



How Inflation adds to Intertemporal Bias

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How inflation adds to intertemporal bias.

Let:

t = tax rate at 60%

i = annual return or growth of investment before taxes, measured in current \$.

r = annual growth of inv. after tax. (See note)

	<u>$i=.01$</u>	<u>$i=.05$</u>	<u>$i=.10$</u>	<u>$i=.20$</u>	<u>$i=.30$</u>
<u>n</u>	<u>r</u>	<u>r</u>	<u>r</u>	<u>r</u>	<u>r</u>
1	.0040	.0200	.0400	.0800	.1200
10	.0041	.0227	.0506	.1189	.1985
20	.0042	.0257	.0614	.1485	.2423
50	.0046	.0335	.0803	.1782	.2764
100	.0052	.0405	.0900	.1891	.2881

Effective tax rates, when $n=1$, are same as the nominal tax rate, i.e. 60%.
But when $n=50$, here are effective rates:

<u>i</u>	<u>Effective tax rate = $\frac{i-r}{i}$</u>	<u>Effective rate/nominal rate</u>
.01	.54	.90
.05	.33	.55
.10	.20	.33
.20	.11	.18
.30	.04	.07

Two conclusions follow.

1. The benefit of tax-deferral is regressive as among rates of gain. A lower rate of gain, e.g. 1%, has a higher effective rate than a higher, e.g. 30%. The effective rate on a 1% gain is 90% of the nominal rate; the effective rate on 20% is 18% of the nominal rate; and on 30%, only 7% of the nominal rate.

2. Inflation steepens the gradient of bias in favor of slower paybacks. This is because inflation raises the value of i , measured in current \$.

Indeed, in the absence of inflation, the present problem would not be very serious, relative to other tax loopholes. But inflation at 10% or 15% yearly raises all nominal yields and profits, and shifts us from, say, the 5% column to the 20% column.

NOTE: " r " is the value that satisfies: $(1+r)^n = (1+i)^n(1-t) + t$