STAMP DUTY ON SHARE TRANSACTIONS: IS THERE A CASE FOR CHANGE?

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Commentary 89

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Preface

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Contents

Executive summary

Stamp duty on share transactions is a controversial tax. In recent years, there have been repeated calls, notably from the London Stock Exchange, for its abolition. The government has said little about the issue. To further the debate, this Commentary examines whether there is a case for reducing or abolishing this tax.

Stamp duty is a worldwide tax on share transactions in UK incorporated companies. It is chargeable whether the transaction takes place in the UK or overseas, and whether either party is resident in the UK or not. It is currently levied at a rate of 0.5% of the transaction value and in 2000–01 raised £4.5 billion in revenue. Recent falls in share prices mean that revenue from stamp duty will have fallen, but it probably still raises around £3 billion per year or more.

While the long-run viability of stamp duty has been questioned, this Commentary concludes that its retention is certainly possible in the short term. The key issue is how aggressively government is prepared to extend its taxing rights over any new liquid market in UK equities or derivatives, either by taxing that market directly or by imposing an 'exit charge' on equities migrating to this new form of trading. However, there are certain longer-run qualifications to this, particularly in connection with the UK's obligations under EU treaties.

While stamp duty may be a viable tax into the future, there are major arguments against using it as a source of revenue. Stamp duty is a relatively inefficient way to raise revenue compared with other taxes on capital income, as

- it reduces the efficiency of the stock market for UK listed companies;
- it lacks any investment allowances and therefore imposes a disproportionately large burden on marginal investment projects compared with a corporation tax;
- it distorts merger and acquisition activity, producing a bias towards overseas rather than UK ownership.

While reliable empirical estimates of the impact of these problems are not yet available, alternative revenue sources do not share all these problems to the same extent. It is therefore sensible to consider alternative ways to raise the revenue currently provided by stamp duty.

If the revenue is to be recouped from other taxes on capital, the most practical option would seem to involve reducing or abolishing stamp duty and increasing the corporation tax rate. This option would reduce the overall distortion to investment decisions. In addition, the reduction or abolition of stamp duty would mitigate the distortion to merger and acquisition activity and improve the liquidity of the main market in shares of UK incorporated companies. The other options considered for recouping the lost revenue would either be impractical to implement or fail to tackle the underlying distortions produced by the stamp duty system.

Wider considerations may mean that the government would be reluctant to increase the corporation tax rate explicitly. But if this or a future government were to consider a reduction in corporation tax, our analysis suggests that the revenue might be better used to cut or abolish stamp duty.

1. Introduction

In the 1990 Budget, the Conservative administration announced that stamp duty on shares would be abolished late in 1991–92. This was intended to coincide with the introduction of Taurus, the paperless share dealing system planned by the London Stock Exchange. In the event, Taurus was delayed and eventually shelved, and stamp duty survived. Since then, stamp duty revenues on shares[1] have risen significantly, and were £4.5 billion in 2000–01. However, in recent years, there have been many calls for the abolition of stamp duty, not least from the London Stock Exchange itself.[2] This Commentary examines the arguments in favour of abolition and weighs them against those for retaining stamp duty. We also examine how a government might make up any revenue lost from abolishing stamp duty on shares.

The next chapter provides some background on the structure of stamp duty and on revenues over the last decade. Chapter 3 explores the impact of stamp duty on the functioning of the UK stock market and on UK investment decisions. Chapter 4 moves to an international perspective and examines the differences between the tax bases for corporation tax and stamp duty, as well as the distortions stamp duty introduces to mergers and acquisitions. Chapter 5 explores some longer-term threats to the stamp duty tax base, including the possibility of UK firms moving their place of incorporation overseas. Finally, Chapter 6 considers some possible revenue-neutral reforms by which stamp duty could be either cut or abolished.

[1] Stamp duty on shares accounted for 55% of total stamp duty revenues in 2000–01, stamp duty on property transactions making up most of the remaining £3.7 billion. In what follows, all references to stamp duty refer to stamp duty on shares only.

[2] See, for example, London Stock Exchange (2001).

2. Background

2.1 The structure of stamp duty

Stamp duty is a tax on share transactions in UK incorporated companies. The rate of stamp duty on shares stood at 1% before 1974, when it was increased to 2%. It was reduced to 1% in the 1984 Budget and further reduced in 1986 to 0.5%, where it has stood ever since.

Strictly, stamp duty is chargeable on the purchase price of a share where there is a legal instrument of transfer. This accounted for around 10% of total revenue from share transactions in 2000–01. The remaining revenue was collected through stamp duty reserve tax (SDRT), which is the equivalent tax on an agreement to transfer the share where there is no written instrument of transfer. Since the introduction of an electronic settlements system, CREST, in 1996, SDRT has taken over as the main tax on share transactions.[3]

Stamp duty is a worldwide tax on share transactions in UK incorporated companies. It is chargeable whether the transaction takes place in the UK or overseas, and whether either party is resident in the UK or not.[4] It is not chargeable on securities issued by companies incorporated overseas.[5]

A special 1.5% higher rate of stamp duty was introduced in 1986. This is levied on shares purchased by nominee shareholders to be reissued as depositary receipts, on the creation of bearer instruments and on the value of shares transferred into clearance services.[6] Trades in derivative products such as depositary receipts can occur without changing the registered owner of the underlying shares and therefore without a stamp duty charge. The 1.5% charge can therefore be seen as an 'exit charge' on shares that are moving into a regime where they can be traded free of stamp duty thereafter.

2.2 Stamp duty revenues

Table 2.1 shows the revenue yield from stamp duty on share transactions over the period 1988–89 to 2000–01, expressed in constant 2000–01 prices to remove the effects of inflation. Corporation tax revenues, revenues from other taxes and public sector total receipts are shown alongside. Stamp duty revenue quadrupled in real terms over this 12-year period, despite the fact that the rate has been held constant at 0.5% of the purchase

[3] For brevity in the text, we use the term 'stamp duty' to refer both to stamp duty in its strict sense and to stamp duty reserve tax.

[4] Tolley's, 2001, s. 61.7.

[5] Tolley's, 2001, s. 73.8.

[6] Depositary receipts are a common way of investing in a company listed on an overseas stock market. An intermediary (usually a bank) purchases the ordinary shares in the domestic market and then issues the depositary receipts, backed by the shares, in the overseas market. The holder of a depositary receipt receives the same dividends as an ordinary shareholder, but voting rights are exercised by the nominee shareholder. The most developed market is in the USA, where American Depositary Receipts (ADRs) are widely traded on the New York Stock Exchange (NYSE) and NASDAQ. See www.adr.com for further details.

Table 2.1. Revenues from stamp duty on shares compared with other taxes

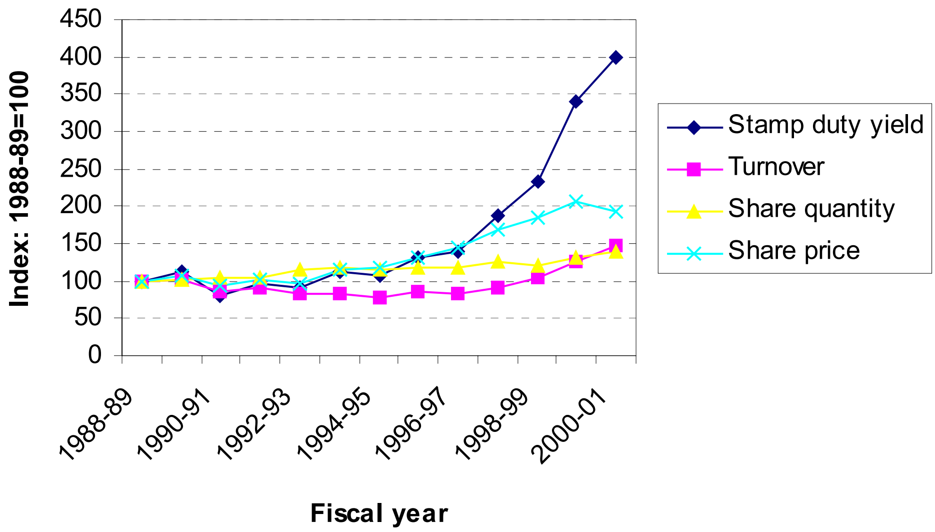
Public sector receipts in constant 2000–01 prices, £ billion

	Stamp duty	Corporation tax	Other taxes[a]	Total
1988–89	1.1	29.2	277.2	307.5
1989–90	1.3	31.4	273.1	305.7
1990–91	0.9	28.6	262.7	292.2
1991–92	1.1	23.2	267.3	291.5
1992–93	1.0	19.4	257.3	277.7
1993–94	1.3	18.0	263.7	283.0
1994–95	1.2	22.9	276.4	300.5
1995–96	1.5	26.9	286.2	314.6
1996–97	1.6	31.0	289.4	321.9
1997–98	2.1	32.8	307.7	342.7
1998–99	2.6	31.4	320.4	354.5
1999–2000	3.8	35.3	332.3	371.5
2000–01	4.5	32.4	346.1	383.0

[a] Including social security contributions and other public sector receipts.

Sources: *Inland Revenue Statistics*; HM Treasury Public Finances Databank.

Figure 2.1. Trends in real stamp duty revenue and its components



Note: Turnover rate is calculated as the value of stampable transactions divided by total UK market capitalisation (FTSE All-Share). Share price is calculated as the FTSE All-Share index deflated by the retail price index. Share quantity is calculated as total UK market capitalisation deflated by the FTSE All-Share index.

Sources: *Inland Revenue Statistics*; London Stock Exchange, 'Primary Market Fact Sheet'; London Stock Exchange, 'Secondary Market Fact Sheet'.

price. Over the same time period, corporation tax revenues only rose by about 10% and total receipts by around one-quarter in real terms. So stamp duty on shares has increased in importance relative to corporation tax as a source of tax revenue, but it is still a relatively small component of total public sector receipts, accounting for 1.2%.

The increase in stamp duty revenues was due to three main factors – increases in share prices, quantities and turnover. These trends are shown in Figure 2.1. First, the price of equities increased markedly over the period, the FTSE All-Share index nearly doubling in real terms. Second, the quantity of UK shares increased by 40%. These two factors combined to produce a 170% real-terms rise in UK market capitalisation over the period. The third factor was the sharp rise in share turnover, from around 30% during most of the 1990s to 50% in 2000–01.

Is the level of stamp duty revenue achieved in 2000–01 sustainable? Total stamp duty revenues on both share and property transactions fell from £8.2 billion in 2000–01 to £7.1 billion in 2001–02.[7] The government has not yet published a separate figure for stamp duty revenues arising solely from share transactions. However, given that the volume of property transactions and average property prices (the two main drivers of stamp duty revenues on property) continued to rise during the course of 2001–02,[8] it seems likely that most, if not all, of the fall in stamp duty revenues in 2001–02 can be traced to a lower yield on share transactions.

Looking ahead, continued high share turnover may support stamp duty revenues in the short term. However, stamp duty is very vulnerable to a further downward correction in share prices, which cannot be ruled out given that price–earnings ratios are still historically high. Share turnover itself may fall once share prices find a new equilibrium. On balance, the downside risks outweigh the upside risks, and we would expect a downward correction in stamp duty revenues at some point in the future. To put this into context, if turnover reverted to its long-run average of around 30%, and share prices and volumes remained constant at their 2000–01 levels, stamp duty revenues would fall to around £3 billion in 2000–01 prices.

2.3 Costs of collection

Stamp duty on shares is a very cheap tax for the government to collect. Table 2.2 shows the cost to the government of collecting stamp duty, including stamp duty on property,

Table 2.2. Cost of collection of major Inland Revenue taxes, 2000–01

	Cost of collection (pence per pound collected)
Stamp duties (shares and property)	0.09
Income tax (including tax credits)	1.56
Corporation tax	0.98
Petroleum revenue tax	0.15
Capital gains tax	1.33
Inheritance tax	1.23
National Insurance contributions	0.59
All taxes	1.11

Note: Including Head Office overhead allocation.

Source: Inland Revenue, 2001.

[7] HM Treasury, 2002.

[8] Numbers of property transactions can be found at www.inlandrevenue.gov.uk/stats/pdinternet_mar02.pdf. House prices can be found at www.landreg.gov.uk. Commercial and industrial property prices can be found at www.ipdindex.co.uk/downloads/indices.xls.

relative to other Inland Revenue taxes. Stamp duty has the lowest cost of collection, at around 0.09 pence per pound of revenue raised, compared with an overall average of 1.11 pence per pound. The cost of collecting SDRT on shares is lower still, at 0.02 pence per pound of revenue.[9]

The total costs of collecting a tax include compliance costs incurred by taxpayers as well as the administrative costs incurred by government. However, the compliance costs of stamp duty on shares are also likely to be low, especially where transactions are settled on the CREST system, as SDRT is automatically levied without any additional burden for either the buyer or seller of the share.

[9] Excluding Head Office overheads.

3. The economic impact of stamp duty

3.1 Introduction

We have seen in Chapter 2 that stamp duty on shares raises a significant amount of revenue for the government at relatively low administrative cost. But the desirability of a tax also depends on its effect on economic behaviour and whether or not it is fair. In this chapter, we focus on the effects of stamp duty on economic efficiency.

In simple terms, the most efficient taxes are those that affect individuals' and companies' behaviour the least compared with a situation where the tax did not exist. In this chapter, we therefore consider the likely impacts of stamp duty on economic behaviour and whether stamp duty is likely to raise revenue in a more or less efficient way than other taxes.[10]

As stamp duty is a tax on UK share transactions, we initially consider what effect it might have on the stock market. Stamp duty might affect the stock market in a number of different ways. We would expect it to reduce the rate of turnover in UK shares by raising transaction costs. It might also affect the level of share prices. It has also been suggested that a securities transaction tax such as stamp duty might affect the volatility of share prices, perhaps by reducing the amount of speculative activity. All of these factors might affect the stock market's ability to provide capital to companies efficiently. In addition, stamp duty will have a direct impact on the returns from future investment projects. We examine the impact of stamp duty on the required pre-tax rate of return and compare this with the effect of other capital taxes.

This chapter also discusses the degree to which the impact on share turnover and price is likely to influence the level of revenues that the government earns from stamp duty, and in particular the likely cost of a change in the tax rate.

3.2 Effect on share turnover

Basic economic theory suggests that transaction taxes such as stamp duty harm the efficiency of the stock market by choking off trades that would benefit both parties to the transaction. This may in turn reduce the efficiency of the economy by slowing down the reallocation of resources to where they are most productive. However, there are few theoretical predictions about the size of the impact on turnover, let alone market efficiency. Most empirical estimates of the long-run elasticity of turnover with respect to transaction costs are between –1 and –1.5,[11] implying that a 10% fall in transaction costs would lead to a 10–15% rise in turnover. The only published estimate for the UK that we are aware of is –1.65,[12] but this is now rather out of date.

The impact of stamp duty will also depend on the size of other transaction costs – we would expect stamp duty to have a bigger proportionate impact on turnover if other

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[10] This chapter presents our key conclusions. Detailed discussion of the available evidence can be found in Annex A.

[11] See Table A.1 in Annex A.

[12] Jackson and O'Donnell, 1985.

transaction costs are low. The total cost of buying a share is made up of many different components and can differ significantly depending on factors such as the size of transaction and whether or not the trade is made through a broker or market maker. Large institutional investors face the lowest charges and small individual investors the highest. We have assumed that total transaction costs (including the stamp duty charge) lie in the 1–3% range,[13] although the majority of transactions by value are likely to benefit from costs at the bottom end of this range.[14]

Table 3.1 shows the effect of a 0.25 percentage point reduction in the rate of stamp duty on share turnover, given our assumptions on total transaction costs and a range of values for the transaction cost elasticity. The long-run increase in share turnover would be around 20% if the elasticity were –1.5 and average transaction costs 2%. Abolition of stamp duty would lead to roughly double this increase in share turnover.[15]

Table 3.1. Share turnover impact of halving the rate of stamp duty

Total transaction costs	Long-run transaction cost elasticity		
	–1	–1.5	–2
1%	29%	43%	58%
2%	13%	20%	27%
3%	9%	13%	17%

3.3 Effect on share price level

We might expect stamp duty to affect the level of share prices as well as share turnover, particularly in a small open economy such as the UK, where shareholders have the option of investing in alternative domestic or overseas assets on which stamp duty is not payable. In order for investors to continue buying UK shares, their price would have to fall sufficiently to deliver the same post-tax return as that on other assets. This implies that the introduction of a transaction tax such as stamp duty will, in general, reduce the level of share prices by the present value of the stamp duty payable on all future share transactions.

In general, the change in price due to a permanent change in the rate of stamp duty will depend on the following factors:

[13] The main components of transaction costs include brokers' commission and bid–ask spread (touch). Average commission rates on UK shares are between zero for large institutional trades and 5% for the smallest private trades, with a weighted average over all trades of 0.17% (source: London Stock Exchange, 2000). The bid–ask spread (touch) varies a lot between shares on different indices and depending on whether shares are traded through the electronic order book (SETS) or through market makers.

[14] Total transaction costs on the London Stock Exchange were 0.72% including stamp duty in 2001Q1, according to London Stock Exchange (2001). However, it is likely this figure reflects the costs to large institutional investors such as pension funds rather than the costs to small investors.

[15] This can be calculated as the elasticity multiplied by the proportionate change in transaction costs (measured as the difference in logs). If total transaction costs are initially 2%, the rate is cut by 0.5 of a percentage point and the elasticity is –1.5, the change in turnover is equal to $-1.5\times\{\ln(1.5\%) - \ln(2\%)\} = 43\%$.

- the turnover rate, i.e. the average number of times that the share is expected to change hands per year;
- the dividend yield (the difference between investors' required rate of return and expected future share price growth).

Table 3.2 summarises the potential impact on prices assuming, for the moment, that stamp duty does not affect share turnover.[16] If investors expect a future dividend yield as low as 2% and a typical turnover rate for all UK shares on the London Stock Exchange (LSE) of 30% per annum, the implication is that abolition of stamp duty would lead to an average increase in share prices of around 7.5%. If dividend yields were expected to be 4% – something more typical historically – the price increase would be half as great, at around 3.75%. A halving of the rate of stamp duty to 0.25% would lead to half as big a price rise as abolition.

Table 3.2. Estimated share price impact of cutting the rate of stamp duty

Dividend yield	Stamp duty rate halved		Stamp duty abolished	
	Turnover 30%	Turnover 50%	Turnover 30%	Turnover 50%
2%	3.75%	6.25%	7.5%	12.5%
3%	2.5%	4.2%	5.0%	8.3%
4%	1.9%	3.1%	3.75%	6.25%

In practice, there are a number of reasons why the observed price impact of a stamp duty cut could differ from that predicted by our simple model. For instance, investors might not expect the rate change to be permanent, and this would reduce the price impact in a similar manner to an increase in their discount rate. We would also expect share turnover to be negatively related to the rate of stamp duty, which would partially offset the effect of the rate change on price in cases where the rate was still positive. But an increase in turnover might lead to increases in market liquidity, which in turn would reduce the risk premium demanded by shareholders and thereby boost the share price further. The empirical evidence on the effect of transaction taxes on share prices – discussed in Annex A – generally supports estimates within the range presented above.

3.4 Effect on stamp duty yield of a rate cut

What do these behavioural effects imply about the effects on the public finances of a cut in the rate of stamp duty – for instance, to 0.25%? It is clear that the direct impact of the rate cut would be partially offset by an increase in share turnover. So the stamp duty yield would fall by less than half. If share turnover and prices were to increase by the maximum 58% and 6.25% estimated in Tables 3.1 and 3.2 respectively, this would offset around 70% of the cost before taking behaviour into account.[17]

[16] The change in price is approximately equal to the change in duty rate multiplied by the turnover rate divided by the dividend yield, assuming the tax change is permanent. See, for example, Umlauf (1993).

[17] For instance, stamp duty on shares typically yields around £3 billion. This would fall to £1.5 billion if the rate were halved, ignoring behavioural effects. But the increase in prices due to the rate cut could be as great as 6.25%, bringing revenues up to £1.6 billion. Also, turnover could increase by up to 58%, bringing revenues up to £2.5 billion. Thus the exchequer cost of the cut could be reduced by about 70%. In practice, the behavioural effects are likely to be substantially smaller than this.

There could be other knock-on effects – for example, an increase in capital gains tax revenues due to higher share prices and faster realisations of capital gains – but these would only provide a one-off boost to revenues. So it seems very likely that a stamp duty cut would not be self-financing. However, the indirect effects are significant and need to be considered in evaluating any rate cut. They are, of course, irrelevant in the case of abolition.

3.5 Effect on share price volatility

Transaction taxes on securities have been proposed by some economists as a way to discourage short-term speculation and reduce share price volatility and risk.[18] If there is a class of investor which trades on the basis of tip-offs or other information that is not related to fundamental value, they may reduce market efficiency and increase price volatility and risk. As speculative share purchases are likely to be short-term investments, the argument goes, a tax on share transactions may be an effective way of reducing 'noise' trading, as it will reduce the expected return on a short-term share investment by much more than that on a longer-term investment.

However, the theoretical effect of transaction taxes on share price volatility is ambiguous. Transaction taxes are likely to reduce share turnover, and may thereby increase the volatility of prices by reducing the liquidity of the stock market. In practice, there is little evidence that securities transaction taxes reduce volatility and mounting evidence that they increase it.[19]

3.6 The direct effect on investment

The primary role of the stock market is to provide a source of finance for companies. As well as making the stock market less efficient, stamp duty has a direct effect on the returns from equity investment. There will be investment projects that are marginal, in the sense that the expected rate of return is only just sufficient to persuade investors that the project is worthwhile. In the presence of the tax, such projects may not break even, and therefore will not be undertaken even though they would have been worthwhile if the tax had not been levied. The failure to undertake such projects is a direct efficiency loss for the economy.

Other taxes on capital may have a similar effect, but the precise impact will vary depending on how each tax is designed. For a given level of revenue, the most efficient capital tax will attempt to minimise the amount of tax paid on marginal projects and hence minimise the probability that they will not be undertaken. Such a tax necessarily imposes a correspondingly higher tax rate on investment projects that are sufficiently profitable to be undertaken regardless of whether the tax is imposed or not.

[18] See, for example, Tobin (1984) and Summers and Summers (1989).

[19] This evidence is summarised in Annex A.

The efficiency of a particular capital tax can be assessed at a theoretical level through its effect on the cost of capital.[20] This allows us to examine the efficiency of stamp duty, which can be compared directly with the impact of other capital taxes, such as corporation tax. In turn, this comparison provides some insight into whether a revenue-neutral change that, say, abolished stamp duty and raised corporation tax would result in a more efficient tax system.[21]

Table 3.3 shows the predicted impact of stamp duty on the cost of capital for a hypothetical investment project. The impact depends crucially on the expected turnover of the stock. For a non-taxpayer, the impact on the cost of capital is virtually doubled if the assumed turnover increases from 25% to 50%. The increase is slightly lower if the marginal investor is a higher-rate income taxpayer. Annex B shows a variety of results for other hypothetical investment projects. While the turnover rate is still the key assumption, these calculations reveal a variety of impacts.

Table 3.3. Increase in cost of capital from imposition of stamp duty

Turnover	Change in cost of capital for marginal investment project	
	Non-taxpayer	Higher-rate taxpayer
25%	0.159%	0.151%
50%	0.318%	0.303%
100%	0.636%	0.606%

Note: See note to Table B.1 in Annex B.

As the results are specific to the actual investment project considered, without data on the actual distribution of potential investment projects it is impossible to draw out any aggregate results about the impact of stamp duty. However, it is possible to examine the relative impact of a stamp duty and a corporation tax. For a stamp duty, the effective average tax rate *falls* as the underlying profitability of the potential investment project increases. The reverse is true of corporation tax, where the tax rate increases as underlying profitability increases.

This has important implications. Consider the choice between a stamp duty and a corporation tax, where both impose the same effective tax rate on a marginal investment project. The corporation tax will impose even higher tax rates on more profitable investment projects, which by definition will be undertaken regardless of whether the tax was imposed or not. In contrast, the stamp duty will place lower tax rates on these projects. This implies that any stamp duty that raises the same amount of revenue as a corporation tax from future investment projects will, for a given distribution of potential investment returns, impose a higher effective tax rate on marginal investment projects.

[20] See Devereux and Griffith (1999) for details of the underlying model. Full details of the extension to stamp duty are available in McCrae (2002). This approach dates back to at least Hall and Jorgenson (1967). It was further developed by King and Fullerton (1984), among others. The most recent example of an international comparison of capital taxes based on this methodology is in European Commission (2001), which does not include the impact of stamp duties.

[21] It should be stressed that the results apply to stylised investment projects. We will attempt to draw out in the text what consequences can reasonably be drawn from our results. An empirical examination of the impact is beyond the scope of this Commentary.

This result is relatively unsurprising. Corporation taxes tax the return on investments. They additionally have investment allowances, which means that the normal costs of investing are relieved from tax. In the case where the allowances allow 100% of the investment to be written off against tax when it is made, a corporation tax will impose no tax on a marginal investment. The current UK system has lower allowances, but these still mitigate the tax charge on a marginal investment.

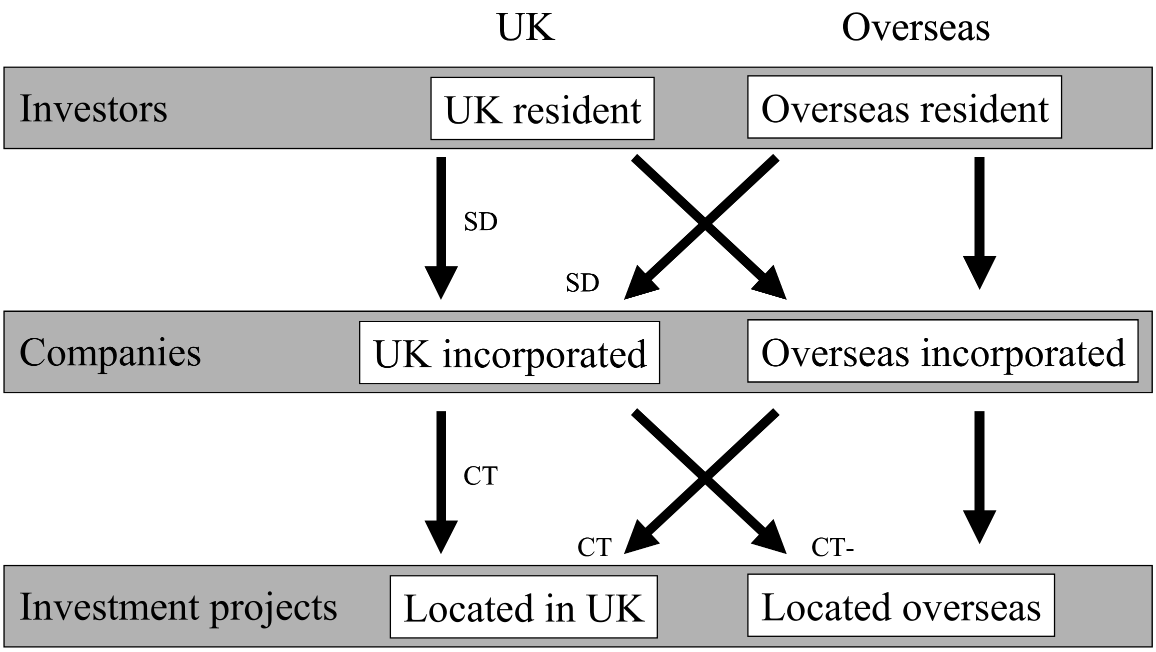
In contrast, stamp duty does not contain any investment allowances. Where earnings are retained in a company for investment purposes, the share price is higher than if the earnings are distributed. This higher share price reflects not just the potential return on that investment, but also the retained earnings used to fund the investment. There will be a correspondingly higher stamp duty charge if the share is sold. In effect, stamp duty taxes both the return on the investment and the investment itself.

It should be stressed again that this is a theoretical model, though the results are relatively robust. However, the analysis crucially depends on both the stamp duty and corporation tax being levied on the same tax base. In an open economy, this is not in fact the case. We therefore move on to consider the international aspects of stamp duty in the next chapter.

4. Stamp duty in an open economy

In the last chapter, we concentrated on the impact of stamp duty on the UK stock market and on domestic investment decisions. Implicitly, this assumes a UK resident investing in a project located in the UK through a UK incorporated company. But this is only one possible investment route. Figure 4.1 shows other stylised possibilities. It also shows whether each route is liable to UK stamp duty or corporation tax.

Figure 4.1. Stylised investment routes and their capital tax treatment



Key:

SD	Liable to UK stamp duty
CT	Liable to UK corporation tax
CT-	Formally liable to UK corporation tax but in practice charge rarely arises

4.1 The stamp duty and corporation tax bases

Figure 4.1 highlights some interesting differences between the stamp duty and corporation tax bases. All investment channelled through UK incorporated companies is subject to stamp duty regardless of the location of either the initial investor or the underlying investment project. Additionally, all investment projects located in the UK are subject to corporation tax.

Formally, overseas investment by UK companies is also subject to corporation tax.[22] But, in reality, little UK tax is collected on such investments.[23] Hence, in contrast to

[22] Technically for corporation tax, liability is not determined by incorporation, but by whether the company is tax resident in the UK. An overseas incorporated company could be tax resident if management and control activities are carried on in the UK.

[23] The UK allows credits for overseas corporate taxes already paid in respect of overseas profits. However, firms can further reduce their tax liability by pooling high- and low-tax profits and by deferring the repatriation of funds. The one major exception is where the investment is captured under Controlled Foreign Company rules that effectively force repatriation of low-tax profits and prevent mitigation of the tax liability via pooling.

corporation tax, stamp duty provides an effective tax on the overseas investments of UK companies. The other side of this relationship is that corporation tax applies to the UK investments of overseas companies, but no stamp duty is payable.

The differences between the tax bases imply that the theoretical advantages of a corporation tax over a stamp duty may not hold in practice. In particular, if stamp duty raises a large quantity of revenue from the overseas investment projects of UK companies, then abolishing stamp duty and replacing it with a corporation tax increase could increase the tax rate on investment projects located in the UK.

We examine the case of complete abolition of stamp duty in Annex B. This assumes that the revenue forgone amounts to around £3 billion, in line with our assumption in Section 2.2 about the medium-term sustainable stamp duty revenues.[24] The revenue is recouped through an increase in the corporation tax rate. For a range of theoretical investment projects, Annex B shows that this results in a lower tax rate on marginal investment in most scenarios. Ideally, we would want to examine the impact of such a change empirically on actual potential investment. However, these results do represent a strong a priori case that the empirical impact would also result in an improvement in efficiency.

4.2 The market for corporate control

Stamp duty also distorts the market for corporate control. Consider a foreign takeover of a UK company shown stylistically in Figure 4.2. When a foreign firm buys an existing UK firm, it must pay stamp duty at the 0.5% rate on the entire share capital of the UK firm. However, from that point on, no further stamp duty will be payable. The combined company is incorporated overseas, so trading in its shares is not subject to UK stamp duty. In effect, the equity value of the original UK company has exited from the UK stamp duty tax base. So takeover by foreign firms is currently encouraged by the UK tax system, since the one-off 0.5% charge is well below the present value of stamp duty that would be saved.

The case of a UK takeover of a foreign company would produce the opposite effect, resulting in an increase in the stamp duty base and a corresponding cost to shareholders. The UK purchaser will therefore have to pay a higher price for its acquisition than would have been the case in the absence of stamp duty, and the takeover would presumably only go ahead if it had other advantages.

The tax base changes and cash flows resulting from merger and acquisition activity are summarised in Table 4.1. It is important to note that the cash flows move in the opposite direction to the movement of equity into and out of the stamp duty base. A large number of foreign takeovers of UK firms would result in buoyant short-run revenues, while the depletion of the base would only become apparent in the long run.

[24] Considering a complete abolition avoids us having to make assumptions about the impact of a stamp duty rate cut on share turnover and hence on the residual stamp duty revenues.

Figure 4.2. Stamp duty consequences of overseas takeover of UK company

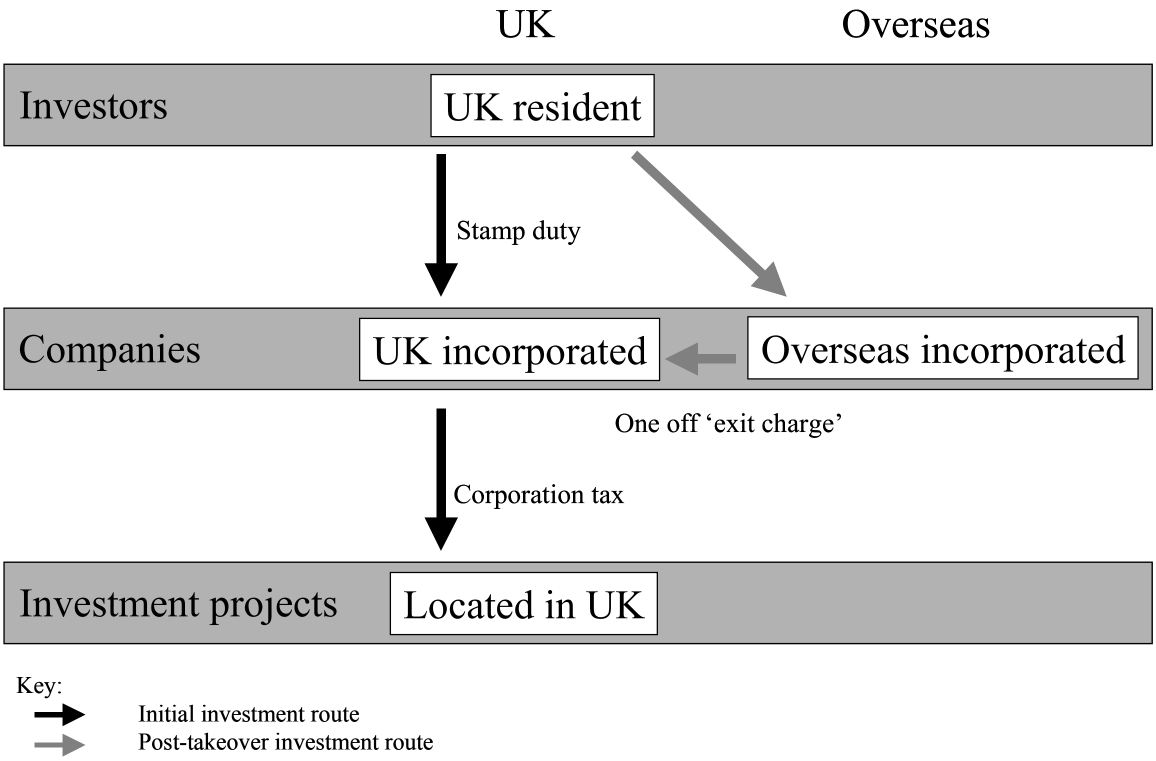


Table 4.1. Merger and acquisition activity: tax base changes and cash flows

		Bidder	
		UK	Foreign
Target	UK	Base: no change Cash flow: pays stamp duty	Base: decreases Cash flow: pays stamp duty
	Foreign	Base: increases Cash flow: none	Base: no change Cash flow: none

There is another cash-flow effect of stamp duty where a merger or acquisition involves the issuance of depositary receipts. In a paper deal, a UK company acquires a foreign company and pays for it by issuing shares in the new combined group. As noted, this has the effect of bringing the equity into the stamp duty base. But the usual way for overseas investors, particularly those in the USA, to trade in shares in UK incorporated companies is through depositary receipts.[25] Foreign shareholders may therefore want to be compensated with depositary receipts rather than the underlying shares. This implies the payment of the increased 1.5% charge on the creation of new depositary receipts.[26]

[25] Depositary receipts allow the foreign investor to trade the receipt rather than the underlying share, and therefore avoid any legal and settlement issues which may vary across either countries or exchanges.

[26] For example, when BP acquired ARCO, a US oil company, it allowed US shareholders to receive their new shares in the combined group in the form of ADRs. The issue of ADRs cost BP $295 million. At prevailing exchange rates, this single transaction provided 4% of total stamp duty revenues from share transactions in 2000–01.

But the 1.5% charge can be seen as an 'exit charge' for stamp duty, as the underlying value of the shares can now be traded free from stamp duty as depositary receipts. Provided the shares remain as depositary receipts for a number of years, the estimated effects of stamp duty on share price in Section 3.3 suggest that the present value of avoiding future stamp duty payments will be greater than 1.5% of the share price. So, ironically, the payment of cash in creating American Depositary Receipts (ADRs) lowers the overall tax burden, but it only lowers it from the position where, by having the combined group owned by a UK incorporated company, the whole equity value of the foreign company has become liable to UK stamp duty.

Do these biases matter? In pure efficiency terms, what counts is whether tax is the deciding factor in whether the merger or acquisition goes ahead. If it is, then a UK firm could end up being controlled by an overseas company when it would have been more efficient for it to have remained independent or have been bought by a different, UK company.

Such tax consequences of merger and acquisition activity are certainly at odds with the government's intention to remove tax barriers from what should otherwise be commercial decisions. In the context of substantial shareholdings, the government has just introduced an exemption from corporation tax on any capital gains made on the sale of a subsidiary. This exemption is intended to 'facilitate the process of group restructuring and reinvestment'.[27] However, multinationals can already defer any tax liability on their capital gains, potentially indefinitely, by the simple expedient of holding their subsidiary through a holding company in a foreign jurisdiction.[28] As such, the revenue cost of the exemption is rather limited, at £150 million per year.

In the case of stamp duty, the current revenue is substantially higher. We estimate that abolition would cost around £3 billion a year. But equally there are questions about the long-term viability of stamp duty. Clearly, the cost–benefit trade-off involved in abolishing stamp duty alters radically if we expect the tax revenues to collapse in the near future. So, in the next chapter, we consider how companies and individuals might avoid this tax charge.

[27] HM Treasury, 2001, p. 7.

[28] The archetypical location of this intermediate holding company is the Netherlands, which does not tax capital gains arising on the sale of subsidiaries.

5. Longer-term threats to the stamp duty base

There are a number of potential longer-term threats to the sustainability of stamp duty. This chapter considers three:

- increased trading in derivatives instead of the underlying shares;
- emigration of trading in UK shares;
- emigration of UK registered companies.

5.1 Trading derivatives rather than underlying shares

Shareholders could seek to avoid stamp duty by trading a derivative rather than the underlying share. It is theoretically possible to design contracts using a portfolio of bonds and call options that provides a similar risk–return trade-off to the underlying share, but which eliminates the need to trade the underlying share at all.[29] It is also possible to take a position on equity price movements through both spread betting and contracts for difference while avoiding a stamp duty charge.

There are therefore clearly identifiable methods of trading that already avoid a stamp duty charge. However, there are two main reasons why the increased use of derivatives is perhaps unlikely to pose a significant threat to the stamp duty base. The first is that Financial Services Authority (FSA) regulations for life assurers and pension funds exclude derivatives from the classes of assets admissible for the solvency test, thereby raising the cost of investing in derivatives. Since these intermediaries own around 40% of UK equities by value,[30] this is likely to constrain significantly the extent to which derivative transactions could supplant share transactions.

A further constraint is the ability of the tax authorities to broaden the stamp duty base to encompass any types of derivative that become widely used. It will never be possible to cover every eventuality, but it is likely that rules could be framed that would close the most obvious avoidance routes. This will be particularly true of the main market for shares in a large corporation, as this needs to be both liquid and transparent for investors.

In fact, the 1.5% exit charge on shares converted to depositary receipts is probably the clearest example of the type of anti-avoidance action that could be taken. Depositary receipts are the simplest form of share derivative, as they provide the same expected future return and risk as the underlying share.[31] After conversion to depositary receipt form, the shares are effectively exempt from stamp duty on all future transactions unless and until they are converted back to ordinary shares. Hence the government imposed an exit charge at three times the normal stamp duty rate in 1986 in order to protect stamp duty yield.

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[29] See Habermeier and Kirilenko (2001).

[30] Office for National Statistics, 2001.

[31] There may be some additional currency risk if the depositary receipt is denominated in a foreign currency.

Interestingly, at current levels of share turnover, the 1.5% exit charge for depositary receipts is less than the present value of stamp duty saved (if the shares are never converted back to ordinary shares).[32] The wholesale conversion of the stock into depositary receipt form should, in theory, be attractive to shareholders at this rate. The fact that it has not occurred suggests that depositary receipts may not be a very good substitute for the underlying shares for the major institutional investors, perhaps because the domestic market in depositary receipts is relatively small and illiquid[33] compared with that for ordinary shares.

5.2 Share transactions moving offshore

Stamp duty is a worldwide tax on share transactions in UK incorporated companies. It is chargeable whether the transaction takes place in the UK or overseas, and whether either party is resident in the UK or not. Hence, in principle, the stamp duty base should not be affected if technological change or increased competition between stock exchanges were to cause more of the trading in UK shares to shift overseas.[34]

In practice, if a UK company listed on an overseas stock market such as the NYSE or NASDAQ, it is unclear whether current stamp duty legislation or compliance arrangements would enable the UK to collect duty on subsequent transactions in its shares. At the very least, if trading in shares in UK companies were to become less concentrated on a single stock exchange (i.e. the LSE) and spread to a number of different exchanges and to the Internet, this might increase the cost of administering and complying with stamp duty. However, it is clear that the government could, if it chose, move much further in order to defend the tax base – for instance, by levying an exit charge on initial public offerings on overseas stock markets.[35]

5.3 UK companies reincorporating overseas

The above argument relies upon the UK government being able to tax effectively the share trading in UK incorporated companies wherever it takes place, or taxing the emigration of their share capital to overseas stock markets. But another threat to stamp duty revenues would be the emigration of UK incorporated companies themselves. In such a scenario, a UK incorporated company would move its country of incorporation from the UK to another country, from which point transactions in its shares would no longer be subject to a UK stamp duty charge. As a result, shareholders would save all

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[32] The present value of stamp duty saved is equal to the change in share price due to abolition, as shown for a range of assumptions in Table 3.2.

[33] Turnover in depositary receipts on the LSE was less than 2.5% of the total value of UK shares traded in 2001 (source: www.londonstockexchange.com).

[34] Since stamp duty is neutral with respect to the location of trading for both UK and non-UK shares, it should not significantly affect competition between stock exchanges.

[35] Current UK law allows the Inland Revenue to charge a 1.5% exit charge when a share enters a clearance service linked, for instance, to an overseas exchange. It may also charge interest on the stamp duty due on share transactions that take place overseas, which becomes payable along with the original charge when the relevant legal documents are returned to the UK.

future stamp duty on share transactions, and the company's cost of capital would be lower for the reasons discussed in Chapter 3.

Emigration would not necessarily entail moving any UK operations overseas.[36] At its simplest, such a reorganisation would involve the insertion of an overseas holding company above a pre-existing UK group. This would trigger a stamp duty charge on the entire share capital of the company.[37] But at 0.5%, this is far lower than the present value of stamp duty saved. Set against this would also be some legal and accounting costs of arranging the necessary share transactions and company reorganisation. Also, some potential benefits of incorporation in the UK might be lost, such as membership of the main FTSE share indices.[38] But FTSE worldwide indices or overseas exchanges may offer comparable transparency and liquidity.

If companies were to reincorporate overseas to avoid stamp duty, they might attempt to bypass UK rules on Controlled Foreign Companies at the same time in order to reduce their corporation tax liabilities. This is a trickier operation, as it is necessary to convince the Inland Revenue that effective management and control of the group has moved overseas, which may require relocation of a company's headquarters. This may be costly not only in terms of the transitional costs of relocation but also if there are other benefits of having the headquarters close to UK operations. The possibility of government countermeasures might also reduce the incentive to relocate. But where tax savings and operational efficiencies point in the same direction, it is possible that the existence of stamp duty will make relocation profitable where it would not otherwise have been, leading to a loss of corporation tax revenues as well as stamp duty.[39]

Looking forward, the proposed European Company Statute, which is due to come into force in 2004, could introduce a new strategic option for UK multinationals. This would allow them, under certain circumstances, to incorporate as an EU company, without any link to a particular Member State.[40] Depending on its final form, a substantial number of UK companies may choose this option. In such a scenario, the UK government would have few options available to it to protect the UK stamp duty base on shares. Levying a higher exit charge on shares repurchased by a company reincorporating as an EU company would almost certainly be subject to challenge under EU law, even if it were feasible given the legal framework for stamp duty. The government could attempt to

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[36] There may be some requirements relating to incorporation, such as holding the Annual General Meeting in the country in which a company is incorporated.

[37] Currently, this charge is only payable if an overseas company is inserted above the pre-existing group. It does not apply if a UK company is inserted. This distinction between UK and overseas companies may well be challengeable under EU law.

[38] The FTSE UK All-Share or FTSE 100 share price indices only include the shares of UK listed companies, i.e. companies that are incorporated in the UK and have met the requirements of the UK listing authority (the Financial Services Authority) and the LSE.

[39] In the USA, the phenomenon of corporate inversions, where companies move their holding company from the USA to a low-tax jurisdiction, has highlighted the potential for companies to move their location of incorporation for tax purposes. Another recent example of corporate emigration is James Hardie, which emigrated from Australia to the Netherlands in 2001. This move was primarily driven by tax considerations, but as the company already earned 85% of its profits overseas, its connection to Australia was already fairly weak. See www.jameshardie.com for further details.

[40] The exact nature of a European company is not yet clear, but it could involve a common legal basis, accounting standards and tax treatment for subsidiaries operating in different Member States.

protect the stamp duty base by extending stamp duty to cover EU registered companies which are listed on a UK stock exchange or which have UK operations (for example, pay UK corporation tax). However, the first option would directly impinge on the competitiveness of the LSE and more generally the UK as a location for trading shares, and may have the effect of ultimately driving most trading offshore without protecting stamp duty revenues.[41] The second option would, in effect, broaden stamp duty beyond its existing base, as it would include many firms with UK operations that are not UK incorporated. It would almost certainly be impractical and subject to challenge under EU law.

5.4 Conclusions

The retention of stamp duty is certainly possible in the short run. The key issue is how aggressively government is prepared to extend its taxing rights over any new liquid market in UK equities or derivatives, either by taxing that market directly or by imposing an 'exit charge' on equities migrating to this new form of trading. However, there are certain qualifications to this, particularly in connection with the UK's obligations under EU treaties. Should some form of European company ever become a viable alternative form of incorporation for UK multinationals, it is difficult to see how the UK could maintain its taxing rights, either directly or through an exit charge.

[41] According to Umlauf (1993), when Sweden introduced a 2% tax on trades executed through Swedish brokers in 1986, 60% of the trading volume of the 11 most actively traded Swedish stocks (about 30% of all trading) migrated to London to avoid taxes.

6. Alternatives to stamp duty

The retention of stamp duty is certainly possible in the short run, although there are certain qualifications to this, particularly in connection with the UK's obligations under EU treaties. However, there are major arguments against using stamp duty as a source of revenue. Stamp duty is a relatively inefficient way to raise revenue compared with other taxes on capital income:

- it reduces the efficiency of the stock market for UK listed companies;
- it lacks any investment allowances and therefore imposes a disproportionately large burden on marginal investment projects compared with a corporation tax;
- it distorts merger and acquisition activity, producing a bias towards overseas rather than UK ownership.

While reliable empirical estimates of the impact of these problems are not yet available, alternative revenue sources do not share all these problems to the same extent. It therefore seems sensible to at least consider alternative ways to raise the revenue currently provided by stamp duty.

If stamp duty were abolished, we would expect share prices to rise. This will result in windfall gains to the current owners of UK equity. There will also be a dynamic effect whereby entrepreneurs who float future projects on the stock market will receive correspondingly higher returns. In most cases, these investment projects would have been undertaken regardless of whether stamp duty exists or not. So, again, the gain from abolition can be considered a windfall gain, but this time to the original entrepreneur. In other cases, the project may only go ahead once stamp duty is abolished, as the post-tax rate of return is now high enough to justify investment. These new projects are an efficiency gain for the economy.

6.1 Buying out the present value of future stamp duty revenues

One way the government might recoup the lost revenue is by taxing away the windfall gains to the current owners of capital. This could be achieved if the government imposed a one-off 'exit charge' on shares in a UK incorporated company. The shares would subsequently trade stamp-duty-free, both on the London exchange and overseas. This would have the effect of capitalising the value of future tax payments into a one-off, upfront payment to the government. Making such a tax compulsory would be impractical, unless complex safeguards were put in place to ensure that companies were not imperilled by the effect of the tax charge on their cash flows. But if the charge were voluntary, and if shareholders believe that stamp duty revenues are likely to be significantly eroded in any case over the next few years, they might be reluctant to pay an exit charge to the government now. Indeed, the very fact that the government offered such an option would probably increase taxpayers' expectation that the tax is unsustainable. It is likely that any scheme that proved attractive to shareholders would have to involve the government accepting an exit charge that was some way below the generally expected present value of future tax liabilities.

There are also practical difficulties with a voluntary exit charge. Would the whole share capital of a company have to exit from stamp duty at the same time? How would the funds to pay the exit charge be raised? How would such a system deal with the takeover of a company that had exited from stamp duty by a company whose shares were still liable to stamp duty?

One of the major advantages claimed for stamp duty on share transactions is its low compliance and administrative costs. While a government with a short time horizon might consider the buy-out option, the fundamental complexity of actually realising this option probably rules it out as a serious alternative.

6.2 Replacement with corporation tax

Assuming the government wished to fund a reduction in or abolition of stamp duty through increases in other taxes on capital,[42] the most obvious option would involve recouping the revenue through an increase in the corporation tax rate. This option would reduce the overall distortion to investment decisions. In addition, a reduction or abolition would reduce the distortion to merger and acquisition activity and improve the liquidity of the main market in shares of UK incorporated companies.

In general, political considerations may mean that the government would be reluctant to increase the corporation tax rate explicitly. But if this or a future government were to consider a reduction in corporation tax, our analysis suggests that the revenue might be better used to cut or abolish stamp duty.

There may be some reason to favour a cut in the rate rather than outright abolition. In this case, any increase in turnover would help limit the revenue cost of the change. In addition, in this Commentary, we have only considered long-run threats to the stamp duty tax base. There are many concerns about other tax bases, including the corporation tax base. Should these other risks prove greater than those to the stamp duty base, a future government might welcome the option of relying more heavily on a transaction-based tax. Clearly, this would have substantial costs in terms of efficiency, but it may be a preferred route in a world in which raising corporation tax rates was not a practical alternative.

6.3 Exemption for merger and acquisition activity

In recent years, there has been more concentration on the cash-flow effects of stamp duty around cross-border takeovers. The government has also emphasised the need for corporate restructuring and reinvestment decisions to be driven by commercial, rather than tax, factors.[43] This suggests that the government could introduce an exemption from stamp duty for merger and acquisition activity.

Such an exemption may well be practical, given that such transactions were exempt from stamp duty prior to 1986. However, it is unlikely to be desirable. The real distortion

[42] The government could also consider other sources of revenue, such as income tax, to recoup the revenue forgone from stamp duty. In this context, it is interesting to note Nigel Lawson's comments when the stamp duty rate was last cut, in 1986. He stated that 'It is right that the full cost of [the cut in the stamp duty rate] should be met from within the financial sector itself'.

[43] See HM Treasury (2001).

occurring during mergers and acquisitions arises from movements of equity value into and out of the stamp duty base. The 0.5% charge paid by foreign companies taking over UK companies means that some stamp duty is paid on the acquisition, but this does not alter the fact that no stamp duty will be paid on future transactions in the equity of the foreign owner. Introducing an exemption from stamp duty payments during mergers and acquisitions might actually exacerbate, rather than relieve, the distortion towards ownership by overseas incorporated companies.

A case for an exemption from stamp duty can be made where a UK company acquires an overseas company and compensates the original shareholders through the issue of depositary receipts backed by shares in the new UK-based group. In this case, exempting the depositary receipts from the usual 1.5% stamp duty charge on issue would effectively mean that the overseas shareholders' equity would never face a charge to UK stamp duty, and so effectively would not enter the UK stamp duty base.

However, the exemption would only deal with the most high-profile element of the bias towards overseas incorporation produced by stamp duty, where a UK company involved in acquiring an overseas company has to make a 1.5% payment to the exchequer. There is no evidence that this element of the distortion is worse than other elements. In fact, introducing such an exemption may simply create another distortion by encouraging takeovers via the ADR route rather than a conventional listing of ordinary shares. It would also need to be carefully policed to prevent its use as a general avoidance measure. In these circumstances, it seems better to use any available revenue to reduce the general rate of stamp duty, rather than creating a specific relief for one particular aspect of it.

6.4 A wealth tax

The final reform that we consider is the replacement of stamp duty with a wealth tax. One could conceive of a tax that raised the same revenue as stamp duty but that was charged on the average value of a share over a given period, regardless of whether the share was actually traded or not. Unlike stamp duty, such a tax would not have a negative impact on transactions volume or market liquidity. However, it would still produce a similar reduction in investment and, assuming it was confined to UK firms, still distort merger and acquisition activity.

Such a tax is unlikely to be a practical option. As with all wealth taxes, it is difficult to see where the cash flow to make the tax payments would come from. The charge could be made formally incident on the company, but payments would still imply the raising of funds from shareholders if a firm is cash-flow constrained. This would be a particular problem, especially for start-ups, where equity valuations dramatically exceeded current earnings. Such additional compliance costs would be hard to justify, especially given the current low cost of collecting stamp duty.

However, consideration of the wealth tax alternative does highlight one of the odder aspects of stamp duty. A wealth tax would be chargeable on UK residents' investments in UK companies. But it would not be charged if those residents decided to invest in an overseas company. This applies regardless of whether the company carries on the majority of its activities overseas or in the UK. While confining the stamp duty charge to UK companies probably makes the tax sustainable in the medium term, this illustrates just how odd the effective tax base becomes. It is difficult to believe that any UK government would introduce a wealth tax that discriminated against wealth held in UK companies. Yet this is exactly what stamp duty does, with the added drawback of distorting stock market transaction volumes and liquidity.

6.5 Conclusions

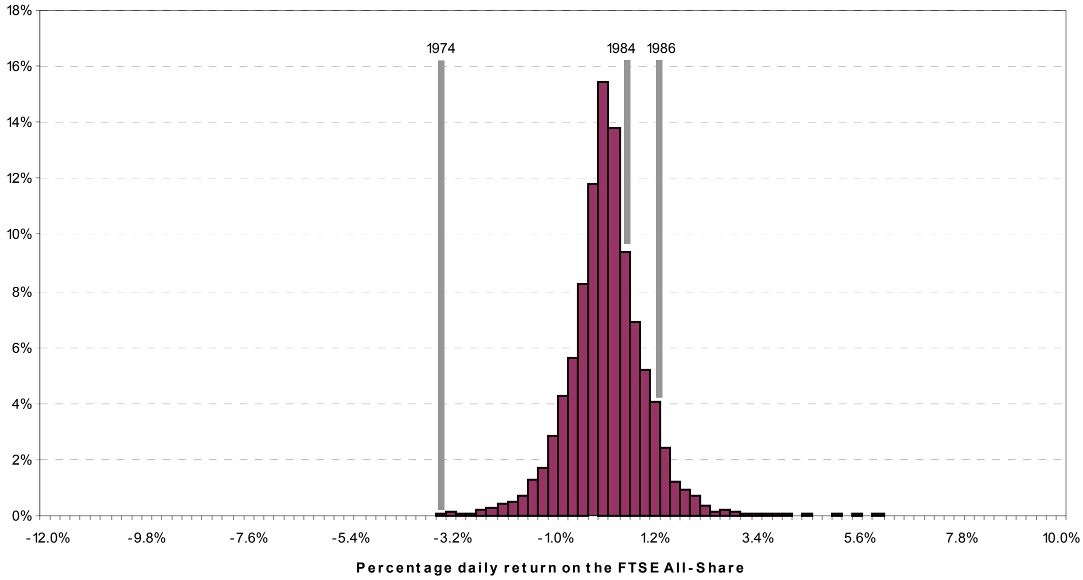
In conclusion, the only real runner for a revenue-neutral change to stamp duty involves a change to corporation tax. This could either come as an explicit increase in the tax rate or, more probably, in forgoing a potential rate cut in order to fund the abolition of stamp duty. The other options considered would either be impractical to implement or fail to tackle the underlying distortions produced by the stamp duty system.

Annex A. Empirical evidence on effects of securities transaction taxes on stock markets

A.1 Effect on share prices

There is limited empirical evidence on the effects of stamp duty on UK share prices. Jackson and O'Donnell (1985) estimate the impact of transaction costs on real share prices over the period 1963–84 and find an elasticity of share price with respect to transaction costs of –0.23. This implies that the 1984 reduction in the stamp duty rate from 2% to 1% would have led to a 10% rise in share prices.[44]

Figure A.1. Histogram of FTSE All-Share daily returns, 2/1/1969 to 26/6/1996



Notes: Data are based on the closing mid-price quotes. The highlighted points of the distribution contain the returns on days when the stamp duty rate was changed. The changes on these days were 3.33%, 0.553% and 1.055% for 1974, 1984 and 1986 respectively.
Source: Datastream.

Saporta and Kan (1987) look at the share price impact of changes in the rates of stamp duty by observing share price movements on the days that the last three rate changes were announced in the UK in 1974, 1984 and 1986. They find that share prices moved in the expected direction and by a statistically significant amount. However, Figure A.1 shows a histogram of daily returns in the period examined in the Saporta and Kan paper. The figure shows where the price movements on the days of the three stamp duty changes are located within this distribution. For both the 1986 and, in particular, the 1984 cuts, the increases in market value are not particularly large. Regardless of the magnitude, as Saporta and Kan note, even if these changes were significant, the change

[44] Jackson and O'Donnell estimate that other transaction costs were 0.75% of transaction values. This implies that total transaction costs were 2.75% prior to the stamp duty cut in 1984. The effect of a 1 percentage point cut in stamp duty on prices can then be calculated as the share price elasticity times the change in log of transaction costs, i.e. $-0.23\times\{\ln(1.75\%)-\ln(2.75\%)\} = 10\%$.

could not be directly attributed to changes in stamp duty, especially as the announcements took place on Budget days when a lot of other new information was revealed to the market.

Looking at overseas work, Umlauf (1993) employs a similar methodology to Saporta and Kan to consider the effect of the imposition of a 1% tax on Swedish share transactions in 1984. He finds that the share price index declined by 5.3% during the month of the announcement, compared with the anticipated 6.75% decline. However, his paper is subject to the same criticism as Saporta and Kan's – namely, that it fails to control for other possible influences on share prices such as interest rate changes and other tax changes.

Swan and Westerholm (2001) attempt to identify the share price impact of the abolition of securities transaction taxes in Sweden and Finland in 1991 and 1992 respectively. They attempt to correct for other influences on share prices such as interest rates and exchange rates. They also allow increases in turnover due to lower transaction costs to have an additional positive impact on share prices through improvements in liquidity. They estimate that the elasticity of share price with respect to transaction costs is –0.20 for Sweden and –0.21 for Finland. These are similar magnitudes to those found by Jackson and O'Donnell for the UK. If the true elasticity for the UK is around –0.2 and transaction costs are between 1% and 3% of transaction values, this implies that the abolition of stamp duty in the UK would increase share prices by between 3.5% and 14% – a similar range to that presented in Table 3.2 in the main text.

A.2 Effect on share turnover

There are few published estimates of the effect of stamp duty on UK share transactions. Jackson and O'Donnell (1985) find a transaction cost elasticity of –0.5 in the short run and –1.65 in the long run. This implies that a 1% fall in transaction costs would lead to a 1.65% increase in share turnover in the long run. There are no other published estimates for the UK that we are aware of.

Table A.1 summarises the transaction cost elasticities found in studies of other stock markets. In general, they are similar to Jackson and O'Donnell's results for the UK, but slightly lower if anything.

Table A.1. Empirical estimates of transaction cost elasticity of turnover

	Year	Transaction cost elasticity	Stock market
Jackson and O'Donnell, 1985	1985	–1.65	UK
Lindgren and Westlund, 1990	1990	–0.85 to –1.35	Sweden
Ericsson and Lindgren, 1992	1992	–1.2 to –1.5	International (23 stock markets)
Aitken and Swan, 2000	1993, 1995	–0.97 to –1.2	Australia
Swan and Westerholm, 2001	2000	–1.0, –1.27	Sweden, Finland

As Campbell and Froot (1993) point out, econometric studies of the impact of transaction costs on share turnover such as those in Table A.1 are fraught with difficulty. A basic problem common to all such studies is that transaction costs are very hard to measure accurately, as they are made up of several different components[45] and differ significantly depending on the type of share traded (for example, FTSE 100 compared with AIM), the size of the transaction and the identity of the share purchaser. Moreover, transaction costs may themselves be strongly influenced by the level of turnover, either because higher turnover leads to lower average costs per transaction[46] or because policy-makers vary the level of transaction taxes partly in response to rises or falls in turnover. Either of these effects may bias the estimated transaction cost elasticity.

A further problem is that the estimates for other stock markets may not be directly comparable with the UK estimates, because the designs of the relevant transaction taxes differ. For instance, Lindgren and Westlund (1990) look at a period in the 1980s when Sweden levied a tax on stock transactions carried out through Swedish brokers. According to Umlauf (1993), when the 2% tax was introduced in 1986, 60% of the trading volume of the 11 most actively traded Swedish stocks (about 30% of all trading) migrated to London to avoid taxes.[47] So the Swedish estimates may include a large substitution effect which would be largely absent in the UK. If the Swedish tax had been levied in a similar way to stamp duty (i.e. independently of the location of the investor or the trade), it is likely that the estimated effects on turnover would have been smaller.

Swan and Westerholm (2001) model the effects of changes in transaction costs due to tax changes on the turnover of a sample of individual stocks as well as for the whole market. This allows them to test whether transaction taxes impact differentially on turnover of stocks in small and large companies, which may differ in terms of liquidity and other transaction costs. They find that there are indeed significant differences in the effects between stocks, but the average long-run elasticities that they estimate for the sample of stocks and for the whole market are similar, at around –1.0.

A.3 Effect on share price volatility

Umlauf (1993) finds no evidence that the introduction of Swedish tax on stockbrokers increased volatility of daily or weekly index returns. If anything, the evidence points more the other way, as the price volatility of share classes traded tax-free in London relative to that of those traded in Stockholm declined for 9 of the 11 most actively traded stocks after the 2% tax was imposed. Saporta and Kan (1997) find that stamp duty had no effect on volatility in the UK, echoing the results from Sweden. Aitken and Swan (2000) find

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[45] Components of the transaction cost of buying a share include brokers' fees, market impact costs (the effect of a transaction on the market price if the market is illiquid), opportunity costs (of financial intermediaries who temporarily invest their own capital in the shares) and the bid–ask spread, which typically increases by the amount of any transaction tax.

[46] This might be true if one or more of the components of transaction costs were fixed, i.e. did not vary with the size of transaction.

[47] Campbell and Froot point out that it was mainly foreign investors who avoided the tax by bypassing Swedish brokers when trading in Sweden, or by exchanging Swedish securities in London or New York. It was harder for Swedes to avoid the tax – funds moved offshore attracted a tax of three times the standard rate – so the effect of the tax on domestic investors was mainly to reduce the volume of share transactions that they engaged in.

that daily share price volatility fell by 26% in the long run as a result of the halving of the Australian security transaction tax in 1995. Swan and Westerholm (2001) find that the reductions in the Swedish and Finnish securities transaction taxes in the early 1990s significantly reduced share price volatility, estimating that a 10% decline in transaction costs led to a 4% fall in volatility.

Hau and Chevallier (2000) examine the impact of differences in transaction costs between French shares subject to different rules on price quotes. They find a negative relationship between transaction costs and price volatility, but conclude that the reduction in price volatility is so small that it is 'economically insignificant'.

Annex B. Effect of stamp duty on cost of capital

This annex shows the effect of stamp duty on the cost of capital. For full details of the calculations, see McCrae (2002).

Table B.1. Effect of stamp duty on cost of capital

	Change in cost of capital for marginal investment project	
	Non-taxpayer	Higher-rate taxpayer
Baseline[a]		
Turnover 25%	0.159%	0.151%
50%	0.318%	0.303%
100%	0.636%	0.606%
Investment in industrial buildings		
Turnover 25%	0.181%	0.172%
50%	0.362%	0.344%
100%	0.724%	0.690%
Real interest rate 10%		
Turnover 25%	0.170%	0.159%
50%	0.341%	0.318%
100%	0.682%	0.637%

[a] Baseline case assumes finance from retained earnings, 2.5% inflation rate, 5% real rate of return and investment in plant and machinery.

Table B.2. Effect on cost of capital of abolition of stamp duty, with revenues recouped through increase in corporation tax rate[a]

	Change in cost of capital for marginal investment project	
	Non-taxpayer	Higher-rate taxpayer
Baseline[b]		
Turnover 25%	–0.013%	–0.071%
50%	–0.172%	–0.223%
100%	–0.491%	–0.527%
Investment in industrial buildings		
Turnover 25%	0.076%	–0.035%
50%	–0.105%	–0.208%
100%	–0.467%	–0.553%
Real interest rate 10%		
Turnover 25%	0.100%	–0.013%
50%	–0.070%	–0.172%
100%	–0.412%	–0.491%

[a] Sustainable stamp duty revenues of £3 billion recouped via a 2.25 percentage point increase in main corporation tax rate.

[b] Baseline case as in Table B.1

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