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1. INTRODUCTION

The potential inequities of a tax on nominal capital gains during periods of inflation were well appreciated in the 1950's by the Royal Commission on the Taxation of Profits and Income, which recommended against its introduction (HMSO (1955)). When the tax was subsequently introduced in 1965, following a change of government, those potential inequities were a major reason for the decision that capital gains should be taxed at a lower rate than "ordinary income". But few foresaw in 1965 the rates of inflation which would prevail in the 1970's and 1980's. As that history unfolded, criticism of the UK capital gains tax (CGT) mounted and a number of alternative ways of dealing with the inequities - including full indexation of the tax base - were considered within government (Inland Revenue (1977)). At the time the UK inflation rate was falling from the peak reached in the mid-1970's. But when it rose again sharply in the early 1980's the nettle was finally grasped: a major step towards full indexation of the tax base was taken in the 1982 Finance Act, and the 1985 Finance Bill - when it becomes law - will largely complete the process.

A price has to be paid for this reform, by both taxpayers and government. The additional administrative and compliance costs of an indexed tax structure have been widely recognised. Those costs may have been higher under the restricted indexation regime of FA 1982 than they will be, at least in the long run, under the proposed 1985 structure - as was argued by Kay and Mayer (1982); but it is clear that an indexed regime will be more complex and costly to administer than an unindexed one.

And it is also clear that it will yield the government a good deal less revenue. But the full extent of the reduction has not been widely appreciated. It is the object of this paper to provide measures of that revenue loss, using for the purpose a model of CGT revenues which we have described in detail in an earlier paper (King and Stark (1985)).

That model is of course far from perfect as a representation of the real world. Its major weaknesses were noted in our earlier paper, and a substantial margin of error surrounds many of the implications that we draw from it in what follows. We believe, nevertheless, that those implications are broadly correct, and that the story which our model has to tell about the revenue effects of the 1982 and 1985 CGT reforms represents a significant increase in the stock of knowledge which should form the basis for discussion of such legislative changes.

We are concerned in this paper only with the government's revenue from CGT, paid by individuals and trusts in the personal sector. A change to the CGT legislation also has implications for the corporation tax (CT) liabilities of companies. According to official estimates these CT effects may add between 20% and 50% to the revenue cost or yield of a CGT change. At present, however, we do not have sufficient information about companies' capital gains to allow us to model those CT effects with any confidence.

The paper is in five main parts. Section 2 addresses the question: how would CGT revenues have differed, in the historical period since its introduction, if the tax systems had been those of FA 1982 and FB 1985, rather than the various systems actually in place? Section 3 looks at the limited information provided by the government to Parliament (in the Financial Statement and

Budget Report) about the revenue impact of the 1982 and 1985 changes. Section 4 then uses our model to generate comparable estimates, on the basis of a particular set of assumptions about the main variables that are relevant. Section 5 examines the sensitivity of those estimates to our assumption about future rates of inflation, and Section 6 examines their sensitivity to our other main assumptions.

2. CGT REVENUE SIMULATIONS FOR THE HISTORICAL PERIOD

As is commonly the case, a large number of minor changes to CGT were made in FA 1982 and proposed in FB 1985. In this paper, however, we are concerned only with the revenue implications of the major indexation provisions.

The 1982 reform may be divided into two parts. First, the threshold below which a taxpayer's realised gains in any year were exempt was raised from £3000 to £5000, and provision was made for that threshold to be raised in subsequent years in line with increases in the retail prices index (RPI). Secondly, a new allowance - the "indexation allowance" - was created as a deduction from a taxpayer's chargeable gain. This allowance was equal to the product of the acquisition cost of the asset and the proportional increase in the RPI since the later of the date of acquisition of the asset and March 1982, subject to two restrictions:

(i) that for assets acquired after March 1982, the increase in the RPI during the first year was disregarded (the "one-year rule"); and

(ii) that the allowance could not increase an allowable loss for tax purposes, or convert into an allowable loss what would otherwise have been a chargeable gain.

In 1985 three major changes to the indexation allowance are proposed. First, the "one-year rule" of 1982 will be removed. Secondly, for assets acquired before March 1982, taxpayers will have the option to calculate the allowance on the basis of its market value at that date rather than its acquisition cost. And thirdly, from 1985 onwards the allowance will be permitted to

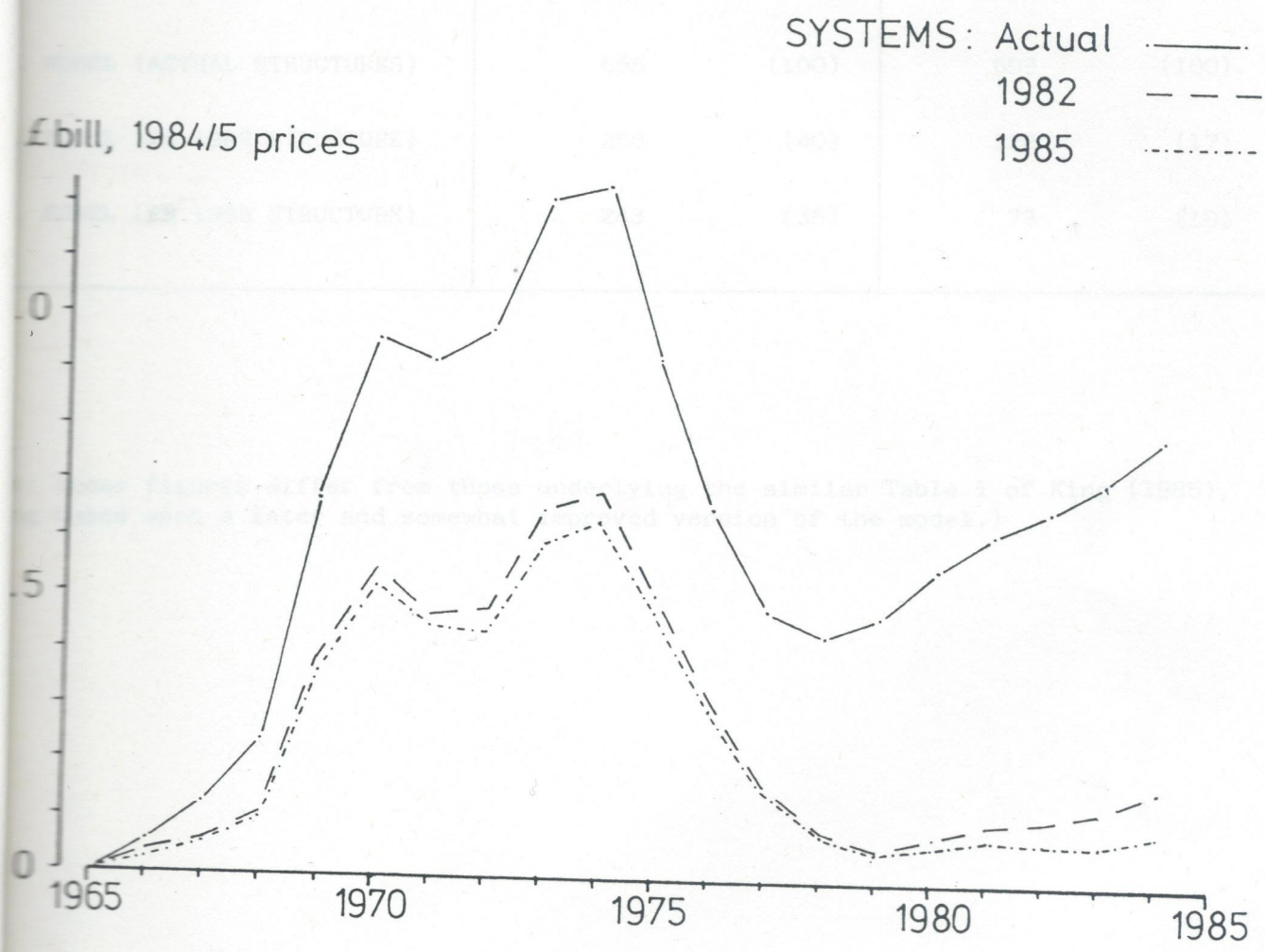
create or augment the losses which a taxpayer may carry forward to set against his gains in subsequent years.

If anything can reasonably be said to be certain about the future, it is that it will be different from the past. Nevertheless a useful way to begin examining the implications of such tax changes is to ask what revenues the different systems would have generated in the past, given the tax base that was actually observed. We have therefore used our model to investigate how CGT revenues (measured at a constant consumer price level, of fiscal year 1984) would have behaved up to the present if the tax structures had been those of FA 1982 and FB 1985, rather than the various systems actually in force since 1965. The answers are provided in detail in the Annex, Tables A.1 and A.2. Figure 1 compares the two revenue simulations with the model's account of what "actually" happened during the period; and Table 1 provides some summary statistics.

Table 1 shows that the 1982 tax structure would have yielded, according to our model, only 40% of the revenues actually received by the government since 1965, and the proposed 1985 structure would have yielded only 36%. These proportions vary over time. As shown in Figure 1, there is a marked contrast between the earlier years (when inflation was relatively low and real asset prices were buoyant) and the later years of the historical period. If the two tax structures had been in place since 1965, real CGT revenues during the last four years would have reached only 17% of their actual levels (with the 1982 structure), and only 10% (with the structure proposed in 1985).

It seems clear, then, that the revenue implications of the 1982 and 1985 reforms are likely to be very large indeed. But precisely how large they will

FIGURE 1. HISTORICAL SIMULATIONS OF CGT REVENUE



CGT REVENUES IN THE HISTORICAL PERIOD

£m, at FY 1984 prices.

	ANNUAL AVERAGES			
	1966 - 1984 : (INDEX)		1981 - 1984 : (INDEX)	
. ACTUAL	671	-	696	-
. MODEL (ACTUAL STRUCTURES)	668	(100)	699	(100)
. MODEL (FA 1982 STRUCTURE)	268	(40)	122	(17)
. MODEL (FB 1985 STRUCTURE)	243	(36)	73	(10)

e: these figures differ from those underlying the similar Table 1 of King (1985),
ng based upon a later and somewhat improved version of the model.)

be will depend very much, as might be expected, on future rates of increase of consumer prices and of the prices of the assets - mainly company shares, and land and buildings - which generate gains by individuals and trustees that are chargeable to CGT.

3. OFFICIAL ESTIMATES OF THE REVENUE EFFECTS OF INDEXATION

The Financial Statement and Budget Report, which is published each year on the day of the budget, provides estimates of what are termed the "direct effects" on government revenue of the various tax changes proposed. In general these effects are shown both for the fiscal year after the budget (the "first year") and for a "full year". But in the case of CGT, the first year effect of a change is almost invariably zero and is thus not a helpful figure, so in recent years the FSBR has usually provided a "second year" estimate in addition. A comprehensive summary of the 1982 and 1985 FSBR estimates of the direct effects of the indexation changes is given in Table 2.

These are some important preliminary points to be made before we comment on the figures provided - or not provided - in this table. In the first place, the "direct revenue effect" of a change to a tax such as CGT, administered by the Inland Revenue, has until recently been calculated as the difference between the tax yield or liability forecast for a particular period, assuming that the budget proposal takes effect, and what that yield would be at the same levels of income, profits, gains etc without the change (see FSBR 1981-82, page 9). Thus no account was taken of the possibility that such changes might alter the tax base, by their effect upon the behaviour of taxpayers. This conventional practice may be contrasted with that adopted in measuring the direct revenue effects of taxes administered by HM Customs and Excise (as described in HM Treasury (1980)). But the conventional practice for Inland Revenue taxes has recently changed rather fundamentally : the estimated direct effects of the changes in 1984 to capital allowances, stock relief and stamp duties did allow for certain changes in behaviour (FSBR

1984-95, page 34, note (a)), although no measure of those changes was provided; and more recently it has been stated that the general practice is to take account of such changes "where these behavioural changes can be readily estimated" (FSBR 1985-86, page 33, note (a)).

It may seem rather strange that the concept adopted in each case should depend in this way on whether or not the government feels itself properly equipped to estimate the effect of what it proposes to do. Where the direction of the effect of a particular change on the relevant tax base is clear from economic analysis, it must be better to take some account of it, rather than to ignore it altogether on the grounds that its magnitude cannot be estimated "readily". But in many cases economic analysis provides no simple guide even to the direction of the behavioural effect of a tax change on the relevant tax base, and in these cases one can sympathise with the government's reluctance to commit itself to any particular estimate.

The 1985-86 FSBR does not indicate whether any behavioural effects were assumed for the changes to CGT proposed in FB 1985. But in the current state of economic knowledge one may reasonably assume that they were not. And in this paper we assume, also, that the 1982 and 1985 changes have no effect on the propensity of individuals and trustees to realise gains that are chargeable to CGT.

The second general point to be noted concerns the meaning of a "full year" direct effect. For most Inland Revenue taxes this is the direct revenue effect calculated from the level of income, profits, gains etc "which is forecast for the first year to which the change fully applies" (FSBR 1981-82, page 9). Thus for a change to income tax made with full effect from April

1985, the full year effect is the difference the change makes to income tax liabilities arising from 1985/6 incomes; a part of that effect may, of course, only make itself felt on government revenues in 1986/7 or even later years.

But for CGT the meaning is rather different: "the proportionate change in yield for the first year to which the change applies is estimated and is applied to the forecast of receipts of the tax" in the first year (FSBR 1981-82, page 9). The reason for this difference is to be found in the long CGT assessment and collection lags described in our earlier paper. Because of these lags, it is usual for CGT revenues in a given year to differ markedly from CGT liabilities arising in that year. Suppose, for example, that the CGT liabilities that are expected to arise in a particular year are 1000, whereas the revenues expected in that year are only 500. The government proposes to reduce the tax rate from 30% to 15% on gains realised from the beginning of the year. If the same measure of full year effect was used as for income tax (as described above), the FSBR would show a revenue forecast for the first year of 500, a first-year effect for the CGT change of 0, and a full year effect of 500. This might suggest to the reader that the change would completely wipe out CGT revenue.

It is to avoid such misleading impressions that the practice in measuring the "full year effect" of changes to CGT is to scale the proportional effect on liabilities in the first year by the revenue forecast for that year - which is, indeed, what we have done in Table 2. Of course, the assessment and collection lags for CGT are merely a rather extreme case of a general phenomenon; so it is not altogether clear why the same scaling should not be applied, in principle, to all tax changes.

Our final preliminary point concerns the meaning of the FSBR phrase "the first year to which the change fully applies". Consider, for example, the introduction of the indexation allowance in 1982. In one sense, this change applies "fully" to gains realised after March 1982. But the amount of the allowance is determined by the increase in the RPI after that date (or the date of acquisition, if later). So the effect of the allowance will build up gradually; and in an alternative sense it will only apply "fully" when all assets on which gains are realised were acquired after March 1982 - which will not be the case until well into the next century, if ever. No clear statement has been made about which of these alternative meanings underlies the FSBR figures, but the FSBR note reproduced below our Table 2 strongly suggests that "fully" is to be interpreted in our first sense.

If this is right, however, the FSBR full year effect provides no indication at all of how government revenues are expected to be affected in the short term (since the effect of a change in CGT liabilities accruing in one year will be spread over about seven years of calendar time) or in the longer term (since government revenues in those seven years will also be affected by the much higher levels of indexation allowance accruing subsequently). So the FSBR full year effect does <u>not</u> indicate how the government expects its revenues to be affected over any period of calendar time. To include it in a table which purports to be about effects on government revenue seems bound to cause confusion.

We may now turn to Table 2. The first point to be made is that the amount of information about how government expects its revenues to be affected by two major tax reforms is very small indeed. The reader is told that each reform will have no effect on revenues in the following year, and a small effect in

E 2 "DIRECT REVENUE EFFECTS" OF THE INDEXATION CHANGES

(Percentages of the yield forecast for the first year)

	FIRST YEAR	SECOND YEAR	FULL YEAR
82: (1) increase in threshold	0	2.5	10.0
(2) indexation of threshold	0	0	(a)
(3) indexation allowance (IA)	0	5.5(b)	20.8(c)
85: (1) market value option	0	3.2	9.5
(2) other changes to IA	0	1.9	5.1

S: (a) No figure provided: "the cost will depend on increases in prices; and implementation will be subject to review by Parliament."

(b) To estimate this figure from the FSBR we have assumed the same split between the CGT and the CT effect as was provided for the full year effect.

(c) This is the effect "in respect of disposals in the first full year to which the change applies ..... the eventual effect is likely to be substantial."

CE: FSBR 1981-83 and FSBR 1985-86.

the year following that; but, if we are right about the meaning of the "full year effect", that is all he is told numerically about how government revenues will be affected in calendar time.

The second point is that the numbers in the table provide no indication at all that the revenue effects of the reforms might be on anything like the scale suggested by our straightforward historical simulations in the previous section. To the extent that the future may prove similar to the past, those numbers may therefore be likely to mislead an unwary reader.

Thirdly, however, the reader is told (in a footnote in very small print) that "the eventual effect [of the 1982 indexation allowance] is likely to be substantial". But he is not told what "substantial" signifies, or what the effect is substantial in relation to.

Our complaint, therefore, is that the amount of information provided to Parliament and the public, to inform discussion of the consequences of fundamental reforms to the system of taxation to which individuals are subject, seems wholly inadequate. It is difficult to see how proper consideration could be given to major tax proposals in such circumstances. In what follows we attempt to provide rather more information.

4. CGT REVENUE PROJECTIONS FOR ALTERNATIVE SYSTEMS

To use our model to estimate the revenue consequences of the 1982 and 1985 reforms we need to forecast into the future the four variables that are relevant - consumer prices; share prices; the prices of land and property; and the volume of company shares held by the personal sector. In this section we present estimates based on a particular set of forecasts. In the following sections we examine the sensitivity of those estimates to variations in our forecasting assumptions.

We assume in the forecast that each of our four variables changes at a constant annual rate from fiscal year 1985 to 2010 - the last year of our forecast period. The growth rates assumed are shown in Table 3, alongside the average growth rates of the four variables since April 1965. Some brief remarks on these assumptions are in order:

(1) Consumer prices. An inflation rate of only 5% over the next 25 years is rather low in relation to recent historical experience. But it is still rather higher than the present government's targets for the medium term and beyond. On balance we think it is a reasonable rate to use, in present circumstances, for the kind of very long-range forecasting that we are attempting here; it is indeed the same rate as was used by the government in its illustrations of the long-run impact of the corporation tax reforms of the 1984 budget (HM Treasury (1984)).

(2) Share prices. A 2% annual real growth rate is very optimistic in relation to historical experience since the mid-1960s. That past experience partly reflected a substantial decline in real corporate

profitability, which appears recently to have been reversed; on that basis it seems reasonable to project some growth in the future. But the experience of declining real share prices also reflected, at least since the early 1970s, a tax system which increasingly encouraged companies to distribute their profits to shareholders as dividends, rather than retaining them. This encouragement was increased by the 1984 corporation tax reform; so it seems unlikely that earnings retention by companies will lead to substantial growth in real share prices under the present tax regime.

(3) Land prices. By contrast, our projection of real prices for land and property at a 2% annual growth rate looks on the pessimistic side in relation to historical experience. In our model, however, it is the average of land and share prices that is the basic determinant of CGT revenues. So if our projection of real share price growth is on the optimistic side, it seems appropriate to err a little on the side of pessimism when projecting land prices.

(4) Share volume. To assume a constant volume of share holdings by the personal sector is undoubtedly very optimistic, given the very substantial decline that has occurred since the early 1960s as households have transferred their holdings of shares to tax-favoured institutions such as pension funds. Present government policies have created new interest in direct shareholding, which justifies some optimism; but while the present tax distortions persist it would, in our view, be unrealistic to project a reversal of the historical decline. (As we shall see later, our CGT revenue projections are in fact rather insensitive to this assumption.)

TABLE 3

ANNUAL GROWTH RATES OF PRICES AND SHARE VOLUME (%)

	MODEL PROJECTION 1985-2010 (BASE CASE)	ACTUAL 1965-1984
1. CONSUMER PRICES	5.0	9.8
2. REAL SHARE PRICE	2.0	- 0.8
3. REAL LAND PRICE	2.0	3.4
4. SHARE VOLUME (HELD BY INDIVIDUALS AND TRUSTS)	0.0	- 2.4

We may now turn to the forecasts of CGT revenues which the model generates, on the basis of these assumptions, for the various tax regimes with which we are concerned. First we examine the 1982 reform. For this purpose we project CGT revenues (at constant 1984/5 prices) up to fiscal year 2010, using three different tax structures:

(1) the 1981 tax system;

(2) the same system, but with an exemption level raised from £3000 to £5000 in 1982 and indexed thereafter; and

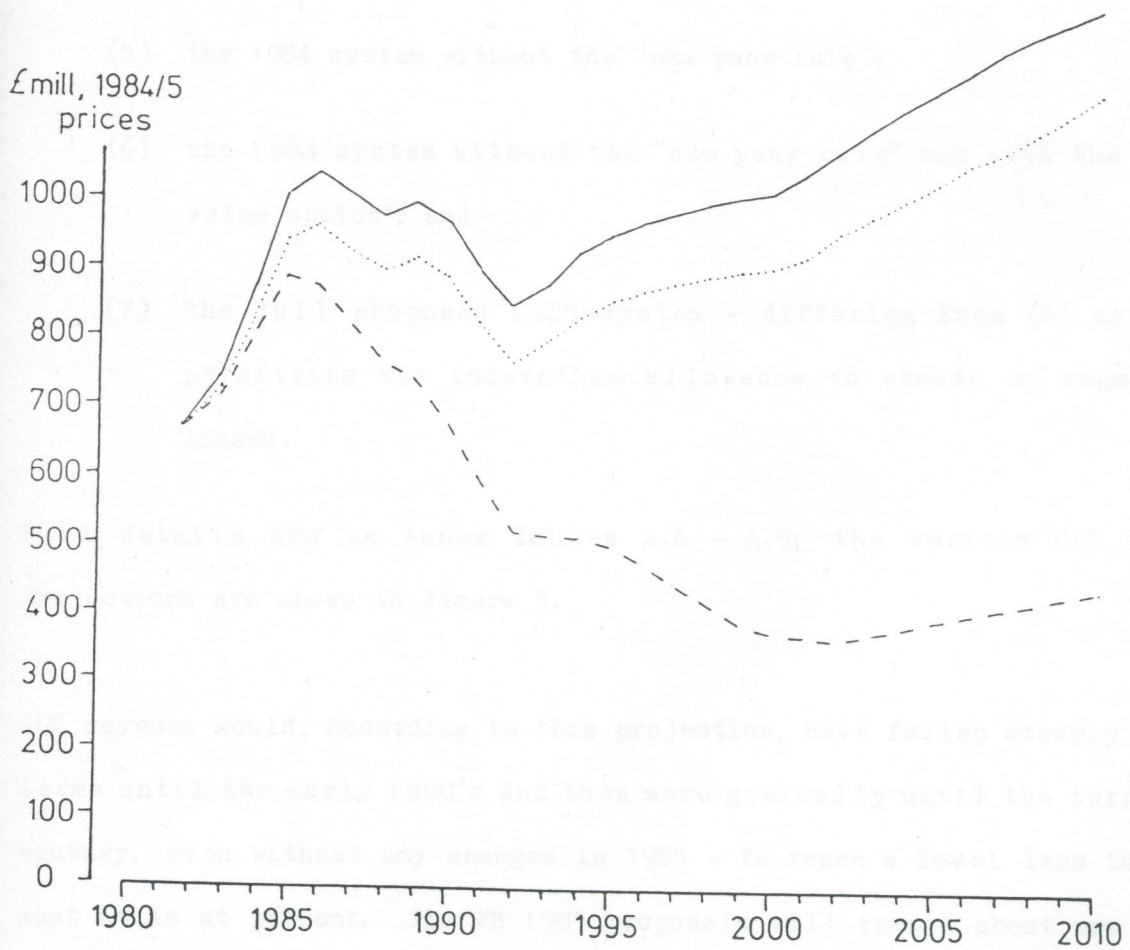
(3) the full FA 1982 system.

This allows us to examine the costs of the exemption level changes of FA 1982 (as the difference between the CGT revenues of forecast (1) and forecast (2)), and the indexation allowance (as the difference between forecast (2) and forecast (3)). Full details of the projections are in the Annex, Tables A.3 - A.5; the CGT revenue projections are shown in Figure 2.

As the diagram shows, the very large increase in threshold (from £3000 to £5000) and its indexation from 1983 onwards had, according to our forecasts, a relatively small cost - building up gradually to around 10% of revenues after about 10 years but remaining a roughly constant proportion thereafter. (A part of this cost is, of course, somewhat notional. With money falling in value at 5% per annum it seems most improbable that the 1981 threshold could in practice have been left unchanged, as our "costing" assumes. Nevertheless when a threshold is <u>not</u> formally indexed - as the CGT threshold was not in 1981 - it is meaningful and important to measure the revenue effect of indexing it.)

FIGURE 2. CGT REVENUE PROJECTIONS FROM 1982

System: 1981 ——
1981 with '82 exemption .....
1982 - - -



The second part of the 1982 reform - namely, the indexation allowance - had a very much larger impact, building up by about the turn of the century to a further 55 percentage points or so of revenue projected under the 1981 system.

To examine the further reforms proposed in FB 1985 we have projected CGT revenues from 1985 in a similar way, using several different tax structures:

(4) the 1984 system (which was virtually identical in the relevant respects to that of 1982);

(5) the 1984 system without the "one year rule";

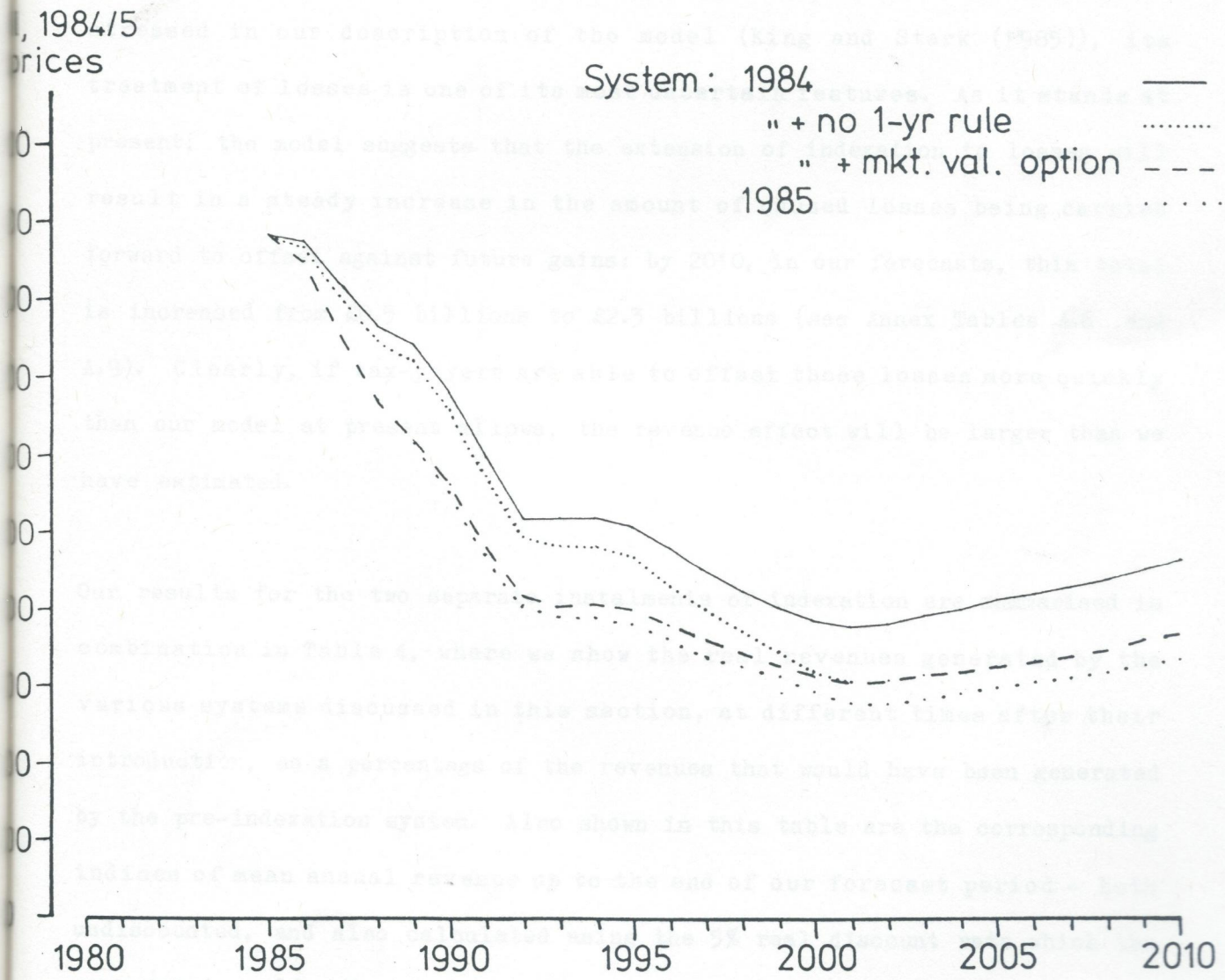
(6) the 1984 system without the "one year rule" but with the "market value option"; and

(7) the full proposed 1985 system - differing from (6) mainly in permitting the indexation allowance to create or augment tax losses.

Full details are in Annex Tables A.6 - A.9; the various CGT revenue projections are shown in Figure 3.

CGT revenue would, according to this projection, have fallen steeply in real terms until the early 1990's and then more gradually until the turn of the century, even without any changes in 1985 - to reach a level less than half what it is at present. The FB 1985 proposals will remove about one quarter of the remaining revenue. As usual with changes to this tax, the revenue effect takes several years to build up. But the three separate components of the 1985 reform contribute to that effect in different ways.

FIGURE 3. CGT REVENUE PROJECTIONS FROM 1985



In the long term, the most costly of the three appears to be the abolition of the one-year rule. The market value option is much more costly over the next ten years or so; but its effects gradually wear off, as a greater and greater proportion of assets sold are assets acquired after March 1982. The third measure - the extension of indexation to losses - appears to have virtually no effect on CGT revenue until the 1990s and only a very small effect thereafter.

This last point must however be treated with considerable caution. As we stressed in our description of the model (King and Stark (1985)), its treatment of losses is one of its most uncertain features. As it stands at present, the model suggests that the extension of indexation to losses will result in a steady increase in the amount of unused losses being carried forward to offset against future gains: by 2010, in our forecasts, this total is increased from £0.5 billions to £2.3 billions (see Annex Tables A.6 and A.9). Clearly, if tax-payers are able to offset those losses more quickly than our model at present allows, the revenue effect will be larger than we have estimated.

Our results for the two separate instalments of indexation are summarised in combination in Table 4, where we show the real revenues generated by the various systems discussed in this section, at different times after their introduction, as a percentage of the revenues that would have been generated by the pre-indexation system. Also shown in this table are the corresponding indices of mean annual revenue up to the end of our forecast period - both undiscounted, and also calculated using the 5% real discount rate which the government applies to its expenditure projects. (Since the "actual" revenue figures underlying rows 1-3 and 4-6 of this table were calculated from

TABLE 4

INDICES OF REAL CGT REVENUE YIELD OF DIFFERENT SYSTEMS (BASE FORECAST)

SYSTEM	REAL REVENUE AFTER:					MEAN REAL REVENUE UP TO 2010	
	5 yrs	10 yrs	15 yrs	20 yrs	25 yrs	UN-DISCOUNTED	DISCOUNTED AT 5%
1 1981 (BASE)	100	100	100	100	100	100	100
2 1981 (BASE) + 1982 EXEMPTION	93	91	89	88	88	90	91
3 1982-1984	85	66	49	35	33	53	62
4 " + NO 1 YEAR RULE	83	61	41	28	26	48	58
5 " + MARKET VALUE OPTION	71	51	40	28	26	44	53
6 FB 1985	71	50	38	25	24	43	52

the different starting-points 1982 and 1985, we have spliced them together using the two sets of results for the system of fiscal years 1982-84. This is not strictly legitimate since - as we shall see - the indices are dependent on the inflation rate etc in the period covered by the underlying forecast. But the distortions which arise from this source seem likely to be small.)

This summary table may itself be briefly summarised. Depending on the discount rate which the government wishes to apply, the decision to index CGT will - on the assumptions of our base forecast - have cost it around one-half of its future revenues. In the short term the effect is small; but it builds up steadily, so that by the beginning of the next century the revenue level will be only one-quarter of what it would have been if indexation had not taken place.

5. SENSITIVITY OF THE PROJECTIONS TO THE INFLATION ASSUMPTION

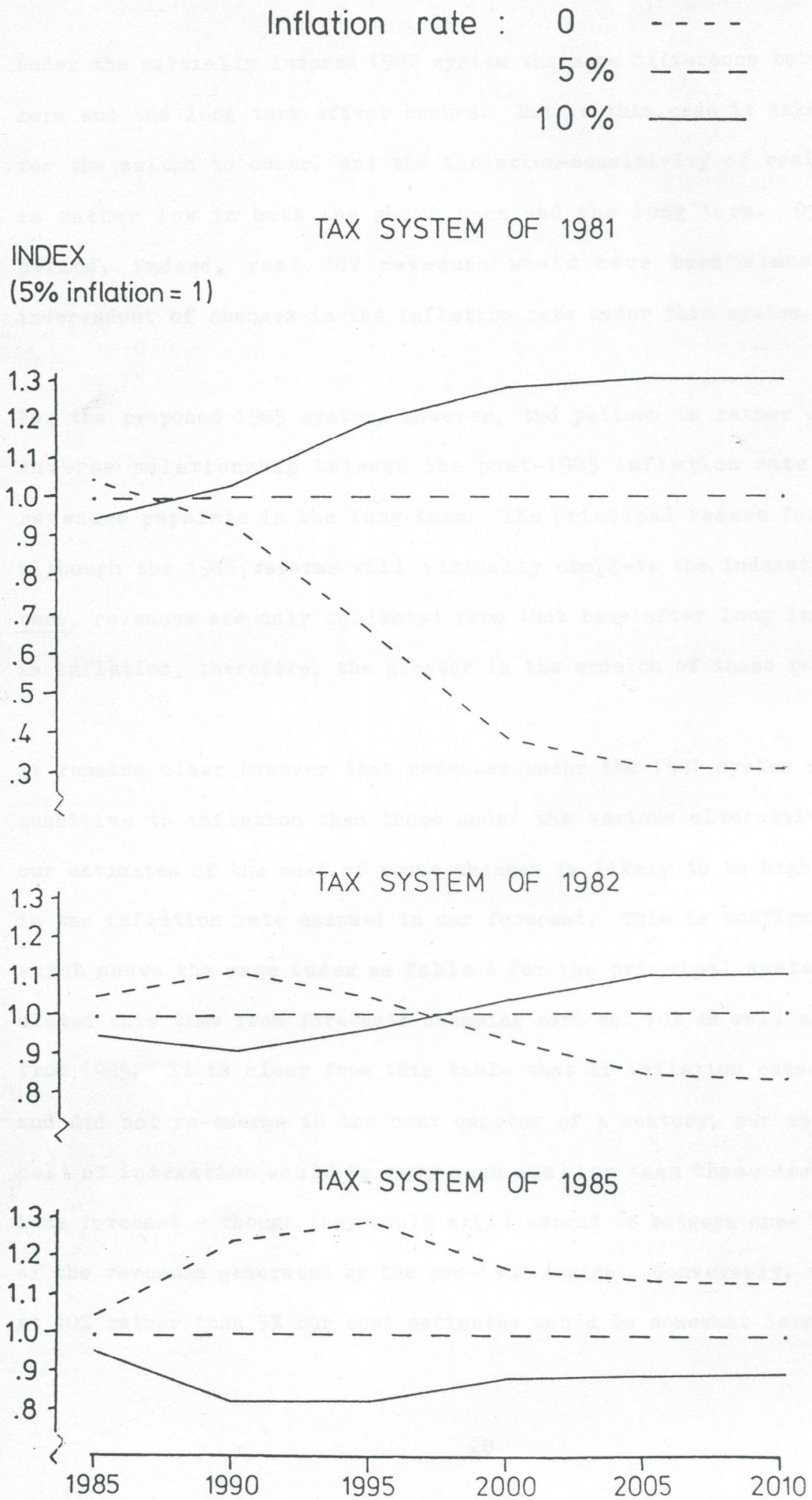
It might reasonably be expected that the change from the unindexed CGT base of 1981, to the partially indexed base of 1982, and then to the fully indexed base of 1985, will have rendered real CGT revenues increasingly less sensitive to inflation - and hence that the cost to the government will be lower, the lower inflation turns out to be in the future. The latter expectation is indeed correct, as we show later in this section. But the former is not: the 1985 proposals are likely to make CGT revenues somewhat more sensitive to inflation than they were before.

Figure 4 shows, for the tax systems of 1981, 1982, and FB 1985, the real revenues generated from 1985 onwards if future inflation is at 10% or zero rather than the 5% figure assumed in our base case. To make this diagram a little easier to interpret than it otherwise would be, we express revenue levels as a proportion of those generated by the various systems in our base forecast, with an inflation rate of 5% from 1985 onwards.

The first point to note from the diagram is that the short term effect of higher inflation is to reduce real revenues, under all three systems. The reason for this is that, because of the long assessment and payment lags for CGT, nominal revenues over the next few years are largely determined by gains that have already been realised: higher inflation reduces the value of those revenues in terms of constant fiscal year 1984 prices.

Under the unindexed system of 1981, this short term effect would have been reversed quite rapidly as the positive relationship between inflation and the tax base took effect. But it would have taken 15-20 years for the full

FIGURE 4. SENSITIVITY OF REAL CGT REVENUE TO INFLATION



effect of a change in the inflation rate to emerge.

Under the partially indexed 1982 system the same difference between the short term and the long term effect occurs. But in this case it takes much longer for the switch to occur, and the inflation-sensitivity of real CGT revenues is rather low in both the short term and the long term. Over a 25 year period, indeed, real CGT revenues would have been almost completely independent of changes in the inflation rate under this system.

For the proposed 1985 system, however, the pattern is rather different: the inverse relationship between the post-1985 inflation rate and real CGT revenues persists in the long term. The principal reason for this is that although the 1985 reforms will virtually complete the indexation of the tax base, revenues are only collected from that base after long lags: the higher is inflation, therefore, the greater is the erosion of those revenues.

It remains clear however that revenues under the 1981 system were much more sensitive to inflation than those under the various alternative systems, so our estimates of the cost of those changes is likely to be higher, the higher is the inflation rate assumed in our forecast. This is confirmed by Table 5, which shows the same index as Table 4 for the principal systems, but calculated this time from forecasts assuming zero and 10% as well as 5% inflation from 1985. It is clear from this table that if inflation ceased immediately and did not re-emerge in the next quarter of a century, our estimates of the cost of indexation would be very much smaller than those derived from our base forecast - though they would still amount to between one- and two-fifths of the revenues generated by the pre-1982 regime. Conversely, with inflation at 10% rather than 5% our cost estimates would be somewhat larger.

TABLE 5

INDICES OF REAL CGT REVENUE YIELD UNDER ALTERNATIVE INFLATION ASSUMPTIONS

SYSTEM	INFLATION (%)	REAL REVENUE AFTER:					MEAN REAL REVENUE UP TO 2010	
		5 yrs	10 yrs	15 yrs	20 yrs	25 yrs	UN-DISCOUNTED	DISCOUNTED AT 5%
1981 (BASE)	All	100	100	100	100	100	100	100
1982-84	0	85	82	83	87	90	87	87
	5	85	66	49	35	33	53	62
	10	84	56	39	28	28	45	54
FB 1985	0	78	76	80	86	89	82	82
	5	71	50	38	25	24	43	52
	10	65	36	26	17	17	32	40

6. SENSITIVITY TO THE ASSET PRICE GROWTH AND SHARE VOLUME ASSUMPTIONS

We may illustrate the implications of alternative assumptions about asset price growth and share volumes in a similar way. Thus Table 6, which is in the same format as Table 5, shows how our indices would differ if real asset prices were to rise at zero or 5% per annum, rather than 2%; and Table 7 shows how they would differ if the volume of shares held by individuals and trustees were to increase at 2% per annum, rather than remaining constant.

It is clear from Table 6 that our cost estimates are as sensitive to the asset price growth assumed in our forecast as to the inflation rate. This is of course to be expected. If asset prices merely keep pace with consumer prices, all of the revenue of an unindexed CGT will be attributable to inflation and so the proportional cost of indexation will be very high. Conversely, the greater the extent to which nominal gains are accounted for by real growth in asset prices, the lower will be the cost of indexation.

By contrast, Table 7 shows that our cost estimates are almost totally insensitive to reasonable variations in the assumption that we have made about the volume of shares held by those subject to CGT.

TABLE 6

INDICES OF REAL CGT REVENUE YIELD UNDER ALTERNATIVE ASSUMPTIONS ABOUT ASSET PRICE GROWTH

SYSTEM	REAL ASSET PRICE GROWTH %	REAL REVENUE AFTER:					MEAN REAL REVENUE UP TO 2010:	
		5 yrs	10 yrs	15 yrs	20 yrs	25 yrs	UN-DISCOUNTED	DISCOUNTED AT 5%
1981 (BASE)	All	100	100	100	100	100	100	100
1982-84	0	84	63	38	15	12	50	61
	2	85	66	49	35	33	53	62
	5	85	71	63	59	60	65	69
FB 1985	0	70	43	25	6	4	39	51
	2	71	50	38	25	24	43	52
	5	72	59	55	52	53	57	60

TABLE 7

INDICES OF REAL CGT REVENUE YIELD UNDER ALTERNATIVE SHARE VOLUME ASSUMPTION

SYSTEM	SHARE VOLUME GROWTH, %	REAL REVENUE AFTER:					MEAN REAL REVENUE UP TO 2010:	
		5 yrs	10 yrs	15 yrs	20 yrs	25 yrs	UN-DISCOUNTED	DISCOUNTED AT 5%
1981 (BASE)	Both	100	100	100	100	100	100	100
1982-84	0	85	66	49	35	33	53	62
	2	85	66	48	35	34	51	60
FB 1985	0	71	50	38	25	24	43	52
	2	71	49	36	25	24	41	49

7. CONCLUSION

Our main findings may be summarised as follows:

(1) Ifthey had applied since the introduction of CGT in 1965, the tax regimes of FA 1982 and FB 1985 would have generated only 40% and 36% respectively of the revenues actually collected by government in the first 20 years of the tax.

(2) The only quantitative indication provided to Parliament of the revenue effects of those two reforms in calendar time was that they would reduce revenue in the second year following the change by about 8% and 5% respectively. The "eventual effect" of the FA 1982 indexation allowance was, however, said to be likely to be "substantial".

(3) Our best estimate is that the 1982 reform would eventually - after about 25 years - reduce revenues by two thirds, and that the 1985 reform will reduce the remainder by one quarter over the same period. These effects take a long time to build up, however, and the present value of the two indexation reforms taken together, using a 5% real discount rate, amounts to only about one-half of what CGT revenues would have been without indexation.

(4) These estimates are rather sensitive to the assumptions we have made about inflation (5% from 1985 onwards) and asset price growth (2% in real terms). At higher inflation rates, the costs would be higher, and conversely; with higher real asset price growth they would be lower, and conversely.

Obviously, the uncertainties are considerable. To those noted above must be added - as we stressed at the beginning of the paper - uncertainties arising from weaknesses in the model which we have used to generate the estimates of cost. Nevertheless it seems to us important that revenue projections should be made, and made available to those who must decide whether such fundamental reforms of our taxation system should or should not be enacted. For CGT changes, like changes to the State Earnings-Related Pension Scheme or the taxation of occupational pensions, clearly have their full effects only in the very long term. They cannot sensibly be discussed in the absence of the kind of quantitative assessment of those effects that we have attempted in this paper.

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