EFFECT OF THE ERAM MECHANISM ON UTILITY INCENTIVES

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The Electric Rate Adjustment Mechanism (ERAM), adopted in 1982 by the California Public Utilities Commission (CPUC) for the major investor-owned electric utilities it regulates, represents a major departure from traditional ratemaking. ERAM removes a prior anti-conservation bias by ensuring that the utility will fully collect its authorized revenue requirement irrespective of its sales. Over or undercollections of revenues accrue to a balancing account and are amortized into future rates. This mechanism protects the utility from the risk of sales deviating from expectations for any reason. Shielding the utility in this way can confound other policy actions that assume the utility faces incentives other than those created by ERAM. In this paper, it is assumed that encouraging energy conservation and discouraging bypass are both established CPUC policies. A study of special sales contracts permitted between California utilities and their large industrial customers shows ERAM establishes utility incentives that render these two policies incompatible under normal regulatory practice. This conflict arises because ERAM guarantees that any revenue shortfall arising from a contract will be made up on sales to other customers: that is, the utilities are not hurt by signing contracts favorable to their industrial customers.

INTRODUCTION

Revenue Decoupling. Since the adoption of the Electric Revenue Adjustment Mechanism (ERAM) by California, the introduction of ERAM-like mechanisms has been contemplated by other jurisdictions (Jones 1989; Moskovitz 1989; and Weil 1989). ERAM removes an anti-conservation bias of traditional rate-of-return (ROR) regulation by guaranteeing that a utility will collect its authorized revenue requirement, irrespective of unforeseen fluctuations in sales. Decoupling of utility earnings from sales was only one of the motives for the initial implementation of ERAM. Notably, ERAM was intended to bolster the financial health of the utilities. However, the decoupling motive is emphasized here because it concerns most jurisdictions currently considering ERAM.

Anti-Conservation Bias. ERAM tends to eliminate a recognized anti-conservation bias in prior California regulation. The bias results from the phenomenon that, under pre-1982 California regulation, utilities gain when actual sales exceed those forecast, and vice-versa. This creates an anti-conservation incentive because conservation programs that prove more effective than anticipated hurt utility earnings, while ones that fail benefit the company. ERAM eliminates this incentive by automatically ensuring that utilities collect their exact authorized base revenue requirement over time, irrespective of the volume of sales. Consequently, ERAM reduces company risk and tends to keep profits more stable yet maintains the incentive to cut costs and improve productivity.

Status of ERAM. ERAM enjoys wide support in the industry in California being particularly enthusiastically endorsed by conservationists (Cavanagh 1988). The California utilities have opposed the removal of ERAM, and the National Association of Regulatory Utility Commissioners Energy Conservation Committee stands on record as supporting ERAM-like ratemaking reforms (*NARUC Bulletin* 1988). However, some members of the California

Public Utility Commission (CPUC) staff have recommended the elimination of ERAM, and a few policy analysts outside the State have also expressed reservations (Ziering 1986; Sissine 1989).

Paper Goal. In this paper, it is assumed that encouraging energy conservation and allowing special utility contracts to prevent bypass are both established CPUC policies, and the cases for and against these policies will not be argued. The goal here is twofold: first, to describe the mechanics of ERAM; and second, to examine the effect of ERAM's existence on the success of the CPUC's special contracts policy.

CALIFORNIA CONTEXT

GRC's. Most ROR ratemaking uses a test year approach, but California is among the minority of states that use a future test year. All test year parameters used in regulatory proceedings are based on forecasts. However, whether or not ratemaking uses a forecast test year, ERAM is applicable because it corrects for inaccuracies in forecasts of actual sales. California regulation also deviates from the norm in that general rate cases (GRC's) are conducted at regular three-year intervals, the two intervening years being called the *attrition years*. In the GRC, the revenue requirements of the utility for the test year are forecast, and they are, essentially, divided by forecast sales to find the rate necessary to recover the approved utility costs, which includes the approved ROR. Electric utilities collect all *non-fuel* costs through this basic process. In California regulation, *non-fuel* costs cover all utility costs other than direct fuel and purchase power expenses.

ECAC and ARA. Since fuel costs are considered more volatile, regulators separately calculate a fuel component to rates in annual Energy Cost Adjustment Clause (ECAC) proceedings. A third California mechanism, the Attrition Revenue Adjustment (ARA, or simply, *attrition*) also prevents a wedge from developing between a utility's costs and its authorized revenue requirement between general GRC's. Attrition takes account of several specific sources of such a wedge, notably, inflation, changes in plant costs, and fluctuations in the cost of capital. ARA and ERAM work together; ARA adjusts the revenue requirement and ERAM guarantees its collection.

History of ERAM. Beginning in 1982, a troubled time for California's electric utilities, the CPUC introduced ERAM for the major companies, Pacific Gas and Electric (PG&E), Pacific Power and Light (PP&L), San Diego Gas and Electric (SDG&E), Sierra Pacific Power (SPP), and Southern California Edison (Edison). During the mid-1980's California utilities achieved comfortable reserve margins as the San Onofre and Diablo Canyon nuclear stations came on-line, non-utility generation appeared in unexpectedly large amounts, and fuel prices fell precipitously. These factors considerably weakened the conservation imperative (Calwell and Cavanagh 1989; Messenger 1989; and CEC/CPUC 1988). Further, some troublesome aspects of ERAM surfaced and, as part of an extensive review of California electric ratemaking, the elimination of ERAM was recommended by the CPUC staff. California utilities and various lobbyists, however, vigorously opposed ERAM's elimination, and the Commission elected to retain it.

ARGUMENTS FOR ERAM

The complexity of the California regulatory process has led to rather convoluted arguments for and against ERAM that are not easily unwound into a neat list, however, following are seven of the key pro ERAM claims.

1. *ERAM eliminates the disincentive to conservation.* The conservation argument holds that without ERAM, California utilities would face two perverse incentives with adverse implications for achieving conservation policy goals. First, once the costs of a conservation program have been added to base rates, the utility's best interests are served by making the program fail to deliver the conservation promised. In this way, the utility recovers the costs of the program yet avoids the revenue loss its success implies. Second, between GRC's, the utility further faces an incentive to sell as much power as possible, virtually irrespective of the costs of generating it. In both cases,

the revenue gained from selling a kWH above the forecast level represents an almost direct contribution to the company bottom line. Conversely, however, ERAM does not reward successful conservation programs. It simply tends to make the utility indifferent to conservation.

2. *ERAM retains the efficiency incentive.* Under ERAM, utilities can still exceed their authorized ROR by cost cutting. Thus, their incentive to be efficient remains.

3. *ERAM removes the incentive to game in forecasting.* The incentive to under forecast sales before a GRC and promote sales after it particularly concerned regulators during the late 1970's and early 1980's. By guaranteeing that the utility will recover its revenue requirement, the incentive to game with sales forecasts disappears.

4. *ERAM encourages the financial health of the utilities.* The guaranteeing of revenue collections contributes to the financial health of the utilities by reducing the variability of earnings. ERAM not only eliminates the potentially adverse effects of losses of sales from conservation, it also automatically adjusts for many other sources of sales perturbations, including weather and the business cycle.

5. *ERAM permits innovative ratemaking.* One potential source of revenue variability merits special mention, namely, the consequences of imperfect or experimental ratemaking. Notice that if the base rate set in the GRC is incorrect, the subsequent miscollection of revenues will accrue in the ERAM balancing account together with any other miscollections. That is, the utility is not hurt by ratemaking inaccuracy. As a result, the CPUC has more latitude with ratemaking innovations that it did prior to ERAM.

6. *ERAM contributes to regulatory efficiency.* With regard to both the elimination of the incentive to game with forecasts, and the elimination of fear of inaccurate ratemaking, it merits repeating that the presence of ERAM reduces the contentiousness of regulatory proceedings, resulting in some savings of administrative effort.

7. *ERAM comes cheap.* ERAM is a bureaucratic mechanism. While being far from free to administer, this approach costs considerably less than alternative methods of monitoring utility behavior.

ERAM MECHANICS

Basic Principle

ERAM periodically adjusts the non-fuel part of rates, base rates, to ensure that the utility actually collects its full authorized revenue requirement. ERAM achieves this parity by maintaining a balancing account in which miscollections of revenues accrue. This accounting procedure mimics the conduct of the California Energy Cost Adjustment Clause (ECAC), the fuel cost adjustment proceeding. Both ERAM and ECAC balancing account mechanisms address the problem of actual revenues straying from authorized levels between GRC's. ECAC adjustments attempt to account for unanticipated fluctuations in fuel costs, while ERAM accounts for unanticipated fluctuations in sales volume. The existence of these mechanisms together considerably reduces utility risk exposure.

Numerical Example

Introduction. The following description leads the reader through a simple ERAM spreadsheet model. The example shows how effective base rates might evolve over time and how ERAM controls a utility's ROR. The starting point loosely represents applicable numbers for the Southern California Edison company, but, beyond the first year, the example is totally fictitious.

Model Assumptions. In this simplified example, the ratemaking for year *t* takes place precisely at the end of year *t-1*, and all actual data for year *t-1* are known. In addition, the following important assumptions are made:

1. The ERAM rate is adjusted just once a year and is effective for the entire following year, as are the GRC and attrition adjustments to base rates.
2. All customers on the system are on a tariff whose base rate and ERAM balance rate are identical.

3. Base operating costs are insensitive to sales. That is, an increase in sales does not imply an increase in base operating costs. This is equivalent to assuming that the only incremental cost of generating another kWh is the fuel burned.
4. The model is concerned only with base rates.

Results. The full example appears in the two parts of Table 1. The upper part demonstrates the rate-making done at the end of year *t-1*, and the lower part reflects the events that actually occurred in year *t*. In other words, what appears in the upper area reflects what is known or forecast at the end of year *t-1*, and what appears below reflects what is known at the end of year *t*.

Space does not permit a full description of the model here, but the salient features of ERAM are easily identified. The easiest way to understand Table 1 is to work backwards. Focus first on the company's bottom line. In each of the three years shown, the authorized ROR on rate base is 12.5% (line 5). Line 36 shows that without ERAM this utility would have actually reported the authorized rate in only one of the three years, 1990. Everything works out as planned in 1990 because both sales (lines 2 and 21) and costs (lines 7 and 27) were exactly as forecast. If all years turned out so perfectly, clearly, ERAM would not be necessary.

Look now at the same lines for 1989. In this year, sales exceed forecasts. Exactly as ERAM proponents claim, a significant benefit accrues to the company as the return on rate base is more than two points above authorized (lines 5 and 36). This represents a dramatic effect on the company's performance, given that sales were only 2.9% (line 23) above the forecast. ERAM is designed to eliminate exactly this powerful effect, and line 38 shows how well ERAM works. The reported ROR with ERAM in place in 1989 is precisely the 12.5% authorized. Further, ERAM operates symmetrically. If sales fall below forecast, reported ROR would still be exactly as authorized in this year.

Finally, consider the results in 1991. In this year, the company suffers badly. First, sales are lower than forecast, and second, operating costs exceed those forecasts. Without ERAM, the company ROR falls a devastating 5 points below authorized (line 36). In this case, the ROR is not fully restored by ERAM (line 38). The discrepancy results from the failure of ERAM to make the company whole for the excess operating costs (lines 7 and 27). While the ROR on rate base is not affected by the sales shortfall, it remains sensitive to deviations in operating costs. Hence the claim that ERAM removes the disincentive to conservation while allowing the company to be punished for inefficiency.

ERAM Operation. To understand how ERAM achieves these results, consider the activity in the ERAM balancing account (lines 30 34). Collections above or below authorized accrue in this account. After proper allowance for interest on the balance, an adjustment to future rates, called here the ERAM balance rate (line 18) is calculated and added to the base rate to form an *effective base rate* (line 19), which is the tariff the customer actually sees. The intent is to zero out the account in the upcoming period, although this goal is never actually achieved because of the ongoing inaccuracy of forecasts.

SPECIAL CONTRACTS

Introduction

ERAM was, in part, intended to protect utilities from the between-GRC revenue loss resulting from successful conservation programs, yet in practice it protects utilities from sales deviations resulting from any cause. The all-encompassing nature of ERAM protection portends potential conflicts with CPUC policy in some areas, where the CPUC would prefer to see the utilities bear sales risk. The emergence of special customer contracts, which are used in California to discourage bypass, provides an illuminating example.

Regulatory changes, improvements in cogeneration technology, low prices of natural gas and other light fuels, and cross-subsidies by the industrial rate class of the residential class all tend to make bypass an attractive option to large California customers. However, bypass, it is argued, adversely affects the capacity utilization and fuel mix of utilities, increases the State's dependence on imported fossil fuels, wastefully duplicates the State's generating capacity, confounds industry planning, and has

Table 1. Base Case

line #	year (t)	-> 1988	1989	1990	1991
			(M$ unless noted)		
	RATEMAKING FOR YEAR t AT THE END OF YEAR t-1				
	BASE RATE				
1	forecast sales change		4.0%	3.0%	2.0%
2	forecast sales for year t : (GWh)		68640	70699	72113
3	authorized interest rate		8.0%	8.0%	8.0%
4	rate base		6000	6304	6430
5	authorized rate of return		12.5%	12.5%	12.5%
6	target earnings : (4 x 5)		750	788	804
7	forecast base operating costs including attrition adjustments		3500	3623	3749
8	authorized revenue requirement : (6 + 7)		4250	4411	4553
9	base rate in t-1 : (¢/kWh)		6.170	6.192	6.238
10	forecast revenues at current rates : (2 x 9)/100		4235	4378	4499
11	forecast revenue shortfall: (8 - 10)		15	33	54
12	base rate in t : ((8/2) x 100): (¢/kWh)	6.170	6.192	6.238	6.314
13	change in base rate over year t-1		0.4%	0.8%	1.2%
	ERAM BALANCE RATE				
14	ERAM balance end of t - 1		-178	-131	-5
15	ERAM balance rate in t-1 : (¢/kWh)		-0.304	-0.259	-0.185
16	forecast ERAM revenues at current billing factor : (15 x 2)/100		-209	-183	-133
17	forecast ERAM revenue shortfall : (14 - 16)		31	53	128
18	ERAM balance rate in t : ((14/2) x 100) : (¢/kWh)	-0.304	-0.259	-0.185	-0.007
	EFFECTIVE BASE RATES				
19	effective base rate : (12 + 18)	5.866	5.932	6.054	6.307
20	change in effective base rate over year t-1		1.1%	2.0%	4.2%
	ACTUAL EVENTS IN YEAR t				
	GENERAL RESULTS				
21	actual sales in t : (GWh)	66000	70640	70699	70113
22	actual sales relative to forecast		higher	equal	lower
23	error in sales forecast		2.9%	0.0%	-2.8%
24	actual base rate revenues in t : ((12 x 21)/100)		4374	4411	4427
25	actual ERAM revenues in t : ((18 x 21)/100)		-183	-131	-5
26	total revenues in t : (24 + 25)		4191	4280	4422
27	actual base operating costs		3500	3623	3937
28	actual base operating costs relative to forecast		equal	equal	higher
29	error in operating cost forecast		0.0%	0.0%	5.0%
	EFFECT ON ERAM ACCOUNT				
30	initial ERAM balance at beginning of t		-178	-131	-5
31	miscollection in t : (8 - 26)		59	131	131
32	ending balance at end of t : (30 + 31)		-119	0	126
33	interest accrued during t : (avg(30, 32) x 3)		-12	-5	5
34	closing ERAM Balance at end of t : (32 + 33)	-178	-131	-5	131
	EFFECT OF ERAM ON EARNINGS				
	without ERAM				
35	actual earnings : (24 - 27)		874	788	490
36	actual rate of return : ((35/4) x 100)		14.6%	12.5%	7.6%
	with ERAM				
37	actual earnings : (26 + 31 - 27)		750	788	616
38	actual rate of return : ((37/4) x 100)		12.5%	12.5%	9.6%

negative environmental consequences. The most strident argument against bypass, however, is that the tariffs of customers remaining on the system rise because the burden of fixed cost recovery falls more heavily on a reduced customer base (MacAvoy, Spulber, and Stangle 1989).

CPUC policy regarding bypass in the mid-1980's was, in general, to disfavor it. The CPUC allowed utilities to write special contracts with customers that threaten to bypass as long as the revenue gained from the contract exceeds the variable cost of serving the customer. In other words, as long as keeping the customer by means of a contract could result in a positive contribution to base revenue requirements, the bypass was considered *uneconomic* and the contract approved.

This question to be addressed in the test case is the following. Since the California electric utilities are allowed, or even encouraged, to make individual contracts with large customers that threaten bypass, how does the existence of ERAM change the effectiveness of the contracts policy.

Test Example

In this example, special contracts are signed that result in lost sales of 500 GWh/y. It is assumed that the contracts ensure that ECAC costs are covered, and, further, that no rate effects result from the ECAC side. In other words, the full impact of the contracts appears in the base rate calculations. The contracts are assumed to provide 2.0 ¢/kWh of revenue, instead of the full effective base rates.

Bypass Case. First consider Table 2. In this table, the rate consequences of allowing the bypass to proceed are presented. Notice that no change in revenue requirement has been made (line 8), in keeping with assumption 3. Note that the forecast does take the contract into account (line 2). Clearly, under these simple assumptions, the remaining customers must be worse off because a fixed burden of the revenue requirement is spread more thickly across the reduced sales. Comparing the effective base rates in Tables 1 and 2, the rates in the bypass case are higher in 1990 in 1991.

Contract Case. Now consider the contract case presented in Table 3. In this case, contracts are successfully negotiated with the bypassers and they agree to remain on the system, but at a preferential rate. Comparing line 19 of Tables 2 and 3 shows customer rates are lower if the bypassers are kept on the system. This comparison demonstrates the key argument in favor of permitting contracts. By keeping the bypassers on the system, even at afavorable rate, the other customers benefit *vis-a-vis* the situation that would result from bypass.

CONCLUSIONS

ERAM works as expected and does indeed shelter the utility from sales fluctuations, thereby removing the anti-conservation bias of pre-1982 California regulation. However this result is achieved in a rather heavy handed manner that achieves the conservation policy goal while potentially confounding the attainment of others.

Ironically, ERAM appears to have come full circle with regard to special contracts. The utility's best strategy, it seems, is to mount a costly effort to negotiate sales contracts and ensure that these costs are safely embedded in rate base. The costs embedded in revenue requirement will be collected by the utility whatever sales ultimately prove to be. After the GRC establishing revenue requirement, the utility should dramatically cut its negotiating effort. Whether or not contracts are actually signed, and at what rates, appears irrelevant. The utility should just make the minimum effort that will prevent a later prudence disallowance of the contracts sales effort. This is exactly the utility behavior towards conservation programs that ERAM was intended to avoid.

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Table 2. Bypass Case

line #		year (t) -> 1989	1990	1991
	RATEMAKING FOR YEAR t AT THE END OF YEAR t-1			
	BASE RATE			
1	forecast sales change	4.0%	2.3%	2.0%
2	forecast sales for year t	68640	70199	71613
3	authorized interest rate	8.0%	8.0%	8.0%
4	rate base	6000	6304	6430
5	authorized rate of return	12.5%	12.5%	12.5%
6	target earnings : (4 x 5)	750	788	804
7	forecast base operating costs including attrition adjustments	3500	3623	3749
8	authorized revenue requirement: (6 + 7)	4250	4411	4553
9	base rate in t-1	6.170	6.192	6.283
10	forecast revenues at current rates : (2 x 9)/100	4235	4347	4499
11	forecast revenue shortfall: (8 - 10)	15	64	54
12	base rate in t : ((8/2) x 100)	6.192	6.283	6.358
13	change in base rate over year t-1	0.4%	1.5%	1.2%
	ERAM BALANCE RATE			
14	ERAM balance end of t - 1	-178	-131	26
15	ERAM balance rate in t-1	-0.304	-0.259	-0.186
16	forecast ERAM revenues at current billing factor : (15 x 2)/100	-209	-182	-133
17	forecast ERAM revenue shortfall : (14 - 16)	31	52	160
18	ERAM balance rate in t : ((14/2) x 100) : (24/2)	-0.259	-0.186	0.037
	EFFECTIVE BASE RATES			
19	effective base rate : (12 + 18)	5.932	6.097	6.395
20	change in effective base rate over year t-1		2.8%	4.9%
	ACTUAL EVENTS IN YEAR t			
	GENERAL RESULTS			
➡ 20.a	base case sales in t	70640	70199	69613
➡ 20.b	sales loss due to bypass	0	500	500
21	actual sales in t	70640	69699	69113
22	actual sales relative to forecast	higher	lower	lower
23	error in sales forecast	2.9%	-0.7%	-3.5%
24	actual base rate revenues in t : ((12 x 21)/100)	4374	4379	4394
25	actual ERAM revenues in t : ((18 x 21)/100)	-183	-130	26
26	total revenues in t : (24 + 25)	4191	4250	4420
27	actual base operating costs	3500	3623	3937
28	actual base operating costs relative to forecast	equal	equal	higher
29	error in operating cost forecast	0.0%	0.0%	5.0%
	EFFECT ON ERAM ACCOUNT			
30	initial ERAM balance at beginning of t	-178	-131	26
31	miscollection in t : (8 - 26)	59	161	133
32	ending balance at end of t : (30 + 31)	-119	30	160
33	interest accrued during t : (avg(30, 32) x 3)	-12	-4	7
34	closing ERAM Balance at end of t : (32 + 33)	-131	26	167
	EFFECT OF ERAM ON EARNINGS			
	without ERAM			
35	actual earnings : (24 - 27)	874	757	457
36	actual rate of return : ((35/4) x 100)	14.6%	12.0%	7.1%
	with ERAM			
37	actual earnings : (26 + 31 - 27)	750	788	616
38	actual rate of return : ((37/4) x 100)	12.5%	12.5%	9.6%

Table 3. Contracts Case

line #	year (t) ->	1989	1990	1991
	RATEMAKING FOR YEAR t AT THE END OF YEAR t-1			
	BASE RATE			
1	forecast sales change	4.0%	3.0%	2.0%
2	forecast sales for year t	68640	70699	72113
3	authorized interest rate	8.0%	8.0%	8.0%
4	rate base	6000	6304	6430
5	authorized rate of return	12.5%	12.5%	12.5%
6	target earnings : (4 x 5)	750	788	804
7	forecast base operating costs including attrition adjustments	3500	3623	3749
8	authorized revenue requirement : (6 + 7)	4250	4411	4553
9	base rate in t-1	6.170	6.192	6.238
10	forecast revenues at current rates : (2 x 9)/100	4235	4378	4499
11	forecast revenue shortfall: (8 - 10)	15	33	54
12	base rate in t : ((8/2) x 100)	6.192	6.238	6.314
13	change in base rate over year t-1	0.4%	0.8%	1.2%
	ERAM BALANCE RATE			
14	ERAM balance end of t - 1	-178	-131	16
15	ERAM balance rate in t-1	-0.304	-0.259	-0.185
16	forecast ERAM revenues at current billing factor : (15 x 2)/100	-209	-183	-133
17	forecast ERAM revenue shortfall : (14 - 16)	31	53	149
18	ERAM billing factor in t : ((14/2) x 100) : (24/2)	-0.259	-0.185	0.022
	EFFECTIVE BASE RATES			
19	effective base rate : (12 + 18)	5.932	6.054	6.336
20	change in effective base rate over year t-1		2.0%	4.7%
	ACTUAL EVENTS IN YEAR t			
	GENERAL RESULTS			
21	actual sales in t	70640	70699	70113
22	actual sales relative to forecast	higher	equal	lower
23	error in sales forecast	2.9%	0.0%	-2.8%
➠ 23.a	sales at the contract rate	0	500	500
➠ 23.b	contract base rate		2.000	2.000
➠ 23.c	contract revenues : ((23.a x 23.b)/100)	0	10	10
➠ 23.d	sales at the full effective base rate : (21 - 23.a)	70640	70199	69613
24	actual base rate revenues in t : ((12 x 23.d)/100)	4374	4379	4395
25	actual ERAM revenues in t : ((18 x 23.d)/100)	-183	-130	15
26	total revenues in t : (23.c + 24 + 25)	4191	4260	4421
27	actual base operating costs	3500	3623	3937
28	actual base operating costs relative to forecast	equal	equal	higher
29	error in operating cost forecast	0.0%	0.0%	5.0%
	EFFECT ON ERAM ACCOUNT			
30	initial ERAM balance at beginning of t	-178	-131	16
31	miscollection in t : (8 - 26)	59	151	133
32	ending balance at end of t : (30 + 31)	-119	20	148
33	interest accrued during t : (avg(30, 32) x 3)	-12	-4	7
34	closing ERAM Balance at end of t : (32 + 33)	-131	16	155
	EFFECT OF ERAM ON EARNINGS			
	without ERAM			
35	actual earnings : (24 - 27 + 23.c)	874	767	468
36	actual rate of return : ((35/4) x 100)	14.6%	12.2%	7.3%
	with ERAM			
37	actual earnings : (26 + 31 - 27)	750	788	616
38	actual rate of return : ((37/4) x 100)	12.5%	12.5%	9.6%

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