

FORESTS FOR THE PEOPLE

**ALLAN STEWART MP
& MILES SALTIEL**

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Contents

One: Recommendation	2
Two: Summary	3
Three: Objective failure — How the Forestry Commission has missed its targets	4
Four: False accounting — Why no-one can tell where the money has gone	11
Five: Without value— Why no-one knows what the Forestry Commission is worth	15
Six: What to do — The Scots opportunity	23
Seven: How to do it— The mechanics of privatization & subsequent regulation	27
Eight: Conclusion—The time is ripe	32
Sources	33

Figures

Figure 1. Summary of original objectives of Forestry Commission, outcome and proposals	3
Figure 2. Organisation Chart	4
Figure 3. Forest Enterprise, Income and expense statement, 1994–5	5
Figure 4. Analysis of planting 1994–5	8
Figure 5. Recreation etc. account 1994–5	9
Figure 6. Recreational amenities 1965–1995	9
Figure 7. Pro forma return on capital employed, 1994–5	11
Figure 8. Planting & felling, 1994–5	11
Figure 9. Valuations of the assets of the forest estate, 1986–1995	15
Figure 10. Typical business areas of wood product companies	17
Figure 11. Comparative valuations of US Forest Service and Forest Enterprise	18
Figure 12. Value of US paper and forest products sector, 1991–1996	19
Figure 13. Estimates of market value of forest estate	19
Figure 14. Pro forma net income 1994–5	20
Figure 15 Earnings multiples of North American forest product stocks	20
Figure 16. Pro forma dividend 1994–5	21
Figure 17. Dividend yield based valuations	21
Figure 18. Pro forma operating cash flow 1994–5	21
Figure 19. Forest Enterprise, timber production, 1994–5	23
Figure 20. Forest Enterprise, regional analysis of exploitation, 1994–5	23
Figure 21. Adult inhabitants of rural districts of mainland Scotland	25
Figure 22. Summary of market-based valuations of Forest Enterprise	25
Figure 23. Estimates of valuation of Scottish portion of forest estate and "dowry"	26
Figure 24. Timetable	27
Figure 25. Proposed structure	28
Figure 26. Timber production, 1980–2010	29

One: Recommendation

We propose that:

1. The current exercise to reorganise the operational aspects of the Forestry Commission as the "Forest Enterprise Agency" be redirected to separate its largest element, the Scottish forest estate.
2. Ownership of the Scottish public forest be distributed *gratis* to the private persons who are its neighbours. This would return fifteen percent of the rural area of mainland Scotland to local ownership. Such a mass distribution would be akin to the "voucher privatizations" which successfully effected similar transfers in eastern and central Europe after the collapse of communism.
3. The newly issue stock be listed on the London Stock Exchange, so that holders who wish to do so should be able to realise the value in their holdings.
4. The current pilot programme for Scottish community forests be developed by transferring powers to regulate all of the Scottish portion of the forest estate to the local authorities concerned.
5. The balance of the public forest estate be vested in the Forest Enterprise Agency, as planned at present.

The proposed distribution should put an eventual "dowry" — estimated at between £260 and £450 at the time of issue of the stock — into the hands of the one million adult residents of the rural districts of mainland Scotland.

With improved results from the Scottish forest estate — something in reasonable prospect once it is under private sector management and freed from the hand of central government — this value may be expected to grow to some £770 per head.

The exercise is essentially a simple stock distribution and could be completed within the calendar year. The term "restitution" would serve well to characterise a proposal to return the forests to the people who must live with them.

Two: Summary

The public forest estate no longer serves a public purpose. Nonetheless it occupies ten percent of the area of Great Britain and over fifteen percent of the rural area of mainland Scotland. All of this is outside local control. An examination of the record confirms the futility of the last eighty years of national forest policy and the need for a new course.

Figure 1. Summary of original objectives of Forestry Commission, outcome and proposals

Original objective	Outcome to date and proposals in this report
Provide a strategic source of wood for pitprops and railway sleepers.	Abandoned after becoming ludicrously anachronistic, leaving the supply of wood to the market (as successfully occurred in both world wars).
Provide a return on investment.	This has never happened, even with exceptional concessions. HMG is best off freed of an unrewarding investment.
Provide rural employment.	Uneconomic, ineffective and futile. Offer a real reward to rural communities with the disposal dowry.
Prevent erosion.	Forestry has been a notorious offender. Otherwise, this role is effectively performed by a private sector organisation with an interest in the value of its holdings. Tort law should protect neighbours if privileged status goes.
Provide protection and shelter to agriculture.	Confusion. As a land owner, Forest Enterprise's obligations to neighbours should be enforceable at law; as a regulator, the Forestry Commission's powers should be restored to more local land use regulators.
Offer visual amenity to the public.	A conspicuous failure; in any event this too should be a matter for local land-use regulation.
Assist the survival of natural fauna.	As above.
Increasing opportunities for recreation and sport.	An economic failure. More effectively done by a profit driven private sector organisation
Offer alternative use for set aside land	If the policy is to be kept up (n.b. greater use of land required by less intensive cattle raising) it can be pursued by grants from the Ministry of Agriculture Fisheries and Food and the like.
Maintain a "reasonable balance" between the needs of forestry and the environment.	Should be the province of conventional land-use regulators.

Over the seventy-seven years of its existence, the Forestry Commission has failed to meet its objectives, failed to deliver a return on investment, and failed to command a commercial valuation. Lacking a public role, the public forest estate should be freed from Government constraints and protection; lacking a value, the woodlands should be returned *gratis* to the residents of the communities of which they could then become part.

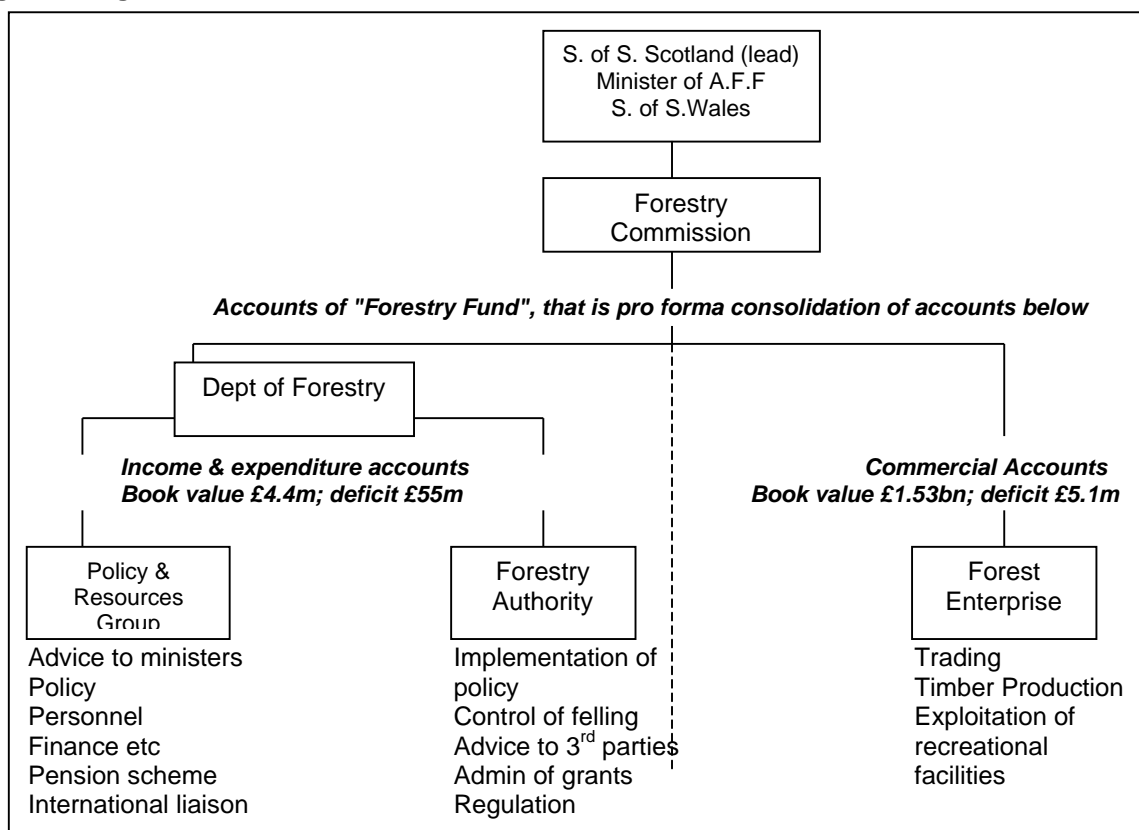
The emergence of Scottish unitary local authorities offers the opportunity to do so promptly for the two thirds of the estate north of the border. Although current plans for a transition to a "Next Steps" Agency and the formation of "Community Forests" in partnership with local authorities are to be applauded, in the case of the Scottish portion of the estate this process should be accelerated and redirected to outright mass privatization, regulated by the newly formed bodies of Scottish local government. This would return the Scottish forests forthwith to popular ownership and local regulation.

Three: Objective failure — How the Forestry Commission has missed its targets

A few facts may serve to dispel some of the heat in an often emotional issue. Even before Julius Caesar arrived on our shores, woodlands covered only half of Britain. By the time of the Norman conquest, forest cover was down to twenty percent and by the time of the Black Prince and the Hundred Years' War down to ten percent, the present level.¹

This comes after a dip in forest cover to five percent by the low point of 1920. The subsequent doubling of cover is largely the consequence of the Forestry Act of 1919 which established the Forestry Commission. At present the publicly owned forest estate of the UK is vested in "Forest Enterprise", as set out below.

Figure 2. Organisation Chart²



This combination of bodies attests to the confusion between the Government in its role as regulator and as land-owner. In the 1994 review, the Government recognised the merit of reinforcing the distinction between the regulatory activities of the commission, the "Department of Forestry" and its trading arm, "Forest Enterprise"³. Last year, the former incurred a deficit of £55m, the latter a deficit of £5.1m.

In June 1994, Neil McKerrow was appointed Chief Executive of Forest Enterprise. In spring 1996, the Scottish Office announced arrangements to help local authorities wishing to purchase local woodlands, with the pilot project likely to be the Strathmashie forest in Inverness-shire⁴.

¹ Sustainable Forestry: the UK Programme. Para 3.1 CM 2429. London, HMSO, January 1994.

² Based on Annual report and Accounts of the Forestry Commission, 1994-5. London HMSO 1995

³ Our Forests— The Way Ahead. Cm2644. HMSO, Edinburgh, 18 August 1994

⁴ Scotsman, 27th April 1996

A framework document establishing Forest Enterprise as a "Next Steps" agency is to be published shortly, providing for it to move closer to limited company status and to deal with government on an arms-length basis. In and of itself, however, the change of status of Forest Enterprise will do little to reconcile the Commission's conflicting objectives, which have given rise to persistent deficits as the table below illustrates.

Figure 3. Forest Enterprise, Income and expense statement, 1994–5⁵

Year ending March		1995	1994	Change	
Income	Forest estate	Sales of timber	91.1	82.8	10%
		Other forest sales	3.0	1.5	100.0%
		94.1	84.3	11.6%	
	Recreation, conservation & heritage	3.9	3.3	18.2%	
	Other activities	13.5	13.6	-0.7%	
		111.5	101.2	10.2%	
Expenditure	Forest estate	Harvesting	(44.8)	(45.5)	-1.5%
		Restocking after felling	(11.7)	(11.3)	3.5%
		Forest roads	(13.2)	(13.7)	-3.6%
		Forest maintenance & protection	(14.1)	(13.9)	1.4%
		(83.8)	(84.4)	-0.7%	
	Recreation, conservation & heritage	(17.0)	(16.1)	5.6%	
	Other activities	(14.4)	(16.1)	-10.6%	
		(115.2)	(116.6)	-1.2%	
Operating surplus/(deficit)	Forest estate	10.3	(0.1)	n/a	
	Recreation, conservation & heritage	(13.1)	(12.8)	2.3%	
	Other activities	(0.9)	(2.5)	-64.0%	
		(3.7)	(15.4)	-76.0%	
	Deficit on sale of properties	(1.4)	(1.5)	-6.7%	
Net deficit for year		(5.1)	(16.9)	-69.8%	

Conflicting objectives go back to the inception of the Forestry Commission. It was created after the Great War to provide a strategic source of wood for a future conflict, specifically for pit props and railway sleepers. Between the wars it received grants of around £300m, at current prices, and obtained 400,000 hectares of land. By 1939 the forests were insufficiently mature to serve their intended purpose and post-war memories of wartime timber shortages reinforced perceptions of a need for such a supply. Since 1945 the Commission has received grants of around £3 billion at today's prices and administers 862,000 hectares of woodland, as well as a further 226,000 hectares of low quality or recreational land. Most of its forests have been planted in the post-war period and are only now beginning to reach maturity.⁶ It employs 3,000 people and provides indirect employment for a further 2,500 private contractors.

A thoughtful view of the wartime record suggests that the objective of strategic supply was misconceived from the outset. The archive offers little to suggest that the lack of such a supply stood materially in the way of the Allied victory: even in the extremity of war Britain was able to rely on the market. In any event, after 1945 the natural course of economic development dissolved the pivotal role of wood for pit props and railway sleepers.

⁵ Forestry Commission Accounts 1994-5 *Op Cit*

⁶ Financial Times, 20th July 1994

The obsolescence of the strategic supply role was recognised in the late sixties. From time to time subsequently, however, the more impetuous champions of the public forestry project have sought to reinstate this mission in the form of an import substitution programme. The unsatisfactory record of such projects around the world, together with the lack of intellectual respectability of the underlying concept, has denied such an objective authoritative endorsement.

This left the Forestry Commission without a purpose. In the normal course of things it could have been wound up, but the climate of the times and the natural momentum of bureaucracies hardly lent themselves to such a course. So new objectives were synthesised in the Forestry Act of 1967 and subsequent measures. With time, it became clear that these objectives were self contradictory. In 1986, the House of Commons Public Accounts Committee reported that:

"there are a number of conflicts between the Commission's primary objective and their secondary objectives, and between the secondary objectives themselves. The effect can be to inhibit the fully efficient production of timber and limit achievement of the target rate of return."⁷

This is confirmed by the examination of objectives below.

Provide a return on investment

From time to time the Treasury has set various targets for the return it seeks from its investment in the Forestry Commission. Such targets are undermined by the fact that the enterprise is fundamentally uneconomic. This has led to great ingenuity in coming up with measures that might serve as surrogates for profitability and these matters are addressed in detail in Chapter Four. To summarise our conclusion: so far from the forest estate providing an acceptable return to the taxpayer, the basis for measurement of its return is meaningless, the Commission has continuously negotiated downwards the return it is to provide, and it has often failed to meet even these reduced standards.

Create or maintain employment in rural areas

First articulated in a 1961 report⁸, this came to be the principal objective of forestry policy in the early seventies⁹. It has failed on five counts.

- The need for such a policy turns out to be questionable. In 1986, the National Audit Office reported that employment trends in rural regions have been more favourable than in urban areas.¹⁰ Subsequent developments have reinforced these trends.
- The Commission has proved unable to keep this policy at the top of its own agenda. When timber prices declined in 1979, the Commission had to take steps to reduce costs and increase productivity in an attempt to maintain its notional return on capital. This led to significant reductions in manpower, a trend which has continued since, with headcount falling from 4,500 in 1988 to 3,000 in March 1995.
- So far the policy has been largely ineffective. Forestry jobs are few as yet: they come in quantity only after forty of fifty years of forest growth and felling occurs.

⁷ Forestry Commission: Review of Objectives and Achievements: Twelfth Report from the Committee of Public Accounts, Session 1986-7, page v. HC185. HMSO, London 1987

⁸ Scottish Council (Development and Industry): Natural Resources in Scotland. Pp327-257. HMSO, Edinburgh, 1962

⁹ Discussion Document on Forestry Policy, June 1972; Hansard, 24th October 1973; Written Answers Col 515

¹⁰ National Audit Office. Review of Forestry Commission Objectives and Achievements, p24. HC 75, HMSO, London

- In any event, the policy is by its nature uneconomic. The same National Audit Office report pointed out that forestry is an extremely expensive way of creating jobs.
- Finally, the policy appears to be futile. The burden of forestry jobs arises in urban locations where processing plants are located. Recent investment in such plants had required significant central government subsidy. In this light, the National Audit Office concluded that it was "not possible" to regard creating rural employment as "justifying the acceptance of a low rate of return on planting".¹¹

The following policies may be seen as secondary to those above. Unless indicated otherwise, they were first articulated in 1961¹² and restated in the Forestry Act of 1967.

Prevent erosion of the countryside

This has run into several difficulties. In particular, there is a confusion between the role of the Forestry Commission as regulator and as land-owner. There can be no quarrel with the principle of regulation to prevent erosion, whether on land planted by the commission itself, planted by third parties, or on non-forest land. No doubt Government should retain its powers in these matters and might well find it easier to enforce its authority once the process of forest operation is conducted by an arms-length body. There is an arguable case, however, that these powers should be held more locally. In any event, at present matters remain unsatisfactory.

- For many decades, the Forestry Commission was a notable offender in these matters. Specifically the modern commercial forestry practices is believed to have contributed to the acidification of Britain's rivers, streams, and lakes and lochs.¹³ To be fair, the Government has accepted criticism on this score¹⁴ and over the past fifteen years the Forestry Commission has changed its practices.¹⁵
- Private persons with a grievance against the trading operations of the Forestry Commission lack recourse to the law to the extent that the Commission retains its privileged status as regulator of its own conduct in its capacity as land-owner.
- In general terms, a private sector owner with an interest in the value of his holdings can be relied upon to seek to protect them, *inter alia* from erosion. To the extent that the more vigorous approach of an arm-length regulatory regime failed to control erosion of adjoining land, the law of tort should provide remedies for neighbours of the forest estate, once its privileged status is removed.

Provide protection and shelter to agriculture

Here too there is a confusion between the role of the Forestry Commission as regulator and its role as land-owner. At present the Forestry Acts provide for the Department of Forestry to exercise powers over land-use in forests. This might lie more happily with the conventional land-use regulators, that is local authority planning bodies or the Ministry of Agriculture Fisheries and Food. And once again, Forest Enterprise as landowner would find its

¹¹ *Ibid*

¹² Scottish Council *Op Cit.* 1961

¹³ Acid Rain. Fourth Report from the Environment Committee, Session 1983-4, Vol 1 pp xxix-xxx. HC 446, HMSO, London, 1984

¹⁴ Acid Rain. The Government's reply to the Fourth Report from the Environment Committee. Cmnd 9397, HMSO, London, 1984

¹⁵ Forestry Commission: 64th Annual Report and Accounts, 1983-4, p13. HC1, HMSO, London 1984

commonplace obligations to its agricultural neighbours enforceable under law once its privileged status were removed.

Enhance the visual amenity of the countryside

This objective recognises the conspicuous insensitivity of tree-planting policy to visual considerations until the late eighties. In the event, however, little has been done. It is related to another objective...

....assist the survival of natural fauna

This too has been a conspicuous failure. The monoculture nature of plantations has limited ecological diversity and contributed to loss of species in newly planted forests.

- In 1988, the Royal Society for the Protection of Birds pointed to a decline of 25% in the area of the species-rich former Caledonian Forest over the previous quarter century.¹⁶
- In the same year, the Campaign for the Future of the Border Hills has drawn attention to the damage being inflicted on the local landscape and the future infrastructure costs of upgrading roads and bridges to cope with forestry vehicles.¹⁷
- A 1987 report by the Nature Conservancy Council asserted that "over the last forty years nearly a third of Britain's lowland ancient woodlands...has been turned into modern plantations, mainly of introduced conifer species".¹⁸
- Much subsequent effort has gone into increasing the Forestry Commission's broadleaf planting (fifty-five percent of new planting in 1995 versus two percent in 1982), but it remains only one quarter of restocking and a smaller fraction of the total estate.¹⁹
- Attempts to address this issue by government run foul of conflicting pressures from plantation owners. In 1994, the Government permitted the owners of broadleaf forests to more than double the intensity of planting from 1100 to 2250 trees per hectare.²⁰ The Woodland Grants Scheme introduced in the same year raised grants for conifer planting on high quality land by thirty percent. The figure below confirms that coniferous planting continues to dominate Forestry Commission planting, although by now the Commission's own planting represents only twenty-seven percent of the total.²¹

Figure 4. Analysis of planting 1994–5

	England	Wales	Scotland	Total	
Conifer/total planting (FC)		86%	94%	88%	89%
Conifer/total planting (Private)		20%	41%	62%	48%

¹⁶ Cited in Press and Journal, 3rd October 1988

¹⁷ Cited in the Scotsman, 15th November 1987

¹⁸ Cited in the Observer, 15th November 1987

¹⁹ Forestry Commission Accounts 1994-5 *Op cit.*

²⁰ Cm 2644, 1994, *Op cit.*

²¹ Forestry Commission Accounts 1994-5 *Op cit.*

- Ultimately this is another land-use issue. The powers lying with the Forestry Commission should be devolved to bodies closer to the communities in which feeling runs highest

Increase opportunities for recreation and sport

Unfortunately these objectives are themselves self-contradictory. One man's recreation (e.g. rambling) is violated by another man's sport (car rallying).

- In any event the provision of recreation has been a chronic loss maker. Over the five years 1982–87 the total subsidy for recreational purposes was £27.1m at 1987 prices. Over the fifteen years to 1991 the Commission "invested" over £106m in the recreational provision.
- The summary account below confirms that in 1995 the provision of recreation remained an economic failure. Management characterised the period as a "difficult trading year", with "foreign holidays eroding demand" and the enterprise unable to exploit the trend it detected to second holidays and short breaks.²²

Figure 5. Recreation etc. account 1994–5

Income (£m)	3.9
Expense (£m)	(17.0)
Deficit (£m)	(13.1)

- These losses were marginally offset by the management of campsites and cabins, which made a surplus of £1m in 1995, despite a decline of five percent in revenues for cabins and cottages. This represented a rate of return of 12.1%. We see the overall losses as attributable to two factors: failure to charge and to invest.
- The forest estate patently fails to charge sufficiently for its amenities. It received fifty million visits last year.²³ It should not be beyond the wit of man to devise a charging scheme yielding the twenty-six pence per visit required to mop up its deficit on the recreation account.
- As long as ten years ago, the National Audit Office commented that "as a result of cash constraints, there has been no investment in new commercial facilities since 1978".²⁴ The figure below illustrates that for five out of seven of the recreational amenities for which records go back, the numbers peaked ten or fifteen years ago.

Figure 6. Recreational amenities 1965–1995

	1965	1970	1975	1980	1985	1990	1995
Arboreta	–	–	25	23	20	22	22
Cabins & Cottages	–	–	46	166	191	174	174
Camp & caravan sites	8	9	17	33	38	37	29
Forest drives	1	3	6	7	9	10	11
Picnic places	–	133	347	609	576	621	630
Visitor centres	2	12	22	29	18	22	29
Walks & trails	–	124	421	648	611	641	752

²² *Ibid*

²³ *Ibid*

²⁴ National Audit Office, *Op cit.* 1986

It looks as though investment which might be expected to produce an acceptable rate of return under a resourceful management and cater for a clearly apparent demand remains inhibited or prevented completely by public spending controls.

- All of these matters would be more effectively addressed by a commercial organisation, free of public spending constraints.

Take surplus agricultural land out of production

In 1992 the Department of the Environment wrote that:

"Government policy recognises that in a time of surpluses a shift of emphasis is necessary away from retaining as much agricultural land as possible...Opportunities exist for land to move from agricultural use to forestry."²⁵

As little as a few weeks ago this view prevailed. In the light of the uncertainties about intensive animal rearing arising out of the March beef scare, however, it is uncertain that such a policy is to be kept up. In any event, changing priorities of this kind can be pursued by grants from the Ministry of Agriculture Fisheries and Food and the like.

Maintain a "reasonable balance" between the needs of forestry and the environment

Recent official publications contain a rueful acknowledgement of past misadventures:

"Until recently (forest) expansion was driven mainly by a desire to increase timber production in order to reduce our imports. But this sometimes caused environmental damage with poorly designed forest marring the landscape or taking insufficient account of the importance of the land for wildlife. Much has been learned from this experience. We now understand how essential it is to ensure that landscape, wildlife, water, archaeological and recreational interests are taken fully into account...

...Nonetheless the Government would like to see a doubling of woodland in England over the next half century."²⁶ (Emphasis in original.)

Ironically, this final portmanteau objective both recognises and reinforces the self-contradictory character of the objectives discussed above and the need to mediate between them. The proposals we present are intended to modify these contradictions, but there are bound to be irreducible conflicts of interest. These undoubtedly lie in the proper province of Government, but rest most appropriately with the conventional land-use regulators, that is local planning bodies or the Ministry of Agriculture Fisheries and Food.

We may conclude that once the original strategic purpose of the national forestry project was abandoned, the Forestry Commission became beset by conflicting objectives. Although there has been improvement of late, this characteristic persists. In this light, we should not be surprised at its undistinguished financial record. We may nonetheless retain our capacity to wonder at the exotic reporting arrangements described in the next chapter. These were the procedures to which the Treasury found itself obliged to resort in an attempt to apply any standards of performance at all to this fundamentally uneconomic activity.

²⁵ Action for the Countryside. Department of the Environment, COI London, 1992

²⁶ Rural England. Pp118-9. Cm3016, Department of the Environment, Ministry of Agriculture Fisheries and Farming, HMSO, London, 1995

Four: False accounting

Why no-one can tell where the money has gone

The taxpayer is likely to find the annual accounts of Forest Enterprise dispiriting reading, with a net deficit as already noted of £5m on overall activities. Forest Enterprise has achieved a surplus on its forest estate account of £10.3m, but after adjusting for the £3m of income from sources other than timber sales, the table below illustrates that this represents a trivial pro forma gross return on assets of 0.48%, and only 0.32% after a pro forma standard tax charge.²⁷

Figure 7. Pro forma return on capital employed, 1994–5

	£m	Notes
Income from sale of timber	91.1	<i>Annual accounts</i>
Costs of harvest and haulage of timber	(44.8)	<i>ditto</i>
Costs of restocking after felling	(11.7)	<i>ditto</i>
Costs of forest roads	(13.2)	<i>ditto</i>
Forest maintenance and protection	(14.1)	<i>ditto</i>
Surplus on Income and Expenditure account	7.3	
Pro forma corporation tax	(2.3)	<i>Standard tax charge</i>
Pro-forma net income	5.0	
Capital and reserves	1,536.1	<i>Annual accounts</i>
Pro-forma gross return on capital employed	0.48%	
Pro-forma net return on capital employed	0.32%	

Granted, there has never been any attempt to conceal that a public forestry project was likely to be an uneconomic affair. When the Forestry Commission was first established, it was recognised that the length of time it takes for trees to grow — up to fifty years for conifers and a century for broadleaf trees — meant that it would be many years before there would be any return on the investment being made and an even longer time before "traditional profitability" could be achieved.²⁸

Sixty-seven years later, the Commission defined this as the point at which:

"revenue would be sufficient to re-establish the area harvested, maintain the woodlands and provide a return on the funds invested."²⁹

But at that time, the Commission reported that it did not anticipate reaching such a state until "beyond the end of the century".³⁰ The most recent annual report suggests that the Commission is indeed approaching a crossover point. Overall planting still exceeds felling, but by only a modest margin, though more substantially in the dominant Scottish region.

Figure 8. Planting & felling, 1994–5

	England	Wales	Scotland	Total
Planted (ha)	2,444	1,972	4,349	8,765
Felled (ha)	2,524	2,128	3,955	8,607
Planted/Felled	97%	93%	110%	102%

²⁷ *Ibid*

²⁸ Forestry Act 1919

²⁹ Forestry Commission: 67th Annual Report and Accounts, 1986-7, p56. HMSO, London 1984

³⁰ *Ibid*

There is still, however, more to be done this score: some fifty–six percent of the 1994–5 budget went to forest management.³¹ In Sweden, regarded by many as a model of forest husbandry, the corresponding figure is forty percent.³² And even such progress as we now see has been a long time coming, and only after a prolonged period of losses concealed by opaque accounting.

We turn to the history to illustrate the resilience of the public forest ideal in the face of the accumulating evidence of expense and futility. Nearly four decades ago in 1961, E.M. Nicholson of the Nature Conservancy told the Symposium on Natural Resources in Scotland that:

"The whole basis of the forestry programme of this country...will not bear scientific examination at all. It may be that the figures that the Forestry Commission are working on are the right ones but if so it is entirely by accident. There is absolutely no economic justification for those figures as against other figures and that is the trouble. We stagger about and spend very large sums of money without any basis in resource economics."³³

In 1968, the House of Commons Public Accounts Committee expressed concern about apparent losses being made by the Commission; about its poor future prospects; and about the limited value of its accounts as a measure of efficiency. Arising from that criticism, a major review of forestry policy was undertaken by a joint working party appointed by the Treasury and the Forestry Commission. It concluded that even the most optimistic assumptions could not justify forestry as a commercial enterprise. It flinched, however, from the obvious conclusion, instead proposing:

- An exceptionally low target return on investment of 3% p.a.;
- Writing off two thirds of the Commission's debts, that is £320m; and
- A new system of accounting.

This last, a technique later identified by the National Audit Office as "expectation value accounting", is something of a testament to fiscal ingenuity in its attempt to square the circle by recognising the fundamental unprofitability of public forestry, while introducing some sort of measure of performance.

A system of quinquennial reviews was established to calculate a value for the existing plantation. It would do so by estimating the selling price of the timber at maturity; and discounting this back at three percent per annum to a present value, after allowing for the costs of operating and other expenses. (It was the first such exercise which led to the £320m write-off.) The difference between the result of this calculation and that derived five years earlier was to be taken as the measure of the Commission's success or failure. Annual accounts for the years between reviews were to be based upon the results of the most recent review.

Even under this concessionary regime, the Commission failed to meet its targets.

- Over the first quinquennium, that is from 1973–7, the Forestry Commission claimed a rate of return of 3.1% p.a. but that was after subsidies of £28.4m and with the benefit of temporarily high timber prices, without which the Commission acknowledged the target could not have been met.³⁴

³¹ Forestry Commission Accounts 1994-5 *Op cit*

³² "The Future of Forests: Tree-lover, spare the woodman", Special Report in Economist, 22nd June 1991

³³ Scottish Council *Op cit.* 1961

³⁴ Forestry Commission: 57th Annual Report and Accounts, 1976-7, p100. HMSO, London 1984

- Over the second quinquennium, that is from 1978–82, the Commission claimed a rate of return of 2.6% p.a., after subsidies of £68.9m (at 1982 prices), citing "the impact of the world recession on the paper and board industry".³⁵
- Over the third quinquennium, that is from 1983–7, the Commission claimed a rate of return of "3.1% with the benefit of subsidies and 3.0% without."³⁶

In the same document, the Commission reported that over the entire period from 1972 to 1986, the estimated return was 3.1% with the benefit of subsidy and 2.7% without it.³⁷ And this undistinguished performance was derived under a singular and Byzantine procedure, on a target that had been set exceptionally low, and against a capital base that had been reduced by two thirds.

By 1986 the penny seemed to be about to drop. The National Audit Office reported that the Commission's annual accounts "do not provide a satisfactory basis for assessing the return to public investment in state forestry, because:

1. They do not accurately reflect the past costs incurred in establishing the existing forest, because capital is restated upwards or downwards every five years on a revaluation of assets.
2. They do not show the rate of return on new investment which may be low or even negative.
3. In view of (2), the "rate of return" established by expectation value accounting is not a test of the three percent target return for new investment as envisaged by the 1972 cost-benefit study.
4. The method of valuing the existing forest estate assets by discounting estimated future costs and revenues at three per cent has the built in effect of producing the same three per cent target rate so long as those estimates are accurate; and this would hold true for any target rate adopted."³⁸

The National Audit Office went on to say that:

"there appears no clear rationale for setting a target rate for the return on new forestry investment which is substantially lower than that required for other forms of public sector investment. This is particularly so as the non-financial considerations advanced to justify new planting do not appear to be persuasive."³⁹

But the only immediate change in the accounting of the Forestry Commission as a result of these criticisms was that the five year reporting periods were reduced to three years. The rate of return target remained concessionary and the method of calculation remained contorted. Even so, in the first triennium the Commission reported a rate of return of only 2.9% without subsidy.⁴⁰

The log-jam only began to clear in 1992, when the Commission was reorganised into the "Department of Forestry", which performs its regulatory and other Departmental duties, and

³⁵ Forestry Commission: 62nd Annual Report and Accounts, 1981-2, p115. HMSO, London 1984

³⁶ Forestry Commission: 1986-7, *Op cit.*

³⁷ *Ibid*, p70

³⁸ National Audit Office, p24 *Op cit.* 1986

³⁹ *Ibid*, p24

⁴⁰ Forestry Commission: 70th Annual Report and Accounts, 1989-90, HMSO, London 1984

"Forest Enterprise", which manages the forest estate. In 1993, an Audit Commission review of timber harvesting and marketing reported *inter alia* that:

- By comparison with overseas forest organisations, the Commission kept a less detailed inventory of its holdings and updated it less often (*paras 2.16 and 2.17*).
- Trees were being harvested "on average five years before the age of maximum economic return", with forty–nine percent of trees felled more than five years too soon or too late (*paras 2.27 and 2.38*).
- The Commission itself estimated that contractors can harvest trees some sixteen percent more economically than its own labour, though this differential was reducing as the Commission introduced new working practices and invested in equipment (*para 3.20*).
- By comparison with overseas forest organisations, the Commission had weak links with timber processors (*para 4.9*).
- The Commission drew up its targets in terms of quantities of timber rather than monetary income, which led to a marketing strategy "which concentrates on volume production, (making) it difficult to pursue specific financial targets." (*para 4.23*)⁴¹

In 1994 the Government undertook a comprehensive review of the Forestry Commission. This decided against privatization, but announced that Forest Enterprise was to be further separated from the Department of Forestry, by vesting it as a "Next Steps" Agency. This would trade at arms length from Government and move to report its operations on a Companies Act basis with targets "drawn from the profit and loss account" though — in an adjacent passage holding out the inevitable prospect of further diversions in the future — it was noted that these would be balanced by obligations to "provide non–market outputs."⁴²

To conclude, the Forestry Commission has never made the return it promised, despite the benefit of concessionary accounting for decades. Even the reforms now in prospect fail to dispel confusion about the Commission's objectives. In this light, we may begin to understand why it is so difficult to set a value for the forest estate. To this we turn in the following chapter.

⁴¹ Forestry Commission: Timber harvesting and marketing, 1992–3. Report by the Audit Commission. HC526. HMSO, London, 1993

⁴² Cm2644 *Op cit.* 1994

Five: Without value—Why no-one knows what the Forestry Commission is worth

The public has invested some £3.3bn at today's prices in the forest estate⁴³. Sadly however, it is worth far less. Just how much less appears to be a proper matter for debate. The figure below shows valuations by the Commission itself and the National Audit Office over the last decade.

Figure 9. Valuations of the assets of the forest estate, 1986–1995

	Valuation (£m)	Implied land value (£ per ha)
National Audit Office 1986 ⁴⁴	1,500	1,297
Forestry Commission 1987 ⁴⁵	1,512	1,394
Forestry Commission accounts 1990 ⁴⁶	2,270	1,891
Forest Commission estimate of market value 1990 ⁴⁷	1,500	1,333
Forestry Commission book value 1994 ⁴⁸	1,401	1,629
Forestry Commission book value 1995 ⁴⁹	1,394	1,630

We have already pointed out the questionable character of the "expectation value" figures in the Commission's accounts. But even if we accept them *arguendo*, they show that the forest estate is worth under half what has been put into it. The trend of the "expectation value" figures reported in the accounts shows, moreover, either that over the most recent decade valuations have been falling rather than growing to reflect investment, let alone inflation; or that the divergence of valuations makes them fanciful.

In all probability both conclusions are correct. Setting aside the uncertainty of "expectation value" methods, all the valuations in the accounts are based on assets and on assumptions about them which are questionable, in particular the premise that "no restraints exist, as they do in practice, from title, statute and environmental considerations" (italics added by present authors). This is an unsound basis for a businesslike valuation.

Company valuation is as much art as science. This said, coming up with a reliable valuation range for what may be regarded as a forest-products company ought to be relatively straightforward, once we take into account one or two wrinkles, specifically, emerging sources of additional supply, the cyclical nature of demand, the generally more integrated character of equivalent undertakings overseas; and the characteristics and applicability of different valuation bases.

New sources of supply

Over the next quarter century we would expect three new sources of supply to challenge the existing pattern of the industry. The first is new planting in developed countries. In 1991, the Forestry Commission sponsored a report by Michael Arnold which suggested that timber prices are likely to be held back by new planting not only in Britain and America, but also Australia, Canada, Chile and France.⁵⁰

⁴³ Forestry Commission Annual Reports, 1920-95

⁴⁴ National Audit Office, p24 *Op cit.* 1986

⁴⁵ Forestry Commission. 67th Annual Report *Op cit.*

⁴⁶ Forestry Commission. 70th Annual Report *Op cit.*

⁴⁷ *Ibid*

⁴⁸ Forestry Commission Accounts, 1994-5 *Op cit*

⁴⁹ *Ibid*

⁵⁰ Economist, 22nd June 1991, *Op cit.*

The second source is the incalculable reserves of timber in Eastern Europe and Russia, newly opened up to the market by the end of the Cold War. Although this is entirely virgin forest, with relatively high costs by way of harvesting and infrastructure, as well as uncertain quality, it could represent an order of magnitude increment in the supply of northern timber.

The third source is technical innovation. The wood products industry has always been resourceful in developing new products for construction — e.g. wall boards — and furniture e.g. medium density fibreboard. In the main, however, these are perceived as low quality products, inferior in particular to solid timber for precision construction products or top of the range furniture. New products may be altering this. For example, between 1983 and 1991, the Canadian company, MacMillan Bloedel, invested C\$150m in Parralam, a product made by laminating parallel strands of timber. This is used e.g. by window manufacturers to replace dwindling supplies of pine.⁵¹ We expect further such developments to cut into the demand for raw timber and depress the valuation of wood product companies.

Cyclicity

The price of timber is volatile, something accentuated by the character of the industry it supplies. Timber represents a small proportion of the value of its final products — typically between three and ten percent. This weakens the bargaining power of timber producers. Two factors underlie this cyclicity:

- The volatility of demand for timber-based products, in particular building materials, driven by expenditures on construction; furniture, driven by the housing market; and paper for publications, driven by expenditures on advertising in printed media.
- The high cost of new processing capacity, arising out of need to build large plants to obtain economies of scale. For example, it cost £215m for Caledonian Paper, a subsidiary of Europe's third largest forest products company, the Finnish company, Kymmene, to build a newsprint paper-mill at Irvine in 1988.⁵² Costs at this level make it a slow business to bring on new capacity, making for episodes of scarcity and glut. By contrast, in the nature of things it is not easy to increase the supply of timber at short notice.

Volatile prices make the earnings of forest product companies correspondingly unreliable, which causes them to be seen as "low quality" by investors in search of stability.

Integrated character of forest product companies

Market-based valuations seek to compare the company concerned to similar such companies or groups of companies. We have seen that the 1993 Audit Commission report drew attention to the extent to which Forest Enterprise differs from its overseas counterparts, by way of its lack of integration with other parts of the industry.⁵³ Most firms seek to reduce the volatility of their businesses by taking steps towards vertical integration, that is by entering the related business of suppliers (upstream) and customers (downstream). It would be mistaken to say that Forest Enterprise is altogether *sui generis*, but the figure below illustrates that its narrow combination of land ownership and harvesting is an unusual one.

⁵¹ *Ibid*

⁵² Economist, 5th February 1994

⁵³ Audit Commission. *Op cit.* 1993

Figure 10. Typical business areas of wood product companies

	Upstream		Downstream		
	Land ownership	Harvesting	Saw-mills, cellulose mfc	Furniture factories	Paper plant
Typical companies					
Plantation co.					
Wood products co.					
Management contracting co.					
Pulp & paper co.					
Forest Enterprise					

The darker shade is for core and the lighter shade for peripheral activities

- Plantation companies seek to move downstream to harvesting and wood processing, i.e. saw-mills, for example Weyerhaeuser, the world's largest private owner of softwood timber, owns 5.3m acres and has harvesting rights to a further four million acres.⁵⁴
- Contractors engaged in harvesting for third parties often also move downstream into saw-mills, if not furniture factories or other related industries, thus Rayonnier, which manages 1.5m acres of timber lands in the United States and New Zealand, is a trader and merchandiser of logs and timber, as well as a producer of cellulose, fluff and speciality paper pulps.⁵⁵
- Manufacturing companies move upstream into wood processing and — more rarely — harvesting and plantations. An example would be Georgia Pacific, the world's largest manufacturer of paper and wood products, which also controls (i.e. has rights to harvest) six million acres of timber lands.⁵⁶

From this we can see that the paper industry is generally firmly rooted in timber supply and processing, though the European industry tends to stand more aloof from the integration process, preferring to play suppliers off against each other and concentrate on marketing. By contrast with the integrated producers, all of the timber produced by Forest Enterprise goes to third parties, forty percent to saw-mills and sixty percent to board or paper-mills.⁵⁷ The implications for Forest Enterprise are that its value should be discounted for its lack of downstream involvement.

Valuation bases

The essence of market valuation is to take the quoted price of the shares of a similar company or for aggregates of companies, including the stock-market as a whole; to compare that price to measures of the return attributable to the shareholders — to obtain a ratio. This ratio is applied to the corresponding measure of return for the company to be valued. All the classic valuation measures may be applied to the forest products industry, including:

Premium (or discount) of share price as compared to the assets attributable to shareholders or "book value". This is expressed as the ratio of share price to book value per share and abbreviated to "P/BV".

⁵⁴ Value Line Investment Survey. Paper and Forest Products Industry, 19th April 1996. p939.

⁵⁵ *Ibid* p931

⁵⁶ *Ibid* p919

⁵⁷ Audit Commission. *Op cit.* 1993

As a corollary of this measure, we may examine the market price for the principal asset, the landed estate.

Earnings multiple, that is the ratio of share price to earnings per share, abbreviated to "P/E".

Dividend yield, that is the dividend attributable to shareholders, adjusted for the credit attributable to tax-exempt investment institutions, divided by the share price. This is often simply referred to as "yield"; and

Cash flow multiple, that is the ratio of share price to operating cash flow per share (essentially operating profit plus depreciation) abbreviated to "P/CF"

Failing all of the above — in particular when earnings are not to hand and assets are unreliable, the case in the present instance — a rough and ready way of valuing an undertaking is to look at its sales. The most obvious base for comparison is the US National Forest, whose receipts and internal estimates of potential value are set out below.

Figure 11. Comparative valuations of US Forest Service and Forest Enterprise

Activity	US Forest Service ⁵⁸					Forest Enterprise ⁵⁹		
	Est Value \$m	Prop'n %	Receipts \$m	Prop'n %	Implied val'n Price/Sales	Income £m	Proptn %	Implied value £m
Recreation	1,394	41	33	3	42.2x	3.9	3.5	164.7
Timber	918	27	902	82	1.0x	94.1	84.4	95.8
Minerals	578	17	154	14	3.8x	13.5	12.1	50.7
Fish & wildlife	408	12	—	—	n.a	n.a	n.a	n.a
Water	68	2	—	—	n.a	n.a	n.a	n.a
Grazing	34	1	11	1	3.1x	in above	in above	in above
Total	3,400	100	1,100	100	3.1x	111.5	100	311.2

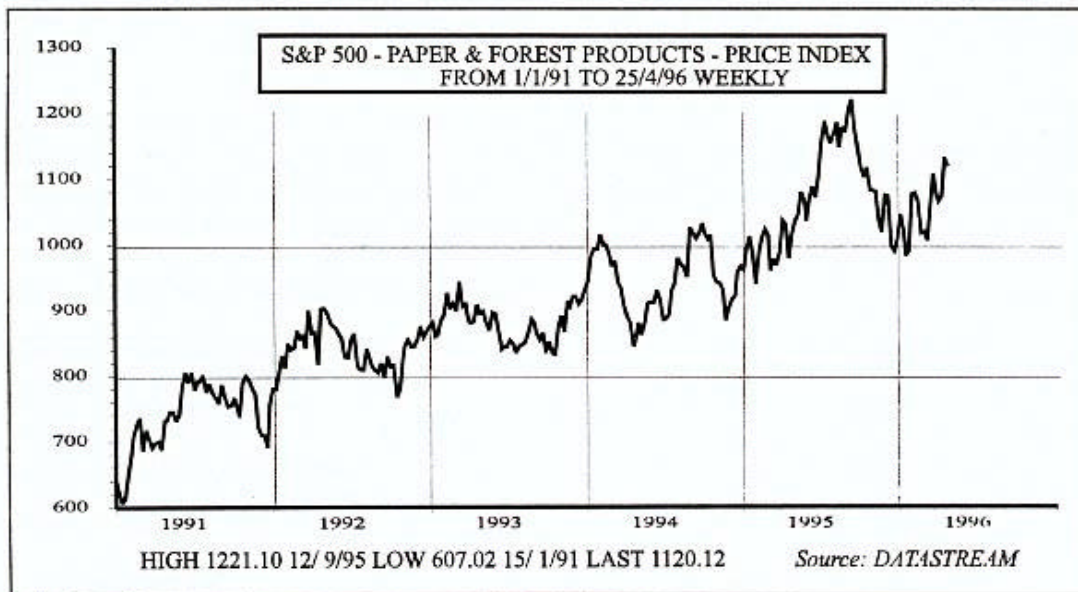
Although these estimates of valuation were made some five years ago when the US market was at a lower level than it is now, the relative valuation of the constituent parts of the business will not have altered greatly. In addition, it appears that the composition of revenues for the two national forest bodies is sufficiently similar to make comparison realistic. (We have included the item identified as "other" against the US item for "minerals" merely to give it the most generous valuation). We should note that recreation is seen as by far the most valuable activity.

To summarise, on the basis of valuations arising out of the estimates by the US Forest Service in 1991, Forest Enterprise would be worth a notional £310m. To bring matters up to date, we may see from the graph below that the US paper and forest products sector stood at 800 in mid June 1991 and has risen to 1120 at present. This is a rise of forty percent.

⁵⁸ U.S. Forest Service, cited in Economist, *Op cit.* 22nd June 1991

⁵⁹ Forestry Commission Accounts, 1994-5 *Op cit.* "Income" revenues, or what the U.S. estimates refer to as "receipts".

Figure 12. Value of US paper and forest products sector, 1991–1996



If we allow for this forty percent rise in the sector since mid 1991, an estimate of £434m would be appropriate, a discount of over two thirds of the most recent book valuation cited above.

Premium or discount to book value

Asset based valuations are generally seen as a floor to valuations based on other measures, that is earnings or dividend. The high nominal value of the land assets of Forest Enterprise relative to other measures make it unable to serve this purpose. In addition wide swings of the kind seen in timber prices over the business cycle flow through to a corresponding volatility in the market price of woodland estates. This volatility further undermines the merit of asset-based valuations. The figure below shows that at the time of the 1994 review the most authoritative sources suggested a level of only between one third and one half of book value.

Figure 13. Estimates of market value of forest estate

	Valuation (£m)	Implied land value (£ per ha)
Est of 1994 market value by former directors ⁶⁰	500	356
Est of 1994 market value by Sec of State for Scotland ⁶¹	750	535

Land valuations.

In mid-summer 1995, small tracts of premium woodland for recreation were selling for between £2,000 and £2,500 per acre, that is up to £6,300 per hectare.⁶² This would represent a handsome fillip to the valuations shown in the accounts of the Commission, which typically run at some £1,600 per hectare. We should bear in mind, however, that at the time rural land prices were at a three year high.⁶³ In addition, the coniferous plantations with little recreation amenity characteristic of the forest estate command more modest prices, as low as £500 per acre, or £1,250 per hectare. Once account is taken of the large lots and requirements for infrastructure associated with the Commission's estate, as well as the discount applicable for volatility, it is

⁶⁰ Cited in Financial Times, 20th July 1994

⁶¹ *Ibid*

⁶² John Clegg & Co., Land Agents, cited in Financial Times, 8th July 1995

⁶³ John Kerr, Agricultural Property Director of the Royal Institute of Chartered Surveyors, cited in Financial Times, 13th July 1995

possible to understand how its former directors could see values at under one third of this level in their 1994 comments.

Earnings multiple

The earnings multiple or price to earnings (PE) ratio is the most widely used valuation measure. To recap the most recently reported figures of Forest Enterprise, they are set out below and show pro forma earnings of £5.0m.

Figure 14. Pro forma net income 1994–5⁶⁴

	£m	Notes
Income from sale of timber	91.1	Annual accounts
Costs of harvest and haulage of timber	(44.8)	ditto
Costs of restocking after felling	(11.7)	ditto
Costs of forest roads	(13.2)	ditto
Forest maintenance and protection	(14.1)	ditto
Surplus on Income and expenditure account	7.3	
Pro forma corporation tax	(2.3)	Standard tax charge
Pro-forma net income	5.0	

The UK market currently values the prior year earnings of all listed companies at 15.5x, but places a higher value at on the earnings of companies in the medium sized group to which Forest Enterprise would correspond, at approximately 21.8x.⁶⁵ If we allow a discount of say twenty percent for the risks posed by cyclical, new supply sources and the lack of business integration, this suggests a valuation of £87m.

Some confirmation of this valuation comes from an examination of comparable companies overseas. The US paper and forest product company index is currently on a PE of 24.4x,⁶⁶ but this does not distinguish between the different sorts of company operating in the sector. In the figure below we illustrate that the group of companies which we identify as predominantly plantation owners has a simple average PE of 16.4x. This implies a valuation of £82m and seems to justify the robust approach of splitting the difference to strike an earnings-based valuation of £85m.

Figure 15 Earnings multiples of North American forest product stocks⁶⁷

Stock	Valuation
Predominantly plantation owners	
Long View Fibre	1 3.6x
Louisiana Pacific	25.6x
MacMillan Bloedel	11.9x
St Joe Paper	loss
Weyerhaeuser	14.5x
Simple average	16.4x
Predominantly processors	
Boise Cascade	19.2x
Georgia Pacific	21.0x
Plum Creek Timber	14.8x
Potlatch Corp.	1 6.0x
Rayonier	9.0x
Temple Inland	1 5.6x
Simple average	15.9x

⁶⁴ Forestry Commission Accounts, 1994-5 *Op cit.* Forest Enterprise Income and Expenditure Statement

⁶⁵ Financial Times FTSE share indices, 26th April 1996

⁶⁶ Value Line Investment Survey. *Op cit.*, 19th April 1996. p911

⁶⁷ *Ibid*

Dividend yield

This has the advantage of simplicity, in that the benchmark for comparison is the yield on locally available securities believed to offer similar risks. From a practical point of view, however, dividend yield is likely to prove a more problematic measure. In the first place, as a public body Forest Enterprise pays no dividend. Secondly, the level of earnings currently prevailing is insufficient to support much of a distribution, even if one were permitted. This said, we set out below figures showing a pro forma dividend payment using the 1994–5 figures, and based on rough and ready assumptions.

Figure 16. Pro forma dividend 1994–5⁶⁸

	£m	Notes
Surplus on income and expenditure account	7.3	
Pro forma corporation tax	(2.3)	Standard tax charge
Pro-forma net income	5.0	
Taken to reserves	(2.5)	Fifty percent payout policy
Available for distribution (Net dividend).	2.5	

The risks posed by Forest Enterprise are conjectural until management declares a dividend policy and establishes a record of reliable payments. In these circumstances, it may be thought prudent to take as a benchmark the relatively high yields offered by securities perceived to offer higher risk.

Figure 17. Dividend yield based valuations

	N.Am forest product cos. ⁶⁹	FTSE Mid 250 Index ⁷⁰	FTSE Allshare Index ⁷¹	UK Long gilts ⁷²	High risk bond ⁷³
Benchmark yields	2.30%	3.37%	3.69%	8.21%	13.21%
Value of estate on gross yield basis (£m)	159.8	109.1	99.6	44.8	27.8

The yield on the North American stocks we have considered ranges from 0.3% to 7.3%. To compare the stocks representing the top three European forest-product companies, the Swedish Stora "A" and "B" shares yield 4.1% and 4.2% respectively; SCA "A" and "B" (also Swedish) both yield 2.9%, while the yield on Kymmene of Finland is 4.8%⁷⁴.

According to the benchmark chosen, the value arising from a pro forma dividend payable on the basis of the 1994–5 figures is somewhere between £28m and £160m. The broad range of yields on stocks of forest-product companies suggests that the higher valuation shown for the aggregate of US companies should not be seen as conclusive. This said, it does something to counter the negligible valuation arising out of comparison to the yield on the "high risk bond".

Cash flow multiple

As we have already seen, the low level of pro forma earnings at Forest Enterprise makes earnings-based valuations of limited use. In these circumstances, operating cash flow, that is operating profit plus depreciation, may serve as a surrogate. This gives rise to the cash flow multiple, or price to cash flow ratio (P/CF). The table following shows that in 1994–5, Forest Enterprise had an operating cash flow of £19.9m.

⁶⁸ Forestry Commission Accounts, 1994-5 *Op cit.* Forest Enterprise Income and Expenditure Statement

⁶⁹ Value Line Survey. *Op cit.*, 19th April 1996. p911

⁷⁰ *Ibid*

⁷¹ Financial Times, 26th April 1996, FTSE share indices

⁷² Financial Times, 26th April 1996, UK gilt prices. The authors have taken the longest dated gilt, i.e. Treasury 8% 2021

⁷³ *Ibid* The authors have added an arbitrary five hundred basis points to the yield on the longest dated gilt.

⁷⁴ Financial Times, 26th April 1996, World Stock Markets.

Figure 18. Pro forma operating cash flow 1994–5

	£m	Notes⁷⁵
Forest Account operating profit	10.3	Income e expense statement
Depreciation	9.6	Note 1b
Pro forma operating cash flow	19.9	

It is estimated that UK market currently values the cash flow of non-financial companies at 10.3x,⁷⁶ which if discounted by twenty percent for the risks posed by cyclicalities, new supply sources, and the lack of business integration represents a valuation of £164m.

All of the valuations cited above fall short of the reported book value. In this light and bearing in mind the uncertainty of the figures underlying the valuation process, we take the view that non-financial considerations should be to the fore in Government's thinking as to the future of the public forest estate. The principal consideration should be the communities of which the forests should be a part and it is this topic that we address in the proposals in the following chapter.

⁷⁵ Forestry Commission Accounts, 1994-5 *Op cit.* Forest Enterprise Income and Expenditure Statement

⁷⁶ Robert Fleming Securities. Europe Earnings Guide. April 1996

Six: What to do — The Scots opportunity

Any consideration of the best course for the public forest estate has to start from the central reality that it is preponderantly a Scottish forest. The figure below illustrates that three-fifths of the estate lies north of the border. The intensity of exploitation is, however, out of line with the regional distribution of woodland, with Welsh and to a lesser extent English forests providing a disproportionate fraction of felled and thinned timber.

Figure 19. Forest Enterprise, timber production, 1994–5⁷⁷

	England	Wales	Scotland	Total
Plantations (ha)	208,780	118,863	487,270	814,913
Regional split of estate	26%	15%	60%	100%
Felled (ha)	2,524	2,128	3,955	8,607
Regional split of felling	29%	25%	46%	100%
Thinned (ha)	13,387	4,179	7,949	25,515
Regional split of thinning	52%	16%	31%	100%

This is made clearer by the analysis below, which shows that felling rates on the Scots estate are under one half those of the Welsh estate and only two thirds those of the English estate; and that Scots thinning rates are under one half of Welsh rates and one quarter of English rates. Although this may reflect the age of forests, as well as environmental, topological or meteorological differences, there is no evidence from the conversion rate that Scots timber is harder to harvest than that of the other estates. It does, however, suggest that it may take time to make the most of Scottish planting.

Figure 20. Forest Enterprise, regional analysis of exploitation, 1994–5⁷⁸

	England	Wales	Scotland	Average
Felled/total	1.21%	1.79%	0.81%	1.06%
Conversion rate (000 cu m/ha)	308.6	303.6	357.5	329.8
Thinned/total	6.4%	3.5%	1.6%	3.1%
Conversion rate (000 cu m/ha)	53.2	63.7	60.8	57.3

Public forests represent over fifteen percent of the rural area of mainland Scotland, none of which is under locally representative control. This is something that it is now possible to correct. Following the Local Government (Scotland) Act of 1994, the local authorities north of the border have assumed a unitary character, as have those of Wales. The objectives of reform were set out in a consultation document published in June 1991:

"The two tier system inevitably results in a measure of duplication and waste...What are more difficult to quantify, but undoubtedly exist, are the delays and frictions which can and do arise between the tiers on programmes of action requiring joint activity, according to a mutually acceptable timetable, by a variety of functional interests. Such programmes can also involve public and private sector bodies other than regions and districts, which compounds the problem."⁷⁹

⁷⁷ *Ibid* Statistical Tables

⁷⁸ *Ibid*

⁷⁹ The Structure of Local Government in Scotland: the case for change. Consultation paper: Scottish Office, June 1991, Dep 7165

This was seen as a way of returning to the objectives of the Wheatley Report of 1969, which had set out the following precepts for Scottish local government:

"Power — to enable local government to play a more important part in the running of the country;

Effectiveness — to ensure that functions are exercised effectively, in the interests of the people served;

Local democracy — to ensure that the effective power of decision in local matters rests on an elected council directly accountable to the electorate for the exercise of that power;

Local involvement — to bring the people into local government as much as possible and to make decisions intelligible."⁸⁰

The new unitary authorities represent an attempt to return to these objectives by creating bodies which are free from the friction inherent in two-tier operation. In their new form, they exercise powers, *inter alia* affecting land use, which were formerly split between regional and district councils. This makes them well qualified to recover responsibility for land-use regulation over the fifteen percent or more of their territory which is now controlled from Westminster merely because it is woodland. A move of this kind would satisfy the central objective of placing the regulatory authority close to the communities most affected. ,

We have already noted that Forest Enterprise is shortly to be vested as an Agency. This is only a preliminary step to putting it into a businesslike condition: in particular it lacks satisfactory management information systems and statutory accounts. This said, it does have accounts of sorts, as well as a regional management structure. It would be a modest exercise to sever the Scots portion of the estate from that south of the border and vest it as a limited company, with a pro-forma opening balance sheet and one year's accounts.

These would be insufficient for a conventional privatization or for a "trade sale", that is disposal to another company. They would, however, serve for a "voucher privatization", along the line of those conducted over the past five years in eastern and central Europe. Most of the companies concerned were unstructured and with rudimentary accounts. This process has occurred most notably in the former Czechoslovakia, where some 3,900 large firms have been privatised in this way, Poland (519 large firms), and Russia (15,000 large and medium sized companies). This exercise has succeeded in the prompt transfer of ownership of formerly publicly owned companies in uncertain condition *gratis* into the hands of the mass of private persons.⁸¹

In its classic form, in return for a nominal consideration every adult citizen is given vouchers which he/she can subscribe for stock in the privatised companies of his choice. In the Czech Republic and Slovakia, most citizens subscribed their vouchers to "Voucher Investment Funds". In Poland vouchers were bundled into national investment funds with a management responsibility for restructuring the companies they owned. In Russia many private persons were granted shares in their own firms which they either sold to speculators or retained.

No such complexity would be required in the case of the Scots forest estate. Although its uncertain accounting status lends itself to voucher privatization, as only one company is involved, the paraphernalia of vouchers is unnecessary. A simple stock distribution to adults on the voters' register would serve.

The question then arises of who qualifies as a recipient. The answer to this is straightforward: the residents of the rural districts which the forests occupy are those most involved with the forest in their daily lives and who are most eligible by virtue of their proximity, local

⁸⁰ Report of the Royal Commission on Local Government in Scotland, Cmnd 4150 September 1969

⁸¹ Transition Report, 1995. European Bank for Reconstruction and Development, London 1995

knowledge and community of interest to qualify for the stock distribution. An approximation of the numbers involved is set out in the table below which estimates the adult residents of the rural districts of mainland Scotland (The Scottish islands are not included as they have no public woodlands.)

Figure 21. Adult inhabitants of rural districts of mainland Scotland⁸²

Rural districts of	Adult population	Notes	Rural districts of	Adult population	Notes
Aberdeenshire	166,750		Highland excl. Inverness	126,750	3
Angus	85,750		Moray	65,750	
Argyll & Bute	69,750		North Ayrshire	29,500	4
Dumfries & Galloway	115,000		Perth & Kinross	68,250	5
East Ayrshire	32,500	1	Scottish Borders	82,750	
Fife	57,000	2	South Ayrshire	89,250	

Notes

1 Kilmarnock & Loudoun excluded.	4 Mainland excluded.
2 Dunfirmline, Glenrothes & Kircaldy excluded.	5 City of Perth excluded.
3 City of Inverness excluded.	

It is assumed that the undertaking is privatised without debt (its current condition) to maximise the volume of equity available for privatization. The valuation of the stock arising would depend upon the valuation basis employed by the market. If we consider all of those discussed in Chapter Five above, we see considerable uncertainty as to what the value of the forest estate might be.

Figure 22. Summary of market-based valuations of Forest Enterprise

	Reference or source	Valuation (£)m	Discount to 1995 Book value %
Land-based valuation	RICS	1274	9
High estimate of market value assets	HM Sec of State for Scotland	750	46
Low estimate of market value assets	Former Forestry Commission Directors	500	64
Price to sales	US Forest Service	434	69
Cash flow multiple	UK market; FC accounts	164	88
High estimate of dividend yield	US market; FC accounts	160	89
Earnings multiple	UK & US market; FC accounts	85	94
Low estimate of dividend yield	UK market; FC accounts	28	98

The summary above shows that market based-valuations discount the reported book value by anything between nine and ninety-eight percent. This discount goes far to combat any argument about a give-away. There are three possible explanations. First, some forty percent of the book value in the accounts is based on periodical revaluations. These are unsound and the market price of any voucher-distributed stock would be closer to levels suggested above. Second, the income projections in our estimates could be too conservative — on these figures by a factor of up to fifty times. This is a pleasant thought and there may be something in it, to the extent that private sector exploitation is more efficient than the projections above, but we should not rely upon this in initial valuations. Finally, these valuations fail to capture the scope for growth. This is probably the case and may make our valuations on the conservative side. On the other hand the Commission has shown ample capacity to disappoint in the past and a market valuation would reflect this.

⁸² Authors' estimates, based on Convention of Scottish Local Authorities, 1996; mid-1991 estimates of population. GRO, Scotland

If we accentuate the positive and look at estimates of the eventual "dowry" for recipients, as already discussed it would depend upon the method of valuation prevailing in the market. The figure below summarises the alternatives previously presented as they bear upon the Scottish estate, the value of which is assumed to be pro rata to acreage, that is sixty percent of the total. If shares were distributed to the adult residents of the rural districts of mainland Scotland, estimates of the "dowry" per capita at the time of issue of the stock lie between £17 and £773.

Figure 23. Estimates of valuation of Scottish portion of forest estate and "dowry"

	Valuation (£m)	Potential "dowry" per adult resident of Scottish shires (£)
Land-based valuation	765	773
High estimate of market value assets	450	455
Low estimate of market value assets	300	303
Price to sales	260	263
Cash flow multiple	98	99
High estimate of dividend yield	96	97
Earnings multiple	51	52
Low estimate of dividend yield	17	17

The lowest estimates of valuation based on pro forma dividend yield, earnings and cash flow are probably too conservative. On the other hand, the top of the range estimate shown for the land-based valuation is likely to represent considerably more than the level attainable in the market at present. Higher valuation levels should be more closely approached, however, by a privatised undertaking, which might be expected to introduce improvements in practice.

In this light, at the time of initial distribution of the stock, we might expect a market valuation within the central cluster of estimates to emerge, that is between £263 and £455 per adult resident of the rural districts of mainland Scotland. In time this might be expected to rise towards the £773 per head shown by the land-based estimate of valuation.

Our conclusion is that the forthcoming launch of the Forest Enterprise Agency, the advent of Scottish unitary local authorities and the merits of mass privatization offer Government an attractive combination of opportunities. In the following chapter we look at the issues arising out of the mechanics of the proposed process.

Seven: How to do it — The mechanics of privatization & subsequent regulation

The principal advantage of the voucher privatizations of eastern and central Europe was that they were fast. Such a privatization of the Scots portion of Forest Enterprise could undoubtedly be as fast as anything in eastern Europe; indeed as only one company is involved it could be simplified further to become a straightforward distribution of stock certificates. As any paraphernalia of registration for shares might evoke unhappy memories of the Poll Tax, it would be politic to rely on existing electoral rolls. The timetable below suggests that if a commitment is made by mid-Summer, the process could be completed by the end of the calendar year.

Figure 24. Timetable

	Aug 96	Sep 96	Oct 96	Nov 96	Dec 96
Create separate Scottish management structure	I				
Create pro forma accounts for Scottish region	I				
Appoint CEO of Scottish region	I				
Issue listings particulars		I			
Register recipients of share issue		I			
Agree planning role for Scottish local authorities		I			
Issue & list stock					I
Launch "Next Steps" agency for balance of estate					I

We should also consider the mechanics of voucher privatization. No cash is raised for the vendor, that is the state. In the post-communist world, this was not seen as the most important consideration and similar considerations apply in the present case.

- The national accounts would incur a pro forma write off to the extent of the £900m odd of the value of the Scots portion of Forest Enterprise in the books. We have already seen that the value of the forest estate is problematic. Much of the loss on a voucher privatization would merely be the realisation of unrecognised prior year losses.
- This exercise would be far from the first such write-off to be laid at the door of the Forestry Commission. In the case of the Scottish estate at least, however, it would be the last.
- In the normal course of things, the National Audit Office might be expected to take a dusty view of such goings-on. As we have seen, however, the National Audit Office has never been inclined to take the Forestry Commission at its own valuation.

Voucher privatization fails to introduce any new capital to the company. If it needs to invest, it must issue new stock into a market that may well be constipated; see below. It is not clear, however, that Forest Enterprise needs a capital injection, so this matter does not arise. In any event, the UK market would be able to absorb such stock.

Listing of stock

A voucher privatization introduces no new liquidity to the stock market itself. This is a real problem in the newly developed markets of central and eastern Europe, where voucher

privatization has led to thin and often unpublished trading at unrecorded prices. In the case of a mass privatization of the Scottish forest estate, this issue goes to the ease with which the initial holders of the stock are able to realise their value by selling them in a fair market.

Under the ordinarily applicable "Rules for Listing", newly issued stock representing the Scottish forest estate would not qualify for a listing on the London Stock Exchange. This is because the undertaking would be unable to satisfy the requirement for three years' accounts at Companies Acts standards. The stock should, however, qualify for listing as a company undertaking a substantial capital project.⁸³ Alternatively it could obtain a waiver of the kind granted to such recent privatizations as Railtrack.

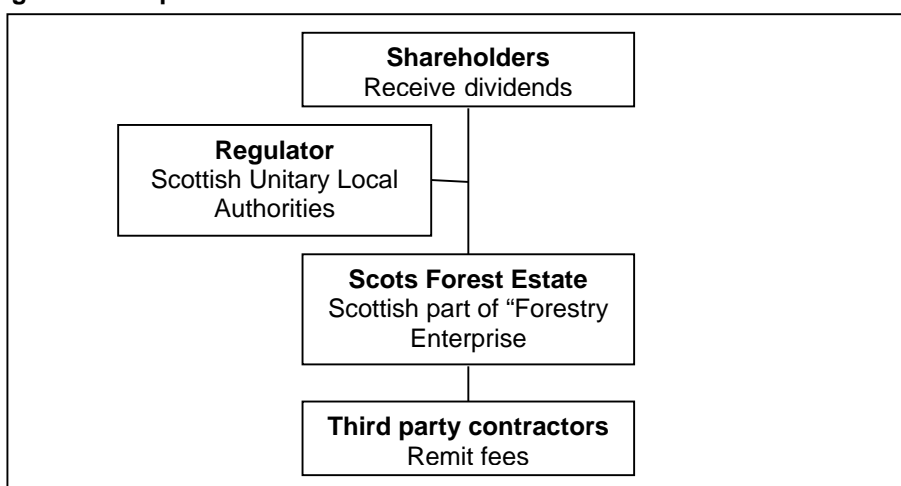
This would make for a listing in a market which is sufficiently liquid for the stock to be freely traded and realisable at fair prices. The pro forma market capitalisation of the stock would probably qualify it for immediate inclusion in the FTSE index of 250 medium sized stocks. This should attract the investment institutions which seek to have portfolios reflecting the make-up of this index, so making for a satisfactory after-market for the stock.

Corporate governance

In eastern and central Europe, the initial voucher privatizations failed to provide a mechanism to reform management, leading to insufficient pressure to restructure derelict companies. In some countries, moreover, there has been a more prolonged failure of corporate governance, with the characteristic voucher investment funds pursuing policies to suit their parents, the local banks, rather than their subscribers. This would not apply in the present case.

- In this instance, we would expect the vendor, that is HMG, to appoint a satisfactory CEO. After the initial privatization, we would expect private persons gradually to reduce their participation in favour of the investment institutions, whose holdings would make for the customary disciplines of corporate governance.
- To the extent that environmental obligations go beyond statute, the Scottish local authorities are well placed to serve as regulators. Their role would be similar to that intended for the Department of Forestry after Forest Enterprise is vested as an Agency. They could be expected, however, to act in a more locally sensitive manner.

Figure 25. Proposed structure



⁸³ A guide to going public on the Official List. The International Stock Exchange of the United Kingdom and the Republic of Ireland. London, January 1995

In concluding this note, we turn to some of the issues which are likely to be raised by this proposal. First, we would challenge any notion that it is inappropriate to dispose of the Scots forest estate gratis a few years before it comes into profit from the harvest of the trees planted post-war. We believe this view is ill judged for four reasons.

- First, the comparison with the estimated valuation of the U.S. Forest Service shows that improved timber sales are likely to do little to help valuations. They represent over fourth fifths of receipts, but contribute only just over a quarter to the valuation. In addition, the figure below shows that timber sales three years ago had already reached seventy percent of the level expected in nine years time. In this light, we see only modest scope for an increase in value from this source.

Figure 26. Timber production, 1980–2010⁸⁴

	1980	1993	Estimate for 2005	Estimate for 2010
Softwood (cu m)	2.4	4.1	5.9	6.8
Hardwood (cu m)	0.1	0.1	0.1	0.1
Total (cu m)	2.5	4.5	6.0	6.9

- Second, much of the increase in the value of the forest estate should, by contrast, be expected from the alterations in the character of the business. Some of these developments can only be effected by a private sector company which is able to control its own borrowings and issue its own shares.

A possible business plan might include:

- Improving the portfolio of land holdings with piecemeal purchases and sales;
 - Cost reduction following commercial scrutiny and increased use of contractors;
 - Greater investment in and commercial charging for the recreational amenity;
 - Vertical integration through investment in saw-mills and other timber processing capacity to broaden revenues and earnings;
 - A more businesslike equilibrium between planting and harvesting, supported by improved inventory control; and
 - Balance sheet reconstruction, that is altering the proportions of equity and debt.
- Third, the principle has been established that Government is willing to bear a pro forma write off in order to obtain the political, social and economic benefits of private sector ownership. There is particular merit in reinforcing the powers of the newly created Scottish local authorities in order to respond to the local appetite for devolution.

⁸⁴ Cm2644 *Op cit.* 1994

- Finally, our proposal places priority on acting promptly in order to put the Scots forest in the hands of the local population here and now. No-one can say what the priority of a future government might be. It might lie in municipalising the entire forest estate (the "German model"; see below), with all that might imply by way of increased bureaucracy. Worse still it might fall prey to one or another of the siren voices which have so often been attracted to forestry, introducing as yet untemplated diversions.

Nor would we accept that this scheme is unfair in that it benefits rural Scots to the exclusion of the urban majority.

- The pilot scheme for community ownership of the Strathmashie Forest is establishing the principle that we wish to return the forests to the rural communities of which the woodlands could then become part. In this light, it makes sense to reinforce local regulation with a distribution of ownership.
- Over the period of the Forestry Commission's existence, lowland Scotland has hardly been neglected by central government. The region has had the benefit of prolonged subsidies and the protection of public ownership for declining industry (coal, shipbuilding and steel), capital grants for new industry (automobiles, computers, defence electronics and chips), and preferential location of defence establishments (Rosyth) and contract awards (Ferranti, Yarrow and Marconi).
- City-dwellers lose little from this proposal. Any distribution of stock to the Scottish population as a whole would spread it so thin as to make it of negligible value.
- An extension of the Strathmashie Forest scheme to the generality of the forest estate would correspond to the arrangement in force in Germany, where the Federal *Länder* own the public woodlands, including tracts lying outside their own boundaries. A distribution of this kind would fail, however, to introduce private sector disciplines. Nor would it benefit individuals, instead leading to increased rather than reduced bureaucracy and to potential conflict between urban authorities with title to the forests and rural bodies with responsibility for their regulation.

This said, arrangements of this kind might well serve for any small tracts of woodland in predominantly urban districts, where a distribution to individuals would unduly dilute the benefits of ownership.

By the same token, we would reject any view that the scheme benefits Scots unfairly by comparison with residents of England and Wales.

- We wish to return regulatory power to the communities neighbouring the forests. Unitary authorities of the kind to be found in Scotland to take up the task do not exist where the majority of the balance of the public forest lies: that is in the English shires, where two-tier authorities hold out the danger of inconsistent and antagonistic policy-making.
- Only forty percent of the public woodland is to be found in England and Wales, which have eight times the population of Scotland. So even more than

north of the border, any distribution of stock to the population would spread it extremely thin.

- The eventual destination of the forests of England and Wales need not be set in stone by these proposals. In particular, the unitary authorities of Wales lend themselves to the assumption of similar powers over local land-use. It may be that in time the "Next Steps" Agency taking over the estate south of the border will also lend itself to privatization.
- Indeed if there is felt to be sufficient merit in the present proposal, there is nothing to prevent Government from following a Scots mass privatization with a similar exercise in England and Wales — say after the next election.

Finally, we should acknowledge that a proposal of this kind may provoke the aversion to privatization on principle which has latterly been a striking feature of Scots political opinion. On this score we may make the following observations.

- The fact that sentiment of this kind is known to be so marked should undermine assertions that these proposals are so irresistible a sop to the electorate as to be illegitimate.
- Much of the opposition to (for example) water privatization was led by local authorities whose successor bodies would assume increased powers under these proposals. They may now take a different view.
- One cause of the unpopularity of privatization has been increased utility charges. No doubt such grievances may often be disregarded as a veiled plea for resumed subsidy, but in the present instance we may also point out that these proposals should have a more benign effect. Residents of the rural districts of the Scottish mainland are being put in a position to benefit financially from the commercial success of their woodlands.
- Some of the objections to past privatizations were based on anxieties about loss of control through the political process. The reverse is the case under these proposals.
- The territorially differential character of these proposals — that is, their application to rural as opposed to all Scots — may do something to make for a diversity of views.
- In sum, those against privatization on principle will have to defend their objection to a scheme delivering ownership and control over Scottish territory into the hands of Scots.

So to conclude, we would argue for prompt action. A mass privatization of the Scottish portion of the public forest estate could remove a Scottish asset from Westminster's restrictive grasp before the turn of the year. The exchequer would lose holdings on which it should place little value, instead releasing them into the hands of the section of the population best placed to take an informed interest in them and most entitled to benefit from any financial gain.

Eight: Conclusion — The time is ripe

A happy combination of circumstances gives the Government an opportunity to bring the largest part of the failed public forestry project to a dignified conclusion by returning the assets created to the communities of which they should be part.

- The forthcoming launch of the Forest Enterprise Agency provides the occasion to go further by severing the major part of the forest estate altogether from the public sector.
- This would enable the Government to reward the neighbours of the Scottish forest by returning it to them *gratis*, without incurring a monetary penalty.
- The newly created Scots unitary authorities are well suited to act as regulators.
- The unsatisfactory financial history of the project dissolves any future claim on the public purse and makes it difficult to argue that the loss of the estate would be hurtful to the exchequer.

The exercise need take no longer than a matter of months. The management organisation is to hand; the accounts are capable of prompt publication; the regulatory institutions in place. The time is ripe.

Sources

Unless otherwise stated, prices, indices, and market valuations quoted are those struck at the close of business on 25th April 1996. Material attributed to Datastream is reproduced by permission.

- i) A guide to going public on the Official List. The International Stock Exchange of the United Kingdom and the Republic of Ireland. London, January 1995
- ii) Acid Rain. Fourth Report from the environment Committee, Session 1983-4. HC446 HMSO, London 1984
- iii) Acid Rain. The Government's reply to the Fourth Report from the Environment Committee. Cmnd 9397, HMSO, London 1984
- iv) Action for the Countryside. Department of the Environment, COI, London, 1992
- v) Annual report and Accounts of the Forestry Commission, 1994-5. London, HMSO 1995
- vi) Clegg, John, & Co., Land Agents, cited in Financial Times, 8th July 1995
- vii) Convention of Scottish Local Authorities 1996
- viii) Discussion Document on Forestry Policy, June 1972; Hansard, 24th October 1973; Written Answers Col 515
- ix) Economist, 5th February 1994
- x) Financial Times, 20th July 1994
- xi) Financial Times, 26th April 1996
- xii) Forestry Act 1919
- xiii) Forestry Commission Annual Reports, 1920-95
- xiv) Forestry Commission: 57th Annual Report and Accounts, 1976-7. HMSO, London 1984
- xv) Forestry Commission: 62nd Annual Report and Accounts, 1981-2. HMSO, London 1984
- xvi) Forestry Commission: 64th Annual Report and Accounts, 1983-4. HMSO, London 1984
- xvii) Forestry Commission: 67th Annual Report and Accounts, 1986-7. HMSO, London 1984
- xviii) Forestry Commission: 70th Annual Report and Accounts, 1989-90. HMSO, London 1984
- xix) Forestry Commission: Review of Objectives and Achievements: 12th Report from the Committee of Public Accounts, Session 1986-7. HC185, London 1987
- xx) Forestry Commission: Timber harvesting and marketing, 1992-3. Report by the Audit Commission. HC 526. HMSO, London, 1993.
- xxi) Kerr, John, Agricultural Property Director of the Royal Institute Surveyors, cited in Financial Times, 13th July 1995
- xxii) Mason, Douglas, Pining for Profits, ASI, London, 1988
- xxiii) Mason, Douglas, Wood for the Trees, ASI, London, 1991
- xxiv) Mid 1991 estimates for population. GRO, Scotland
- xxv) National Audit Office. Review of Forestry Commission Objectives and Achievements, HC75, HMSO, London, 1986
- xxvi) Observer, 15th November 1987
- xxvii) Our Forests — The Way Ahead. Cm2644. HMSO, Edinburgh, 18 August 1988
- xxviii) Press and Journal, 3rd October 1988
- xxix) Report of the Royal Commission on Local Government in Scotland, Cmnd 4150 September 1969
- xxx) Robert Fleming Securities. European Earnings Guide. April 1996
- xxxi) Rural England. CM 3016, Department of the Environment, Ministry of Agriculture, Fisheries and Food, HMSO, London, 1995
- xxxii) Scotsman, 15th November 1987
- xxxiii) Scotsman, 27th April 1996
- xxxiv) Scottish Council (Development and Industry): Natural Resources in Scotland pp327-257. HMSO, Edinburgh 1062
- xxxv) Sustainable Forestry: the UK Programme. Para 3.1. Cm 2429. London, HMSO, January 1994
- xxxvi) "The Future of Forestry: Tree-lover, spare the woodman". Special Report in the Economist, 22nd June 1991
- xxxvii) The Structure of Local Government in Scotland: the case for change. Consultation paper. Scottish Office, June 1991, Dep 7165
- xxxviii) Transition Report 1995. European Bank for Reconstruction and Development, London 1995
- xxxix) Value Line Investment Survey. Paper and Forest Products Industry, 19th April 1996