CHAPTER 6

SENSITIVITY ANALYSIS

Chapters 3, 4 and 5 discuss critical areas in USRA'S Final System Plan and raise questions about the reliability of some of the assumptions. To test the sensitivity of the FSP to changes in critical assumptions is difficult without using the models available to USRA. However, based on data in the FSP the impact of some alternative assumptions on revenues, profitability and required federal investment may be deduced. Four alternative assumptions were identified, one each from the revenue, operating and financing categories and finally a systems option.

- Revenue: assume that USRA coal revenue projections are increased beyond the FSP predictions.
- Operating Expenses: assume that ConRail fails to achieve projected operating improvements.
- Financing: assume that a deficiency judgement is entered against ConRail.
- Systems option: assume that Unified ConRail is selected as the systems alternative.

While other assumptions could be tested, these indicate that the financial viability of ConRail is very sensitive to changes in the underlying assumptions of the FSP.

IMPROVED COAL REVENUES

The variable promising the most upside potential is coal. First, it is a commodity that cannot be easily diverted to trucking, and barge competition is limited to areas accessible by water. Second, rapid growth in coal usage is resulting from the increasing scarcity of alternative fuels and the rise in oil and gas prices. Third, because much of the traffic is not divertable and coal prices have risen rapidly, rate increases could significantly improve profits.

Two assumptions were changed to consider the impact of improved coal revenues. USRA predicted that between 1976 and 1980, coal tonnage shipped on ConRail would rise from 85 million tons (MT) to 94 (MT) (10.5 percent). EEA projections indicate that coal shipments may increase to 110 MT (29 percent) by that date.

Over the planning period using EEA estimates, an additional 165 MT of coal could be shipped on ConRail.[1] In 1973, Conrail received $2.48 per ton, so uninflated revenue would increase by

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[1] Assumes a ratio 'f 110/94 and total USRA predicted coal shipments of 975 tons over the planning period.

about $409 million. Considering inflation, the increase could be $752 million.

In addition, a 50¢ per ton rate increase on coal was considered. ConRail divides revenue with other railroads because shipments are often split between two lines and therefore ConRail is likely to receive only 33¢ of the 50¢ increases This increase would generate revenues of $321 million on the 975 MT which USRA projects that ConRail will carry during the planning period; and it will add to that another $54 million if EEA projections are correct. Table 22 summarizes the results.

TABLE 22

INCREASED COAL REVENUE

	FSP Assumption	Revised FSP Assumption	Increases
Coal tonnage shipped 1976-1985	975 MT	1140 MT	165 MT
Uninflated Revenue from coal shipments	$ 2377 M	$ 2786	$ 409 M
Inflated revenue from coal shipments	$ 4373 M	$ 5125 M	$ 752 M
Added revenue from a 50¢/ ton rate increase	$ 321M	$ 375 M	$ 54 M

[2] Ratio of inflated to uninflated revenue over the planning period in 1.84

[3] In 1973 when the average rail for coal was $3.71 per ton, ConRail received only $2.48 per ton.

Adding the increases from both higher rates and greater tonnage could provide ConRail with an additional $1127 million (752 million from increased tonnage and $375 million from increased rates) in revenue during the planning period. The $375 million rate increase would go directly to income. The $752 million from increased tonnage however, net of expenses, should generate $304 million in cash using the USRA methodology (FSP p. 78). Since the primary sources of cash from operations divide almost equally between income and depreciation, income could increase by an additional $150 million. Income could therefore be increased by $525 million based on more optimistic coal projections.

FAILURE TO ACHIEVE OPERATING IMPROVEMENTS

USRA tested the sensitivity of the ConRail financial projections to a failure to achieve many of the operating improvements projected. For each of four categories, expected savings were reduced as follows:[4]

Category	FSP Assumptions	Revised FSP Assumptions	Increased Expenses
Equipment Utilization	28 % car utilization improvement; 223 fewer locomotives	Achieve only 50% savings, 2 year delay in achievement (assume net car hire drops from 8.7% of operating revenue to an average of 7.5% rather than 6%).	Net Car Hire + 453 M
Yard Rehabilitation	Reduction of 6% in yard operating expenses	No savings from yard rehabilitation	Transportation Expenses + 264 M
Blocking Improvements	Reduction of 8% in yard operating expenses	Implement only 75% of blocking improvements with less reduction in yard operating expenses	Transportation Expenses + 88'M
Cost System Implementation	Allows identification of non-compensatory traffic and a $53 million rate increase	Operating expenses increase 3% due to delay in cost system implementation.	Operating Expenses + 1040 M
		TOTAL INCREASE	**+ 1845** M

[4] FSP p. 79.

USRA concluded that required funds would increase by $1 billion primarily to pay for the extra equipment which would be needed to handle growth. If existing equipment cannot be utilized more efficiently through better car management, yard and track rehabilitation, and other operating improvements then more freight cars and locomotives must be purchased. A portion of this equipment could probably be financed by external equipment obligations but during the startup period ConRail cannot assume a larger interest burden. Consequently, much of the capital needs must be met with Federal funds.

Using data provided by USRA an attempt was made to calculate the increase in expenses that would occur due to these operating failures. The total reduction in income is estimated at $1.8 billion which exceeds the estimated $1.5 billion in income generated during the planning period.

Serious consequences would result from an operating failure. The concept of an 'Income based reorganization" could be placed in jeopardy if ConRail fails to produce profits. The creditors' argument that their property had been taken would be strengthened and a sizable deficiency judgement could be entered against the government. The Certificates of Value issued by the government would be exercised by the creditors because ConRail stock would be virtually worthless thus further draining federal funds. The rehabilitation program could be delayed as management attempted to use rehabilitation funds to cover operating deficits. Rather than redeeming Series A Preferred Stock for cash, ConRail would continue to pile up interest-bearing securities virtually eliminating the prospect of ever becoming a private corporation. Penn-Central calculated an alternative estimate of savings achievable through cost reduction. If ConRail handled 1985 tons at the 1976 expense level, costs in 1985 would increase by $463M (1973 dollars). Penn-central predicts, based on an "exhaustive study" of savings achievable through plant rehabilitation and elimination of deferred maintenance that only about $200M (1973 dollars) could be saved once the rehabilitation is complete. A loss of $263M (1973 dollars) in operating savings in 1985 would translate into approximately a $657M (inflated dollar) decline in profits in that year. This far exceeds the $397M projected in profits for 1985 and implies that ConRail would not generate a profit during the planning period. ConRail would improve somewhat on these savings by reducing Penn-Central costs through consolidation of the bankrupts' facilities and by increasing volume which reduces per unit costs. However, for ConRail to make a profit, operating improvements would have to substantially exceed Penn-central cost savings estimates.

In summary, if ConRail fails to achieve the planned operating improvements and produce a profit during the planning period, it will remain a public entity that will cost the government significantly more than the proposed $1.85 billion.

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[1]Penn-Central: Memorandum on FSP 9/5/75.

DEFICIENCY JUDGEMENT

If USRA and creditors of the bankrupt railroads cannot agree on a valuation for the properties to be conveyed, then the issue will be resolved in court. If the Court rules that the $422 million offered to the creditors is insufficient then the Federal government will be liable for the difference.

For illustrative purposes, assume that the court accepts Penn Central's asset valuation of $7.4 billions The $422 million value offered to the creditors represented the difference between USRA'S $767 million estimate of assets and $345 million estimate of liabilities. If the assets are increased to $7.4 billion from $767 million then the depreciation charges must be increased to reflect the higher value of the assets being used by ConRail.

Thus, a deficiency judgement would have two effects: the Federal treasury would have to pay the creditors the difference between the assumed value of the assets ($767M) and the court determined figure; and ConRail's income would be reduced by the increased depreciation charges.

Assuming the $7.4 billion asset valuation, the treasury would have to pay approximately $6.7 billion to the creditors ($7.4 B - $.7 B = $6.7 B). The Certificate of Value scheme would not work because ConRail could not earn enouqh income to raise the value of its stock to $7 billion. In fact, through increased depreciation charges, which would lower income, the value of the originally distributed stock would decrease.

Table 23 illustrates the impact of a deficiency judgement on depreciation charges. Over the planning period (1976 - 1985) depreciation of the assets conveyed to ConRail assuming the original $767 million asset value would have been $366 million. With assets revalued to $7.4 billion, depreciation expenses would total $1363 million. Consequently, net income would be reduced by $977 million.

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[5] Letter from Paul R. Duke stating Penn-Central claims 6/17/75.

TABLE 23

IMPACT OF ASSET REVALUATION

$7.4B valuation	Value[6] ($M)	Depreciation Rate (%)	Depreciation ($M) Expense (1976-1985)
Land	4000	0	0
Track	1100	5.0%	550
Cars and Locomotives (net)	700	6.5%	455
Grading	500	5.0%	250
Bridges	200	3.75%	75
Buildings and Equipment	800	3.75%	33
TOTAL	7300	---	1363

Using a $767M asset value, depreciation is $366M.
- Net depreciation addition = $1363M - $366M = $997M

6 Washington Post article 7/17/75 - letter from Paul R. Duke 6/17/75

7 FSP p. 58.

UNIFIED CONRAIL

The Unified ConRail option (i.e., not selling any of the acquired properties to competing carriers) promises a more profitable railroad requiring less Federal investment. The option was rejected as a first choice primarily due to political and competitive ramifications. USRA felt that this option did not adequately fulfill the non-financial goals of the Act. Specifically, Unified ConRail did not provide for rail-rail competition in markets exclusively served by the bankrupt carriers. Shippers argued strongly for maintenance of competition and Congress declared it one of the goals of the Act. USRA also felt that Unified ConRail could damage the profitability of competing railroads by diverting traffic to the larger system.

In balancing the goals of the Act, USRA determined that a smaller ConRail would be politically more palatable than the Unified ConRail option. However, a decision that the proposed FSP does not adequately protect taxpayers interests might warrant a closer examination of Unified Conrail. Unfortunately, USRA has not yet released a full analysis of the Unified ConRail option so all the required data were not available.

Existing information however, demonstrates that Unified ConRail is financially a stronger system. Data from “Pro Forma Financial Forecasts” MAY 29, 1975, were used for the analysis. The data indicated that over the planning period, Unified ConRail would generate 18% more revenue and 66% more profit than the proposed structure. In addition, USRA personnel estimated that the required Federal investment would be only $1.2 billion or two thirds of the planned $1.85 billion investment. Table 24 illustrates the results.

TABLE 24

UNIFIED CONRAIL

Item	FSP Assumption	FSP Assumption Revised
Revenue	$43.7 B	$51.1 B
Income	1.5B	2,5B
Federal Investment	1.85 B	1.2B

SOURCE: Pro Forma Financial Forecasts May 29, 1975, p. I-9, II-4, II-22.

In addition to general arguments about the virtues of selling portions of the bankrupt carriers to competing railroads some specific issues deserve attention. USRA has proposed to sell to the Chessie a major coal producing line in West Virginia. This may increase competition at the expense of ConRail profitably and future growth. Another example involves offering the Pittsburgh and Lake Erie Railroad trackage rights between Ashtabula and Pittsburgh, an important coal and iron ore shipping connection. Again, future growth markets and profits may be sacrificed to produce competition.