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# PROFILES IN ELECTRICITY ISSUES:

## **Vintage Pricing**

Rising electricity prices have prompted consideration of a pricing scheme known as vintage pricing. This mechanism results in new industrial customers or increased usage by existing customers being charged rates based on the cost of adding new facilities to a utility system. Existing usage levels pay rates based on the cost of existing facilities.

Vintage pricing protects some customers from increasing electricity costs at the expense of others. It is based on the erroneous assumption that load growth is the only factor responsible for the rising cost of electric service and only certain customers are causing load growth. Vintage pricing produces rates that are not based on actual cost of service. As such, it distorts consumer price signals and results in rates that are discriminatory and unjust.

PROFILES IN ELECTRICITY ISSUES are published in the interest of better understanding of the economic and social impact of proposals related to electricity. ELCON seeks an efficient and adequate supply of electric energy at prices based on costs, not only for the benefit of industrial consumers and their labor force but also for all consumers of industrial products and thus the national economy. For a copy of other PROFILES, write or call ELCON at the address above.

## Vintage Pricing

### Introduction

Vintage pricing proposals charge new industrial customers or increased usage by existing industrial customers rates based on the cost of adding new facilities to the utility's system. The current level of usage of existing industrial customers is charged a rate based on the cost of existing facilities.

Vintage pricing assumes that new load is the only factor responsible for the cost of adding new facilities to the utility's system at costs above historic levels. This assertion is totally unsupported by economic theory or by the available evidence. New customers are no more responsible for system generation expansion than existing customers who maintain rather than reduce their demand on the system. New facilities are added both to meet increased load and to replace old or economically obsolete equipment. All customer loads place a burden on the utility so all are responsible for the costs incurred in providing electric service.

### ELCON Position

ELCON believes that all customers should pay electric rates based on cost of service. The fact that new generating units cost more than the average cost of existing plant is due to past and current inflation, more stringent environmental regulations, plant delays and other factors. It does not result solely from the load growth of any group of customers. These cost increases have been only partially offset by economies of scale, consequently, electricity prices have risen over time.

No particular group of customers is solely responsible for the increasing cost of electric service. A utility's production facilities -- existing, under construction or planned -- are built to serve all of its customers.

There is no meaningful distinction between costs incurred to provide generation to serve existing customer load and those incurred to serve new or expanding load. Vintage pricing is simply a form of income redistribution. It protects some customers from the increasing cost of service at the expense of others. Vintage pricing rates are not based on cost of service. As such, vintage pricing results in distorted price signals and price discrimination.

### Causes of Electric Utility Cost Increases

Prior to about 1969, electric utility price increases were few and far between. For example, while the Consumer Price Index (CPI) rose at an average annual rate of 2.58 percent during the period 1959-1969, electric rates actually declined in real terms and increased in nominal terms at an average rate of only 0.4 percent. This indicates that the impact of inflation on costs of service during this time was largely offset by economies of scale, technological improvements and possibly price decreases for particular factor inputs. Beginning in 1969, however, the rate of inflation started to rise at a much higher rate than previously experienced; a rate too high to be offset by scale economies and technological improvements. In addition, more stringent environmental regulations caused utilities to increase investment in non-revenue producing pollution control facilities. As a result, increased costs began to be reflected to a greater degree as higher electric rates.

Partially due to this increase in electric rates, the rate of peak load growth began to decline. Prior to 1969, utility load growth was in the neighborhood of 7 percent per year on average, but that growth slowed to an annual average rate of 3.1 percent from 1972 to 1982, and only 1.3 percent per year from 1977 to 1982. System peak demand for the nation's electric utilities actually declined between 1981 and 1982 and recovered somewhat in 1983 to about 1.8 percent above its 1981 level.

This decline in the rate of load growth, coupled with the increase in costs of service, caused the price of electricity to rise at an accelerated

rate. From 1971 to 1981, the CPI increased at an average annual rate of 8.5 percent while the price of electricity increased an average 10 percent per year. The dramatic increase in electric utility prices has led electricity consumers to search for methods to reduce the burden of increasing electric bills.

### Price Discrimination and Vintage Pricing

One of the primary objectives of utility regulation is to prevent the practice of price discrimination. From an economic viewpoint, price discrimination occurs when different prices charged to different customers are not based on differences in costs. From the regulatory or legal viewpoint, prices for electric service may vary among customers as long as the variance is based on actual differences in costs of service. Price discrimination in this context is "unjust" only when price differentials are not justified by cost differentials.

For example, the residential customer class makes use of the utility's distribution system which is designed to provide service at low voltage levels. Industrial customers, however, usually have no need for, and make no use of, the distribution system. Therefore, charging industrial customers lower rates based on the reduced cost of service is not price discrimination since the different prices are justified by differences in costs. Similarly, there are instances when a utility builds a "dedicated" generating facility specifically to supply the electric requirements of a particular customer. Since that plant serves only one customer, the capital and variable costs associated with that facility are borne solely by that customer, thereby avoiding price discrimination.

Vintage pricing bases price differentials among customers on the cost of new generating equipment at the time service is first taken or at the time customer usage increases. In most instances, only certain customers or customer classes, usually industrial customers, are charged rates based on the cost of new facilities. The remaining customers enjoy lower rates based on historical costs. Unless vintage pricing proponents can show

that actual cost differences are encountered in supplying new and old customer load requirements, rate structures based on vintage pricing proposals must be discriminatory.

Further, if the theory of vintage pricing were accepted, then a corollary must also be considered; that is, a reduction in rates or a credit for those customers who reduce their demand on the system. This reasoning could be extended to the point of paying large sums to customers who do not show up on the utility system, thus avoiding the cost of new facilities. The logic is the same as in the proposed vintage pricing mechanisms, but in this case it considers the other side of the coin -- a reduction in usage -- rather than penalizing increased usage.

#### Facts on Utility Load Growth

Vintage pricing is based on the assumption that only certain customers or customer classes are responsible for load growth, so only they should pay the cost of new generating facilities. New plant is more expensive than old due to the impact of inflation and increased environmental requirements. If current construction costs, financing costs and primary energy inputs were not above historic levels, new facilities would cost the same per unit of capacity as old ones (absent technological improvements and scale economies), and vintage pricing proposals would become moot.

Table 1 shows that all customer classes have experienced significant load growth over the past several years. For the period 1972-1982, Table 1 shows that residential consumption of electricity grew at an average annual rate of 4.26 percent. For this same time period, industrial consumption grew at an average annual rate of 2.05 percent and commercial consumption at 4.21 percent. The total electric utility system average rate of increase for this period was 3.27 percent.

These figures indicate that if vintage pricing were applied to all customer classes, based on historical growth rates, the residential class and the commercial class would be more responsible for system expansion

than would the industrial class. These figures also show that all customer classes' demands grow over time (so, according to the vintage pricing theory, all would be responsible for the cost of new facilities).

TABLE 1

Total Electric Utility Sales in the United States  
1972-1982 (billions of kwh)\*/\_/

	<u>Residential</u>	<u>Industrial</u>	<u>Commercial</u>	<u>Other</u>	<u>Total</u>
1972	511.4	639.5	361.9	65.0	1,577.7
1973	554.2	687.2	396.9	64.9	1,703.2
1974	555.0	689.4	392.7	63.7	1,700.8
1975	586.1	661.6	418.1	67.2	1,733.0
1976	613.1	725.2	440.6	70.8	1,849.6
1977	652.3	757.2	469.2	72.1	1,950.8
1978	679.2	782.1	480.7	75.8	2,017.8
1979	696.0	817.6	494.7	76.1	2,084.4
1980	734.4	793.8	524.1	73.7	2,126.1
1981	730.5	819.6	521.7	78.9	2,150.7
1982	729.2	770.7	514.1	79.6	2,093.6
1972-1982					
Average					
Annual %					
Increase	4.26%	2.05%	4.21%	2.25%	3.27%

\*/\_/ Source: Electrical World, "34th Annual Electrical Industry Forecast,"  
September 1983.

The need for new facilities can be reduced equally by avoiding new customer load or by reducing the usage of existing customers. If fifty-one persons queue-up for a bus that holds only fifty, the last person in line is no more responsible for the cost of an additional bus than is the first, or anyone in between. The need for this capacity addition can be eliminated if the "new" (fifty-first) customer is removed from the system, or if any other "existing" customer reduces his demand on the system. The same is true for public schools and for electric utilities.

In addition, vintage pricing would be difficult, if not impossible, to implement. Since each facility (existing or newly constructed) has a different per unit cost, the utility would need to determine what amount of service each customer or customer group received from each facility in order to arrive at the appropriate price that each should pay. Even if vintage pricing applied only to new facilities, the pricing system would soon become unwieldy. The customer would never be sure what price he was paying or could expect to pay, and the utility would be faced with an accounting nightmare.

Consider a customer who moves from one utility's service territory to another, or even to a new location within the same service territory. Originally, he was an "old" customer and was therefore protected from the cost of new facilities. Once he moves, he becomes a "new" customer and is now penalized for consuming essentially the same amount of electricity now considered to be provided by new facilities rather than old ones. The cost impact of vintage pricing on this hypothetical customer is likely to be substantial, and it is difficult to rationalize why he should be protected from cost increases in one instance and penalized by them in another. The same, of course, is true for all customer classes.

The fact that all customers, new and old, continue to demand service will eventually require a utility to build capacity, if not for additional facilities, then for new facilities to take the place of old ones. Since old customers "used up" the existing plant, it is only fair that they pay the cost of replacement facilities. Vintage pricing, then, if consistently applied, cannot eliminate the cost impact of new capacity on existing customers, it can only delay it.

Conclusion

All customers should pay electric rates based on cost of service. Vintage pricing is really a method of redistributing disposable income. It overcharges some customers and, therefore, must undercharge others in order to collect the same total revenue. Vintage pricing produces rate differentials that are not based on differences in cost of service, as such it must result in rates that are discriminatory and unjust.

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