exceeds the ID. There is no provision for adjustment of interest income.

This type of piecemeal adjustment for inflation is not nearly as accurate as the comprehensive or hybrid approaches discussed earlier. However,
because in practice it is impossible to isolate the real component of every item of income and expenditure, a piecemeal approach will necessarily rely, to a certain extent, on conjecture as to the effect of inflation. Since larger and more complex enterprises are the ones more likely to be required to use double-entry bookkeeping, the less accurate piecemeal approach is reserved for professionals and smaller businesses. Paradoxically, therefore, inflation neutralization is actually easier for larger firms than it is for smaller, less complicated ones.

VI. CONCLUSION

While it is widely recognized that nominal taxable income in a period of inflation does not reflect real increase in wealth, the effects of inflation are, more often than not, simply ignored. Israel’s economic history forced her to confront the problem head on and to develop methods of extrapolating real income without obliging taxpayers to undertake the arduous—in practice, impossible—task of differentiating between the real and the inflationary components of individual items of income and expenditure. Were it not for the rampant inflation of a generation ago, Israel’s income tax structure would doubtlessly have continued to follow the pattern of other counties and taxed nominal income, with perhaps an occasional concession to economic reality, such as the indexing of long-term capital gains.

However, compelled to cope with the ostensibly insurmountable challenge, Israel soon discovered that neutralizing the effects of inflation—even very high inflation—and determining real accession to wealth is not difficult.60 So simple, in fact, did the exercise turn out to be that what was introduced as an emergency measure has greatly outlived the circumstances that brought it into being. It is a model, furthermore, which could serve at least as a basis for discussion in other countries where there exists a desire to tax real accession to wealth.

---

60. At least for those taxpayers whose books are kept in accordance with the principles of double-entry accounting. For those who do not, the effects of inflation can only be estimated.