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Short Term versus Long and Profits versus Jobs in Depleted Fishery Rehabilitation

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The depleted state of many traditional fisheries is by now familiar to most, hence the interest in trying to restore them, and in the initially unexpected strength of opposition from the industry to any moves to do so, entailing as they do immediate reductions of catch to allow increased growth (1) before capture at a larger more profitable average size (recovery from growth overfishing), and/or (2) so as to allow increased recruitment to the spawning stock (recovery from recruitment overfishing).

The usual diagnosis that the fishery will yield substantially increased profits on an ongoing basis if overall effort is considerably reduced (which itself can be surprisingly hard to get fishers to believe) raises the difficult question of whether management measures should be such as to allocate the increased profit to a much reduced number of people, - which can be regarded as lacking equity, - or to an unchanged number of people, - which will require that each should exercise less fishing effort, requiring restrictions on inputs such as time or on outputs such as catches (i.e. quotas), either of which are notoriously difficult to implement.

The paper discusses the problems to be anticipated and postulates possible solutions, including solutions to some aspects of the problem which, though relatively obvious, have been largely ignored by managers to date. It concludes by seeking to reduce initial losses to a level low enough for a loan or subsidy based compensation programme to become a practicality, and warns of the necessity for any such programme to have carefully targetted incentives.

INTRODUCTION: THE SERIOUS AND UBIQUITOUS PROBLEM OF GROWTH OVERFISHING

The depleted state of developed fisheries is by now familiar in many parts of the world. It is obvious from most ICES ACFM Reports, and has been critically illustrated for European Union waters by Holden (1994) and Corten (1996) and in respect of Pacific Halibut by Wilen (1989), and Atlantic Canadian cod by Myers (in the press). Whilst recruitment overfishing is a feature in threatening the future of a fishery, as has happened with Newdoundland cod in the early 1990's, growth overfishing, fishing at levels of intensity greater than that which yields maximum sustainable returns, is the cause of shortfalls in income from fisheries virtually everywhere where advances in technology have been brought to bear in fisheries operated by the countries of the developed world.

Growth overfishing is fishing at a level of intensity greater than that which yields maximum sustainable returns, whether these be defined as referring to yield in weight, value or profit, Maximum sustainable yield and maximum economic yield, (slightly lower), depend on fishing at the most favourable combination of stock size and fishing mortality rate ('F' value). Increasing the value of F will drive the stock size downwards, and continually fishing at a high level of F will result in an equilibrium situation with a lower stock size yielding a sustained catch at a reduced level, (but in many cases only slightly reduced) with a much higher content of smaller, younger (and usually less valuable) fish, and a markedly reduced stock size.

The elimination of growth overfishing increases catch yield, and hence one would expect income in species with Yield per Recruit curves having a definite F_{max} value, but there is another effect through which reduction of fishing effort increases revenue and profit, the higher unit value of catches composed mainly of medium sized and large fish as opposed to the small which predominate in overfished fisheries; a further effect, increasing profit only, is the saving in operating costs resulting from a fishery's reduction in the effort itself.

Taking the seriously overfished Irish Sea cod as an example, and using parameters of weight and unt value at age dervived from the ICES Northern Shelf Seas Working Group (Anon. 1995), it has been shown (Hillis 1995, reproduced here as Table 1) that imposing a fishing mortality (F) of 0.32 (equivalent to about 25% per annum) would result in equilibrium catches exceeding those taken at a current F, (F=1.15) by a factor of 1.277 in weight, and by a factor of 1.528 in value, due to the high unit value of the large and medium sized individuals which predominate in catches taken with low F values, compared to that of the smaller, younger fish that predominate at high F levels; these were calculated at 662 ECU's per tonne for age group 4 or older fish compared with 419 ECU's per tonne for fish of age group 2. While profit is difficult to estimate accurately, given overhead costs and operating costs of 20% and 30% respectively and profit of 50% of current revenue the above data indicated that the profit from equilibrium catch with F = 0.32 would exceed that with F = 1.15 by a factor of about 2.49. This 50% profit/revenue level is fairly optimistic for such an overfished fishery; if the current profit/revenue level were lower, then optimisation of F would increase it by an even greater factor.

However, the high yield realised by equilibrium exploitation of a fishery at F=0.32 in the example comprises 504 small, medium and large fish, 25% of the 2,021 post-recruits in the stock, current exploitation at F=1.15 yields 698 mainly small fish, 63% of a recruited stock of 1,101. This illustrates the problem that stock size can only be increased by reducing yield in the short term, and reluctance of free access fisheries comprising competing operators to undertake such a step forms the main problem in fisheries management today, and has done so for a considerable time; that many think this problem simply to be insoluble has been noted by Corten (1996), but their view is unfortunate as the amount of increased economic rent to be obtained by correcting the rate of harvesting in many typical depleted fisheries is very considerable.

INDUSTRY RELUCTANCE AND THE MRTP.

The reluctance of the fishing industry to undertake the rehabilitation of depleted fisheries is explicable and broadly quantifiable by reference to the Marginal Time Preference Rate (MRTP). This is the term applied to the the value perceived now, the Net Present Value (NPV) of future money transactions which declines with increase in the distance into the future of their date of occurrence. It is a well-known tool of Cost Benefit Analyses (CBA), (see e.g. Sugden and Williams, 1978), and is often assigned standardised rates by government planners, that in Ireland being 5% plus the anticipated rate of inflation.

Exceptionally high rates which obviously underly business decisions by fishers were quantified for a sample of fifty-three Irish Sea boats in 1991 as 28% for money transactions, but 55% for the value of uncaught but potentially catchable fish (Hillis and Whelan, 1994). This extremely high rate reflects the great uncertainty of the fishermen's business environment, and results from the well known Nash equilibrium (Nash, 1950, 1951), whereby no operator in a competitive situation is willing to undergo the short term sacrifices necessary to conserve the stock to obtain long term benefits, because of the ease with which competitors can decline to conserve stocks and yet enjoy the long-term advantages resulting from the sacrificial efforts of the conserving operators, which the non-conservers themselves have in fact sabotaged somewhat; hence it is extremely difficult to set in place an agreement which may perhaps succeed in improving catch, revenue and profits in the future after certainly reducing them first.

The time paths of change in Revenue and in profit resulting from F reduction, given the growth, mortality, value and cost parameters used in Figure 1, are given in the Appendix. since cod are caught in a mixed fishery with other species which are not in general so heavily overfished, the target level of F used is 40% of its pre-existing level; three time paths towards it are examined, (A) immediate reduction by 60%, (B) twelve successive reductions of 5% each, and (C) 23 graduated reductions, 1 of 15%, 2 of 5%, 5 of 3%, 5 of 2% and 10 of 1%, all subjected to MRTP discount rates of zero, 10%, 25% and 50%. Revenue at the four discount rates are given in Appendix Tables A1.a - A1.d, and those for profit in A2.a - A2.d. The most important factors of change resulting from these regimes of effort reduction, the cumulative percentage changes at the end of 1, 2, 3, 4, 5,

10 and 20 years, are also shown in Table 2, arranged by year within discount rate on the left and by discount rate within year on the right.

Application of a 50% discount rate renders all cumulative changes in revenue negative, that with Regime A especially so, but asymptotic cumulative changes in profit with Regimes B and C are small increases, showing that even for makers of business decisions using a 50% discount rate, F reduction ought theoretically to be worthwhile. However, viewed pragmatically, Regime C or a similar one, offering profits of between 6% and 9% for discount rates of between 10% and 25% at the end of year 4, and from 9% to 13.5% after year 5, ought to commend F reduction (through effort reduction) to fishers and fishery managers. assuming that the first year's losses can be overcome without too much difficulty.

WHO IS THE CLIENT?

Having shown that reduction of fishing effort to the optimum level may be expected to make aggregate profit in the fishery increase to a much greater extent than it makes catch weight increase, the problem must be addressed of the distribution of the profit in an industry which as a whole will be doing considerably less work than it was when growth overfishing prevailed.

Table 3 shows five different ways in which the increased profit resulting in decreased fishing could theoretically be distributed. rangeing from maximising profit per fisher with (1) no constraints, through (2) maintenance of an unreduced number of fishers, to (3) retention of an undiminished number of fishers through the safeguard of retaining the number of boats unreduced. Columns 4 and 5 show the outcomes of the more theoretical options of maximising numbers of fishers by retaining and distributing the available economic rent to a maximised labour force with the constraint of maintaining profit based income at its current level. Notice that the options which include the retention of the fleet at its current level generate less profit than those which let it decrease to the size just able to do the work necessary to take maximum sustainable yield or maximum economic yield. This is because of the reduction in the fleet's overhead costs due to the reduction in its number of boats. If the fleet remains at full strength its aggregate overhead costs remain unreduced, even though its boats work part time to keep effort down to the level corresponding to fishing mortality at F_{max} or F_{econ}..

The outcome of a fishing effort reduction programme will depend to a considerable extent on the composition of the client group which the programme is designed to serve, and the main issue here is whether or not employee fishermen are deemed to be among the clients. Many fisheries economists (e.g. Anderson, 1986) and biologist/administrators (Holden, 1994) assume that the economically efficient goal of maximising profit through reducing the fleet "to a strength corresponding to/compatible with the size of the resource"; should take priority over the socio-economic goal of preserving jobs. However fishermen and their representatives consistently oppose such a view, often even appearing to prefer a severely ovefished status quo to the implied loss of employment which they consider that

such fleet reduction would involve. Cunningham (1994) discusses fishermen's viewpoints in some detail.

While the private entrepreneur may reasonably argue that reduction in number and increase in size of enterprises is a normal and logical consequence of technological advance and legitimate competition, it is questionable whether a fishery managing agency, taking measures which will increase aggregate income should let the measures operate in such a way that the income will accrue to a reduced number of people. It is certainly simpler, as well as more economically efficient, to reduce effort by reducing labour force numbers than by including measures to make an unreduced labour force work short time to exert the same amount of fishing effort.

Whether or not employment levels should be maintained is a political and moral issue. On the one hand there is the loss of efficiencey which reduction of competition and protection generates, on the other hand there is the social decay of local communities which unemployment causes, the personal tragedy and trauma of many which is encapsulated in the economists' frequent phrase "and these people will therefore leave the industry" especially in a world where alternative means of employment are scarce and becoming more so. It is typical of industries analysed economically nowadays that the most important factor required to optimise their financial well-being for the future is to reduce numbers of employees, while holistic economic analyses of communities and nations tend to find that employment is their most serious problem, as is considered by Ireland embarking on its term of European Union Presidency, July - December 1996.

If the client group includes employee fishers, then an unreduced or minimally reduced number of jobs (or compensation for loss of income for employees) will be an objective of the programme. If it does not, then that objective will not be included. It is probable that for an effort reduction programme to succeed it will have to obtain the support of the industry, and to achieve this it will have to avoid or greatly reduce (1) initial reductions in catch and (2) job losses. It has already been shown that an initial reduction in F of 5-15% with the balance of the reduction to the optimum level in the form of equal or smaller increments will result in losses small enough to be amenable to being covered by compensation schemes less costly than decommissioning (though the costs of policing the effort reduction, while somewhat dependent on the degree of goodwill for the programme in the industry, could be rather unpredictable).

DECOMMISSIONING AND ITQ.

Decommissioning, which appears to have been the option favoured by the European Commission, has some appeal but it is relatively expensive, costing somewhere inthe region of 60,000ECU's per average demersal Irish-based Irish Sea boat. It compensates only owners, not employees, and it permanently reduces the supply of jobs for future generations.

Individual Quota is usually discussed in the form or Individual Transferable quota (ITQ). This has been applied comprehensively to the fishing industries of Iceland (Arnason, 1995)

and New Zealand (Clark *et al.*, 1989) and to a number of discrete fisheries such as Pacific halibut and Gulf of Saint Lawrence snow crab (G. Y. Conan, *pers. comm*). It has tended to result in concentration of effort in fewer hands offset with losses of jobs in the catching sector offset to a considerable extent by gains in other associated areas on shore. However, some countries, notably Norway, have operated effort reduction programmes by measures amounting to individual non-transferable quota, with some success.(R. Hannesson, *pers. comm.*).

A free form of Individual Transferable Quota would result in a reduction in the number of boats, as the more efficient operators put the less efficient out of the fishery by buying their quota. This would result in the increased revenue eventually generated by exploiting the fish at an optimal rate being captured by a much reduced number of owners and employees. Non-transferable quota would result in little or no reduction in the number of boats, but they would be forced into the economic waste of capital involved in only fishing part-time, (which could also be difficult to police); jobs could decrease to some extent, as owners, unable to maximise catch, would economise by reducing crew numbers as far as they could.

In the case of the Irish fishery for Irish Sea cod, losses in profit by typical boats in the first two years as low as represented by Regimes B and C in Table 2 and the Appendix, could probably be compensated for by amounts of well under 60,000 ECU's with Regime B (5% per year reduction in F) or below 150 ECU's with Regime C (Graduated reductions) which are far less than the costs of decommissioning estimated above, especially as part of the compensation could probably be in the form of loans.

A POSSIBLE WAY FORWARD

A measure that would both eliminate the waste of capital of boats only working part time, and the decrease in employment of a reduced labour force would be that of the allocation of quota to be held by (or in respect of) the persons in the industry instead of in respect of boats, allowing persons who gave up their boats and their employees to bring their personal quota to join other boats, which would be pleased to receive them up to the point where the personal quotas attached to the boat reached its capacity to catch; the crew thus enlarged would presumably work in shifts, making this form of fishery management a form of work sharing. Despite the retention of personal quota by operators giving up their boats the scheme might operate~~operate~~ much more efficiently if small decommissioning payments were offered for boats leaving the industry, due to the extreme weakness of the market for old boats, if any existed.

With transferable quota however, the only effective way to prevent reduction in the number of jobs is to impose restrictive upper limits on the amount of quota which an incividual may hold (assuming, of course that all quota is held in he form of proportions of the total catch, to allow for natural fluctuations in the resource). This could well come to be seen as an undesirable restraint on liberty and legitimate competition, though such an objection could probably be met by allowing the upper limit to be gradually raised. There

would probably be abundant room for dispute as to the basis on which (i) persons would be eligible to hold quota as industry participants (e.g. should ex-participants and/or dependents qualify?), and (ii) the relative amounts of quota to which the various categories of participant (owner, skipper, crew member) should be entitled. The industry might possibly also want to have an eligibiltiy qualification on quota holding to prevent large proportions of quota from being held outside the industry by powerful holders or their nominees who might subsequently lobby for relaxation of the rules on upper limits of individual holdings; the advantages of measures like this, - which in the presence of upper limits on holdings could be rather slight, - could be considered in formulating the terms of the scheme.

Some system such as the above appears to be the only way in which the rate of harvesting could be corrected so as to sustainably maximise overall profit, without significant loss of employment. It would be for the industry to determine subsequently whether it wanted to trade security for increased opportunity, and it would probably be for national administrator/managers to arbitrate in the inevitable disputes between different sectors of the industry (e.g owners versus employees), but catch sustainability, catch quality for merchants and processors, and supply at reasonable price to the consumer should be assured.

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Table 1. Returns in catch weight, revenue and profit obtained by depleting Irish Sea cod at steady annual rates of F=0.32 or 25% (optimal) and F=1.15 or 63% (current).

Age	Weight at Age (kg.)	Price per tonne at age (ECU)	Fishing Mortality 25% p.a. Nat. Mort. 16% p.a. (yr 1, 18%). Numbers Stock	Natural Deaths	*Fish Catch*	*Wt. kg Fish catch*	Value ECU's	Fishing Mortality 63% p.a. Nat. Mort. 11% p.a. (yr 1, 18%). Numbers Stock	Natural Deaths	*Fish Catch*	*Wt. kg Fish catch*	Value ECU's
Starting stock:-			1000					1000				
1	0.839	319	819	181	*0*	*0*	0	819	181	*0*	*0*	0
2	1.764	419	487	127	*204*	*360*	151	210	89	*519*	*916*	384
3	3.732	565	290	76	*122*	*454*	256	54	23	*133*	*497*	281
4	5.700	662	172	45	*72*	*412*	273	14	6	*34*	*195*	129
5	6.897	662	103	27	*43*	*297*	196	4	2	*9*	*61*	40
6	8.857	662	61	16	*26*	*227*	150	1	0	*2*	*20*	13
7	10.752	662	36	9	*15*	*164*	108	0	0	*1*	6	4
8	11.369	662	22	6	*9*	*103*	68	0	0	*0*	2	1
9	11.369	662	13	3	*5*	*61*	41	0	0	*0*	*0*	0
10	11.369	662	8	2	*3*	*36*	24	0	0	*0*	*0*	0
11	11.369	662	5	1	*2*	22	14	0	0	*0*	*0*	0
12	11.369	662	3	1	*1*	*13*	9	0	0	*0*	*0*	0
13	11.369	662	2	0	*1*	*8*	5	0	0	*0*	*0*	0
14	11.369	662	1	0	*0*	*5*	3	0	0	*0*	*0*	0
15	11.369	662	1	0	*0*	*3*	2	0	0	*0*	*0*	0
16	11.369	662	0	0	*0*	2	1	0	0	*0*	*0*	0
17	11.369	662	0	0	*0*	*1*	1	0	0	*0*	*0*	0
18	11.369	662	0	0	*0*	*1*	0	0	0	*0*	*0*	0
19	11.369	662	0	0	*0*	*0*	0	0	0	*0*	*0*	0
20	11.369	662	0	0	*0*	*0*	0	0	0	*0*	*0*	0
Totals(excl. starting stock)			2,021	496	*504*	*2,167*	1,303	1,101	302	*698*	*1,697*	853
Percentage increases			83	64	*-28*	*28*	53	0	0	*0*	*0*	0
Calculation of profit* (1), O/heads 20%, running costs 30%of revenue at current Fish Mortality												
O/head costs, 20%of current revenue:-							171					171
Running costs, 30% at current Fish Mort:-							71					256
Profit						(+149%)	1,062				(=100%)	426
Calculation of profit* (2), O/heads 30%, running costs 50%of revenue at current Fish Mortality												
O/head costs, 30%of current revenue:-							256					256
Running costs, 50% at current Fish Mort:-							118					426
Profit						(+443%)	929				(=100%)	171

* Profit is here taken to include crew shares, which respond to changes in catch in the same way as do owners' profi

Table 2. Cumulative revenue and profit obtained by F reduction accrued by end of specifiedied periods of years discounted at stated MRTP discount rates grouped by discount rate (left) and Period duration (right).

%	Year	Cumulative revenue			Cumulative profit			Year	%	Cumulative revenue			Cumulative profit		
		A-SQ	B-SQ	C-SQ	A-SQ	B-SQ	C-SQ			A-SQ	B-SQ	C-SQ	A-SQ	B-SQ	C-SQ
0	1	-47.52	-2.98	-9.36	-59.04	-2.96	-9.72	1	0	-47.52	-2.98	-9.36	-59.04	-2.96	-9.72
	2	-32.39	-2.90	-6.24	-28.77	-1.31	-1.97		10	-47.52	-2.98	-9.36	-59.04	-2.96	-9.72
	3	-19.10	-2.41	-3.78	-2.19	1.19	4.44		25	-47.52	-2.98	-9.36	-59.04	-2.96	-9.72
	4	-8.35	-1.66	-1.28	19.29	4.17	10.64		50	-47.52	-2.98	-9.36	-59.04	-2.96	-9.72
	5	0.15	-0.79	0.84	36.31	7.41	15.96	2	0	-32.39	-2.90	-6.24	-28.77	-1.31	-1.97
	10	22.31	4.01	8.39	80.62	24.52	35.73		10	-33.18	-2.91	-6.40	-30.37	-1.39	-2.38
	20	34.59	20.03	19.36	105.19	66.17	63.85		25	-34.55	-2.91	-6.68	-33.10	-1.54	-3.08
10	1	-47.52	-2.98	-9.36	-59.04	-2.96	-9.72		50	-37.43	-2.93	-7.28	-38.86	-1.86	-4.56
	2	-33.18	-2.91	-6.40	-30.37	-1.39	-2.38	3	0	-19.10	-2.41	-3.78	-2.19	1.19	4.44
	3	-21.03	-2.46	-4.15	-6.06	0.87	3.49		10	-21.03	-2.46	-4.15	-6.06	0.87	3.49
	4	-11.51	-1.82	-1.95	12.98	3.47	8.95		25	-24.32	-2.55	-4.78	-12.65	0.33	1.87
	5	-4.19	-1.10	-0.15	27.62	6.17	13.48		50	-31.01	-2.71	-6.08	-26.03	-0.71	-1.44
	10	13.76	2.43	5.64	63.51	18.80	28.60	4	0	-8.35	-1.66	-1.28	19.29	4.17	10.64
	20	22.32	10.21	11.66	80.63	39.95	44.11		10	-11.51	-1.82	-1.95	12.98	3.47	8.95
25	1	-47.52	-2.98	-9.36	-59.04	-2.96	-9.72		25	-16.89	-2.07	-3.09	2.22	2.31	6.09
	2	-34.55	-2.91	-6.68	-33.10	-1.54	-3.08		50	-27.35	-2.49	-5.26	-18.71	0.21	0.60
	3	-24.32	-2.55	-4.78	-12.65	0.33	1.87	5	0	0.15	-0.79	0.84	36.31	7.41	15.96
	4	-16.89	-2.07	-3.09	2.22	2.31	6.09		10	-4.19	-1.10	-0.15	27.62	6.17	13.48
	5	-11.59	-1.58	-1.80	12.82	4.18	9.32		25	-11.59	-1.58	-1.80	12.82	4.18	9.32
	10	-1.01	0.21	1.36	33.98	10.63	17.52		50	-25.37	-2.33	-4.79	-14.74	0.86	1.79
	20	1.54	1.62	2.71	39.09	14.78	21.04	10	0	22.31	4.01	8.39	80.62	24.52	35.73
50	1	-47.52	-2.98	-9.36	-59.04	-2.96	-9.72		10	13.76	2.43	5.64	63.51	18.80	28.60
	2	-37.43	-2.93	-7.28	-38.86	-1.86	-4.56		25	-1.01	0.21	1.36	33.98	10.63	17.52
	3	-31.01	-2.71	-6.08	-26.03	-0.71	-1.44		50	-23.31	-2.06	-4.24	-10.63	1.85	3.20
	4	-27.35	-2.49	-5.26	-18.71	0.21	0.60	20	0	34.59	20.03	19.36	105.19	66.17	63.85
	5	-25.37	-2.33	-4.79	-14.74	0.86	1.79		10	22.32	10.21	11.66	80.63	39.95	44.11
	10	-23.31	-2.06	-4.24	-10.63	1.85	3.20		25	1.54	1.62	2.71	39.09	14.78	21.04
	20	-23.25	-2.04	-4.21	-10.49	1.92	3.27		50	-23.25	-2.04	-4.21	-10.49	1.92	3.27

Table 3. Possible theoretical factors of change in distribution of increased revenue with decreased activity arising from potential rehabilitation of depleted Irish Sea cod fishery,with different maximisation objectives and constraints.

Maximising:-	Profit per fisher			Number of fishers	
Subject to maintaining level of:-	(nothing)	Number of fishers	Fleet size	Fleet size, profit per fisher	Profit per fisher
Factors of change in:-					
Number of fishers	0.28	*1.00*	1.00	2.49	2.78
Number of boats	0.28	0.28	*1.00*	*1.00*	0.28
Fishers per boat	1.00	3.57	1.00	2.49	9.93
Fishing time per fisher	1.00	0.28	0.28	0.11	0.10
Fishing time per boat	1.00	1.00	0.28	0.28	1.00
Total fishing time	0.28	0.28	0.28	0.28	0.28
Total Profit	2.78	2.78	2.49	2.49	2.78
Profit per man	9.93	2.78	2.49	*1.00*	*1.00*

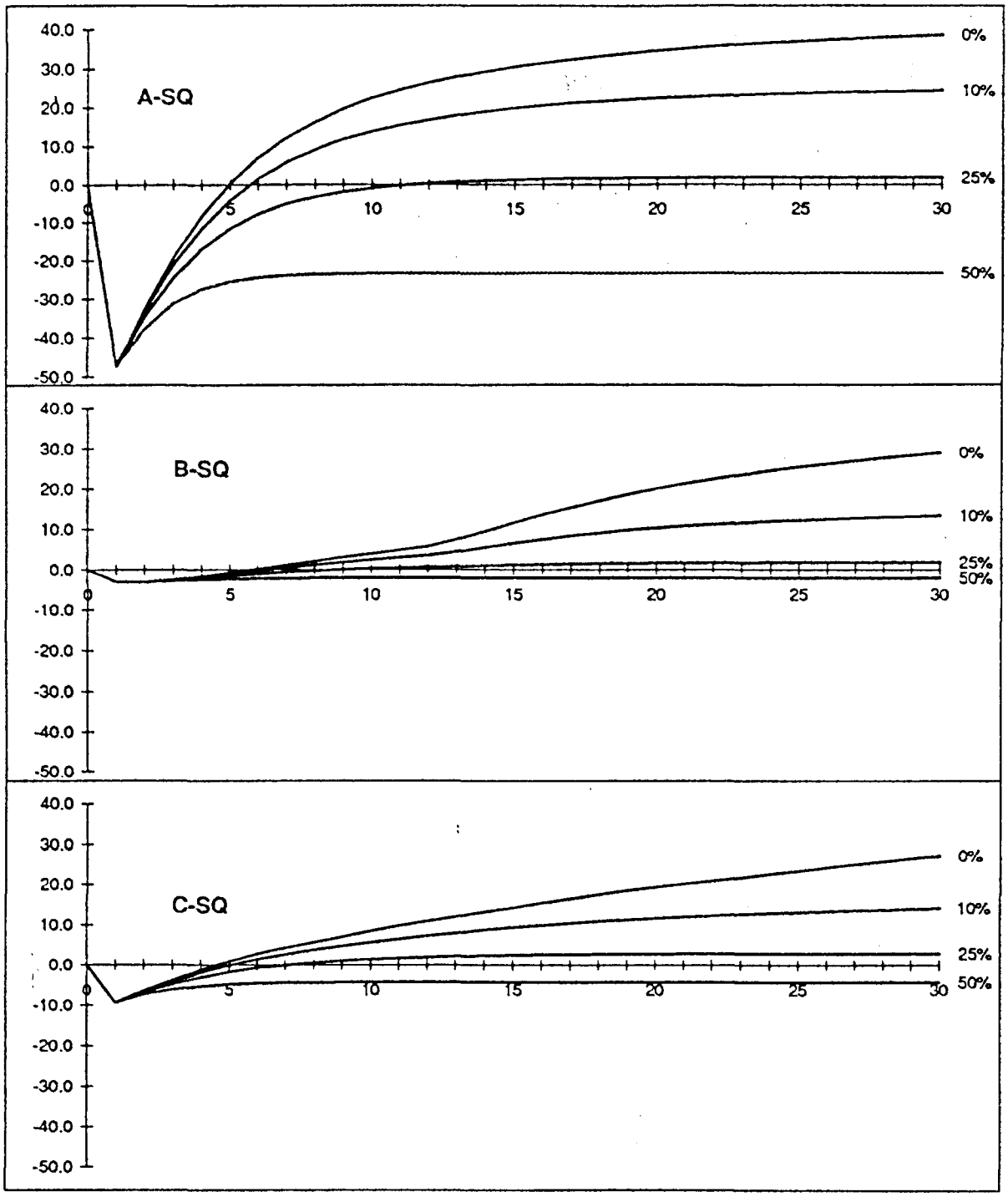

Figure 1. Cumulative percentage changes in revenue resulting from reducing F on depleted Irish Sea cod by 60% of initial value (F=-1.1)by (A) one immediate reduction, (B) 12 consecutive annual reductions of 5%, (C) Graduated annual reductions, 1 at 15%, 2 at 5%, 5 at 3%, 5 at 2% and 10 at 1%, all discounted at MRTP rates of 0%, 10%, 25% and 50% annually as shown on plots.

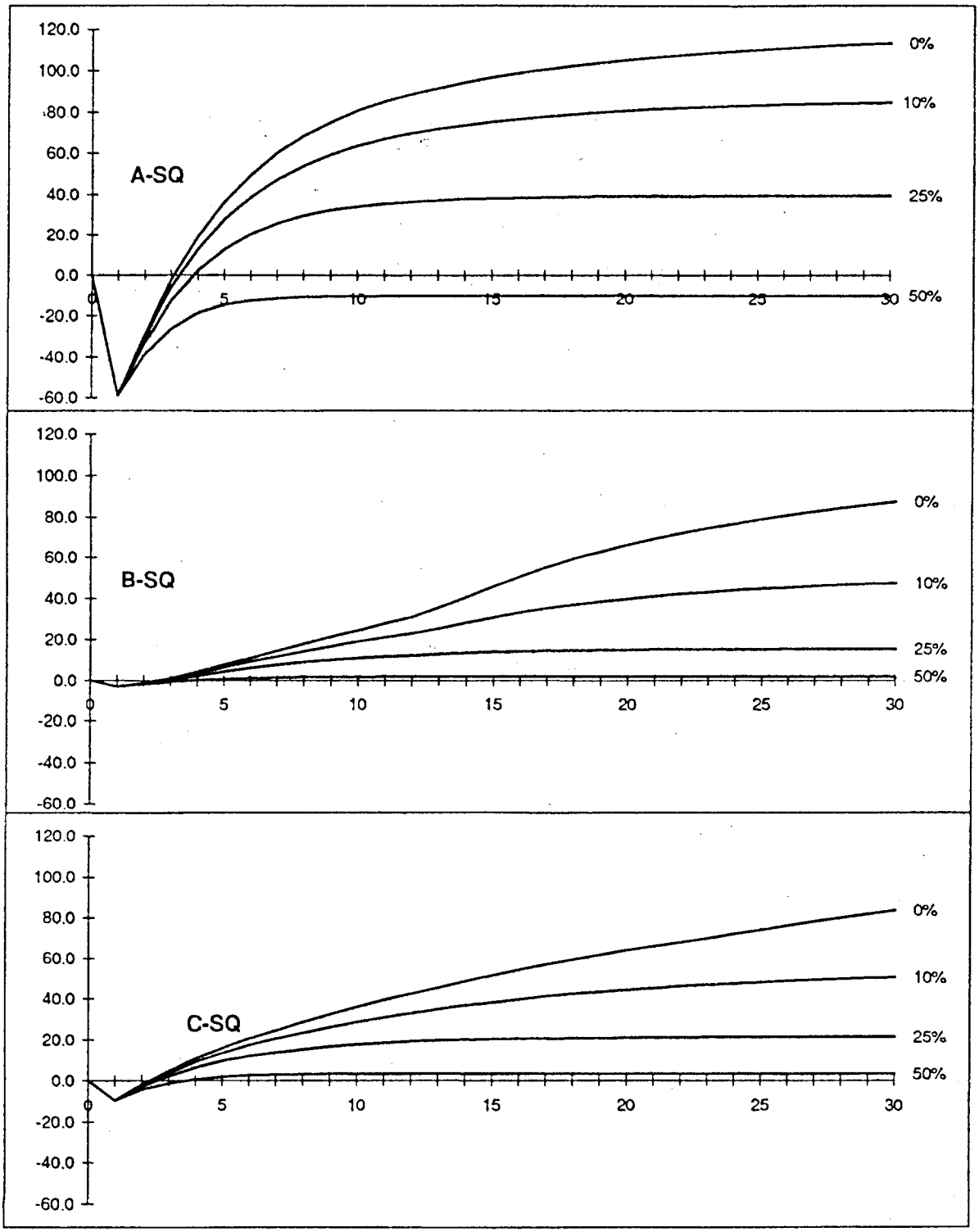

Figure 2. Cumulative percentage changes in profit resulting from reducing F on depleted Irish Sea cod by 60% of initial value (F=-1.1)by (A) one immediate reduction, (B) 12 consecutive annual reductions of 5%, (C) Graduated annual reductions, 1 at 15%, 2 at 5%, 5 at 3%, 5 at 2% and 10 at 1%, all discounted at MRTP rates of 0%, 10%, 25% and 50% annually as shown on plots.

Appendix Table A1.a. Revenue 1997-2026 obtained by reducing F to 40% Of initial level by:- A. Immediate reduction; B. Reduction by 12 steps of 5%; C. Reduction by 15% to 85%, by 5% to 75%, by 3% to 60%, by 2% to 50% and by 1% to 40%, - all compared to ststus quo (SQ) - undiscounted.

Year	SQ		A		B		C		A-SQ			B-SQ			C-SQ		
	Annual	Cumul.	Annual	Cumul.	Annual	Cumul.	Annual	Cumul.	Annual	Cumul.	*C.%*	Annual	Cumul.	*C.%*	Annual	Cumul.	*C..%*
1996	1.000		1.000		1.000		1.000		0.000			0.000			0.000		
1997	1.000	1.000	0.525	0.525	0.970	0.970	0.906	0.906	-0.475	-0.475	*-47.5*	-0.030	-0.030	*-3.0*	-0.094	-0.094	*-9.4*
1998	1.000	2.000	0.827	1.352	0.972	1.942	0.969	1.875	-0.173	-0.648	*-32.4*	-0.028	-0.058	*-2.9*	-0.031	-0.125	*-6.2*
1999	1.000	3.000	1.075	2.427	0.986	2.928	1.011	2.887	0.075	-0.573	*-19.1*	-0.014	-0.072	*-2.4*	0.011	-0.113	*-3.8*
2000	1.000	4.000	1.239	3.666	1.006	3.933	1.062	3.949	0.239	-0.334	*-8.4*	0.006	-0.067	*-1.7*	0.062	-0.051	*-1.3*
2001	1.000	5.000	1.342	5.008	1.027	4.960	1.093	5.042	0.342	0.008	*0.2*	0.027	-0.040	*-0.8*	0.093	0.042	*0.8*
2002	1.000	6.000	1.404	6.412	1.048	6.008	1.116	6.158	0.404	0.412	*6.9*	0.048	0.008	*0.1*	0.116	0.158	*2.6*
2003	1.000	7.000	1.438	7.849	1.069	7.078	1.136	7.293	0.438	0.849	*12.1*	0.069	0.078	*1.1*	0.136	0.293	*4.2*
2004	1.000	8.000	1.453	9.303	1.089	8.167	1.153	8.446	0.453	1.303	*16.3*	0.089	0.167	*2.1*	0.153	0.446	*5.6*
2005	1.000	9.000	1.462	10.765	1.109	9.275	1.185	9.631	0.462	1.765	*19.6*	0.109	0.275	*3.1*	0.185	0.631	*7.0*
2006	1.000	10.000	1.466	12.231	1.126	10.401	1.208	10.839	0.466	2.231	*22.3*	0.126	0.401	*4.0*	0.208	0.839	*8.4*
2007	1.000	11.000	1.468	13.698	1.138	11.539	1.225	12.063	0.468	2.698	*24.5*	0.138	0.539	*4.9*	0.225	1.063	*9.7*
2008	1.000	12.000	1.469	15.167	1.145	12.685	1.240	13.303	0.469	3.167	*26.4*	0.145	0.685	*5.7*	0.240	1.303	*10.9*
2009	1.000	13.000	1.469	16.636	1.271	13.956	1.254	14.557	0.469	3.636	*28.0*	0.271	0.956	*7.4*	0.254	1.557	*12.0*
2010	1.000	14.000	1.469	18.105	1.356	15.312	1.287	15.844	0.469	4.105	*29.3*	0.356	1.312	*9.4*	0.287	1.844	*13.2*
2011	1.000	15.000	1.469	19.574	1.408	16.720	1.308	17.152	0.469	4.574	*30.5*	0.408	1.720	*11.5*	0.308	2.152	*14.3*
2012	1.000	16.000	1.469	21.043	1.438	18.158	1.323	18.476	0.469	5.043	*31.5*	0.438	2.158	*13.5*	0.323	2.476	*15.5*
2013	1.000	17.000	1.469	22.512	1.453	19.611	1.336	19.812	0.469	5.512	*32.4*	0.453	2.611	*15.4*	0.336	2.812	*16.5*
2014	1.000	18.000	1.469	23.981	1.462	21.073	1.345	21.156	0.469	5.981	*33.2*	0.462	3.073	*17.1*	0.345	3.156	*17.5*
2015	1.000	19.000	1.469	25.450	1.466	22.539	1.353	22.509	0.469	6.450	*33.9*	0.466	3.539	*18.6*	0.353	3.509	*18.5*
2016	1.000	20.000	1.469	26.919	1.468	24.007	1.362	23.871	0.469	6.919	*34.6*	0.468	4.007	*20.0*	0.362	3.871	*19.4*
2017	1.000	21.000	1.469	28.388	1.469	25.476	1.369	25.240	0.469	7.388	*35.2*	0.469	4.476	*21.3*	0.369	4.240	*20.2*
2018	1.000	22.000	1.469	29.856	1.469	26.945	1.377	26.617	0.469	7.856	*35.7*	0.469	4.945	*22.5*	0.377	4.617	*21.0*
2019	1.000	23.000	1.469	31.325	1.469	28.414	1.384	28.001	0.469	8.325	*36.2*	0.469	5.414	*23.5*	0.384	5.001	*21.7*
2020	1.000	24.000	1.469	32.794	1.469	29.883	1.418	29.419	0.469	8.794	*36.6*	0.469	5.883	*24.5*	0.418	5.419	*22.6*
2021	1.000	25.000	1.469	34.263	1.469	31.352	1.441	30.860	0.469	9.263	*37.1*	0.469	6.352	*25.4*	0.441	5.860	*23.4*
2022	1.000	26.000	1.469	35.732	1.469	32.820	1.453	32.313	0.469	9.732	*37.4*	0.469	6.820	*26.2*	0.453	6.313	*24.3*
2023	1.000	27.000	1.469	37.201	1.469	34.289	1.462	33.775	0.469	10.201	*37.8*	0.469	7.289	*27.0*	0.462	6.775	*25.1*
2024	1.000	28.000	1.469	38.670	1.469	35.758	1.466	35.241	0.469	10.670	*38.1*	0.469	7.758	*27.7*	0.466	7.241	*25.9*
2025	1.000	29.000	1.469	40.139	1.469	37.227	1.468	36.709	0.469	11.139	*38.4*	0.469	8.227	*28.4*	0.468	7.709	*26.6*
2026	1.000	30.000	1.469	41.608	1.469	38.696	1.469	38.178	0.469	11.608	*38.7*	0.469	8.696	*29.0*	0.469	8.178	*27.3*
MEAN	1.000		1.387		1.290		1.273		0.387			0.290			0.273		

Appendix Table A1.b. Revenue 1997-2026 obtained by reducing F to 40% Of initial level by:- A. Immediate reduction; B. Reduction by 12 steps of 5%; C. Reduction by 15% to 85%, by 5% to 75%, by 3% to 60%, by 2% to 50% and by 1% to 40%, - all compared to status quo (SQ)- discounted at 10% annually.

Year	SQ		A		B		C		A-SQ			B-SQ			C-SQ		
	Annual	Cumul.	Annual	Cumul.	Annual	Cumul.	Annual	Cumul.	Annual	Cumul.	*C.%*	Annual	Cumul.	*C.%*	Annual	Cumul.	*C.%*
1996	1.000		1.000		1.000		1.000		0.000			0.000			0.000		
1997	0.900	0.900	0.472	0.472	0.873	0.873	0.816	0.816	-0.428	-0.428	*-47.5*	-0.027	-0.027	*-3.0*	-0.084	-0.084	*-9.4*
1998	0.810	1.710	0.670	1.143	0.787	1.660	0.785	1.601	-0.140	-0.567	*-33.2*	-0.023	-0.050	*-2.9*	-0.025	-0.109	*-6.4*
1999	0.729	2.439	0.784	1.926	0.719	2.379	0.737	2.338	0.055	-0.513	*-21.0*	-0.010	-0.060	*-2.5*	0.008	-0.101	*-4.2*
2000	0.656	3.095	0.813	2.739	0.660	3.039	0.697	3.035	0.157	-0.356	*-11.5*	0.004	-0.056	*-1.8*	0.041	-0.060	*-2.0*
2001	0.590	3.686	0.792	3.531	0.606	3.645	0.646	3.680	0.202	-0.154	*-4.2*	0.016	-0.040	*-1.1*	0.055	-0.005	*-0.1*
2002	0.531	4.217	0.746	4.277	0.557	4.202	0.593	4.273	0.215	0.060	*1.4*	0.026	-0.015	*-0.4*	0.062	0.056	*1.3*
2003	0.478	4.695	0.688	4.965	0.511	4.713	0.543	4.816	0.209	0.270	*5.7*	0.033	0.018	*0.4*	0.065	0.121	*2.6*
2004	0.430	5.126	0.626	5.591	0.469	5.182	0.496	5.312	0.195	0.465	*9.1*	0.038	0.056	*1.1*	0.066	0.187	*3.6*
2005	0.387	5.513	0.566	6.157	0.430	5.612	0.459	5.772	0.179	0.644	*11.7*	0.042	0.099	*1.8*	0.072	0.258	*4.7*
2006	0.349	5.862	0.511	6.668	0.393	6.004	0.421	6.193	0.163	0.806	*13.8*	0.044	0.142	*2.4*	0.072	0.331	*5.6*
2007	0.314	6.176	0.461	7.129	0.357	6.362	0.384	6.577	0.147	0.953	*15.4*	0.043	0.186	*3.0*	0.070	0.401	*6.5*
2008	0.282	6.458	0.415	7.544	0.324	6.685	0.350	6.927	0.132	1.085	*16.8*	0.041	0.227	*3.5*	0.068	0.469	*7.3*
2009	0.254	6.712	0.373	7.917	0.323	7.008	0.319	7.246	0.119	1.205	*17.9*	0.069	0.296	*4.4*	0.065	0.534	*8.0*
2010	0.229	6.941	0.336	8.253	0.310	7.318	0.294	7.540	0.107	1.312	*18.9*	0.081	0.377	*5.4*	0.066	0.599	*8.6*
2011	0.206	7.147	0.302	8.555	0.290	7.608	0.269	7.810	0.097	1.408	*19.7*	0.084	0.461	*6.5*	0.063	0.663	*9.3*
2012	0.185	7.332	0.272	8.828	0.266	7.875	0.245	8.055	0.087	1.495	*20.4*	0.081	0.542	*7.4*	0.060	0.723	*9.9*
2013	0.167	7.499	0.245	9.073	0.242	8.117	0.223	8.278	0.078	1.574	*21.0*	0.076	0.618	*8.2*	0.056	0.779	*10.4*
2014	0.150	7.649	0.220	9.293	0.219	8.337	0.202	8.480	0.070	1.644	*21.5*	0.069	0.687	*9.0*	0.052	0.830	*10.9*
2015	0.135	7.784	0.198	9.492	0.198	8.535	0.183	8.662	0.063	1.707	*21.9*	0.063	0.750	*9.6*	0.048	0.878	*11.3*
2016	0.122	7.906	0.179	9.670	0.178	8.713	0.166	8.828	0.057	1.764	*22.3*	0.057	0.807	*10.2*	0.044	0.922	*11.7*
2017	0.109	8.015	0.161	9.831	0.161	8.874	0.150	8.978	0.051	1.816	*22.7*	0.051	0.859	*10.7*	0.040	0.962	*12.0*
2018	0.098	8.114	0.145	9.976	0.145	9.018	0.136	9.113	0.046	1.862	*22.9*	0.046	0.905	*11.2*	0.037	1.000	*12.3*
2019	0.089	8.202	0.130	10.106	0.130	9.149	0.123	9.236	0.042	1.903	*23.2*	0.042	0.946	*11.5*	0.034	1.034	*12.6*
2020	0.080	8.282	0.117	10.223	0.117	9.266	0.113	9.349	0.037	1.941	*23.4*	0.037	0.984	*11.9*	0.033	1.067	*12.9*
2021	0.072	8.354	0.105	10.328	0.105	9.371	0.103	9.452	0.034	1.974	*23.6*	0.034	1.017	*12.2*	0.032	1.099	*13.2*
2022	0.065	8.419	0.095	10.423	0.095	9.466	0.094	9.546	0.030	2.005	*23.8*	0.030	1.048	*12.4*	0.029	1.128	*13.4*
2023	0.058	8.477	0.085	10.509	0.085	9.552	0.085	9.631	0.027	2.032	*24.0*	0.027	1.075	*12.7*	0.027	1.155	*13.6*
2024	0.052	8.529	0.077	10.586	0.077	9.628	0.077	9.708	0.025	2.057	*24.1*	0.025	1.099	*12.9*	0.024	1.179	*13.8*
2025	0.047	8.576	0.069	10.655	0.069	9.698	0.069	9.777	0.022	2.079	*24.2*	0.022	1.122	*13.1*	0.022	1.201	*14.0*
2026	0.042	8.618	0.062	10.717	0.062	9.760	0.062	9.839	0.020	2.099	*24.3*	0.020	1.141	*13.2*	0.020	1.221	*14.2*
MEAN	0.2873		0.3572		0.3253		0.3280		0.0700			0.0380			0.0407		

Appendix Table A1.c. Revenue 1997-2026 obtained by reducing F to 40% Of initial level by:- A. Immediate reduction; B. Reduction by 12 steps of 5%; C. Reduction by 15% to 85%, by 5% to 75%, by 3% to 60%, by 2% to 50% and by 1% to 40%, - all compared to status quo (SQ)- discounted at 25% annually.

Year	SQ		A		B		C		A-SQ			B-SQ			C-SQ		
	Annual	Cumul.	Annual	Cumul.	Annual	Cumul.	Annual	Cumul.	Annual	Cumul.	C.%	Annual	Cumul.	C.%	Annual	Cumul.	C..%
1996	1.000		1.000		1.000		1.000		0.000			0.000			0.000		
1997	0.750	0.750	0.394	0.394	0.728	0.728	0.680	0.680	-0.356	-0.356	-47.5	-0.022	-0.022	-3.0	-0.070	-0.070	-9.4
1998	0.563	1.313	0.465	0.859	0.547	1.274	0.545	1.225	-0.097	-0.453	-34.5	-0.016	-0.038	-2.9	-0.018	-0.088	-6.7
1999	0.422	1.734	0.453	1.313	0.416	1.690	0.427	1.651	0.032	-0.422	-24.3	-0.006	-0.044	-2.5	0.005	-0.083	-4.8
2000	0.316	2.051	0.392	1.704	0.318	2.008	0.336	1.987	0.076	-0.346	-16.9	0.002	-0.042	-2.1	0.020	-0.063	-3.1
2001	0.237	2.288	0.318	2.023	0.244	2.252	0.259	2.247	0.081	-0.265	-11.6	0.006	-0.036	-1.6	0.022	-0.041	-1.8
2002	0.178	2.466	0.250	2.273	0.187	2.439	0.199	2.446	0.072	-0.193	-7.8	0.009	-0.028	-1.1	0.021	-0.021	-0.8
2003	0.133	2.600	0.192	2.465	0.143	2.581	0.152	2.597	0.058	-0.135	-5.2	0.009	-0.018	-0.7	0.018	-0.002	-0.1
2004	0.100	2.700	0.146	2.610	0.109	2.690	0.115	2.712	0.045	-0.089	-3.3	0.009	-0.009	-0.3	0.015	0.013	0.5
2005	0.075	2.775	0.110	2.720	0.083	2.774	0.089	2.801	0.035	-0.055	-2.0	0.008	-0.001	0.0	0.014	0.027	1.0
2006	0.056	2.831	0.083	2.802	0.063	2.837	0.068	2.869	0.026	-0.029	-1.0	0.007	0.006	0.2	0.012	0.038	1.4
2007	0.042	2.873	0.062	2.864	0.048	2.885	0.052	2.921	0.020	-0.009	-0.3	0.006	0.012	0.4	0.009	0.048	1.7
2008	0.032	2.905	0.047	2.911	0.036	2.921	0.039	2.960	0.015	0.006	0.2	0.005	0.016	0.6	0.008	0.055	1.9
2009	0.024	2.929	0.035	2.946	0.030	2.952	0.030	2.990	0.011	0.017	0.6	0.006	0.023	0.8	0.006	0.062	2.1
2010	0.018	2.947	0.026	2.972	0.024	2.976	0.023	3.013	0.008	0.026	0.9	0.006	0.029	1.0	0.005	0.067	2.3
2011	0.013	2.960	0.020	2.992	0.019	2.994	0.017	3.031	0.006	0.032	1.1	0.005	0.035	1.2	0.004	0.071	2.4
2012	0.010	2.970	0.015	3.006	0.014	3.009	0.013	3.044	0.005	0.036	1.2	0.004	0.039	1.3	0.003	0.074	2.5
2013	0.008	2.977	0.011	3.017	0.011	3.020	0.010	3.054	0.004	0.040	1.3	0.003	0.042	1.4	0.003	0.077	2.6
2014	0.006	2.983	0.008	3.026	0.008	3.028	0.008	3.062	0.003	0.043	1.4	0.003	0.045	1.5	0.002	0.078	2.6
2015	0.004	2.987	0.006	3.032	0.006	3.034	0.006	3.067	0.002	0.045	1.5	0.002	0.047	1.6	0.001	0.080	2.7
2016	0.003	2.990	0.005	3.037	0.005	3.039	0.004	3.072	0.001	0.046	1.5	0.001	0.048	1.6	0.001	0.081	2.7
2017	0.002	2.993	0.003	3.040	0.003	3.042	0.003	3.075	0.001	0.047	1.6	0.001	0.050	1.7	0.001	0.082	2.7
2018	0.002	2.995	0.003	3.043	0.003	3.045	0.002	3.077	0.001	0.048	1.6	0.001	0.050	1.7	0.001	0.083	2.8
2019	0.001	2.996	0.002	3.045	0.002	3.047	0.002	3.079	0.001	0.049	1.6	0.001	0.051	1.7	0.001	0.083	2.8
2020	0.001	2.997	0.001	3.046	0.001	3.048	0.001	3.081	0.000	0.049	1.6	0.000	0.051	1.7	0.000	0.084	2.8
2021	0.001	2.998	0.001	3.047	0.001	3.050	0.001	3.082	0.000	0.050	1.7	0.000	0.052	1.7	0.000	0.084	2.8
2022	0.001	2.998	0.001	3.048	0.001	3.050	0.001	3.082	0.000	0.050	1.7	0.000	0.052	1.7	0.000	0.084	2.8
2023	0.000	2.999	0.001	3.049	0.001	3.051	0.001	3.083	0.000	0.050	1.7	0.000	0.052	1.7	0.000	0.084	2.8
2024	0.000	2.999	0.000	3.049	0.000	3.051	0.000	3.084	0.000	0.050	1.7	0.000	0.052	1.7	0.000	0.085	2.8
2025	0.000	2.999	0.000	3.050	0.000	3.052	0.000	3.084	0.000	0.050	1.7	0.000	0.053	1.8	0.000	0.085	2.8
2026	0.000	2.999	0.000	3.050	0.000	3.052	0.000	3.084	0.000	0.050	1.7	0.000	0.053	1.8	0.000	0.085	2.8
MEAN	0.1000		0.1017		0.1017		0.1028		0.0017			0.0018			0.0028		

Appendix Table A1.d. Revenue 1997-2026 obtained by reducing F to 40% Of initial level by:- A. Immediate reduction; B. Reduction by 12 steps of 5%; C. Reduction by 15% to 85%, by 5% to 75%, by 3% to 60%, by 2% to 50% and by 1% to 40%, - all compared to status quo (SQ)- discounted at 50% annually.

Year	SQ		A		B		C		A-SQ			B-SQ			C-SQ		
	Annual	Cumul.	Annual	Cumul.	Annual	Cumul.	Annual	Cumul.	Annual	Cumul.	*C.%*	Annual	Cumul.	*C.%*	Annual	Cumul.	*C.%*
1996	1.000		1.000		1.000		1.000		0.000			0.000			0.000		
1997	0.500	0.500	0.262	0.262	0.485	0.485	0.453	0.453	-0.238	-0.238	*-47.5*	-0.015	-0.015	*-3.0*	-0.047	-0.047	*-9.4*
1998	0.250	0.750	0.207	0.469	0.243	0.728	0.242	0.695	-0.043	-0.281	*-37.4*	-0.007	-0.022	*-2.9*	-0.008	-0.055	*-7.3*
1999	0.125	0.875	0.134	0.604	0.123	0.851	0.126	0.822	0.009	-0.271	*-31.0*	-0.002	-0.024	*-2.7*	0.001	-0.053	*-6.1*
2000	0.063	0.938	0.077	0.681	0.063	0.914	0.066	0.888	0.015	-0.256	*-27.4*	0.000	-0.023	*-2.5*	0.004	-0.049	*-5.3*
2001	0.031	0.969	0.042	0.723	0.032	0.946	0.034	0.922	0.011	-0.246	*-25.4*	0.001	-0.023	*-2.3*	0.003	-0.046	*-4.8*
2002	0.016	0.984	0.022	0.745	0.016	0.963	0.017	0.940	0.006	-0.239	*-24.3*	0.001	-0.022	*-2.2*	0.002	-0.045	*-4.5*
2003	0.008	0.992	0.011	0.756	0.008	0.971	0.009	0.949	0.003	-0.236	*-23.8*	0.001	-0.021	*-2.1*	0.001	-0.044	*-4.4*
2004	0.004	0.996	0.006	0.762	0.004	0.975	0.005	0.953	0.002	-0.234	*-23.5*	0.000	-0.021	*-2.1*	0.001	-0.043	*-4.3*
2005	0.002	0.998	0.003	0.765	0.002	0.977	0.002	0.955	0.001	-0.233	*-23.4*	0.000	-0.021	*-2.1*	0.000	-0.043	*-4.3*
2006	0.001	0.999	0.001	0.766	0.001	0.978	0.001	0.957	0.000	-0.233	*-23.3*	0.000	-0.021	*-2.1*	0.000	-0.042	*-4.2*
2007	0.000	1.000	0.001	0.767	0.001	0.979	0.001	0.957	0.000	-0.233	*-23.3*	0.000	-0.020	*-2.1*	0.000	-0.042	*-4.2*
2008	0.000	1.000	0.000	0.767	0.000	0.979	0.000	0.958	0.000	-0.233	*-23.3*	0.000	-0.020	*-2.0*	0.000	-0.042	*-4.2*
2009	0.000	1.000	0.000	0.767	0.000	0.979	0.000	0.958	0.000	-0.233	*-23.3*	0.000	-0.020	*-2.0*	0.000	-0.042	*-4.2*
2010	0.000	1.000	0.000	0.767	0.000	0.980	0.000	0.958	0.000	-0.232	*-23.2*	0.000	-0.020	*-2.0*	0.000	-0.042	*-4.2*
2011	0.000	1.000	0.000	0.768	0.000	0.980	0.000	0.958	0.000	-0.232	*-23.2*	0.000	-0.020	*-2.0*	0.000	-0.042	*-4.2*
2012	0.000	1.000	0.000	0.768	0.000	0.980	0.000	0.958	0.000	-0.232	*-23.2*	0.000	-0.020	*-2.0*	0.000	-0.042	*-4.2*
2013	0.000	1.000	0.000	0.768	0.000	0.980	0.000	0.958	0.000	-0.232	*-23.2*	0.000	-0.020	*-2.0*	0.000	-0.042	*-4.2*
2014	0.000	1.000	0.000	0.768	0.000	0.980	0.000	0.958	0.000	-0.232	*-23.2*	0.000	-0.020	*-2.0*	0.000	-0.042	*-4.2*
2015	0.000	1.000	0.000	0.768	0.000	0.980	0.000	0.958	0.000	-0.232	*-23.2*	0.000	-0.020	*-2.0*	0.000	-0.042	*-4.2*
2016	0.000	1.000	0.000	0.768	0.000	0.980	0.000	0.958	0.000	-0.232	*-23.2*	0.000	-0.020	*-2.0*	0.000	-0.042	*-4.2*
2017	0.000	1.000	0.000	0.768	0.000	0.980	0.000	0.958	0.000	-0.232	*-23.2*	0.000	-0.020	*-2.0*	0.000	-0.042	*-4.2*
2018	0.000	1.000	0.000	0.768	0.000	0.980	0.000	0.958	0.000	-0.232	*-23.2*	0.000	-0.020	*-2.0*	0.000	-0.042	*-4.2*
2019	0.000	1.000	0.000	0.768	0.000	0.980	0.000	0.958	0.000	-0.232	*-23.2*	0.000	-0.020	*-2.0*	0.000	-0.042	*-4.2*
2020	0.000	1.000	0.000	0.768	0.000	0.980	0.000	0.958	0.000	-0.232	*-23.2*	0.000	-0.020	*-2.0*	0.000	-0.042	*-4.2*
2021	0.000	1.000	0.000	0.768	0.000	0.980	0.000	0.958	0.000	-0.232	*-23.2*	0.000	-0.020	*-2.0*	0.000	-0.042	*-4.2*
2022	0.000	1.000	0.000	0.768	0.000	0.980	0.000	0.958	0.000	-0.232	*-23.2*	0.000	-0.020	*-2.0*	0.000	-0.042	*-4.2*
2023	0.000	1.000	0.000	0.768	0.000	0.980	0.000	0.958	0.000	-0.232	*-23.2*	0.000	-0.020	*-2.0*	0.000	-0.042	*-4.2*
2024	0.000	1.000	0.000	0.768	0.000	0.980	0.000	0.958	0.000	-0.232	*-23.2*	0.000	-0.020	*-2.0*	0.000	-0.042	*-4.2*
2025	0.000	1.000	0.000	0.768	0.000	0.980	0.000	0.958	0.000	-0.232	*-23.2*	0.000	-0.020	*-2.0*	0.000	-0.042	*-4.2*
2026	0.000	1.000	0.000	0.768	0.000	0.980	0.000	0.958	0.000	-0.232	*-23.2*	0.000	-0.020	*-2.0*	0.000	-0.042	*-4.2*
MEAN	0.0333		0.0256		0.0327		0.0319		-0.0077			-0.0007			-0.0014		

Appendix Table A2.a. Profit 1995-2024 obtained by reducing F to 40% of initial level by:- A. Immediate reduction; C. Reduction by 12 steps of 5%; B. Reduction by 15% to 85%, by 5% to 75%, by 3% to 60%, by 2% to 50% and by 1% to 40%, - all compared to ststus quo (SQ) - undiscounted.

Year	SQ		A		B		C		A-SQ			B-SQ			C-SQ		
	Annual	Cumul.	Annual	Cumul.	Annual	Cumul.	Annual	Cumul.	Annual	Cumul.	*C.%*	Annual	Cumul.	*C.%*	Annual	Cumul.	*C.%*
1996	1.000		1.000		1.000		1.000		0.000			0.000	0.000		0.000	0.000	
1997	1.000	1.000	0.410	0.410	0.970	0.970	0.903	0.903	-0.590	-0.590	*-59.0*	-0.030	-0.030	*-3.0*	-0.097	-0.097	*-9.7*
1998	1.000	2.000	1.015	1.425	1.003	1.974	1.058	1.961	0.015	-0.575	*-28.8*	0.003	-0.026	*-1.3*	0.058	-0.039	*-2.0*
1999	1.000	3.000	1.510	2.934	1.062	3.036	1.173	3.133	0.510	-0.066	*-2.2*	0.062	0.036	*1.2*	0.173	0.133	*4.4*
2000	1.000	4.000	1.837	4.772	1.131	4.167	1.292	4.425	0.837	0.772	*19.3*	0.131	0.167	*4.2*	0.292	0.425	*10.6*
2001	1.000	5.000	2.044	6.815	1.204	5.371	1.372	5.798	1.044	1.815	*36.3*	0.204	0.371	*7.4*	0.372	0.798	*16.0*
2002	1.000	6.000	2.168	8.983	1.276	6.647	1.436	7.234	1.168	2.983	*49.7*	0.276	0.647	*10.8*	0.436	1.234	*20.6*
2003	1.000	7.000	2.236	11.219	1.348	7.995	1.493	8.727	1.236	4.219	*60.3*	0.348	0.995	*14.2*	0.493	1.727	*24.7*
2004	1.000	8.000	2.267	13.486	1.418	9.413	1.545	10.272	1.267	5.486	*68.6*	0.418	1.413	*17.7*	0.545	2.272	*28.4*
2005	1.000	9.000	2.284	15.769	1.488	10.901	1.622	11.894	1.284	6.769	*75.2*	0.488	1.901	*21.1*	0.622	2.894	*32.2*
2006	1.000	10.000	2.292	18.062	1.551	12.452	1.679	13.573	1.292	8.062	*80.6*	0.551	2.452	*24.5*	0.679	3.573	*35.7*
2007	1.000	11.000	2.295	20.357	1.607	14.059	1.725	15.298	1.295	9.357	*85.1*	0.607	3.059	*27.8*	0.725	4.298	*39.1*
2008	1.000	12.000	2.298	22.654	1.651	15.710	1.768	17.066	1.298	10.654	*88.8*	0.651	3.710	*30.9*	0.768	5.066	*42.2*
2009	1.000	13.000	2.298	24.952	1.902	17.612	1.808	18.875	1.298	11.952	*91.9*	0.902	4.612	*35.5*	0.808	5.875	*45.2*
2010	1.000	14.000	2.298	27.250	2.072	19.684	1.879	20.754	1.298	13.250	*94.6*	1.072	5.684	*40.6*	0.879	6.754	*48.2*
2011	1.000	15.000	2.298	29.548	2.176	21.860	1.928	22.682	1.298	14.548	*97.0*	1.176	6.860	*45.7*	0.928	7.682	*51.2*
2012	1.000	16.000	2.298	31.846	2.236	24.096	1.965	24.647	1.298	15.846	*99.0*	1.236	8.096	*50.6*	0.965	8.647	*54.0*
2013	1.000	17.000	2.298	34.144	2.267	26.363	1.996	26.643	1.298	17.144	*100.8*	1.267	9.363	*55.1*	0.996	9.643	*56.7*
2014	1.000	18.000	2.298	36.442	2.284	28.647	2.019	28.663	1.298	18.442	*102.5*	1.284	10.647	*59.1*	1.019	10.663	*59.2*
2015	1.000	19.000	2.298	38.739	2.292	30.939	2.042	30.705	1.298	19.739	*103.9*	1.292	11.939	*62.8*	1.042	11.705	*61.6*
2016	1.000	20.000	2.298	41.037	2.295	33.234	2.065	32.770	1.298	21.037	*105.2*	1.295	13.234	*66.2*	1.065	12.770	*63.9*
2017	1.000	21.000	2.298	43.335	2.298	35.532	2.085	34.855	1.298	22.335	*106.4*	1.298	14.532	*69.2*	1.085	13.855	*66.0*
2018	1.000	22.000	2.298	45.633	2.298	37.829	2.108	36.964	1.298	23.633	*107.4*	1.298	15.829	*72.0*	1.108	14.964	*68.0*
2019	1.000	23.000	2.298	47.931	2.298	40.127	2.128	39.092	1.298	24.931	*108.4*	1.298	17.127	*74.5*	1.128	16.092	*70.0*
2020	1.000	24.000	2.298	50.229	2.298	42.425	2.196	41.288	1.298	26.229	*109.3*	1.298	18.425	*76.8*	1.196	17.288	*72.0*
2021	1.000	25.000	2.298	52.527	2.298	44.723	2.241	43.529	1.298	27.527	*110.1*	1.298	19.723	*78.9*	1.241	18.529	*74.1*
2022	1.000	26.000	2.298	54.824	2.298	47.021	2.267	45.796	1.298	28.824	*110.9*	1.298	21.021	*80.8*	1.267	19.796	*76.1*
2023	1.000	27.000	2.298	57.122	2.298	49.319	2.284	48.080	1.298	30.122	*111.6*	1.298	22.319	*82.7*	1.284	21.080	*78.1*
2024	1.000	28.000	2.298	59.420	2.298	51.617	2.292	50.372	1.298	31.420	*112.2*	1.298	23.617	*84.3*	1.292	22.372	*79.9*
2025	1.000	29.000	2.298	61.718	2.298	53.914	2.295	52.667	1.298	32.718	*112.8*	1.298	24.914	*85.9*	1.295	23.667	*81.6*
2026	1.000	30.000	2.298	64.016	2.298	56.212	2.298	54.965	1.298	34.016	*113.4*	1.298	26.212	*87.4*	1.298	24.965	*83.2*
MEAN	1.000		2.134		1.874		1.832		1.134			0.874			0.832		

Appendix Table A2.b. Profit 1995-2024 obtained by reducing F to 40% of initial level by:- A. Immediate reduction; C. Reduction by 12 steps of 5%; B. Reduction by 15% to 85%, by 5% to 75%, by 3% to 60%, by 2% to 50% and by 1% to 40%, - all compared to status quo (SQ)- discounted at 10% annually.

Year	SQ		A		B		C		A-SQ			B-SQ			C-SQ		
	Annual	Cumul.	Annual	Cumul.	Annual	Cumul.	Annual	Cumul.	Annual	Cumul.	*C.%*	Annual	Cumul.	*C.%*	Annual	Cumul.	*C.%*
1996	1.000		1.000		1.000		1.000		0.000	0.000		0.000	0.000		0.000	0.000	
1997	0.900	0.900	0.369	0.369	0.873	0.873	0.812	0.812	-0.531	-0.531	*-59.0*	-0.027	-0.027	*-3.0*	-0.088	-0.088	*-9.7*
1998	0.810	1.710	0.822	1.191	0.813	1.686	0.857	1.669	0.012	-0.519	*-30.4*	0.003	-0.024	*-1.4*	0.047	-0.041	*-2.4*
1999	0.729	2.439	1.101	2.291	0.774	2.460	0.855	2.524	0.372	-0.148	*-6.1*	0.045	0.021	*0.9*	0.126	0.085	*3.5*
2000	0.656	3.095	1.206	3.497	0.742	3.202	0.848	3.372	0.549	0.402	*13.0*	0.086	0.107	*3.5*	0.192	0.277	*8.9*
2001	0.590	3.686	1.207	4.704	0.711	3.913	0.810	4.182	0.616	1.018	*27.6*	0.120	0.228	*6.2*	0.220	0.497	*13.5*
2002	0.531	4.217	1.152	5.856	0.678	4.591	0.763	4.945	0.621	1.639	*38.9*	0.147	0.374	*8.9*	0.232	0.728	*17.3*
2003	0.478	4.695	1.069	6.925	0.645	5.236	0.714	5.660	0.591	2.230	*47.5*	0.167	0.541	*11.5*	0.236	0.964	*20.5*
2004	0.430	5.126	0.976	7.901	0.610	5.847	0.665	6.325	0.545	2.775	*54.1*	0.180	0.721	*14.1*	0.235	1.199	*23.4*
2005	0.387	5.513	0.885	8.786	0.576	6.423	0.628	6.953	0.497	3.272	*59.4*	0.189	0.910	*16.5*	0.241	1.440	*26.1*
2006	0.349	5.862	0.799	9.585	0.541	6.964	0.586	7.539	0.451	3.723	*63.5*	0.192	1.102	*18.8*	0.237	1.677	*28.6*
2007	0.314	6.176	0.720	10.305	0.504	7.468	0.541	8.080	0.406	4.129	*66.9*	0.190	1.292	*20.9*	0.228	1.904	*30.8*
2008	0.282	6.458	0.649	10.954	0.466	7.934	0.499	8.579	0.367	4.496	*69.6*	0.184	1.476	*22.9*	0.217	2.121	*32.8*
2009	0.254	6.712	0.584	11.538	0.484	8.418	0.460	9.039	0.330	4.826	*71.9*	0.229	1.706	*25.4*	0.206	2.327	*34.7*
2010	0.229	6.941	0.526	12.064	0.474	8.892	0.430	9.469	0.297	5.123	*73.8*	0.245	1.951	*28.1*	0.201	2.528	*36.4*
2011	0.206	7.147	0.473	12.537	0.448	9.340	0.397	9.866	0.267	5.390	*75.4*	0.242	2.193	*30.7*	0.191	2.719	*38.0*
2012	0.185	7.332	0.426	12.963	0.414	9.754	0.364	10.230	0.240	5.630	*76.8*	0.229	2.422	*33.0*	0.179	2.898	*39.5*
2013	0.167	7.499	0.383	13.346	0.378	10.132	0.333	10.563	0.216	5.847	*78.0*	0.211	2.633	*35.1*	0.166	3.064	*40.9*
2014	0.150	7.649	0.345	13.691	0.343	10.475	0.303	10.866	0.195	6.042	*79.0*	0.193	2.826	*36.9*	0.153	3.217	*42.1*
2015	0.135	7.784	0.310	14.001	0.310	10.785	0.276	11.142	0.175	6.217	*79.9*	0.175	3.001	*38.5*	0.141	3.358	*43.1*
2016	0.122	7.906	0.279	14.281	0.279	11.064	0.251	11.393	0.158	6.375	*80.6*	0.157	3.158	*39.9*	0.129	3.487	*44.1*
2017	0.109	8.015	0.251	14.532	0.251	11.315	0.228	11.621	0.142	6.517	*81.3*	0.142	3.300	*41.2*	0.119	3.606	*45.0*
2018	0.098	8.114	0.226	14.758	0.226	11.542	0.208	11.829	0.128	6.645	*81.9*	0.128	3.428	*42.2*	0.109	3.715	*45.8*
2019	0.089	8.202	0.204	14.962	0.204	11.745	0.189	12.017	0.115	6.760	*82.4*	0.115	3.543	*43.2*	0.100	3.815	*46.5*
2020	0.080	8.282	0.183	15.145	0.183	11.928	0.175	12.193	0.104	6.863	*82.9*	0.104	3.646	*44.0*	0.095	3.910	*47.2*
2021	0.072	8.354	0.165	15.310	0.165	12.093	0.161	12.353	0.093	6.956	*83.3*	0.093	3.740	*44.8*	0.089	4.000	*47.9*
2022	0.065	8.419	0.148	15.459	0.148	12.242	0.146	12.500	0.084	7.040	*83.6*	0.084	3.823	*45.4*	0.082	4.081	*48.5*
2023	0.058	8.477	0.134	15.592	0.134	12.376	0.133	12.633	0.075	7.116	*83.9*	0.075	3.899	*46.0*	0.075	4.156	*49.0*
2024	0.052	8.529	0.120	15.712	0.120	12.496	0.120	12.753	0.068	7.184	*84.2*	0.068	3.967	*46.5*	0.068	4.224	*49.5*
2025	0.047	8.576	0.108	15.821	0.108	12.604	0.108	12.861	0.061	7.245	*84.5*	0.061	4.028	*47.0*	0.061	4.285	*50.0*
2026	0.042	8.618	0.097	15.918	0.097	12.701	0.097	12.958	0.055	7.300	*84.7*	0.055	4.083	*47.4*	0.055	4.340	*50.4*
MEAN	0.287		0.531		0.423		0.432		0.243			0.136			0.145		

Appendix Table A2.c. Profit 1995-2024 obtained by reducing F to 40% of initial level by:- A. Immediate reduction; C. Reduction by 12 steps of 5%; B. Reduction by 15% to 85%, by 5% to 75%, by 3% to 60%, by 2% to 50% and by 1% to 40%, - all compared to status quo (SQ)- discounted at 25% annually.

Year	SQ		A		B		C		A-SQ			B-SQ			C-SQ		
	Annual	Cumul.	Annual	Cumul.	Annual	Cumul.	Annual	Cumul.	Annual	Cumul.	*C.%*	Annual	Cumul.	*C.%*	Annual	Cumul.	*C.%*
1996	1.000		1.000		1.000		1.000		0.000	0.000		0.000	0.000		0.000	0.000	
1997	0.750	0.750	0.307	0.307	0.728	0.728	0.677	0.677	-0.443	-0.443	*-59.0*	-0.022	-0.022	*-3.0*	-0.073	-0.073	*-9.7*
1998	0.563	1.313	0.571	0.878	0.564	1.292	0.595	1.272	0.008	-0.434	*-33.1*	0.002	-0.020	*-1.5*	0.032	-0.040	*-3.1*
1999	0.422	1.734	0.637	1.515	0.448	1.740	0.495	1.767	0.215	-0.219	*-12.6*	0.026	0.006	*0.3*	0.073	0.032	*1.9*
2000	0.316	2.051	0.581	2.096	0.358	2.098	0.409	2.176	0.265	0.046	*2.2*	0.042	0.047	*2.3*	0.092	0.125	*6.1*
2001	0.237	2.288	0.485	2.581	0.286	2.384	0.326	2.501	0.248	0.293	*12.8*	0.048	0.096	*4.2*	0.088	0.213	*9.3*
2002	0.178	2.466	0.386	2.967	0.227	2.611	0.256	2.757	0.208	0.501	*20.3*	0.049	0.145	*5.9*	0.078	0.291	*11.8*
2003	0.133	2.600	0.298	3.266	0.180	2.791	0.199	2.956	0.165	0.666	*25.6*	0.047	0.191	*7.4*	0.066	0.357	*13.7*
2004	0.100	2.700	0.227	3.493	0.142	2.933	0.155	3.111	0.127	0.793	*29.4*	0.042	0.233	*8.6*	0.055	0.411	*15.2*
2005	0.075	2.775	0.171	3.664	0.112	3.045	0.122	3.233	0.096	0.889	*32.0*	0.037	0.270	*9.7*	0.047	0.458	*16.5*
2006	0.056	2.831	0.129	3.793	0.087	3.132	0.095	3.327	0.073	0.962	*34.0*	0.031	0.301	*10.6*	0.038	0.496	*17.5*
2007	0.042	2.873	0.097	3.890	0.068	3.200	0.073	3.400	0.055	1.017	*35.4*	0.026	0.326	*11.4*	0.031	0.527	*18.3*
2008	0.032	2.905	0.073	3.963	0.052	3.252	0.056	3.456	0.041	1.058	*36.4*	0.021	0.347	*11.9*	0.024	0.551	*19.0*
2009	0.024	2.929	0.055	4.017	0.045	3.297	0.043	3.499	0.031	1.089	*37.2*	0.021	0.368	*12.6*	0.019	0.570	*19.5*
2010	0.018	2.947	0.041	4.058	0.037	3.334	0.033	3.533	0.023	1.112	*37.7*	0.019	0.388	*13.2*	0.016	0.586	*19.9*
2011	0.013	2.960	0.031	4.089	0.029	3.363	0.026	3.558	0.017	1.129	*38.1*	0.016	0.403	*13.6*	0.012	0.598	*20.2*
2012	0.010	2.970	0.023	4.112	0.022	3.386	0.020	3.578	0.013	1.142	*38.5*	0.012	0.416	*14.0*	0.010	0.608	*20.5*
2013	0.008	2.977	0.017	4.129	0.017	3.403	0.015	3.593	0.010	1.152	*38.7*	0.010	0.425	*14.3*	0.007	0.616	*20.7*
2014	0.006	2.983	0.013	4.142	0.013	3.416	0.011	3.604	0.007	1.159	*38.9*	0.007	0.432	*14.5*	0.006	0.621	*20.8*
2015	0.004	2.987	0.010	4.152	0.010	3.425	0.009	3.613	0.005	1.165	*39.0*	0.005	0.438	*14.7*	0.004	0.626	*20.9*
2016	0.003	2.990	0.007	4.159	0.007	3.433	0.007	3.620	0.004	1.169	*39.1*	0.004	0.442	*14.8*	0.003	0.629	*21.0*
2017	0.002	2.993	0.005	4.165	0.005	3.438	0.005	3.625	0.003	1.172	*39.2*	0.003	0.445	*14.9*	0.003	0.632	*21.1*
2018	0.002	2.995	0.004	4.169	0.004	3.442	0.004	3.628	0.002	1.174	*39.2*	0.002	0.447	*14.9*	0.002	0.634	*21.2*
2019	0.001	2.996	0.003	4.172	0.003	3.445	0.003	3.631	0.002	1.176	*39.3*	0.002	0.449	*15.0*	0.002	0.635	*21.2*
2020	0.001	2.997	0.002	4.174	0.002	3.447	0.002	3.633	0.001	1.177	*39.3*	0.001	0.450	*15.0*	0.001	0.636	*21.2*
2021	0.001	2.998	0.002	4.176	0.002	3.449	0.002	3.635	0.001	1.178	*39.3*	0.001	0.451	*15.1*	0.001	0.637	*21.3*
2022	0.001	2.998	0.001	4.177	0.001	3.450	0.001	3.636	0.001	1.179	*39.3*	0.001	0.452	*15.1*	0.001	0.638	*21.3*
2023	0.000	2.999	0.001	4.178	0.001	3.451	0.001	3.637	0.001	1.180	*39.3*	0.001	0.453	*15.1*	0.001	0.639	*21.3*
2024	0.000	2.999	0.001	4.179	0.001	3.452	0.001	3.638	0.000	1.180	*39.3*	0.000	0.453	*15.1*	0.000	0.639	*21.3*
2025	0.000	2.999	0.001	4.180	0.001	3.453	0.001	3.639	0.000	1.180	*39.4*	0.000	0.453	*15.1*	0.000	0.639	*21.3*
2026	0.000	2.999	0.000	4.180	0.000	3.453	0.000	3.639	0.000	1.180	*39.4*	0.000	0.454	*15.1*	0.000	0.639	*21.3*
MEAN	0.100		0.139		0.115		0.121		0.039			0.015			0.021		

Appendix Table A2.d. Profit 1995-2024 obtained by reducing F to 40% of initial level by:- A. Immediate reduction; C. Reduction by 12 steps of 5%; B. Reduction by 15% to 85%, by 5% to 75%, by 3% to 60%, by 2% to 50% and by 1% to 40%, - all compared to status quo (SQ)- discounted at 50% annually.

Year	SQ		A		B		C		A-SQ			B-SQ			C-SQ		
	Annual	Cumul.	Annual	Cumul.	Annual	Cumul.	Annual	Cumul.	Annual	Cumul.	*C.%*	Annual	Cumul.	*C.%*	Annual	Cumul.	*C..%*
1996	1.000		1.000		1.000		1.000		0.000	0.000		0.000	0.000		0.000	0.000	
1997	0.500	0.500	0.205	0.205	0.485	0.485	0.451	0.451	-0.295	-0.295	*-59.0*	-0.015	-0.015	*-3.0*	-0.049	-0.049	*-9.7*
1998	0.250	0.750	0.254	0.459	0.251	0.736	0.264	0.716	0.004	-0.291	*-38.9*	0.001	-0.014	*-1.9*	0.014	-0.034	*-4.6*
1999	0.125	0.875	0.189	0.647	0.133	0.869	0.147	0.862	0.064	-0.228	*-26.0*	0.008	-0.006	*-0.7*	0.022	-0.013	*-1.4*
2000	0.063	0.938	0.115	0.762	0.071	0.939	0.081	0.943	0.052	-0.175	*-18.7*	0.008	0.002	*0.2*	0.018	0.006	*0.6*
2001	0.031	0.969	0.064	0.826	0.038	0.977	0.043	0.986	0.033	-0.143	*-14.7*	0.006	0.008	*0.9*	0.012	0.017	*1.8*
2002	0.016	0.984	0.034	0.860	0.020	0.997	0.022	1.008	0.018	-0.125	*-12.7*	0.004	0.013	*1.3*	0.007	0.024	*2.4*
2003	0.008	0.992	0.017	0.877	0.011	1.008	0.012	1.020	0.010	-0.115	*-11.6*	0.003	0.015	*1.6*	0.004	0.028	*2.8*
2004	0.004	0.996	0.009	0.886	0.006	1.013	0.006	1.026	0.005	-0.110	*-11.0*	0.002	0.017	*1.7*	0.002	0.030	*3.0*
2005	0.002	0.998	0.004	0.891	0.003	1.016	0.003	1.029	0.003	-0.107	*-10.8*	0.001	0.018	*1.8*	0.001	0.031	*3.1*
2006	0.001	0.999	0.002	0.893	0.002	1.018	0.002	1.031	0.001	-0.106	*-10.6*	0.001	0.019	*1.9*	0.001	0.032	*3.2*
2007	0.000	1.000	0.001	0.894	0.001	1.018	0.001	1.032	0.001	-0.106	*-10.6*	0.000	0.019	*1.9*	0.000	0.032	*3.2*
2008	0.000	1.000	0.001	0.895	0.000	1.019	0.000	1.032	0.000	-0.105	*-10.5*	0.000	0.019	*1.9*	0.000	0.033	*3.3*
2009	0.000	1.000	0.000	0.895	0.000	1.019	0.000	1.032	0.000	-0.105	*-10.5*	0.000	0.019	*1.9*	0.000	0.033	*3.3*
2010	0.000	1.000	0.000	0.895	0.000	1.019	0.000	1.033	0.000	-0.105	*-10.5*	0.000	0.019	*1.9*	0.000	0.033	*3.3*
2011	0.000	1.000	0.000	0.895	0.000	1.019	0.000	1.033	0.000	-0.105	*-10.5*	0.000	0.019	*1.9*	0.000	0.033	*3.3*
2012	0.000	1.000	0.000	0.895	0.000	1.019	0.000	1.033	0.000	-0.105	*-10.5*	0.000	0.019	*1.9*	0.000	0.033	*3.3*
2013	0.000	1.000	0.000	0.895	0.000	1.019	0.000	1.033	0.000	-0.105	*-10.5*	0.000	0.019	*1.9*	0.000	0.033	*3.3*
2014	0.000	1.000	0.000	0.895	0.000	1.019	0.000	1.033	0.000	-0.105	*-10.5*	0.000	0.019	*1.9*	0.000	0.033	*3.3*
2015	0.000	1.000	0.000	0.895	0.000	1.019	0.000	1.033	0.000	-0.105	*-10.5*	0.000	0.019	*1.9*	0.000	0.033	*3.3*
2016	0.000	1.000	0.000	0.895	0.000	1.019	0.000	1.033	0.000	-0.105	*-10.5*	0.000	0.019	*1.9*	0.000	0.033	*3.3*
2017	0.000	1.000	0.000	0.895	0.000	1.019	0.000	1.033	0.000	-0.105	*-10.5*	0.000	0.019	*1.9*	0.000	0.033	*3.3*
2018	0.000	1.000	0.000	0.895	0.000	1.019	0.000	1.033	0.000	-0.105	*-10.5*	0.000	0.019	*1.9*	0.000	0.033	*3.3*
2019	0.000	1.000	0.000	0.895	0.000	1.019	0.000	1.033	0.000	-0.105	*-10.5*	0.000	0.019	*1.9*	0.000	0.033	*3.3*
2020	0.000	1.000	0.000	0.895	0.000	1.019	0.000	1.033	0.000	-0.105	*-10.5*	0.000	0.019	*1.9*	0.000	0.033	*3.3*
2021	0.000	1.000	0.000	0.895	0.000	1.019	0.000	1.033	0.000	-0.105	*-10.5*	0.000	0.019	*1.9*	0.000	0.033	*3.3*
2022	0.000	1.000	0.000	0.895	0.000	1.019	0.000	1.033	0.000	-0.105	*-10.5*	0.000	0.019	*1.9*	0.000	0.033	*3.3*
2023	0.000	1.000	0.000	0.895	0.000	1.019	0.000	1.033	0.000	-0.105	*-10.5*	0.000	0.019	*1.9*	0.000	0.033	*3.3*
2024	0.000	1.000	0.000	0.895	0.000	1.019	0.000	1.033	0.000	-0.105	*-10.5*	0.000	0.019	*1.9*	0.000	0.033	*3.3*
2025	0.000	1.000	0.000	0.895	0.000	1.019	0.000	1.033	0.000	-0.105	*-10.5*	0.000	0.019	*1.9*	0.000	0.033	*3.3*
2026	0.000	1.000	0.000	0.895	0.000	1.019	0.000	1.033	0.000	-0.105	*-10.5*	0.000	0.019	*1.9*	0.000	0.033	*3.3*
MEAN	0.033		0.030		0.034		0.034		-0.003			0.001			0.001		