TAXATION AND SAVINGS IN IRELAND

Francis O'Toole

Department of Economics

Trinity College Dublin

fotoole@tcd.ie

Pamela Warrington

Touche Ross

London

Abstract

This paper quantifies the effects of the differential tax treatment of various savings media in Ireland during the period 1980 - 1995. It is shown that there is substantial variation in effective tax rates (ETRs) across a variety of assets and that these variations impact upon vertical equity. This paper also untangles the effects of inflation and tax legislation on the evolution of effective tax rates in Ireland. This decomposition highlights the distortionary effects of inflation on the savings market, particularly when the effects of the taxation of the underlying assets are incorporated into the analysis.

Acknowledgments

I. Introduction

The two standard approaches to the taxation of savings are reflected in the treatment of savings under the comprehensive income tax (CIT) base and the expenditure tax (ET) base systems. The comprehensive income tax base system taxes savings twice: once before the individual places income in the savings mechanism and once when the individual receives an income from the savings mechanism, e.g. interest income from bank deposits. The (direct) expenditure tax base system taxes savings only once, when income, be it the original income which was destined for the savings mechanism or the income generated within the savings mechanism, is spent. One other possible approach to the taxation of savings is also relevant for the purposes of this paper. The tax-free savings (TFS) system is similar to the comprehensive income tax system in that income destined for savings mechanisms is taxed. However, under the TFS system the returns to savings are not taxed, i.e. the tax-free savings system taxes savings only once.

Table 1 summarises the tax treatment of the most important Irish savings media. Each asset is classified according to one of the three approaches introduced above, with deviations being noted in the final column. For example, in the case of direct share-holdings, taxation of the underlying asset penalises (-) the taxpayer whereas the existence of an income allowance for capital gains benefits (+) the taxpayer. An attempt is made to order the table in such a way that the most penalised assets appear at the top of the table while the most privileged assets appears at the bottom of the table.[1]

TABLE 1

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[1] The appropriateness, or otherwise, of this ranking will become clearer in later sections. The influence of the tax system on the savings market should not, however, be overstated. Tax capitalisation effects can dissipate differential tax treatment and equalise post-tax real rates of return across savings media.

Taxation of Savings in Ireland

Asset	Classification	Deviations
Direct Share-Holdings	CIT	(-) Partial imputation only
		(-) Stamp duty
		(+) Capital gains allowance
Government Gilts	CIT	(-) No indexation (income)
		(+) Capital gains tax free
Bank and Building Society Deposits	CIT	(-) No indexation (income)
		(+) Standard tax rate
Special Savings Accounts	CIT	(-) No indexation
		(-) Restricted access
		(+) Special tax rate (15 per cent)
Life Assurance	TFS	(-) Partial imputation only
		(-) Fund income taxed
Savings Certificates	TFS	(-) Restricted access
Business Expansion Plans	ET	(-) Partial imputation only
		(-) Restricted access
Pension Plans	ET	(-) Partial imputation only
		(-) Tax-free lump sum
Owner-Occupied Housing	TFS	(-) Stamp duty on transaction
		(-) Residential property tax
		(+) Mortgage interest relief
		(+) Imputed income not taxed

The above ranking of savings media is only approximate in that although few would argue with the relative ranking of direct share-holdings and business expansion plans, one could argue with the relative ranking of direct share-holdings and bank and building society deposits. One of the factors contributing to this uncertainty is the rate of inflation; in the tax system is traditionally not inflation indexed. In periods of high inflation, deposits in banks and building societies are particularly unattractive as the taxation of

nominal interest income can lead to real losses whereas increases in the nominal value of shares will not influence capital gains tax. In order to measure the influence of taxation on savings media more precisely the next section utilises the concept of the effective tax rate.

II. THE EFFECTIVE TAX RATE

The effective tax rate (ETR) measures the proportion of an asset's real rate of return paid in tax,

$$(1) \quad ETR = ((r\text{-inflation})\text{-}((1\text{-}t)r\text{-inflation}))/(r\text{-inflation}) = (r\text{-}(1\text{-}t)r)/(r\text{-inflation})$$

where r is the asset's nominal pre-tax rate of return and t is the relevant tax rate. Hence,

$$(2) \quad ETR = (tr)/(r - \text{inflation}).$$

A single pre-tax rate of return is assumed for all assets in order to isolate the effects of taxation. [2] Following Hills (1984) and Thom (1988, 1992), calculations in this paper are based on an assumed real pre-tax rate of return of 3 per cent. Assets are dealt with in order of increasing complexity.

Bank and Building Society Deposits

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[2] The degree of fiscal privilege (DFP) measures this effective tax rate against the benchmark of the marginal tax rate imposed on labour income, i.e. DFP = MTR - ETR, where MTR is the asset holder's marginal labour income tax rate. If DFP is positive (negative) then the asset is favoured (penalised) relative to labour income.

For taxpayers with a standard interest-bearing deposit account in a bank or building society and assuming an inflation rate of 4 per cent, ETR = (sr)/(r-inflation) = (.27)(.07)/.03 = .63, where s represents the standard rate of income tax. This implies that a tax rate of 63 per cent is imposed on the asset's real return. Repeating the exercise with an inflation rate of 0 per cent leads to an ETR of .27. For taxpayers with a special savings account, the ETR is .35 (.15 with no inflation).

Gilts

For taxpayers holding gilts, ETR = (t)(c'/p)/(r-inflation), where c' represents the coupon and p represents the price of the coupon. Given that the coupon price p is equal to the discounted value of all future returns, it can be shown that $p = (c'/r)+(1-(c'/r))/(1+r)^n$ where n represents the number of years to redemption. Hence the price p, of a 10 year gilt with a 3 per cent coupon is .72 and the ETR is (.27)(.042)/.03 = .38 for a standard-rate taxpayer and (.48)(.042)/.03 = .67 for a higher-rate taxpayer.

Direct Share-Holdings

In determining the tax liability on dividend income, the dividend plus the tax credit is charged to income tax at the recipient's marginal tax rate and then the tax credit is deducted, i.e. the tax liability is v(r+dr)-dr = r(v-d(1-v)), where v represents the recipient's marginal tax rate and d represents the tax credit. Hence the ETR is r(v-d(1-v))/(r-inflation) = .06 for standard rate taxpayers (.03 with no inflation) and .72 for higher-rate taxpayers (.31 with no inflation).[3]

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[3] For share-holders It is assumed that there is no (real) capital gain and no stamp duty payable on share transactions. These rather restrictive assumptions are retained for all calculations involving share-holdings in this paper. Consequently, they do not influence the relative ranking of assets involving share-holdings.

These calculations for direct share-holdings do not, however, incorporate the effects of the taxation of the underlying assets. The (revised) ETR can be shown to be $(cr+v((1-c)r+d(1-c)r)-d(1-c)r)/(r-\text{inflation}) = r((1-c)(v-d(1-v))+c)/(r-\text{inflation})$. Incorporating the effects of the taxation of the underlying assets causes the (revised) ETR to increase to .97 for standard-rate taxpayers (.42 with no inflation) and to 1.36 for higher-rate taxpayers (.58 with no inflation).

Business Expansion Schemes

Taxpayers' contributions receive tax relief under the Business Expansion Scheme. Consequently, the annual rate of return, r, must be scaled upwards by a factor of $1/(1-v)$ and it can be shown that the ETR = $-dr/(r-\text{inflation})$. For qualifying companies the corporation tax rate is 10 per cent and the tax credit is reduced to 1/18. Consequently, the ETR is -.13 for both standard rate and higher-rate taxpayers (-.06 with no inflation). These calculations do not, however, incorporate the effects of the taxation of the underlying assets. It can be shown that the (revised) ETR = $r(c+cd-d)/(r-\text{inflation})$. Hence the (revised) ETR is .12 for all taxpayers (.05 with no inflation).

Pension Funds

Three separate factors must be considered when dealing with pension funds: tax relief on the individual's contributions to the pension fund, non-taxation of the pension fund's investment income flow and the availability of a tax-free lump-sum payment on retirement. Consider a contribution of £1 made N years from retirement which earns an annual rate of return of r. The cumulative return after N years is $(1+r)^N$. However, the contribution qualifies for full tax relief at the taxpayer's marginal rate of income tax and hence, the relevant

return is equal to $(1+r)^N/(1-v)$. The taxpayer is able, upon retirement, to withdraw a certain portion of the pension fund tax-free. For the purposes of these calculations this fraction is assumed to equal 1/6. Consequently, the tax liability is $(5/6)v(1+r)^N/(1-v)$. The total post-tax return is $[(1+r)^N/(1-v)]-[(5/6)v(1+r)^N/(1-v)]$ and the annualised post-tax rate of return is $[(1+r)^N/(1-v)-(5/6)v(1+r)^N/(1-v)]^{1/N} - 1$. The ETR is given by the difference between the pre-tax and post-tax rates of return as a proportion of the real return, i.e. the ETR = $\{r-[((1+r)^N/(1-v))-((5/6)v(1+r)^N/(1-v))]^{1/N} + 1\}/(r\text{-inflation})$.

For standard rate taxpayers, assuming that N is 10, the ETR is -.21. For higher-rate taxpayers, if N is 10, the ETR is -.51. Should higher-rate taxpayers, upon retirement, be liable at only the standard rate of income tax then the figures change significantly. If N is 10, the ETR is -1.44. These figures are independent of inflation. This formula must be altered when account is taken of the taxation of the underlying asset. It can be shown that the (revised) ETR = $[r-\{(1-5v/6)/(1-v)[1 + r(1+d)(1-c)]^N\}^{1/N} + 1]/(r\text{-inflation})$. With N = 10 for standard rate taxpayers the (revised) ETR = .26 (0 with no inflation) and for higher-rate taxpayers the (revised) ETR = -.04 (-.29 with no inflation). For higher-rate taxpayers who are liable at only the standard rate of income tax upon retirement the (revised) ETR = -.97 (-1.19 with no inflation).

Life Assurance Funds

Three factors must be considered: taxation of the life assurance fund's income flow, availability of a tax-free lump-sum payment on maturity and premium relief prior to 1992. Consider a contribution of £1 made N years from maturity which earns an annual nominal rate of return of r. The cumulative return after

N years is $(1+r)^N$ and the annualised post-tax rate of return is r. The ETR is (r-r)/(r-inflation) = 0 for all taxpayers.[4]

Incorporating the effects of the taxation of the underlying assets, however, alters the picture considerably. Prior to 1993 the tax liability of the distributing corporation was deemed to have satisfied the assurance fund's total tax liability, i.e. the annual nominal rate of return was (1-c)r. The cumulative return after N years was $(1+(1-c)r)^N$ and the annualised post-tax rate of return was (1-c)r. The (revised) ETR was (r-(1-c)r)/(r-inflation) = cr/(r-inflation). The (revised) ETR was .93 for all taxpayers (.4 with no inflation). Since 1993 life assurance companies are required to pay tax on their dividend income at the standard-rate of income tax; a tax credit is used to offset some of the extra tax liability. The calculation of the (revised) ETR for life assurance funds follows the calculation of the (revised) ETR for direct share-holdings except that v is set equal to s for all taxpayers. Hence, the (revised) ETR is equal to r((1-c)(s-d(1-s))+c)/(r-inflation). For both standard-rate and higher-rate taxpayers the (revised) ETR = .97, assuming that c is 40 per cent.

Owner-Occupied Housing

Consider £1 invested in owner-occupied housing. Given that mortgage interest relief is generally available on 80 per cent of interest repayments and that the return to owner-occupied housing is not taxed, the cumulative return after N years is $(1+r)^N/(1-.8v)$. The annualised rate of return is therefore $[(1+r)^N/(1-.8v)]^{1/N} - 1$ and the ETR = $\{r-[(1+r)^N/(1-.8v)]^{1/N} + 1\}/(r\text{-inflation})$. For standard-rate taxpayers with a 20 year mortgage, the ETR is -.44 (-.42

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[4] The availability of premium relief prior to 1992 leads to lower ETRs.

with no inflation). For higher-rate taxpayers with a 20 year mortgage, the ETR is -.87 (-.84 with no inflation).

III. RESULTS

For the purposes of the presentation of results, the various savings media are placed in three distinct groups. Pensions funds and life assurance policies represent long-term savings and are placed together in one group (C). Savings media based on the holding of shares (direct share-holdings and business expansion plans) are placed in another group (B) and the remaining assets are placed in the remaining group (A).

Table 2.A contains the ETRs for some illustrative examples of the following assets: gilts, housing and bank and building society deposits.[5] High rates of inflation in Ireland during the early 1980s led to high ETRs on gilts and deposits. Housing was protected from the high rate of inflation because mortgage interest relief was available on nominal interest repayments.[6] The ETR is considerably higher for higher coupon gilts; the taxpayer would prefer to benefit from tax exempt capital gains. Deposits provide particularly bad value from an ETR perspective. However, lower levels of inflation combined with the introduction of special savings accounts have increased the attractiveness of deposits, particularly so for the high-rate taxpayer. Deposits

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[5] Table I in the Appendix contains data on all of the relevant taxation parameters for Ireland during the period 1980 - 1995: the standard-rate and high-rate of personal income taxation; the rate of inflation; the post-1986 deposit interest retention tax (DIRT) rate; the pre-1986 composite tax rate; the standard rate of corporation tax and the accompanying tax credit.

[6] In the case of housing it can also be seen that as the length of the mortgage increases the ETR increases (or equivalently, the effective subsidy rate decreases). This is a standard feature of all of the ETR formulae - ideally the taxpayer would like to avail of rollover facilities whereby the liquidity of the asset is increased. In practice, this facility is not generally available as the taxpayer must enter into some contractual obligations in order to avail of advantageous tax treatment.

in banks and building societies represent examples of assets whose ETRs fail to distinguish between standard-rate and high-rate taxpayers.

TABLE 2.A

Effective Tax Rates For Standard (High) Rate Taxpayers 1980 - 1995

Year	Gilts N=10 C=3%	Gilts N=10 C=6%	House N=10 90% Mort.	House N=20 90% Mort.	Banks	Building Societies
1980	131 (225)	181 (309)	-156 (-326)	-77 (-160)	247 (424)	173 (307)
1981	149 (256)	202 (345)	-159 (-332)	-79 (-163)	273 (468)	191 (338)
1982	123 (210)	170 (292)	-154 (-323)	-76 (-158)	235 (402)	164 (291)
1983	79 (146)	116 (215)	-146 (-348)	-72 (-170)	156 (290)	109 (211)
1984	69 (129)	103 (192)	-143 (-342)	-71 (-167)	135 (251)	102 (187)
1985	54 (93)	83 (143)	-139 (-292)	-69 (-143)	98 (168)	78 (129)
1986	48 (80)	75 (124)	-137 (-273)	-68 (-134)	81 (133)	81 (133)
1987	46 (76)	71 (118)	-137 (-271)	-68 (-133)	72 (120)	72 (120)
1988	42 (69)	65 (109)	-135 (-268)	-67 (-132)	60 (99)	60 (99)
1989	45 (78)	69 (120)	-123 (-259)	-61 (-127)	75 (131)	75 (131)
1990	40 (70)	62 (109)	-113 (-238)	-56 (-117)	64 (113)	64 (113)
1991	38 (68)	59 (106)	-109 (-231)	-54 (-113)	60 (107)	60 (107)
1992	35 (62)	54 (96)	-100 (-206)	-50 (-101)	54 (96)	54 (96)
1993	31 (54)	48 (86)	-98 (-203)	-49 (-100)	41 (41) [15][*]	41 (41) [15][*]
1994	33 (59)	52 (92)	-87 (-150)	-43 (-74)	49 (49) [18][*]	49 (49) [18][*]
1995	32 (58)	51 (90)	-86 (-127)	-43 (-63)	47 (47) [26][*]	47 (47) [26][*]

* Special Savings Account

Table 2.B attempts to make a comparison of ETRs across direct share-holdings and business expansion schemes. The importance of incorporating the taxation of the underlying assets is noteworthy in the context of direct share-holdings. Relatively low ETRs, particularly for the standard-rate

taxpayer (owing to the higher proportional value placed on the tax credit), are transformed into relatively high (revised) ETRs when the effects of the taxation of the underlying assets are incorporated into the calculations.

TABLE 2.B

Effective Tax Rates For Standard (High) Rate Taxpayers 1980 - 1995

Year	Direct Share-Holdings	Direct Share-Holdings (Revised)	Business Expansion Scheme	Business Expansion Scheme (Revised)
1980	50 (303)	346 (485)	-	-
1981	56 (334)	382 (535)	-	-
1982	48 (287)	359 (479)	-	-
1983	0 (206)	223 (326)	-	-
1984	0 (178)	193 (283)	-21 (-21)	19 (19)
1985	0 (108)	140 (194)	-16 (-16)	14 (14)
1986	0 (91)	115 (156)	-13 (-13)	11 (11)
1987	0 (73)	104 (140)	-11 (-11)	10 (10)
1988	7 (65)	84 (114)	-9 (-9)	8 (8)
1989	13 (91)	108 (152)	-13 (-13)	12 (12)
1990	6 (74)	95 (134)	-12 (-12)	11 (11)
1991	11 (74)	89 (127)	-11 (-11)	10 (10)
1992	5 (61)	83 (117)	-11 (-11)	10 (10)
1993	4 (46)	62 (88)	-8 (-8)	7 (7)
1994	5 (43)	75 (98)	-10 (-10)	9 (9)
1995	5 (41)	69 (91)	-10 (-10)	9 (9)

Business expansion schemes (introduced in 1984) remain privileged even when the effects of the taxation of the underlying assets are incorporated. Given that the ETRs on business expansion schemes are independent of the taxpayer's marginal tax rate the effect on vertical equity is also noteworthy.

Table 2.C makes a comparison of ETRs across pension plans and life assurance policies. If the issue of the taxation of the underlying assets is ignored, pension plans have become more attractive than life assurance policies. This change is related to the removal of premium relief from life assurance policies. Both assets, however, retained advantageous tax treatment during the period 1980 to 1995; the highest ETR recorded for either asset is 0 which represents very favourable treatment relative to labour income.

TABLE 2.C

Effective Tax Rates For Standard (High) Rate Taxpayers 1980-1995

Year	Life Assurance: 10 Years	Life Assurance: 10 Years (Revised)	Pension Funds: 10 years	Pension Funds: 10 years (Revised)
1980	-78 (-147)	246 (183)	-35 (-91)	118 (64)
1981	-80 (-149)	278 (214)	-36 (-93)	133 (78)
1982	-78 (-145)	264 (202)	-35 (-90)	159 (105)
1983	-73 (-152)	154 (81)	-33 (-103)	71 (3)
1984	-72 (-149)	125 (52)	-32 (-102)	58 (-10)
1985	-70 (-131)	73 (14)	-31 (-82)	34 (-15)
1986	-69 (-124)	48 (-5)	-31 (-75)	23 (-20)
1987	-69 (-123)	37 (-16)	-31 (-74)	18 (-25)
1988	-68 (-122)	13 (-39)	-30 (-73)	8 (-35)
1989	-63 (-119)	39 (-15)	-27 (-69)	22 (-20)
1990	-58 (-111)	35 (-16)	-25 (-62)	20 (-16)
1991	-27 (-50)	57 (-34)	-23 (-59)	18 (-17)
1992	0 (0)	80 (80)	-21 (-51)	19 (-10)
1993	0 (0)	62 (62)	-21 (-50)	9 (-20)
1994	0 (0)	75 (98)	-21 (-51)	15 (-19)
1995	0 (0)	69 (91)	-21 (-51)	9 (-20)

The incorporation of the effects of the taxation of the underlying assets alters the picture considerably. Life funds almost inevitably confront a higher (revised) ETR than pension funds. The difference stems from the non-taxation of pension fund income in contrast to the taxation of life fund income.[7] Given the availability of premium relief and the tax-exempt status of fund income, pension plans represents a very efficient savings medium; these advantages favour the high-rate taxpayer especially as the high-rate taxpayer avails of greater premium relief.

With the effects of the taxation of the underlying assets incorporated into the comparison between direct share-holdings, business expansions schemes, life assurance policies and pension plans, it is clear (from an ETR perspective) that direct share holdings and life assurance policies presently represent the worst value for both standard-rate and high-rate taxpayers. Pension plans represent the most efficient savings medium from the high-rate taxpayer's perspective. From the standard-rate taxpayer's perspective, there is little to choose between business expansion schemes and pension plans although the former has tended to be slightly better.

IV. THE ROLE OF INFLATION

The inflation rate in Ireland has a very significant impact on ETRs across a broad range of assets. For example, by examining Tables 2.A to 2.C it can be seen that a divergence of 817 per cent in ETRs (485 per cent for direct share-holdings compared to -332 per cent for housing) across assets in 1980 has

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[7] Some commentators have suggested that this discrimination is eased by the allowance of "liberal" life fund expenses.

been reduced to a divergence of 218 per cent in ETRs (91 per cent for direct share-holdings and life assurance policies compared to -127 per cent for housing) across assets in 1995. The question of what is responsible for this convergence - changes in tax legislation or changes in inflation - naturally presents itself. Tables 3.A to 3.C are similar to Tables 2.A to 2.C in every respect bar one - the inflation rate in the construction of the data in Tables 3.A to 3.C has been held constant at its 1980 level of 18.2 per cent.

TABLE 3.A

Effective Tax Rates For Standard (High) Rate Taxpayers 1980-1995 (1980 Inflation)

Year	Gilts N=10 C=3%	Gilts N=10 C=6%	House N=10 90% Mort.	House N=20 90% Mort.	Banks	Building Societies
1980	131 (225)	180 (309)	-156 (-326)	-77 (-160)	247 (424)	173 (307)
1981	131 (225)	180 (309)	-156 (-326)	-77 (-160)	247 (424)	173 (307)
1982	131 (225)	180 (309)	-156 (-326)	-77 (-160)	247 (424)	173 (307)
1983	131 (243)	180 (335)	-156 (-371)	-77 (-182)	247 (459)	173 (333)
1984	131 (243)	180 (335)	-156 (-371)	-77 (-182)	247 (459)	186 (342)
1985	131 (225)	180 (309)	-156 (-326)	-77 (-160)	247 (424)	198 (325)
1986	131 (217)	180 (299)	-156 (-309)	-77 (-152)	247 (410)	247 (410)
1987	131 (217)	180 (299)	-156 (-309)	-77 (-152)	247 (410)	247 (410)
1988	131 (217)	180 (299)	-156 (-309)	-77 (-152)	247 (410)	247 (410)
1989	120 (210)	165 (289)	-140 (-293)	-69 (-144)	226 (396)	226 (396)
1990	112 (198)	155 (273)	-129 (-271)	-64 (-133)	212 (375)	212 (375)
1991	109 (195)	150 (268)	-124 (-263)	-62 (-130)	205 (367)	205 (367)
1992	101 (180)	139 (248)	-113 (-235)	-57 (-116)	191 (339)	191 (339)
1993	101 (180)	139 (248)	-113 (-235)	-57 (-116)	191 (191) [71]*	191 (191) [71]*
1994	101 (180)	139 (248)	-100 (-173)	-49 (-85)	191 (191) [71]*	191 (191) [71]*
1995	101 (180)	139 (248)	-100 (-141)	-49 (-73)	191 (191) [106]*	191 (191) [106]*

* Special Savings Account

This counter-factual experiment allows the decomposition of the evolution of ETRs in Ireland into the evolution of ETRs dictated by changes in tax legislation, i.e. changes in the microeconomic environment, and the evolution of ETRs dictated by changes in the rate of inflation, i.e. changes in the macroeconomic environment.

Table 3.A suggests that the convergence in ETRs over time across alternative savings media has resulted predominantly from a reduction in the rate of inflation. Taking 10 year, 3 per cent coupon gilts as an illustrative example, the reduction in the ETR from 131 per cent to 32 per cent for a standard-rate taxpayer would have been replaced by a reduction in the ETR from 131 per cent to 101 per cent for a standard-rate taxpayer without the reduction in inflation from 18.2 per cent in 1980 to 2.2 per cent in 1995; approximately 70 per cent of the reduction in the ETR is accounted for by the reduction in the rate of inflation.

Examining the case of direct share-holdings and business expansion schemes in Table 3.B a similar pattern arises. In the case of the business expansion schemes, all of the changes in ETRs across time have been the result of changes in inflation. For standard-rate taxpayers most of the changes in the ETR on direct share-holdings have resulted from changes in tax legislation; this effect is significantly dissipated once the effects of the taxation of the underlying assets are incorporated into the analysis.

TABLE 3.B

Effective Tax Rates For Standard (High) Rate Taxpayers 1980-1995 (1980 Inflation)

Year	Direct Share-Holdings	Direct Share-Holdings (Revised)	Business Expansion Scheme	Business Expansion Scheme (Revised)
1980	50 (303)	346 (485)	-	-
1981	50 (303)	346 (485)	-	-
1982	50 (303)	379 (505)	-	-
1983	0 (326)	353 (516)	-	-
1984	0 (326)	353 (516)	-21 (-21)	19 (19)
1985	0 (272)	353 (489)	-21 (-21)	19 (19)
1986	0 (250)	353 (478)	-21 (-21)	19 (19)
1987	0 (250)	353 (478)	-21 (-21)	19 (19)
1988	31 (270)	349 (475)	-21 (-21)	19 (19)
1989	39 (275)	326 (461)	-21 (-21)	19 (19)
1990	20 (245)	315 (444)	-21 (-21)	19 (19)
1991	38 (254)	305 (435)	-21 (-21)	19 (19)
1992	19 (217)	294 (413)	-21 (-21)	19 (19)
1993	19 (217)	294 (413)	-21 (-21)	19 (19)
1994	19 (217)	294 (413)	-21 (-21)	19 (19)
1995	19 (217)	294 (413)	-21 (-21)	19 (19)

Within Table 3.C a distinction can be drawn between the ETRs with and without the incorporation of the effects of the taxation of the underlying asset. Without consideration of the effects of the taxation of the underlying assets, most of the changes in ETRs over time are accounted for by changes in tax legislation; in the case of life assurance policies all of the change in ETR is accounted for by changes in tax legislation. In the case of pension plans almost 80 per cent of the change in ETR is accounted for by changes in tax legislation. When the effects of the taxation of underlying assets are incorporated into the analysis almost all of the changes in ETRs over time can be accounted for by changes in inflation.

TABLE 3.C

Effective Tax Rates For Standard (High) Rate Taxpayers 1980-1995 (1980 Inflation)

Year	Life Assurance 10 Years	Life Assurance 10 Years (Revised)	Pension Fund: 10 Years	Pension Funds 10 Years (Revised)
1980	-78 (-147)	246 (183)	-35 (-91)	118 (64)
1981	-78 (-147)	246 (183)	-35 (-91)	118 (64)
1982	-78 (-147)	282 (219)	-35 (-91)	169 (115)
1983	-78 (-162)	282 (206)	-35 (-110)	130 (58)
1984	-78 (-162)	282 (206)	-35 (-110)	130 (58)
1985	-78 (-147)	282 (219)	-35 (-91)	130 (75)
1986	-78 (-141)	282 (225)	-35 (-85)	130 (82)
1987	-78 (-141)	282 (225)	-35 (-85)	130 (82)
1988	-78 (-141)	260 (203)	-35 (-85)	122 (75)
1989	-71 (-135)	238 (179)	-31 (-78)	118 (72)
1990	-66 (-126)	243 (187)	-28 (-70)	120 (80)
1991	-31 (-57)	254 (230)	-27 (-68)	116 (76)
1992	0 (0)	283 (283)	-24 (-58)	118 (85)
1993	0 (0)	294 (294)	-24 (-58)	118 (85)
1994	0 (0)	294 (294)	-24 (-50)	118 (85)
1995	0 (0)	294 (294)	-24 (-50)	118 (85)

V. CONCLUSION

This paper makes two contributions to the literature on taxation and savings. First, effective tax rates (ETRs) have been calculated for standard-rate and high-rate taxpayers in Ireland for a range of savings media over the period 1980 to 1995 and it is shown that there is significant variation in ETRs

throughout this period.[8] Second, the evolution of ETRs across the savings media is decomposed into changes stemming from changes in tax legislation and changes stemming from changes in the rate of inflation. This decomposition highlights the distortionary effects of inflation on the savings market, particularly when the effects of the taxation of the underlying assets are incorporated into the analysis.

APPENDIX

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[8] The Organisation for Economic Co-operation and Development (1994) compare marginal effective tax rates across countries as of 1st January 1993.

TABLE I

Relevant Taxation Parameters: Ireland 1980 - 1995

Year	Standard Tax Rate	Higher Tax Rate	Inflation	DIRT Rate	Composite Rate	Corporation Tax Rate	Tax Credit
1980	35%	60%	18.2%	-	24.5%	45%	30/70
1981	35%	60%	20.4%	-	24.5%	45%	30/70
1982	35%	60%	17.1%	-	24.5%	50%	30/70
1983	35%	65%	10.4%	-	24.5%	50%	35/65
1984	35%	65%	8.6%	-	26.25%	50%	35/65
1985	35%	60%	5.4%	-	28.0%	50%	35/65
1986	35%	58%	3.9%	35%	-	50%	35/65
1987	35%	58%	3.2%	35%	-	50%	35/65
1988	35%	58%	2.1%	35%	-	47%	32/68
1989	32%	56%	4.0%	32%	-	43%	28/72
1990	30%	53%	3.4%	30%	-	43%	29/72
1991	29%	52%	3.2%	29%	-	40%	25/75
1992	27%	48%	3.0%	27%	-	40%	25/75
1993	27%	48%	1.5%	27%	-	40%	25/75
1994	27%	48%	2.4%	27%	-	40%	25/75
1995	27%	48%	2.2%	27%	-	38%	25/75

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