APPLYING ECONOMICS TO AN IMPERFECT WORLD

Alfred E. Kahn

FOR AN ACADEMICIAN with a practical bent, there is an immense satisfaction in taking principles out of the textbooks and applying them in the real world. That has been my agreeable task as a practitioner of regulation for the past four years.

The economic principles we—my fellow commissioners or board members and I—have been applying are easy to characterize: that economic efficiency requires prices for goods and services to be set equal to their marginal social opportunity costs (that is, the cost to society of the resources that are used to produce additional quantities—resources that will therefore be freed for other uses if and as buyers restrain their demands); and that, whenever it is technologically feasible, competition is the best way to achieve this result, as well as to ensure the optimum rate of innovation and the greatest degree of managerial efficiency—X-efficiency, as economists now put it. What has been especially intriguing about my experience is that it has embraced two quite different regulatory situations—one, the traditional public utilities, where competition seems for the most part not feasible and the economist-regulator is moved to play an active role in trying to produce efficient results; the other, airlines, in which it appears the prime obstacle to efficiency has been regulation itself and the most creative thing a regulator can do is remove his or her body from the market entryway.

But the process of applying these principles—even of simply getting out of the way—

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has been far from simple. The slate on which the economist-regulator writes is all scribbled over with the scratchings of lawyers, jurists, and politicians; the world to which he would apply his principles is excruciatingly imperfect and resistant; and the compass he needs is one that would help him thread his way through the thickets of "second best" (a theory that tells us, in effect, that it may be economically inefficient to price at the "first-best" level of marginal costs in some individual markets if prices in other markets are far above or below that "ideal" level). The really challenging job is deciding not what the ultimate, economically rational equilibrium should look like but what is economically rational in an irrational, "second-best" world, and how best to get from here to there.

Regulating Monopoly

It would be supererogatory for me to linger long over the defects of the institution of regulated monopoly: the sufficient summary is that it combines the worst of both worlds—the evils of monopoly with the stultification of the profit motive. I would add to this the almost irresistible opportunity it offers to use price—typically, very imprecisely and inefficiently—as an instrument for the redistribution of income.

The First Problem: Regulated Monopoly Itself. One of the most sobering lessons of my experience with public utility regulation was the progressive realization that my most energetic initiatives were little more than feeble efforts to compensate for the inherent defects of the institution over which I was presiding.

One of my proudest accomplishments at the New York Public Service Commission was the progress we made in requiring the electric and telephone companies in New York to introduce a system of prices related to marginal costs. For example, the large residential user of electricity on Long Island, instead of paying the previous flat charge of so many cents per kilowatt hour, will soon—if the courts allow—pay rates varying betweeen 2½ cents at night and 30 cents on summer days when the temperature gets above 83 degrees. As a specific example of the encouragement that this kind of pricing will offer to rational choices between consumption and abstinence, energy and insulation, the use of fuels or the sun, consider what the introduction of that marginal cost-based 12-to-1 ratio does to the likelihood of storage cooling being developed and introduced commercially. Again, the business customers of the New York Telephone Company now have to pay for their local calls on a timed basis; they can no longer ignore the fact that additional minutes of conversation have a positive marginal cost. Residential users are offered a similar pricing system, with the inducement of reduced basic charges.

In trying to introduce changes like this we encountered strenuous resistance, not just from large users who thought they would be harmed by them, but from the utility companies themselves. Why? Why would the electric companies cling to a declining block rate structure (whereby the more electricity a customer uses the cheaper each additional "block" of electricity is, without reference to the time of consumption) when it appeared, particularly at times of peak demand, that sales in the final blocks were at prices markedly below marginal cost, and that the result was to intensify the financial squeeze to which the companies were already exposed by the combination of inflation and regulatory lag?

I can think of only two reasons: first, bureaucratic inertia, and second, a lingering assumption that it was in their interest to promote additional sales that require additional investment, in order to build up their rate base. But both of these phenomena are themselves surely the consequence of regulated monopoly —of the absence of competition and of regulation on a cost-plus basis (with allowable returns reckoned on invested capital). So a plausible case can be made that regulation itself was one of the imperfections we were trying to overcome—that all this furious activity to reform utility rate structures was itself necessitated by regulation.

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This same observation applies, I think, to our strenuous attempts to attack the problem of X-efficiency—our introduction of management efficiency audits, our embodiment of productivity targets in the rates we set, and our efforts to force surprisingly reluctant separate gas and electric companies to integrate their investment and operations more fully. Unregulated monopolists would presumably have strong incentives to hold their costs down and to buy rather than produce for themselves whenever the marginal costs of buying were less than the marginal costs of producing.

A clear understanding of the limits of what regulation can accomplish under monopoly has the very healthy effect of making an economist-regulator anxious to seize every possible opportunity to render regulation unnecessary. We took major steps in New York, for example, toward opening the market for telephone terminal equipment (including interior wiring) to free competition: this particular part of the industry, we were convinced, could be effectively competitive.

The Second Problem: Second Best. Prominent among the opponents of marginal cost pricing of electricity was a group of large industrial and commercial users, some of them opposing it out of ignorance and inertia, others understandably fearing it would be used to discriminate against them, and others simply unwilling to pay the costs of the service they received. They hired a number of economists to proclaim solemnly that it would be inefficient to price electricity at marginal cost—which has almost certainly, after so many years of inflation, come to exceed average revenue requirements, as traditionally determined—when the prices of natural gas and oil are both being held below *their* marginal costs.

The observation was, of course, pertinent. My own provisional answer has the following parts:

(1) First of all, "second best" argues no more persuasively against moving prices to marginal costs than it does against leaving them where they are.

(2) The field price of natural gas is, indeed, being held below marginal opportunity cost; but since, for that very reason, gas is in any event being physically rationed, pricing electricity up to *its* marginal costs is not likely to produce a substantial diversion of consumption to this underpriced substitute.

(3) The price of domestic crude oil, similarly, is clearly being held artificially below the marginal cost to the American economy, which is the delivered price of imports. But the regulation affects only a declining fraction of total domestic supply, and domestic supply is only a part of what goes to determine the retail price.

(4) Moreover, oil is a major input in the generation of electricity (it takes three Btus of oil to produce one of electricity). This fact, along with the external costs (in terms, for example, of our national terms of trade) of sharply rising oil imports, argues powerfully for pricing electricity at marginal cost, at least where oil-fired generation is marginal.

(5) Other less obvious but extremely important substitutes for electricity are all priced at something like their respective marginal costs—insulation, the incorporation of additional efficiency in electric appliances, and equipment. The choice among these particular substitutes cannot be made efficiently unless electricity itself is similarly priced.

In short, the presence of governmentally imposed distortions in other parts of the economy does not, as the opponents of marginalism seem to think, render economic prescriptions invalid. It merely makes the analysis more difficult.

The Third Problem: Subsidization. The same, of course, is true of legislative decisions to subsidize or cross-subsidize certain kinds of consumption. These decisions usually leave a determined regulator a considerable margin of discretion in deciding what shall be subsidized, how much, and how.

For example, Congress is determined to spend as much as $100 million a year of the taxpayers' money to provide air transportation service to relatively small and isolated communities, over relatively thinly traveled routes. There is no point in my fighting that policy, particularly when some case can be made for it on grounds of the external benefits of linking the country together and avoiding urban congestion. But what the Civil Aeronautics Board has done is explain to Congress how it may get what it wants more efficiently, first, by permitting free entry of air taxis and commuter airlines—which can often perform these particular services at much lower cost than the certificated carriers—and, second, by specifying the subsidized services we want to purchase and attempting to purchase them at minimum cost, rather than, as under the present system, essentially by making good the revenue deficiencies of the carriers certificated for this purpose (this description does less than justice to the CAB's progressive efforts over the years to refine the methods of subsidy determination, but it will have to suffice).

Similarly, society seems determined to have basic telephone service provided at less than cost and, even worse from the efficiency standpoint, through internal subsidization. The reasons, when they are articulated at all, are usually stated in terms of externalities (my telephone is valuable to me only as it enables me to reach others) or "social welfare." A regulatory commission can be persuaded, however, (1) that these cases for subsidization apply validly only to the opportunity to *receive* unlimited numbers of calls and, possibly, to place some minimum of outgoing ones, but (2) that they provide very little justification for subsidizing what passes for basic service in most places in the country—which typically includes the opportunity to place an unlimited number of local calls, of unlimited duration, at no extra charge. Confining the subsidy to the former, truly basic service, while introducing individual charges for each additional local call and for additional minutes of calling, minimizes the inefficiency that results from holding rates below marginal costs and has the additional satisfying effect of rewarding with lower bills people who are willing to exercise some restraint in the costs that they impose on the system.

Economic logic can be fruitfully applied also to devising a least-distorting method of financing this internal subsidization. The traditional method has been by charging prices markedly above marginal costs for interstate calls on the ground, among others, that since the very costly installation at the subscriber's end is used for both intrastate and interstate calls, it is only "fair" that both share the responsibility for covering its costs. The consequence is that every time a telephone or a switchboard is installed, some 20 percent of the capital cost is automatically transferred to the interstate revenue requirement, there to be imposed upon long-distance calling.

I can tell you from experience it is possible to persuade regulatory commissioners that it is inefficient to levy the cost associated with these installations on *usage* of any kind—whether interstate or intrastate. The distortion is particularly inefficient in the case of telephony, because it seems clear that the marginal costs of long-distance communications are far below average revenue requirements. And, the Bell System pointed out, this transfer inflated interstate toll charges in 1974 by 40 percent! Since the entire cost is incurred at the time of installation and the marginal cost of *using* the equipment thereafter is zero, we in New York state transferred hundreds of millions of dollars of these annual revenue requirements to the monthly lump-sum charge.

Managing a Transition to Competition

During the last fifteen months, I have been coping with a very different kind of disequilibrium—the transition of the airline industry from a regime of rigid governmental protectionism and cartelization to one of free competition. I have little to add to the extensive literature endorsing that goal. It provides only limited guidance, however, for getting there—specifically, for coping with the inevitable distortions of a transition that is going to take some time, partly because the law under which we operate still requires us to find, case by case, whether granting each application for entry accords with the "public convenience and necessity," while giving each incumbent competitor—exercising procedural rights that trace back at least to the Magna Carta—an opportunity to argue that it will not.

What I propose to explain here is my conversion from a belief that gradualism is desirable to advocacy of something as close to total deregulation as the law will permit, to be achieved as quickly as possible.

My original attitude was based, first, on simple intellectual caution. It was based, second, on a desire not to discredit deregulation by showing an insensitivity to the fears of both Congress and the financial community about what a sudden total immersion in the waters of competition might do to the financial health of the industry, especially since it had just emerged from five or six years of dismal earnings. Finally, I thought that, since the airline companies had lived in a protectionist hothouse for forty years, their managements had to have time to plan for the new competitive era—to rationalize their operations, to meet the additional competition to which they would become subject, and to be ready to grasp the competitive opportunities that would shortly be presented to them.

I was not unaware, even at the outset, of the possible distortions of a gradual process. The theory of second best tells us that if we want to go from point A to point C, it is not necessarily socially efficient to go part way. And I will shortly be presenting several concrete illustrations of the principle. To anticipate the conclusion, however, I originally thought that meant that we ought to move very cautiously, examining the results every step of the way, in hope of minimizing the disruptions and distortions of the transition; my present conviction is that it means we must make the act of faith and move as rapidly as possible all the way to C.

The First Problem: Unequal Competitive Abilities. The airline industry carries over into its present an incredibly complicated burden of restrictions and impediments from the past. The most important explanation of the differences in cost among different carriers is their respective bundles of operating authority and restrictions, and the kinds of routes and route structures they serve—long-haul or short, in thick markets or thin. Moreover, the ability of one carrier to compete successfully over a particular route with another will be heavily influenced by the extent to which it and its rivals have available to them (1) customers from their own feeder routes that they can readily funnel into their own operations and (2) rights to routes going beyond a given city-pair route onto which they can feed their passengers, thereby permitting them to fatten up their flight schedules on routes where there is competition. Continental Airlines, for example, which lacks route authority eastward of Chicago, argues strenuously that it would be at a serious competitive disadvantage if carriers with richly diversified feed into O'Hare Airport from the East were free to invade the comparatively few routes to the West that contribute the bulk of its profits.

Route structure is, indeed, the dominant influence on relative unit costs, but carriers compete over *particular* routes. And while the one with the most feed can flow traffic over particular contested routes and in this way beef up its schedules to the disadvantage of its rivals, there is ample evidence that it is not the biggest carrier, with the most ample "feed" and "beyond" operations, that uniformly enjoys competitive superiority. All three of Continental' s competitors between Chicago and Los Angeles, for example, have rich feed from the East; yet Continental competes with them very effectively.

If there are advantages of integration, there are also powerful economies of specialization. A lack of "feed" and "beyond" traffic did not prevent Pacific Southwest from becoming the dominant carrier in the Los Angeles to San Francisco route, or Southwest Airlines from duplicating that success between Dallas and Houston; and, it is interesting to observe, one of Eastern Airlines' most profitable routes is the Washington-New York-Boston shuttle in which it has surrendered any possible advantages of single-plane service, feeder, or "beyond" operations.

So far as I know there is no objective basis for deciding which of these situations is more likely to prove typical—the one in which size and network economies are decisive, or the one in which the specialized carrier will have clear advantages. Most markets undoubtedly fall in between. In market after market today, carriers of widely varying sizes and degrees of integration meet in head-to-head competition; there is no systematic evidence that this cannot continue indefinitely. Perhaps the only conclusion one can and need draw is that, under a competitive regime, these various kinds of market situations will sift themselves out automatically, with various kinds of suppliers emerging successful on the basis of their respective advantages and handicaps in each. Our uncertainty about the outcome of the competitive struggle is no reason to prevent its taking place; the only sensible prescription is to give the com-

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petitors freedom to slough off their artificial handicaps by entering and leaving markets, as they please.

Moreover, if we cannot *predict* how these offsetting advantages and handicaps of the several carriers are likely to work out under a regime of free entry, it seems to me even less likely that we can hope to achieve the most efficient performance of the transportation function by *prescribing* how the thousands of markets should be served, as the proponents of the status quo would have us do. I find it difficult to see how these uncertainties tilt the balance in the direction of a reliance on predictably ignorant regulation in preference to an uncertainly predictable market process.

The Second Problem: Distortions from Moving Piecemeal. Some carriers profess not to worry about their ability to survive a competitive struggle if the CAB were able to deregulate promptly and totally; but they argue strenuously against our decreeing totally free entry into markets on a case-by-case basis, in the order in which applications happen to be presented to us.

The problems they envisage seem to be of two kinds. First, a Continental or a National argues, the market-by-market approach to free entry may subject a carrier to waves of competition in particular markets that are important to it, while it may find itself having to wait a long time for its own turn to come. I see no reason to assume, however, that the order of our proceeding will have a systematic bias of this kind. In fact, our two most dramatic proposals to open large numbers of markets to multiple permissive entry—involving service to and from the underused Chicago Midway and Oakland airports—have been ones in which the great bulk of the traffic will be purely turnaround; in which, therefore, feed and beyond rights will be of little importance; and in which prominent among the applicants are carriers with no such route systems at all.

The second fear is that if only some markets are opened to entry and not others, all the competitive energies of the industry will concentrate on them, resulting in excessive entry and investment. All this comes down to is the destructive competition scarecrow: there seems to be a general belief among defenders of the present regulatory regime that there is something about airplanes that drives businessmen crazy—that once the CAB removes its body from the threshold, they will rush into

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markets pell-mell, like lemmings, without regard to the size of each, how many sellers it can sustain, and how many others may be entering at the same time. This does not happen in other industries; there is no reason why it need happen in air transport.

It remains undeniable, however, that the gradual approach, market by market—which may be forced on us by the Federal Aviation Act—must involve distortions. So long as deregulation is incomplete, so long as the certificate of public convenience and necessity continues to have an exclusionary and therefore a market value, some of the airlines assure us, they will apply for more licenses than they can operate economically, and operate under them sufficiently to ensure that they are not taken away; and they will flood markets with more service than is economic in order to preclude competitive operations by others, in the hope of being able in the future to reap the rewards of the monopoly power they achieve and preserve in this way.

The only rational answer is to demonstrate convincingly that the value of these franchises is going to be zero. Then there will be no valuable pieces of paper to fight for with uneconomic operations and no future monopoly gains to offset against the costs of present predation. It is of course necessary to convince the companies that this is going to happen; but the way to do that is to open markets to free entry—and that is what we are doing. Moving as rapidly as possible to a system of universal free entry—and exit—is the way also to deal with the asserted inequality of competitive abilities and opportunities during a slow transition: make the transition rapid; move quickly, on as broad a front as possible, to permit all carriers to slough off the restrictions that limit their operating flexibility, to leave the markets they find it uneconomic to serve, to enter the markets they want to enter. The legal uncertainties are far from negligible; but there is more than a small chance the courts will let us define the "public convenience and necessity" in this intelligent way, provided we explain very clearly to them just exactly what we are doing and why.

The Third Problem: Do Innovators Need Protection? Despite the legend to the contrary, the Civil Aeronautics Board has during its forty-year history admitted a large number of new domestic airlines into scheduled operations; still, the five we have licensed in the past two months to compete directly with the trunks and regional carriers and our adoption both in specific cases and in general principle of the policy of admitting all applicants on a permissive basis clearly reflect a dramatic change in entry policy. (See Chicago-Midway Low Fare Route Proceeding, July 12, 1978, U.S.-Benelux Exemptions, September 1, 1978, and Application of World Airways [Guam Exemptions], September 7, 1978.)

Two of these recent certifications raised the old but still challenging question of the compatibility of pure competition with innovation. These were the extremely attractive novel applications of Midway Airlines and Midway Southwest to provide commuter service between the essentially unused Midway Airport in Chicago and several midwestern cities, at basic fares approximately 50 percent of the level that the CAB had theretofore uniformly prescribed. The first of these was a "paper" company, the second an affiliate of the highly successful Texas intrastate airline that had pioneered in the introduction of the same kind of highly efficient, specialized, low-fare commuter-type service as was being proposed here. The two applications were shortly met with filings by other carriers to serve some or all of the same markets, and with declarations by incumbents already licensed to serve Chicago that they would "meet the competition"—that is, reduce their fares in these markets and in some cases make use of Midway Airport as well—at least one of them before the two new carriers could even hope to obtain CAB certification, let alone acquire the necessary aircraft.

Several civic parties urged us to protect one or both of the innovators by giving them for a year or two the exclusive right to serve Midway Airport; some of them originally pro-

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posed that we also prohibit incumbent carriers even from matching the low fares at O'Hare. The innovators, they argued, needed and deserved a period of exclusive right to exploit their new idea. If, instead, we were to permit the many larger and better established rivals to emulate—indeed anticipate—them immediately, how could we be sure, once the two upstarts were aborted or eliminated, that the existing carriers would not drift back to O'Hare, as they had done in the past, each of them finding it in its own interest to concentrate its flights on the airport where its passengers would have the greatest possible likelihood of making connections?

Once again, we confronted the distortions inherent in gradual deregulation. Despite our use of extraordinarily expedited procedures, these applications had been pending for almost two years. In effect, therefore, our certification process was acting like a patent system in reverse: whereas under a patent system, the innovators would have been rewarded for the required public disclosure of their plans with a period of exclusive right to exploit them, under the Federal Aviation Act it would be their already certificated rivals who would be given the head start!

Space will not permit even a summary of the reasons that led us finally to reject this plausible argument. The ultimate consideration was that we were not persuaded it was necessary to grant this period of exclusivity in order to ensure the successful commencement of the service. Instead, therefore, we grasped the opportunity to make our first major grant of universal authority to all applicants, in the belief that this would ensure the fullest and most rapid possible exploitation of the market, and that the competitive market would do a better job than we of deciding what service, and how much, would be economically feasible, and which carriers would be the best equipped to provide it.

But this is not the end of the story. Partly because of the very distortions of the transition that led some of us to think long and hard about giving the innovators a head start, we decided to move even faster and farther than we had originally contemplated. Having decided upon the policy of multiple permissive entry into all the six markets to which we had narrowed the case, in order to make it manageable, we then tentatively decided to extend our permission to an additional seventeen Midway markets by summary procedures (Chicago Midway Expanded Service Proceeding, July 12, 1978). One important consideration was our desire to minimize the undeniable possibility that incumbent carriers would blanket all the available opportunities and so preclude operations by Midway and Midway Southwest. The idea was to open up so many that the incumbents would simply run out of blankets. I was therefore enormously gratified with the reaction to this decision by Midway, which had flatly asserted during the case that it could not get off the ground without exclusive authority. According to the *Wall Street Journal* of July 13, 1976:

> Kenneth Carlson, one of the . . . owners and its marketing vice president, said . . . that by expanding the available routes to 23 from six, the CAB would give Midway Airlines ample market prospects.
>
> "It's going to be harder for [established carriers] to grab us in a bigger fishbowl," Mr. Carlson said.

Precisely as we intended.

The Fourth Problem: Liberalizing Entry When Airport Space Is Inefficiently Rationed. The certification of Colonial Airlines, our third wholly new entrant this year, provides a quite different but even more poignant illustration of the problem of determining what constitutes rationality in an irrational world. Colonial applied for authority to provide commuter service between Morristown Airport, in northern New Jersey, and Washington and Boston. The administrative law judge concluded the service was needed but recommended against certification because Washington National Airport is badly congested at peak hours, its slots are allocated by agreement among the certificated carriers, and there was a real danger that a certificated Colonial, carrying at most fifty-six passengers per flight, would be able to claim a slot at the expense of some other carrier carrying several hundred to or from somewhere else. A rational second-best kind of calculation. In addition, the City of Newark importuned us to turn down the application on the ground that there is excess capacity at Newark Airport nearby.

The basic problem is that airports are for the most part separately owned, that each of them charges landing fees based on its own embedded costs, and that few if any follow peak pricing principles even modestly. So the choices by carriers and passengers of flying times and airports are blithely uninfluenced by what must be vast differences in marginal opportunity costs, except to the extent that rationing by intercarrier agreement produces the same results —which seems extraordinarily unlikely.

We were unwilling to settle for a very poor second best. Therefore we certificated Colonial. In addition, we advised Newark to put pressure on the Port Authority of New York and New Jersey, which operates all three metropolitan airports, to introduce marginal cost pricing—which would mean reducing Newark landing fees sharply and increasing them at the other two; and we began a reconsideration of the antitrust exemption we had been routinely giving the carriers to get together and allocate airport slots. Finally, we initiated consultations with FAA to explore the possibility of devising schemes—preferably rational pricing—to ensure a more efficient allocation of scarce takeoff and landing space. (See Applications of Colonial Airlines, Inc., June 27, 1978, and August 22, 1978.) In this case first best is surely much better than second.

The Fifth Problem: Calibrating the Liberalization of Pricing and Entry. If one is not to remove all controls at once, it is important to try to see to it that controls over price are not removed too fast or too slowly relative to controls over entry. The need for this caution is most obvious in removing price ceilings in the continuing presence of monopoly power.

On the down side, I am not certain that the increasingly permissive attitude that the CAB has taken during the last year toward price reductions—to the point of almost total laissez faire—while new entry by would-be competitors continues to be embroiled in the still maddeningly slow certification process, has not caused us to miss the opportunity for a restructuring of the industry along more competitive lines. It is possible that by permitting incumbent carriers during the last year to introduce a vast variety of discount fares—many of them highly discriminatory and appealing to the same elastic-demand travelers as do the charters and Freddie Lakers—we may have enabled them to foreclose entry into the provision of uniformly low-fare scheduled service by the supplemental carriers, some of whom have been seeking this authority for years.

The final returns are not in on whether we have moved too quickly, although I believe we have not. The pertinent observation, in any event, is that the logic of events has driven us in the direction of trying to synchronize the processes of decontrolling price and entry by speeding up the latter rather than moderating the former—in the direction, once again, of speeding up the transition. Equalizing restrictions turns out to be like equalizing the two sides of a mustache: one can do it much more rapidly by cutting down on the longer side than by extending the shorter one!

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The Sixth Problem: Maintaining an Efficient Balance of Price and Nonprice Competition. It would have been equally undesirable to have liberalized entry more rapidly than pricing.

When I came to the CAB it had pending before it over 600 applications for route authority, of varying degrees of vitality and sincerity. Only a handful of these involved a direct promise of price competition—a small hand with only a few fingers. The others were simply applications to enter given city-pair markets and offer service in competition with a single carrier or very small number of incumbent carriers at the same prices.

One lesson we have learned from the history of airlines is that in the absence of price competition, rivalry among carriers tends to take the form of costly improvements in service, particularly additional scheduling. An increase in the number of carriers in a particular market seems to have been correlated with a decline in load factors—an increase, in other words, in cost-inflating scheduling rivalry—producing an apparently self-justifying equilibrium of high fares, low load factors, and consequently high unit costs. This is not to deprecate the value of service competition. The difficulty is that if passengers are presented with no alternative, higher load factor/lower fare offerings, there is not an effective market determination of whether the service offered is too good.

The complete regulator reacts to this dilemma by extending the regulatory net wider, in order to limit these kinds of competition as well—limiting advertising, controlling scheduling and travel agents' commissions, specifying the sizes of sandwiches and seats and the charge for inflight movies. The regulatory rule is: each time the dyke springs a leak, plug it with one of your fingers; just as a dynamic industry will perpetually find ways of opening new holes in the dyke, so an ingenious regulator will never run out of regulatory fingers.

The efficient way to reverse the process of cost-inflating nonprice rivalry is of course to structure markets competitively and permit suppliers to vie for customers by reducing their prices. The consequence will be to raise break-even load factors and, our experience demonstrates, realized load factors as well.

The upshot of these considerations, as of the others, was therefore a decision on our part to press forward on both fronts as rapidly as possible—relaxing our previously rigid controls on competition in basic fares, while trying to open up entry rapidly enough to give new, price-competing carriers a fair chance to survive, and to make it irrational for incumbents to try to forestall them by anticipatory, predatory price cuts. The beneficial consequences are already there, for anyone to see. (The landmark decision, thus far, is Domestic Passenger Fare Level/Fare Structure Policies, September 5, 1978.)

The Seventh Problem: Discriminatory Price Competition. There are three additional observations that I would like to make about the epidemic of special fares—many of them highly discriminatory—that has broken out during our accelerating process of deregulation.

The first is that many of these fares are not discriminatory at all, but represent a logical reflection of the varying costs of the various kinds of service this industry provides or is in a position to provide. The marginal opportunity costs, both short- and long-run, of providing regular coach service—which carries a reasonable probability of a passenger's being able to get a seat on relatively short notice on a conveniently scheduled flight and with no penalty if he fails to show up at flight time—are much higher than the marginal opportunity costs of standby service, or of carrying a passenger who volunteers to be bumped from an overbooked flight, for sufficient compensation (and we will see more of these, under a new board order requiring the carriers to seek volunteers before resorting to involuntary bumping); or of charter service—where the passenger accepts the risk of a heavy penalty if he has to cancel out, and of the flight not going out at all if not enough seats are sold; or of Super-Saver, Budget, or Super-Apex fares, the number of which made available on each flight is restricted to the number of seats the carrier estimates would otherwise go out empty, and which are in principle therefore in effect anticipatory standby fares.

In contrast with ordinary standbys, however, these last fares on scheduled service also embody very substantial elements of discrimination. Many of the restrictions on their availability, such as minimum length-of-stay requirements, are clearly aimed at confining them to demand-elastic customers and have nothing to do with cost. Moreover, particularly when they were first initiated, the fares were extremely discriminatory geographically, being available only on particularly competitive heavily traveled routes. My second observation, however, is that this accentuating price discrimination is symptomatic of the fact that we are still in the transition from tight regulatory cartelization to effective competition: entry is still not free, and until recently the offer of restricted discount fares was the only kind of price competition the CAB was willing to permit.

And this leads to the third point, which is that as the process of deregulation proceeds, much of the discrimination will tend to disappear. There are already signs that this is happening.

Super-Savers, originally available only between New York, Los Angeles and San Francisco, are now available between all major cities in the United States; and Super-Apexes are available from many major cities in this country to many major points in Europe, no longer just between New York and London. Texas International's Peanut-fares, Continental's Chickenfeed, TWA's No Strings and American's Short Stop are available to all comers in the markets in which they are offered, regardless of size, shape, length of stay, or previous condition of servitude: the only control is that —just like interruptible off-peak sales of gas and electricity—the number of discounted seats varies from flight to flight, depending upon their timing relative to the system peak. British Caledonian has divided its planes on transatlantic flights into three compartments, with fares in each based upon its own implicit load factor, and therefore on the degree of comfort and ease of obtaining advance reservations that it affords, and with further differentiations based upon the presence or absence of cancellation penalties, stop-over privileges, and circuitous routings—all of them genuine cost-determining variables.

And, finally, and most satisfying of all, intensifying competition and the removal of CAB prohibitions are at last producing reductions in the basic fares themselves, on a totally nondiscriminatory basis. That process is only just beginning.

Epilogue: Who Bears the Burden of Proof?

One of the most fascinating aspects of the public policy disputations I have participated in during the last four years is the widespread acceptance of the notion that the burden of proof rests always with the advocates of change —that even if one is dealing with manifestly irrational, if not idiotic, arrangements, the advocate of moving in the direction of rationality is called upon to predict exactly how the process will work out and to prove beyond all doubt that it will work perfectly.

The people who think they will be injured by marginal cost pricing of electricity seem to think their intellectual responsibilities are fulfilled by a ritualistic incantation of the two magic words, "second" and "best," although some condescend to enrich the debate further by finding some economists willing to contribute scornful allusions to neoclassical economics.

Similarly in air transport, people who profess to be in favor of freer competition nevertheless demand from the advocates of deregulation guarantees that no town will lose service, even temporarily; that no carrier will be subjected to unequal competitive pressures because it may have inherited a less favorable route structure than its rivals; that there will, furthermore, be no wastage of fuel, no excessive entry into any market, no injurious discrimination, no bankruptcies, no loss of seniority rights anywhere, no danger of increased concentration, and no impairment of scheduled service. Or they will oppose free entry unless and until the advocates can predict in complete detail how the new pattern of operations will look, while professing to be content to leave the fashioning of the future air system, in its every detail, to the very same Civil Aeronautics Board that stoutly asserts its inability to make those predictions.

The opponents and the faint-hearted entreat us to make all our route awards mandatory, exclusive, and rigidly prescribed. The cartelists and protectionists would have us comprehensively prescribe prices, schedules, the size of sandwiches, the pitch of seats, the charge for inflight movies, and travel agents' commissions.

What has been genuinely illuminating to me, in contrast, is how rich a comprehension I have acquired of the distortions of the transition, and how thoroughly I have as a result been converted to the conclusion that the only way to move is fast. The way to minimize the distortions of the transition, I am now thoroughly convinced, is to make the transition as short as possible.

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The ultimate consequence is already clearly in sight. The view is growing more and more widespread among the carriers themselves: if the CAB no longer provides us with any protection at all or if it exposes us to the distortions of gradual and partial deregulation, would we not be better off with no CAB at all? I wish I could say that I had the foresight to have planned it exactly that way! ■