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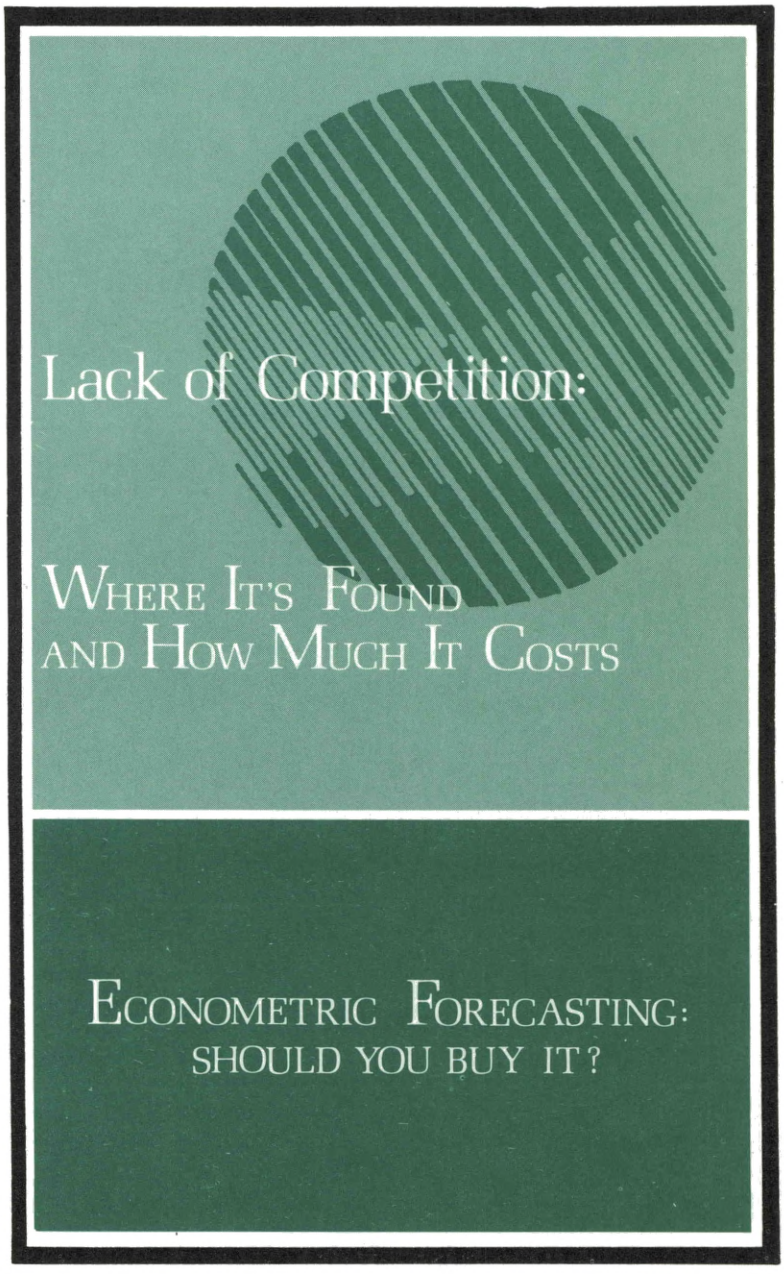

Preserving Discretion in Economic Policy

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The Federal Reserve Bank of Philadelphia is part of the Federal Reserve System—a System which includes twelve regional banks located around the nation as well as the Board of Governors in Washington. The Federal Reserve System was established by Congress in 1913 primarily to manage the nation's monetary affairs. Supporting functions include clearing checks, providing coin and currency to the banking system, acting as banker for the Federal government, supervising commercial banks, and enforcing consumer credit protection laws. In keeping with the Federal Reserve Act, the System is an agency of the Congress, independent administratively of the Executive Branch, and insulated from partisan political pressures. The Federal Reserve is self supporting and regularly makes payments to the United States Treasury from its operating surpluses.

COMMENTARY

Preserving Discretion in Economic Policy

By David P. Eastburn, President
Federal Reserve Bank of Philadelphia

One of the characteristics of these troubled times is a widespread distrust of government officials. I'm not thinking so much of the fact that public opinion polls show Congressmen to be at about the bottom of the list when it comes to peoples' feelings of trust. Rather, I am concerned with the dangerous implications of this attitude for the field in which I happen to work—economic policy.

First is the conviction of more and more people that the only way to get government spending under control is to force outright limitations. There is much argument about what form the limitations should take—balanced budget, some proportion of GNP, etc.—but underlying it all is disillusionment in the ability of government to keep its spending within reasonable bounds.

Second is the increasing popularity of the view that the only way to prevent wide swings in the creation of new money is to require the Federal Reserve to set a target rate of growth for the money supply and stick to it. The idea is identified with Professor Milton Friedman, who for years has been preaching not only that the money supply is a vital determinant of economic activity but also that the Federal Reserve has consistently mismanaged money, producing inflation by letting money grow too fast and recessions by cutting money growth too drastically. He concludes that because the Fed is not smart enough to fine tune the money supply, it had better stick to a fixed growth rate. More and more people agree.

Third is the increasing popularity of gold as a haven for worried investors. As inflation has rampaged and currencies have gyrated, the price of gold has skyrocketed. People of means, looking for a rock of certainty in a sea

of uncertainty, have turned to art, diamonds, antiques, land, but above all, gold. They see it as a commodity that will withstand the follies of government officials. They may wish longingly for a return to the gold standard.

I view all this with misgiving, not just because it is evidence of poor performance by officials (and as one of these I react defensively) but, more importantly, because it would take us back to a world that did not work well. Granted, the one we have is not working well either, but we should be wary about turning back the clock in a desperate search for solidity.

The idea of imposing economic rules on government officials is an old one. The balanced budget is an old rule. Drawing an analogy with personal finance, it said that a government that spends beyond its means is irresponsible. But since Maynard Keynes came on the scene in the thirties, most thinking people have become persuaded that balanced budgets for governments can, at times, be *bad* policy. And so we gradually have gotten used to thinking that discretion, rather than a fixed rule, is a better way to handle government financing.

With Federal Reserve policy, similarly, early thinking was that certain fixed rules—the gold standard, and credit supplied according to the needs of trade—were better than discretion in managing money. Experience taught us otherwise and we now have discretionary monetary policy.

The gold standard is perhaps the oldest rule of all, a rule that necessity has long since jettisoned. Policymakers now manage their currencies by use of discretion.

So we find ourselves in a world of discretionary economic policy, exercised by humans beset with impossible problems, with limited ability to solve them, and faced with a disillusioned public. I wish we public officials would do a better job; but I fear a reaction that would impose old rules on us, most of which have been found wanting, to meet today's problems. What is needed are better officials, more intelligent use of discretion, and more support from the public—not blind support, of course, but support that will encourage policymakers to evolve new ways to use discretion to meet new problems.

All this is easier to say, of course, than to do, but several beginning steps have already been taken. First is Congress's effort in recent years to come to grips with the budget process. This is promising, but it needs time and support to come fully into its own. It is a far more intelligent approach to fiscal discipline than arbitrary limitations. Second, in Federal Reserve policy, is the requirement of the Humphrey-Hawkins Act to specify annual growth rates for money and to account to Congress on results. Earlier requirements to target money growth proved too slippery; Humphrey-Hawkins promises more discipline. Third is the commendable effort to require officials to calculate the costs and benefits of their regulations, the famous success story being deregulation of airlines.

These are some specifics. Two general principles underlie all of them—accountability and performance. The public is only to blame if it fails to hold its officials accountable for their discretionary actions; to complain about "them" is a confession of failure to exercise proper surveillance. At the same time, an essential ingredient of credibility in discretionary policy is good performance. Strict accountability and good performance go together. In combination they should make it possible to exercise discretionary economic policy without resorting to arbitrary and inflexible rules.

Lack of Competition:
Where It's Found and How Much It Costs

*By Timothy Hannan**

The government's long-standing concern over noncompetitive pricing is front-page news again. One widely publicized case is being argued over whether the cereal industry constitutes a shared monopoly for the purpose of deterring market entry by would-be competitors. Another case involves the possibility of AT&T's divestiture of Western Electric. IBM also is enmeshed in a divestiture case, and calls for antitrust actions against the oil companies are being heard from many quarters.

Large amounts of resources are devoted to the competition issue. The IBM and AT&T cases alone will involve millions of dollars and thousands of people over a period of several years. Other efforts in the antitrust area also call for heavy expenditures of money and time.

The object of these efforts is to weaken the pricing power and other effects often associated with the behavior of traditional monopolies—manufacturing firms large enough to dominate a whole industry. But traditional monopolies are not the sole producers of these effects. While the cases that steal the headlines may involve manufacturing industries, it now appears that service industries subject to government regulation may be especially likely to originate these effects. If so, policymakers may be able to get a better return on their consumer-protection dollars by concentrating more of their attentions on the regulated service sector.

A LONG-STANDING BATTLE FOR COMPETITION

The use of government policy to combat noncompetitive behavior has been part of the American political landscape for almost

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ninety years. It all started in 1890 with passage of the Sherman Act—an act which served as the legal foundation for trust busting in the years following its passage. Later, Congress passed the Clayton Act in an effort to restrain the growth of traditional monopolies in their incipiency instead of waiting for them to become full blown. The Trade Commission Act, which set up the Federal Trade Commission, focused on "unfair methods of competition," leaving to policymakers the task of determining what those methods were. These three acts together form the basis of our antitrust laws, and continuing concern has led to important amendments to these laws as new kinds of noncompetitive situations have appeared.

With this concern heating up once again, it's useful to ask what accounts for the resiliency of the issue. A lot of resources have been devoted to the various policy approaches to noncompetitive behavior. Is there a way to evaluate the effectiveness of these approaches and to find out whether other approaches may be even more effective?

TRADITIONAL MONOPOLIES

'Monopoly' means 'one seller'. In a monopoly situation, the supplying individual or firm has no competitors to get in the way of its pricing and sales strategies. While noncompetitive effects can be produced in other ways—where there are so few sellers that they're able to collude in setting prices, or where prices are set by government regulation—it's still useful to consider the case of the traditional monopoly; it provides a familiar point of departure for dealing with other sources of noncompetitive behavior.

The characteristic behavior of traditional monopolies can be seen in the prices they charge for their products and in the amounts they offer for sale. Free from competitors, monopolists find it in their interest to charge a higher price and offer less for sale than they would if competition prevailed.

Fortunately for consumers and policymakers, traditional monopolies usually are hard to maintain for any length of time because their higher prices and profits tend to encourage new competitors to set up shop. In a sense, then, consumers and policymakers have a natural ally in the actions of would-be competitors, and the situation probably would be much more troublesome without this inherent weakness in the position of many temporary monopolies.

Would-be competitors cannot be counted on, however, to save every situation. In some cases, it may be impossible to compete with an established monopolist that controls the supply of a basic input required to manufacture a given product. The classic example of this is the prewar aluminum industry, where the Aluminum Company of America (Alcoa) controlled practically every source of bauxite in the United States. Since bauxite is a necessary input for the production of aluminum, Alcoa was able to remain the sole producer of aluminum for many years. Inability to compete with established monopolies may result also from certain industry production processes which make small competitors much less efficient than a large established firm.

Government regulation may produce an analogous situation by prohibiting market entry—as it has in the airline industry, for instance, where would-be competitors have been excluded from profitable markets. (Such barriers may be falling, given the current trend toward deregulation in the airline industry.) Where entry by new competitors is difficult, whatever the reason, noncompetitive behavior can persist.

SOCIAL CONSEQUENCES OF NONCOMPETITIVE BEHAVIOR

The ability to raise prices (and profits) and to reduce amounts offered for sale has been thought to have an adverse impact on the political process, on the distribution of income, and (of particular importance to economists) on economic efficiency.

Its political consequences are hard to assess with certainty and probably are impossible to quantify. But many believe that economic power unchecked by competition can lead to an undue influence on the political process, perhaps through lobbying or other efforts. Worry over such political influence may have played a role in the passage of antitrust legislation.

The fairness of the income redistribution occasioned by noncompetitive behavior is another concern. Some argue that artificially high profits represent a redistribution of income from the consuming public at large to the producers who set prices; and since those producers may be richer on average than consumers at large, income may be transferred from the less affluent to the more affluent. Others argue that the income redistribution caused in this way is insignificant.

Concern over what happens to the incomes of different people is fundamental to many public issues, and this issue is no exception. Even though it's quite difficult to determine the extent of income redistribution occasioned by noncompetitive pricing, many clearly regard the issue as a potentially significant one.

Further, such pricing can result in economic inefficiency. While inefficiency may not be the primary reason for popular concern, it has received the most concentrated study. Among the different kinds of inefficiency that have been thought to result, allocative inefficiency has struck economists as especially important.

To illustrate: Suppose for a moment that the economy is divided into two sectors, one of which is competitive while the other is characterized by lack of competition. Since firms in a noncompetitive setting tend to produce less and offer less for sale than firms in a competitive environment (something they must do in order to maintain a higher price), too few resources are allocated to the sector they control. As a result, too many resources are allocated to the competitive sector. In such a situation, if resources (scarce land, labor, and other things necessary for production) could be taken out of the competitive sector and put into the noncompetitive sector, society as a whole would be better off. Because noncompetitive behavior does not allow this transfer to happen, it brings about a real economic cost. It leads to an allocation of resources which is inefficient because it satisfies consumer demand with less than maximum effectiveness.

Thus it's clear that while noncompetitive behavior could have an undesirable effect on political life and income distribution, it also could impose real efficiency costs on society.

HOW MUCH DOES IT COST?

Attempts actually to estimate the economic cost of noncompetitive behavior have come only recently. This delay may have been caused by the late development of the theory that makes such estimates possible, or perhaps it was caused by the paucity of appropriate data in earlier periods. Whatever the reasons, empirical estimates of the economic burden now occupy the attention of many economists.

The Harberger Analysis. The first study to provide an estimate of this loss was conducted by Arnold Harberger in the 1950s.[1] In an attempt to measure how much allocative inefficiency it causes in the manufacturing sector, Harberger estimated price increases that he believed could be attributed to monopoly power. Using these estimates and industry sales data, along with an assumption about how consumer buying patterns change when prices change, Harberger came up with a result that probably surprised a lot of people. His calculations suggested that the net loss from the exercise of monopoly power in the manufacturing sector came to no more than one-tenth of one percent of the Gross National Product—only enough to give

[1]See Arnold C. Harberger, "Monopoly and Resource Allocation," *American Economic Review* (May 1954), pp. 77-87.

every family in America a good steak dinner, by one economist's figuring. Similar studies using different data and slightly different methods soon followed, but most found pretty much the same things. Measured in this way, the net loss appeared to be too small to get excited about.

Some Additional Considerations. While many critics suggested that the Harberger analysis understated the true cost of monopoly, two attacks on his kind of analysis seem especially pertinent to policy. The first concerns the possibility that traditional monopolies cause appreciable economic losses in addition to the misallocation of resources that Harberger worried about. The second asks whether Harberger, in examining the manufacturing sector, really was looking in the right spot.

It's possible that traditional monopolists just plain waste resources, especially if, as many believe, they are less diligent than competitive firms in controlling their costs. There is reason to believe also that they have to use substantial amounts of resources to obtain and maintain monopoly power. Firms that agree to collude have to spend a lot of time and effort coordinating their activities and guarding against attempts to cheat on the agreement. Even the act of getting a monopoly may involve large expenditures to obtain crucial patents or government-bestowed franchises.

Resources used for these purposes are being used in a socially wasteful way, and if their amount is substantial, then the true economic cost may be substantially greater than that calculated by Harberger.

In an attempt to account for some of this additional cost, Richard Posner recently has calculated that monopoly power in mining and manufacturing accounts for a net loss of about 0.6 percent of the Gross National Product.[2] While this too is not a shocking figure, it suggests that the loss from monopoly is many times larger than indicated by the earlier estimates.

The second pertinent criticism of Harberger's analysis is that, while his original estimates were confined solely to the manufacturing sector, more evidence is coming to light that noncompetitive pricing may occur in its severest form in other sectors. In Harberger's sample of manufacturing industries, the average increment in prices caused by monopoly power came to little more than six percent, with some increments much smaller. Figure 1 shows some examples. While not all economists may agree on the precise method for calculating such price increases, those, like Harberger, who have attempted the calculations usually have come up with rather small figures. Even the celebrated electrical equipment conspiracy, for instance, which is one of the most durable and successful conspiracies on record in the manu-

FIGURE 1

MONOPOLY PRICE DISTORTIONS ARE RELATIVELY LOW IN MANUFACTURING INDUSTRIES*

Industry	Percentage Increment in Price
Bakery Products	5.6
Packaged Foods	3.5
Knit Goods	2.0
Furniture	2.2
Paints	3.4
Wire and Nails	1.2
Scientific Instruments	13.1

*Figures adjusted to yield the percentage price increase over the competitive price.

SOURCE: Harberger, p. 80.

[2]Richard A. Posner, "The Social Cost of Monopoly and Regulation," *Journal of Political Economy* 83 (August 1975), pp. 807-827.

facturing sector, apparently succeeded in raising prices by less than 10 percent on average.[3]

Where then are the worst offenders? Strange as it seems, service industries that are subject to government regulation may be more successful at boosting prices and restricting output to noncompetitive levels than the unregulated industries in the manufacturing sector. Regulatory controls over advertising, market entry, and pricing can drive prices up appreciably. Figure 2 presents estimates of the degree by which prices in a number of such industries exceed competitive levels. Taken from several different sources, these estimates vary in reliability and should not be accepted as definitive. They suggest, however, that large monopoly-like price distortions do occur in regulated industries, with prices estimated to be more than 60 percent above competitive levels in some cases.

Why this relatively poor performance on the part of regulated industries? Apparently because entry by new firms is restricted, price competition in the industry is discouraged, and efforts to agree on a mutual price are not subject to antitrust enforcement. This is a situation in which prices might be expected to be artifically high, since noncompetitive pricing is punished neither through the entry of new competitors nor through strong antitrust enforcement.[4]

Posner calculates the economic cost of noncompetitive behavior in the regulated sector to be in the neighborhood of 1.7 percent of the Gross National Product. This is appreciably greater than his estimate for

FIGURE 2

MONOPOLY-LIKE DISTORTIONS ARE HIGHER IN REGULATED INDUSTRIES

Industry	Percentage Increment in Price
Physicians' Services	40*
Eyeglasses	34†
Motor Carriers	62‡
Airlines	66§
Taxicabs	16¶

*R.A. Kessel, "Higher Education and the Nation's Health: A Review of the Carnegie Commission Report on Medical Education," *Journal of Law and Economics* 15 (1972), p. 119.

†L. Benham, "Price Structure and Professional Control of Information," mimeograph, University of Chicago Graduate School of Business, 1973, p. 19.

‡Average of estimates in U.S. Department of Agriculture studies cited in T.G. Moore, *Freight Transportation Regulation* (Washington: American Enterprise Institute, 1972), and R.N. Farmer, "The Case for Unregulated Truck Transportation," *Journal of Farm Economics* 46 (1964), pp. 398-409.

§Average of estimates computed from R.E. Caves, *Air Transport and Its Regulators* (Cambridge: Harvard University Press, 1972), p. 372; W.A. Jordan, *Airline Regulation in America* (Baltimore: Johns Hopkins University Press, 1979), pp. 110-111, 124-125; and "Is Regulation Necessary? California Air Transportation and National Regulatory Policy," *Yale Law Journal* 74 (1965), pp. 1435-1436. (This and the three previous estimates were taken from a table compiled by Posner, p. 818.)

¶Computed from estimates for Chicago presented in E.W. Kitch, M. Isaacson, and D. Kasper, "The Regulation of Taxicabs in Chicago," *Journal of Law and Economics* 14 (October 1971), p. 301.

[3]U.S. Congress, Joint Committee on Internal Revenue Taxation, *Staff Study of Income Tax Treatment of Treble Damage Payments under the Antitrust Laws*, Washington, Government Printing Office, 1965, p. 39.

[4]In most respects, regulation of the banking industry is not of this type. While there are some regulatory restrictions on the establishment of new banks, antitrust laws are enforced vigorously in an effort to keep banking markets competitive.

the mining and manufacturing sectors. Calculations such as these are speculative and may miss the mark in the case of some industries. They do suggest, however, that lack of competition in the American economy may carry an appreciably higher price tag than previously believed and that a good chunk of the excess may occur in regulated industries.

POLICY EMPHASES

Findings of this kind are useful in devising an appropriate policy response because they help indicate the magnitude of the loss caused by noncompetitive behavior and they point to the areas of the economy which are especially vulnerable to it. Put differently, they identify the gains that may result from devoting scarce resources to corrective efforts. The question is how these gains can be captured most efficiently.

Policymakers can focus on either the behavior of individual firms in an industry or on the structure of the industry overall. The behavioral approach is designed to punish price fixing and other kinds of anticompetitive conduct after they have occurred, and its most frequently used device is the antitrust suit. The structural approach has a different rationale—to maintain industries more or less free of anticompetitive behavior by keeping enough firms in the industry to insure competitive behavior. Suits are used in this approach, too, but usually to prevent a merger that would eliminate a strong competitor and thereby reduce competition.

Whatever the underlying rationale, though, antitrust suits tend to be expensive. Huge amounts of resources may be required to pursue just one antitrust case through the courts. An example is the ongoing AT&T case, where just one part of the litigation is expected to cost about $100 million dollars on the AT&T side alone.[5] Both the Federal Trade Commission and the Justice Department's Antitrust Division, with 1978 budgets estimated at $66 million and $46 million, respectively, also devote substantial resources to such cases.[6] And then there's the time factor: cases such as these can require many years of litigation.

Because of the cost, policymakers have to be rather picky in choosing their cases and in determining the most appropriate method of attack. The governing principle is to put policy resources where they are likely to produce the largest return. While in some cases the largest return may come from bringing actions such as the highly publicized antitrust cases currently in the courts, in other situations the most effective way of reducing the burden of noncompetitive behavior may involve another approach.

One new twist on the structural approach can be seen in recent legislative proposals which, if enacted, could prohibit mergers of firms with $2 billion or more in assets unless those firms could show that the mergers would produce significant competitive benefits. Another new twist is apparent in efforts to roll back rules that restrict entry or set prices in the regulated sector. Deregulation could be an effective procompetitive tool and could offer a relatively cheap way of getting a big reduction in monopoly-like pricing behavior. It already has shown real promise in the airline industry, for example, where the lifting of anticompetitive regulations has lowered fares for consumers. And the trucking industry may offer another opportunity for increasing competition through deregulation.

There are many ways to attack the effects of noncompetitive behavior, and the most efficient ones are those that yield the most benefit for the least cost. Recent experience suggests that increased emphasis on regulatory change may pay the biggest dividends.

[5] Statement by William C. Cashel, *Wall Street Journal*, December 1, 1977, p. 26.

[6] *Budget of the United States Government, 1979, Appendix*, Washington, Government Printing Office, 1978.

SUMMARY

The largest antitrust cases currently in the news reflect a long-standing concern over traditional monopoly. The reason for this concern is that noncompetitive behavior imposes costs on society, and the antitrust suit is an attempt to reduce those costs. But traditional monopoly is not the only source of noncompetitive behavior, and the antitrust suit is not the only weapon in the arsenal. Picking the most desirable array of weapons to use in the battle requires information on how significant the costs of monopoly-like behavior are and in what sectors of the economy those costs are likely to be the largest. Based on the most recent research, it seems that several different methods of eliminating noncompetitive behavior are worthwhile and that regulatory changes may offer a particularly large payoff.

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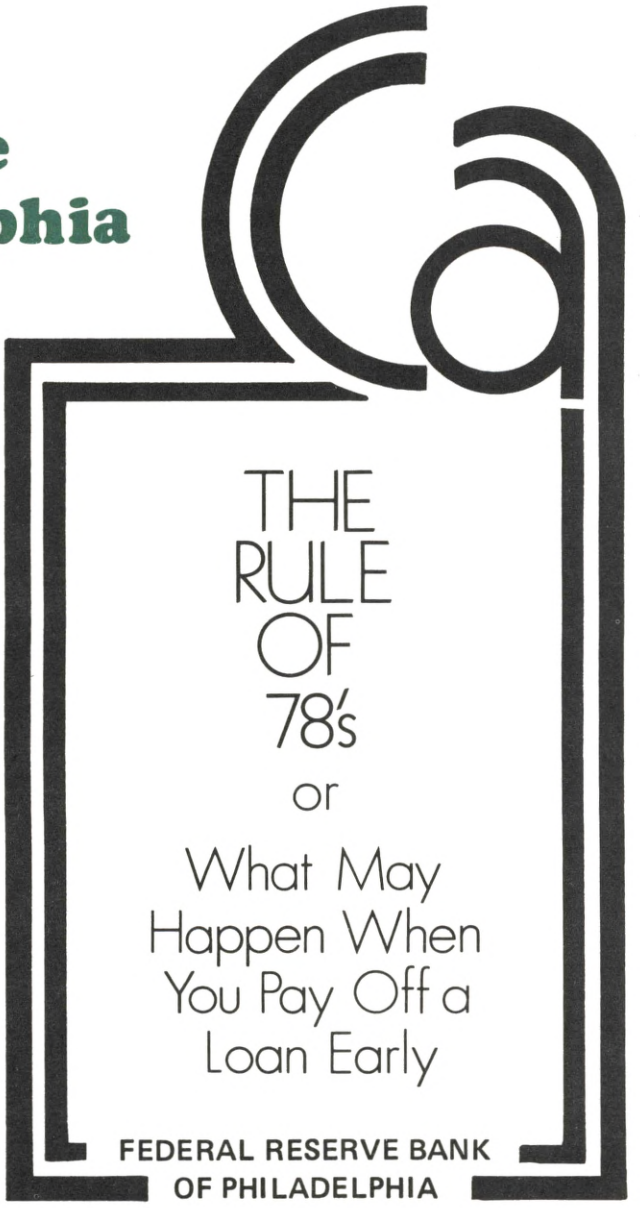

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Econometric Forecasting: Should You Buy It?

*By Nariman Behravesh and John J. Mulhern**

Forecasting the economy, if you haven't already noticed, is a growth industry. Recent years have seen a proliferation of forecasters and forecasting methods. In the vanguard of this boom have been a few commercial econometric forecasters whose clients have more than doubled in the past five years and whose revenues now amount to tens of millions of dollars annually.

What accounts for this unprecedented growth? Certainly the novelty of econometric forecasts and the variety of services forecasters provide explain part of it. But a more fundamental factor behind the rapid growth in the demand for forecasts may be the increased uncertainty in the economic environment over the past few years. Models, with their ability to track massive amounts of information, appear to offer a measure of relief from uncertainty. Thus, for a great many banks, other businesses, and government agencies, the increased availability of forecasting services plus the pressing need for more accurate economic information have made the acquisition of econometric predictions worthwhile.

Under what circumstances should you buy one of the forecasts now being marketed? That depends on the accuracy, accessibility, and relevance of the forecasts, as well as on the state of the economy overall and the market information otherwise available. The benefit obtained from such predictions must outweigh their cost to justify a decision to buy.

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INFORMATION . . . AT A PRICE

The art of forecasting has come a long way from isolated intuitive judgments about upcoming economic conditions. Sophisticated econometric methods now have become the basis of many commercially available forecasts, the simplest and cheapest as well as the most complex and expensive.

Models and What They Do. Econometric models are mathematical representations of the economy or of its parts—sets of equations that describe the interactions of key economic forces.[1] By using these models, forecasters can measure or estimate the impact of one key change, such as a wage or price increase, on an industry or on the economy as a whole. The broad-based or macro models used by the big forecasters may include hundreds of equations. One very large model of the U.S. economy, for example, consists of some 800 equations.[2]

Two features of econometric models make them especially useful as forecasting tools. First, because of the logic of their construction, judgmental information can be imposed on them easily and explicitly. Thus forecasters can have the advantage of using sophisticated models already built without sacrificing their own experience-based opinions. Second, it is very easy to explore realistic What If scenarios with these models. As long as the structure of the models corresponds closely to that of the economy over recent decades, tracing through the likely impact of higher interest rates, wage-price controls, or a tax cut, for example, presents few difficulties.

Because models are based on the economy's historical performance, they are not reliable guides to what would happen in unusual or unprecedented scenarios. Asking the model what would result if taxes were cut far more radically than they have been in recent years, for instance, may evoke a misleading answer. Models can be abused. But when they are used discreetly and over not too long a horizon, they can be reliable aids to the forecaster. Thus models have a lot to offer the business or government planner.

Prepackaged Forecasts. For a relatively small consideration, the buyer can obtain any number of packaged forecasts. Some of these appear in newsletter form, others are in the form of computer printouts. The packaged services vendors offer range all the way from quarterly macroeconomic forecasts to more narrowly focused energy forecasts and agricultural forecasts. And the cost of subscribing to them may run anywhere from a few hundred dollars to a few thousand, depending on the detail of the forecast and the effort needed to generate it.

Prepackaged forecasts don't allow the client to participate in the forecasting process or to change the forecast in any way. But that's no obstacle to the typical customer for this kind of service, who either does not have the resources to get involved in making predictions or does not consider it worthwhile to subscribe to a higher level of forecasting services.

Access to Econometric Models. The popularity and profits enjoyed by econometric forecasters come from allowing clients to access models and tinker with forecasts. The client who wants access to commercial econometric models typically either disagrees with the judgmental information imposed on the models by the forecaster or wishes to explore What If scenarios, such as the effect that reimposition of wage-price controls would have on corporate profits and return on investment.

For the privilege of tinkering with models and generating tailor-made forecasts, firms pay tens of thousands of dollars. The cost depends on how many models the client wants to fiddle with, and how often. Firms that are interested in devoting resources to forecasting usually are large and can afford

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[1] See Nariman Behravesh, "Forecasting the Economy with Mathematical Models: Is It Worth the Effort?" *Business Review*, Federal Reserve Bank of Philadelphia, July/August 1975.

[2] *New York Times*, January 8, 1978.

the staffs needed to run the models.

Customized Models. In many cases, even this higher level of service won't satisfy a firm's requirements, because the available models don't predict the variables that are most important to it. In cases like this, the vendor may build a satellite model which is tied to an existing model but which also predicts the variables that do interest the client. The cost of buying a satellite is very high, but some firms find it worthwhile for their complex and long-range strategic planning. Some utility companies, for example, may use such models to generate load forecasts.[3]

Thus commercial forecasters provide a menu of services, and clients have considerable leeway in choosing the services best suited to their interests and budgets.

DIFFERENT FORECASTS, DIFFERENT ADVANTAGES

The choice among forecasts depends on such features as accuracy and suitability to the requirements of the user. Whether to generate forecasts in house or pay for a commercial forecast depends on how much of a comparative advantage the commercial forecaster has in predicting and how much specialized information the client has which is not easily transferable to the forecaster. In some cases, a client's forecasting needs may be satisfied easily by outside predictions; in other cases, only inside forecasts may prove valuable.

Accuracy. However the forecast is generated, it is valuable only if it is at least as accurate as comparable forecasts. Judging predictions on the basis of their accuracy may not be easy. Fair assessments of accuracy require looking at long track records, which are not always available. Nevertheless, attempts have been made to assess the accuracy of publicly available forecasts of the economy. These studies suggest that some methods of prediction may have a slight advantage over others.[4] But the method is not the whole story: information volume counts, too. The most accurate forecasts are the ones that rely on the most complete information.[5] Consequently, successful forecasting usually involves combining different prediction methods.

Many forecasters admit that their predictions consist of roughly equal mixtures of econometric model inputs and judgmental inputs. This has been the case, for example, at the Federal Reserve Bank of Philadelphia, where the MIT-PENN-SSRC model has been modified by the judgments of three staff forecasters. There does indeed seem to be an advantage in eclecticism.

Most of the commercial forecasters who combine judgment and econometrics have similar track records. One may have an edge in predicting this or that set of variables, but none can claim superior prescience overall. And so many firms subscribe to more than one forecast in the hope of being assured access to the most accurate predictions. Thus the choice among the top-rated commercial forecasters often is made on the basis of criteria other than accuracy.

Other Criteria. Before subscribing to a forecast, prospective users need to know how many of the variables relevant to their own decisionmaking it predicts. Although predictions of inflation and unemployment may be of primary interest at the national policy level, they may not provide the information required for decisionmaking at individual firms or agencies. In an attempt to

[3] *Business Week*, November 7, 1977.

[4] Stephen K. McNees has published a number of evaluations of forecasts in the *New England Economic Review*, and Vincent and Josephine Su have written a number of articles for the National Bureau of Economic Research on this subject.

[5] See Nariman Behravesh, "Forecasting Inflation: Does the Method Make a Difference?" *Business Review*, Federal Reserve Bank of Philadelphia, September/October 1976, and R. T. Falconer, C. M. Sivesind, "Dealing with Conflicting Forecasts: The Eclectic Advantage," *Business Economics*, September 1977.

attract more of these smaller customers, many econometric forecasters have expanded their models to include more industry detail and other specialized data. It still remains to be seen whether the consequent increase in the size of the models (and the associated increase in the cost of running them) will pay off in more accurate forecasts.

The frequency with which predictions are made also is of great importance to decision-makers. From their point of view, the timing of the forecasts should coincide with the timing of the major decisions to be made. From the forecast vendor's point of view, the frequency of prediction depends on how often new information is released. Most macroeconomic forecasting models are based on quarterly data and, therefore, generate new predictions once a quarter. But as the data are revised and as new monthly or weekly data become available, the quarterly macroeconomic forecasts may be updated quite frequently. At least one of the commercial econometric forecasters has an annual model which is advertised as a tool for long-run planning. At present, weekly or monthly models of macroeconomic activity are not well developed and are, therefore, unreliable. The choice of frequency depends largely on the cost of predicting more often versus the extra information that can be obtained from each new forecast.

The frequency of forecasts is related to their horizons. Long-term decisions require forecasts with long horizons. One major electrical equipment manufacturer, for example, has developed a model which helps it forecast energy requirements and resource availability out through the end of the century and even beyond.[6] Such a model could make the difference when basic business decisions are being made, and its applications to government planning also are obvious.

It is only recently that some commercial forecasters have devoted substantial resources to long-term forecasting; consequently, the errors from their predictions continue to be very large. But since econometric forecasting still is in its infancy, the choices with regard to types of variables predicted, frequency, and horizons of forecasts can be expected to widen.

TO BUY OR NOT TO BUY?

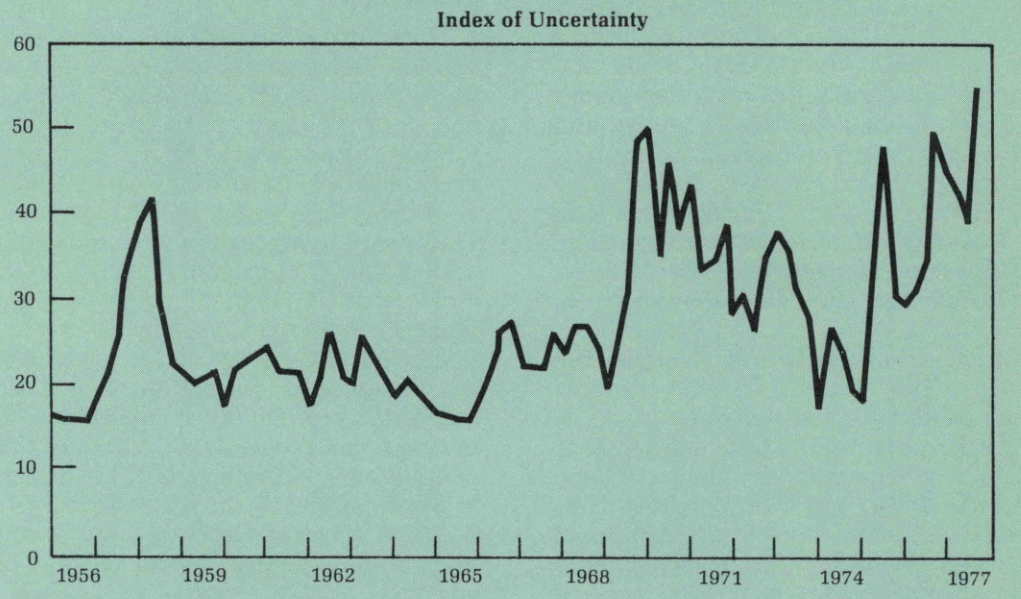
Whether to allocate resources to forecasting is a question of profitability for private firms and of cost effectiveness for government bodies. When are the costs of a forecast outweighed by the ability it confers to make better decisions? Two important factors influencing this choice are general economic conditions and the types of information otherwise available to the user through the markets in which it operates.

Increased Uncertainty Increases the Demand for Forecasts. In recent years, uncertainty about inflation and energy supplies has encouraged decisionmakers to try to acquire as much information about the future as possible (see RELATIVELY HIGH LEVELS OF UNCERTAINTY). It isn't unusual now for firms to look at more than one forecast in an attempt to sample different opinions about the outlook. And a number of firms have found it profitable to collect forecasts and market the information gleaned from them. Also, many newspapers, magazines, and electronic media regularly survey the leading forecasters.

A good deal of information about the future of the economy as a whole is available for free or at a nominal charge. Government agencies, such as the Department of Commerce, are continuously publishing assessments of the economy. And a number of academic and private organizations make their views on the future of the economy available for small fees. Provided these forecasts are as accurate as predictions made by commercial forecasters, it would be unprofitable to pay for the commercial forecasts. Unfortunately, such publicly available forecasts cover only a limited number of variables,

[6] *Financial Times*, June 21, 1977.

RELATIVELY HIGH LEVELS OF UNCERTAINTY PREVAIL IN THE 1970s



SOURCE: Adapted from George Katona, "Behavioral Economics," *Challenge*, September/October 1978, p. 17. Katona's index reflects expectations about private welfare and business conditions one year out and business conditions five years out.

such as inflation, unemployment, and real growth.

Some Markets Provide Information About the Future. Futures markets in commodities, foreign exchange, and government securities implicitly provide information about the future prices of goods. In a futures market, buyers and sellers contract to buy or sell goods at some future date—July 1980, for example—at a price agreed upon today. Information that has any bearing on future movements in these markets is quickly reflected in prices. If new information becomes available suggesting that, say, next year's wheat crop will be smaller than previously anticipated, wheat prices in the futures market should rise. If the futures price didn't increase, anyone could profit by agreeing to buy wheat for delivery in July 1980 at previously anticipated futures prices, then turning around and selling it on that date at the higher price now expected to prevail at that time. Economists contend that such obviously profitable opportunities cannot go unnoticed and that this accounts for the link between changes in information and changes in futures prices.

Is it worthwhile to make price forecasts for goods or assets that are traded on futures markets? The answer depends on whether the forecaster thinks he can predict the future better than the market does by a margin that exceeds his cost of forecasting. The market's forecast is really a weighted average of the forecasts of those who currently are taking trading positions; and much evidence suggests that this weighted-average forecast efficiently takes account of readily

available information. Hence, unless one has some specialized information, it will be quite difficult to outperform the market. In this situation, forecasting will not be worth the effort and one should rely on the futures prices published in the financial press.

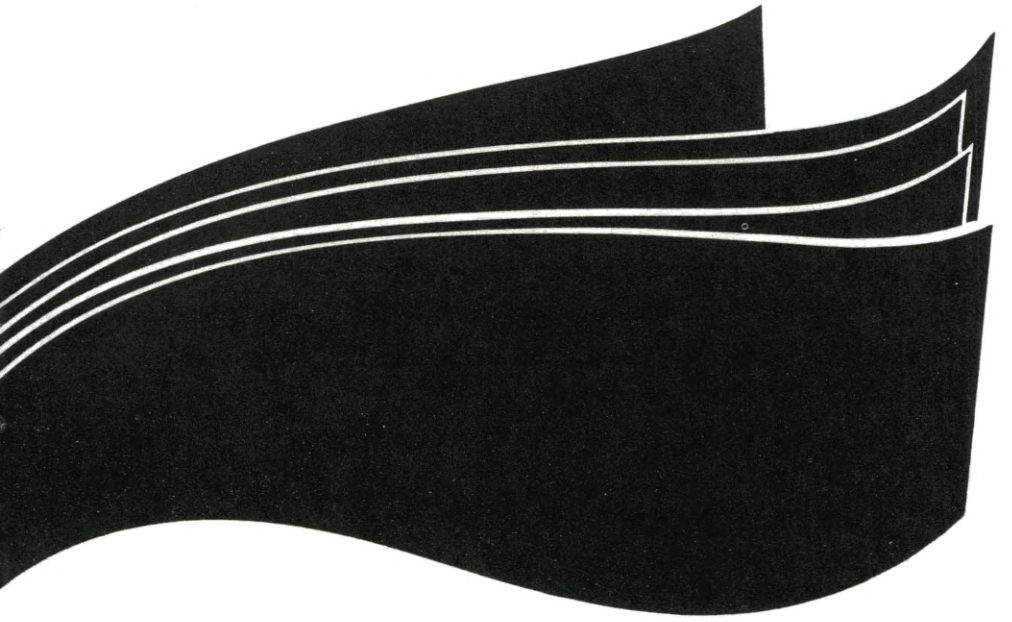
For many goods produced in the economy there are no futures markets, however, and here there may be a larger payoff to forecasting. In other words, in markets where information is not cheaply available, firms who have access to accurate forecasts stand to gain. In such circumstances, the benefits from forecasting may well outweigh the costs.

In the end, whether a firm can benefit from buying a given level of forecast services depends on the amount and type of information it can obtain easily from other sources about its own markets and about the economy as a whole. It's a matter of weighing costs and benefits. If the value of the additional information provided by forecasts exceeds the cost, then paying for the information will be worthwhile. Once this determination is made, then the firm may decide to generate its own forecasts or to contract for one or more of the many available commercial forecasts—again, a matter of deciding on the basis of costs and benefits.

SUMMING UP

Thus the decision to buy an econometric forecast is not always an easy one. Many forecast vendors are eager to sell their wares, and many prospective users are ready to pay for them. But there is no guarantee that a given level of forecasting services will answer every firm's or agency's requirements. The point of forecasting is to obtain information, and information is just one kind of input in the decisionmaking process. Sometimes it's a very costly input.

Whether it's worthwhile to spend a great deal of money on information depends on the outcome in profitability or cost effectiveness. In many smaller operations, accessing models will not be justified on a cost basis. But for some firms and agencies, especially those that deal with an extremely large volume of information and those that make broad-based business or policy plans, buying a high level of econometric forecasting services may have a lot to offer. In fact, it may make life a good deal easier for the executive planner.



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