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MARKET STRUCTURE AND STABILIZATION POLICY

John Kenneth Galbraith¹

ALTHOUGH such generalizations must always be made with caution, differences in market structure — differing degrees of monopoly and competitiveness — have not usually been thought of central importance in their bearing on general price movements. It has been customary to assume broad homogeneity of product markets — the labor market is ordinarily treated as a special case — and the particular assumptions have not been considered decisive for the analysis. Certainly in the Keynesian tradition market structures have been assigned a secondary role as compared with the aggregative relation of demand to the level of employment and the current capacity of the economy.

At least one reason for the small importance attached to market structure in macroeconomic analysis is the historic division of labor in economics itself. Analysis of the market relationships of the firm and industry has been conducted in one compartment, that generally identified with value and price theory and industrial organization. The aggregative analysis is the offspring of money, banking, and business cycle analysis. As Fellner has observed, "The process of including problems of cost-price structure in the theory of employment is still in its early stages." Aggregative analysis "is frequently made to proceed on the assumption of a given cost-price structure. . . . At the same time, value theory typically proceeds on the assumption of a given aggregate output and employment."²

¹ I am grateful to numerous of my colleagues — Professors Abram Bergson, Seymour E. Harris, Richard H. Holton, Arthur Smithies, and Jan Tinbergen, and Mr. John Pincus — for comments and suggestions, and similarly to the members of the staff seminar of the RAND Corporation where I first offered these ideas. Needless to say, all are accorded the usual discharge from responsibility.

² William Fellner, *A Survey of Contemporary Economics* (Philadelphia, 1948), 86. An important recent exception is Donald Patinkin's *Money, Interest and Prices* (Evanston, 1955). However, Professor Patinkin is not much concerned with the problems here under discussion.

A very suggestive article which anticipates several of the points made here is Professor E. S. Mason's "Competition, Price Policy, and High-Level Stability." This paper was originally given before the Second 1947 Economic Institute of the United States Chamber of Commerce and is now available in *Economic Concentration and the Monop-*

The bearing of market structure on the efficacy of monetary and fiscal policy is, if anything, even less explored territory. In 1955 and 1956 there were widespread complaints from farmers and small businessmen that monetary policy was adversely affecting their development. No similar protest was evident in the case of large firms.³ Again, however, there has been little substantial analysis. Most of the outcry was dismissed as the inevitable reaction to a necessarily painful policy.⁴

I

I should like to begin by sketching briefly the empirical setting of the problem. Neither this nor the later discussion implies any forecast as to the persistence of the price movements under discussion. This analysis leads to doubts as to the efficacy of present weapons of economic control. It is *not* a corollary that the investment boom, which is at a high pitch as this is written, will last forever.

Between 1951 and 1956 there was a marked divergence in the movements of different price series for domestically produced products. At least on superficial view, these coincided with broad differences in market structure in the economy. Following the upsurge of prices in late 1950 and early 1951, the prices of durable manufactures remained strong. In a number of individual series there was a moderate reduction in 1952, following which there was a

oly Problem (Harvard Economic Studies C; Cambridge, 1957), 168-95.

³ Professor Sumner H. Slichter has called attention to probable discrimination and damage in the long-continued application of credit restraint, and he has cited especially the case of new and small enterprises. (Letter to the *New York Times*, 30 December 1956.) The problem received some attention in the Executive messages to the present Congress.

⁴ I have touched on the relation of market structure to macroeconomic policy on two previous occasions. In my *Theory of Price Control* (Cambridge, 1952), I have related different market structures to the problems of price control and to product maximization in an inflationary context. In *American Capitalism* (Boston, 1952; rev. ed., 1955), I have anticipated part of the present discussion by arguing that the inflationary dynamic of the organized and monopolistic sector of the economy is important in the inflationary process and also that it limits the effectiveness of fiscal and monetary controls.

further increase. For a number of important products, most notably steel and steel mill products, a large number of metal products, and most machinery, there was no reduction at all. Prices continued to gain steadily after 1951. In September 1956, prices of semi-finished steel products were 183.1 per cent of their 1947-49 average; finished steel products prices were 168.7. Metal-working machinery was 159.6 per cent, electrical machinery 140.3 per cent. For consumer's goods — a point of some importance — the increase, though substantial, was somewhat less. For example, passenger cars in September were 131.1 per cent of the 1947-49 average. Furniture and other durables were 119.7 per cent.

In sharp contrast, several important series fell steadily after 1951, at least until 1956. The leading case, of course, was farm products which averaged 113.4 in 1951 (and reached a monthly peak of 117.6 in March of that year) and by December 1955 had fallen to 82.9, and which stood at 90.1 in September 1956. Cotton products by the latter date had fallen to 91.5, synthetic textile products to 80.4, and apparel of all kinds to 99.7. Despite the fall in farm products, processed foods as a group declined only moderately from an average of 111.4 in 1951 to 101.7 in 1955, with a gain to 104.0 by September 1956. However, this average covers some highly divergent movements. Thus bread in September 1956 (New York) was 144.6; flour (Minneapolis) was 97.5; butter was 87.8; condensed milk was 120.7.⁵

The contrast between this inflationary movement and those of World War II and the Korean War will be evident. In both of the earlier periods farm, food, and textile⁶ prices rose rapidly; the increase in the prices of durable manufactured products was much more gradual. In recent years it is the prices of manufactured durable products that have increased, although the pace, as before, has continued to

⁵ The figures given in each case are for the month of September. (U.S. Department of Labor, *Wholesale Prices and Price Indexes*.) The list of the series that have fallen is not exhaustive; a great number of individual products, ranging from streptomycin to television receivers, reflect in their prices major technological changes or rapid market development during the period.

⁶ With the exception of synthetics, which increased but slightly and soon resumed what seems to be a secular decline.

be deliberate. Farm, textile, and apparel prices remained relatively stable or they declined.

Something accounts for these divergent movements. In a broad empirical view, the dividing line seems to be between a part of the economy where firms are usually numerous and market control is slight and the part where concentration is greater and the incidence of market control greater. The distinction seems even to carry into individual markets. While farm prices, where market control is slight, went down, manufactured food prices, where concentration is much greater, remained nearly stable and the processing margin increased sharply.

Writing in 1947, and contrasting the rapid increase in preceding months in "grains, poultry, and dairy products, textile fabrics, lumber and other items produced in what we are accustomed to call competitive markets" with the much smaller rate of increase in prices of "iron and steel, petroleum products, heavy chemical, aluminum, glass or other items produced in the highly concentrated industrial sectors of the economy," Professor Mason concluded that the "explanation of differences in price behavior and in price policies is to be found mainly in the differences of structure of different product and service markets."⁷ On general view, the differences in structure would still seem to explain the differences in price behavior with the difference that in the later period it is the products of the concentrated sector that have been rising while those of the competitive sector have been relatively stable.

If market structure has a bearing on inflationary price behavior, then the further question arises whether it bears also on the effectiveness of controls. This question gains point because in 1955 and 1956 monetary policy was applied with indifferent success, measured by the usual test of results. And increasingly it was suggested that the failure, or at least the lack of success, lay in the area of wage-price relationships. "The monetary authorities cannot be expected to do their job *without the cooperation of management and labor*."⁸ Such

⁷ *Economic Concentration and the Monopoly Problem*, op. cit., 170.

⁸ J. Cameron Thompson, *The Realities of Tight Money* (Committee for Economic Development; New York, 1956). The italics are mine. Essentially the same observation was

observations imply a specific type of market structure, one in which the labor market is organized and in which management has a measurable control over prices. Were it not so — were there no unions and were individual producers powerless in relation to prices as in the case of agriculture — then it would be meaningless to talk about such cooperation.

Finally, especially during 1956, there were the numerous complaints by farmers and small businessmen about the effect of monetary policy on their operations. There was evidence to support their complaints. The number of business failures — effectively those of smaller concerns — rose somewhat in a period of general prosperity.⁹ Earnings of smaller manufacturing corporations were low and showed no perceptible trend at a time when earnings of larger firms were highly favorable.¹⁰ Between the final quarter of 1954 and the second quarter of 1956, the gross investment in property, plant, and equipment of firms with assets of less than \$1,000,000 increased by 0.7 per cent. Gross investment of firms with assets in excess of \$100,000,000 increased 16.6 per cent.¹¹ There is at least a chance that monetary policy, as it is now being administered, is having a marked effect on the structure of the economy, an effect which should invite at least the ritualistic protests of the friends of small enterprise.

II

Any explanation of the relation of market structure to inflation and its control implies, first of all, a view of such structure. I propose to assume only that the economy is distributed between different structural forms and that an analytically significant part approximates the pure competitive model where no individual producer has power to influence prices and that

made by President Eisenhower in his State of the Union and Economic messages in January 1957.

⁹ Failures in recent years have been as follows: 1952, 7,611; 1953, 8,862; 1954, 11,086; 1955, 10,969; 1956 (est.), 12,750 (Dun and Bradstreet). The average liability has been between \$37,000 and \$45,000, which indicates the small size of the firms.

¹⁰ Federal Trade Commission and Securities Exchange Commission, *Quarterly Financial Reports for Manufacturing Corporations*.

¹¹ *Ibid.* The reader will observe that some movement of this sort, although hardly of such magnitude, is normal in a period of growth.

in another significant part prices are subject to monopoly power. The latter I identify more specifically with small numbers or oligopoly; price-making there reflects the somewhat varied patterns which we identify with oligopolistic rationality. My assumption amounts to saying that an important part of the economy is like or approaches the organization of agriculture and that another important part approximates the organization of the steel industry. My conclusions are not altered in kind, although they will be quantitatively changed, by the distribution of industries in between.¹² This should be acceptable even to those (if such there be) who are practiced in subordinating their observation of markets to their preference system.

The central clue to the problem is in the differential rate of adaptation of different market structures to changes in demand. This is a matter of prime importance: the solution it yields is also generally consistent with present conclusions as to the behavior of competitive and imperfect markets.

Inflation, either before or subsequent to the point of what Keynes called "true inflation,"¹³ presents itself to the individual firm in the form of an increase in demand both for its product and for the factors which it employs. In the case of the purely competitive market — archetypically the market for an agricultural product — the process is commonplace. The increase in demand brings an increase in price for the currently available supply. The adaptation of prices to the increase in demand is automatic;

¹² My reference to agriculture can be assumed to be *ex* price and production controls, although in an inflationary context the qualification is not an important one. There will be some, I am sure, who will object at least mildly to my implied picture of an industrial continuum with markets of large numbers at one extreme and of small numbers and monopoly at the other. I, of course, agree that product differentiation may lower the elasticity of substitution within what are called industries and that substitution may be appreciable as between products of different industries. None of this is analytically important for present purposes.

¹³ "When an increase in the quantity of effective demand produces no further increase in output and entirely spends itself on an increase in effective demand we have . . . true inflation. . . Every previous increase in the quantity of money is likely, so far as it increases effective demand, to spend itself partly in increasing the cost-unit and partly in increasing output." *General Theory of Employment, Interest and Money* (New York, 1936), 303.

in the nature of the competitive market no individual has the power to halt the adaptation. The price adaptation proceeds *pari passu* with the increase in demand; it is completed *pari passu* with the completion of the movement in demand.

If it is a general inflationary movement, factor prices will also be rising. However, an increase in a factor price in these markets does not of itself cause an increase in price. Prices will only rise as the result of the adjustment by firms of their production to the new marginal cost-price relationship, this in turn bringing a new price equilibrium.

In sum, in these markets price adaptation to changing demand is contemporaneous and, hence, always complete. Price adaptation to changes in costs requires time, depending on the period of production and the capital transformation period. In all cases the rate of adaptation is market controlled; none of the aggregate industry effect is subject to the discretion of the individual firm.

None of the foregoing requires lengthy elucidation; it is the ancient and familiar model of price and supply responses in the competitive market and with no adornments. But neither does it depart from the broad reality of agriculture, bituminous coal mining, forest products, the staple branches of the cotton textile industry — wherever, in short, producers are numerous in the same market and each firm (or even most firms, as measured by aggregate volume) is too small to have a determining influence in the common market.

In the opposite case, that of the oligopolistic market, the response pattern is very different. Since it is also subject to alteration by individual entrepreneurial decision, the outcome is less predictable. However, the regularities are more than sufficient for the solution of the present problem.

The first regularity is that the inflationary shift in demand presents itself to the oligopolistic firm in the form of an increase in orders or sales rather than in the form of an increase in prices. This is inherent in all but the most exceptional oligopolistic solutions; the convention requires group adherence to given prices or price structure and differentials to which all are interdependently subject. To this end there

must be a reasonably definite price, subject to reasonably deliberate change. The immediate effect of the increase in demand will be to move the firm nearer capacity production. If it is already producing at capacity the effect will be to increase its backlog.

These are the first effects. The price adaptation must always come later and as a result of specific entrepreneurial decision. This adaptation is not automatic as in the competitive market; again in all but the most exceptional cases there will be some time interval. During this interval profits are not maximized. The point can hardly be disputed: if prices were at a level to maximize returns before the shift in demand, they cannot be afterward. And if they did not maximize returns before they will not, except by accident, do so afterward.

I come now to a central point. With inflation, the demand curves of the firm and industry are moving persistently to the right. Under these circumstances there will normally be an incomplete adaptation of oligopoly prices. Prices will not be at profit-maximizing levels in any given situation, for the situation is continually changing while the adaptation is by deliberate and discrete steps. This means that at any given time there will ordinarily be a quantum of what may be called unliquidated monopoly gains in the inflationary context. The shift in demand calls for a price increase for maximization; since the adaptation is currently incomplete, prices can at any time be raised and profits thereby enhanced. Absolute generality cannot be claimed for this proposition. There is an obvious, although I think outside, possibility that although adaptation is by discrete steps there will be anticipatory adaptation at each move. The full case also requires consideration of the factor markets which will also be under inflationary pressure and to which I turn presently. I should like to argue that under quite commonplace conditions the lag in adaptation will be considerable and the unliquidated short-run monopoly gains substantial.

First, there are commonplace features of the oligopoly solution which are relevant here. One is what Professor Bain has termed the inevitable imperfection of collusion — the fact that any change under conditions of interde-

pendence takes time.¹⁴ In the context of inflationary demand, it is true, the time may be reduced. The individual firm can raise prices without short-run loss of customers. But the habit of awaiting leadership or the formation of a tacit consensus can be assumed to continue. The use of average-cost pricing is recognized as a restraining influence.

A much more important factor making for incomplete adaptation is the conflict between short- and longer-run maximization and the high probability that prices which would keep profits at a maximum at any given time will defeat the goal of maximizing profits over time. Effective merchandising and good commercial relations ordinarily require a measure of price stability and hence the sacrifice of short-run opportunities. So, frequently, does the maintenance of the oligopolistic convention. To take all that the short-run demand situation permits may be itself to induce adverse movements in demand for the individual firm in the somewhat longer run. Customers will remember and, in the longer run, take steps to protect themselves. Potential competitors will observe and in the longer run appear. Finally there will ordinarily be some consideration of the adverse long-run effects of public ill-will.

Under conditions of inflationary increases in demand there will, almost certainly, be increased divergence between the prices that maximize in the short and longer run. Then price increases are watched with anxiety by the public.¹⁵ Any firm which undertakes to exploit fully and promptly its short-run position will probably be more than usually sensitive to the public and official displeasure that it is incurring. Taxation also acts to lower the marginal utility of large short-run increments of return. A final reason for restraint comes from the factor markets. Wages, the most important factor cost, are not determined independently of the profit position of the industry. On the contrary, it is commonplace that high profits invite the attention of unions. This means that some of the gains from maximization will have to be surrendered in higher labor costs.

¹⁴ Joe S. Bain, *Price Theory* (New York, 1952), 340.

¹⁵ A case in point was the popular and Congressional reaction in late 1956 and early 1957 to the increased oil prices which followed upon the Suez crisis and which coincided with widespread fears of inflation.

Further, in ordinary business calculation wage-cost increases are regarded as irreversible; as a general rule price changes are not. Short-run price maximization thus may invite inconvenient or even what may be regarded as dangerous cost movements. Under all these circumstances we can say with considerable confidence that, in an inflationary context, the prices indicated by considerations of long-run maximization will always be below those which would maximize current return.

The effect of the foregoing can moreover be prices well below levels which permit of short-run maximization. Under conditions such as those obtaining in late 1955 or early 1956 this seems likely to have been the case. A commonplace feature of a firm under inflationary demand is a backlog; in the inflationary movement of the mid-fifties these were taken for granted over a large area of industrial production, especially in the field of producers' durables. A backlog means that demand is in excess of what can be supplied at the going price. Instead of rationing thus by queue there could be rationing by higher prices. The higher price foregone measures the short-run gain sacrificed.

One final point must be carefully emphasized. Under conditions in which demand exceeds capacity at current prices the industry will ordinarily be seeking to expand plant and output. Should this expansion at some stage outrun the increase in demand — should backlogs disappear and firms begin to operate at less than capacity — this does not mean that prices will then be at or above the point of short-run maximization. Depending on the shape of the cost and demand functions, there may still be unliquidated monopoly gains. Especially if these functions are inelastic, as they are presumed to be in the case of producers' durables, firms may still be able to increase profits by increasing prices.¹⁶

¹⁶ In reflecting on the chance of getting agreement on my case for non-maximization I have been struck, though hardly encouraged, by Mr. Harrod's estimate of the probable reaction. ("Profiteering: An Ethical Study," in *Economic Essays*, by R. F. Harrod, New York, 1952.) "Is it possible that some monopolists . . . have endeavored to provide goods at prices related to their costs? At this suggestion loud howls will arise from certain intellectuals. It is absolutely ludicrous, it will be said, the apotheosis of nonsense."

III

The foregoing analysis is, I believe, essential for a satisfactory explanation of price movements in recent years. It also provides, I venture to suggest, the first wholly satisfactory integration of the wage-price spiral with aggregative demand and price analysis. This has long been a troublesome point. The wage-price spiral (except in transmitting demand effects) is the poor relation of the inflation problem. It has never had any real standing in the analysis; at the same time, as with the poor, it has been omnipresent.

The rapid adaptation of competitive prices to the rapid increase in demand in the World War II period and in the Korean period accords with expectations. In 1948-49 and again in 1953-54, when the increase in demand was interrupted, these prices promptly subsided. At the other extreme, the prices of steel, machinery, and other products of the concentrated sector, after adapting much more slowly to the wartime increases in demand, continued to rise when the rate of increase in the latter subsided. These price advances were not interrupted by the appearance of some excess capacity in the steel industry in 1949 and 1953. In this period there were still unliquidated short-run monopoly gains. Prices thus could rise in response to these in the oligopolistic sector while falling in the competitive sector. With moderate movements in demand in recent years the divergent behavior has persisted.

We may now consider the relation of these price increases to wage increases resulting from collective bargaining contracts. It is assumed in many industries that product price increases will be announced following the conclusion of new wage contracts. This is so nearly taken for granted in (say) the steel industry that we now fairly successfully conceal our sense of its inconsistency with the accepted economic analysis. For the inconsistency is plain. Capacity operations are commonplace, as noted. The meaning of "capacity" is that supply is inelastic because the firm is nearing the output where marginal costs approach infinity. If marginal costs are approaching infinity they are not increased by the wage increase. Thus nothing in the cost situation as it relates to the equilibrium

of the firm is changed by the wage increase. Since demand in accordance with usual (and valid) special equilibrium assumptions is also substantially unaffected, the conclusion is inescapable. If the increase is profitable after the wage increase, it would have been just as profitable before. More briefly, if the firm can sell its capacity output after the wage increase at higher price, then it could have sold the capacity output before the wage increase at this price and with a proportionately increased average and total return.

Plainly the firm was not maximizing returns before. The answer — the only answer — is that it had an unliquidated margin of monopoly revenue.

But we must ask what *was* changed by the wage increase — why do price advances occur following the negotiation of contracts? Again the explanation is wholly consistent with the model. A price increase prior to the wage increase would have encouraged the latter. It would have invoked, as noted, the problem of the irreversibility of these costs. Once wages have advanced these considerations disappear; the higher costs are a *fait accompli*. Meanwhile this sequence accords with the requirements of public relations which, as noted, are important in the question of short-run maximization. The public relates the price increases at such time to the pay increases and thus attributes the advance to the unions. The latter provide what Professor Mason has termed "an excellent rationalization" for simultaneous industry-wide price increases.¹⁷ In recent years in numerous industries, including steel, it has been customary to use the occasion of the price advance, following wage increases, to get substantial additional revenues for the company. This is further evidence of the presence of unliquidated gains.¹⁸

Some lesser problems may now be disposed

¹⁷ *Economic Concentration and the Monopoly Problem*, op. cit., 218.

¹⁸ I note that, at least by implication, Professor Chandler's view of postwar price-wage relationships accords with the foregoing. He attributes increases in wage rates to "a large and price-inelastic demand for output" which, in turn, made price increases possible. This is to say that firms enjoyed a high degree of monopoly and were not maximizing prior to the wage advances." Lester V. Chandler, *Inflation in the United States, 1940-1948* (New York, 1951), 35-36.

of. It will be argued by some that in citing the case of agriculture or cotton textile manufacturing on the one hand and steel and the large metal-using and engineering industries on the other I am dealing with special cases. Even should these be special cases they are highly important ones. If my argument is applicable to these industries this would go far to validate my conclusions on the relation between controls and market structures. However, I do not think that these are special cases; they represent at most the boundary positions in market structures.

A more serious contention is that much more can be attributed than I have conceded to differential increases in demand. In recent years we have had an investment boom. As a result, the prices of capital goods have been strong, those of manufactured goods less so, while foods, reflecting in general a low income elasticity, have been weakest of all.¹⁹

This argument obviously cannot be used to explain the slower rate of increase in the capital goods industries during the earlier inflations. Then, particularly perhaps in the post-World War II period, the metal-using industries were under great pressure of demand. There is also the interesting difference in price behavior already alluded to between farm products and the food-processing industries. Here the demand influences are common, at least for domestically-consumed products.

However, I do not wish to exclude demand effects from this analysis. On the contrary, they are necessary for it. The effect of an increase in demand—a rightward shift in the function—in competitive industries is to increase prices. Its immediate effect, under conditions of oligopoly, is to increase output or, if the industry is at capacity, the backlog of firms. Increasing the latter, as I have shown, amounts to increasing the range in which prices and therewith profits may be increased for the given supply. It seems to increase the amount of unliquidated monopoly gain. As these gains are realized over time, price increases result. These will reflect the differential movement in demand. Such an effect is not inconsistent with the present analysis.

¹⁹ I am grateful to Alvin Hansen for pressing this point.

IV

I come now to the consequences for policy. These are considerable. The analysis means that both monetary and fiscal policy must have a markedly differing impact on different parts of the economy, and this will be different at different times depending on the state of adaptation. This is especially true of monetary policy.

We may think of monetary policy as having two types of effects on individual firms: what may for convenience be called the *impact* effects and what may be called the *demand* effects. By impact effect I mean the effect of changes in interest rates, and under appropriate circumstances in the supply of loanable funds at given rates, on the operations of firms and specifically on their short- and long-term investment. If the policy is successful, this investment is reduced or slowed down. By the demand effect I mean the effect of the resultant reduction or less rapid increase in aggregate demand on the demand curves of all firms.

The impact effect of monetary policy will be almost diametrically different for competitive firms and non-maximizing oligopolies. In the case of the first the initial incidence of an increase in interest charges must be on the firm—it cannot advance its prices to offset the advance in costs, no more than the wheat farmer of real life can increase the price of wheat when his interest charges go up. The increased cost will be passed on only after the higher marginal cost of capital has forced a curtailment (which may be relative) of investment and output. In other words, the incidence is on the firm until after the policy has accomplished the result that it is supposed to accomplish.

In the case of non-maximizing oligopoly, by contrast, the higher interest cost can be absorbed or passed on as the firms prefer or circumstances suggest. Within a wide range, investment that was profitable before the rate increase will be, or can be made, profitable after the increase. Since profits are not being maximized, prices and profits are not being determined by marginal cost-revenue relationships and, hence, the increase in costs will not affect investment or output at least so long as the precondition of increasing demand holds.

This is the equivalent of saying that the impact effect of higher interest rates will not be fully felt in the oligopolistic sector of the economy until it has made itself effective via the competitive sector on demand.²⁰

The other impact effect of monetary policy consists in the limitation or rationing of bank loans at given rates. Here, too, there must be sharp differences depending on market structure.

We may assume that when loans are rationed the excluded borrowers will be those with the least credit-worthiness, the lowest profitability as clients or, conceivably, with the lowest capacity to resort to a competitive supply. These seemingly obvious points must be pressed, for some commercial bankers, in arguing that there is no adverse effect from monetary policy on any particular class of borrowers, have come close to arguing that in their lending operations there is no discrimination between good customers and bad.

Some preference for the large customer is all but inevitable when credit is being rationed. Other things equal, such firms are more economically served. Their size accords them a greater chance of resorting to non-bank sources, or they may have multiple banking connections. All this reduces the chance that they will be denied credit and very much reduces the chance that they will ultimately be deprived by all sources.

An association between size of firm and oligopoly structure, though pragmatically likely, is not inevitable. However, a more precise and definite relationship between credit rationing and market structure is inherent in the present analysis. As noted, rationing must be expected to discriminate against the least competent borrowers; it proceeds in the context of an active monetary policy which will include advancing interest rates. Obviously the least creditworthy borrowers will be those who are vulnerable to rate advances — who cannot pass them on — and whose prices are vulnerable to any reduction in aggregate demand. But the firms so affected are, we see, those of the

²⁰ I do not say it will not be felt at all. Even though higher costs of funds can be readily absorbed or passed along, there may, as in the case of wages, be reluctance based on the irreversibility of these charges or other precautionary tendencies.

competitive sector. They are *pro tanto* the weakest borrowers and the poorest credit risks. In other words, an active monetary policy acts to make the competitive sector of the economy the least creditworthy and the oligopolistic sector the most creditworthy part of the economy.

Finally, firms in the oligopolistic sector have the opportunity of offsetting any credit restriction to which they are subject by increasing their prices and their earned resources and devoting these to investment. In a non-maximizing context any firm can, in effect, contract out of the effects of monetary policy. This, again, is an opportunity that is not open to the competitive sector; it cannot be done where prices and profits are given. As everyone is aware, the reinvestment of earned income has become a central source of capital formation, and there is plainly a supposition among firms in the oligopolistic sector that prices should be set (and depreciation allowances granted) with a view to realizing the revenues necessary for capital requirements.²¹

Coming now to demand effects, it is possible to expand the argument to treat also the consequences of fiscal policy. (Concern is with the effect of a curtailment of demand, and it is a matter of indifference whether this is the result of a curtailment of private investment, or of public expenditures, or of an increase in taxes.)²² That there will be differential effect is already clear. In the competitive sector there will be immediate adaptation through reduced prices. Thereafter there will be reduced investment and output in accordance with the elasticities and transformation period of the particular industry. In the case of the oligopoly there will be no initial effect on prices; a frequent initial effect will be only a shortening of the backlog. Under appropriate stimulation — i.e., a new wage agreement — prices may still rise and they may continue to do so even after the backlog has been worked off. The critical factor is the unliquidated monopoly gain. Investment that was profitable before will still be

²¹ Cf., for example, "Inflation as a Way of Life," by Roger M. Blough, Chairman of the Board, United States Steel Corporation. (Address before National Editorial Association, 9 November 1956.)

²² In the case of some business taxes there is a possibility of a differential impact effect. However, their practical likelihood is not great.

profitable, since marginal revenue is (or can be) above long-run marginal cost. There may be a curtailment of investment, but it will be the result, not of a calculation of marginal cost and price relationships, but of a revision of long-term expectations. Clearly these are portentous differences. In the one case the policy works directly on prices, profits, and therefore on investment. In the other case it leaves prices and profits unaffected and may be consistent with an increase in both. Investment is not forcibly curtailed; at most a revision is suggested.

Finally, we should notice that all of these effects will vary with the state of adaptation, which means that to measure the consequences of these policies is a far more complex exercise than has commonly been supposed. At the beginning of an inflationary movement, as for example in the autumn of 1950, strong monetary and fiscal measures would be following a period of very rapid adaptation in the competitive sector. Oligopolistic prices, including factor prices of the competitive sector, would not have adapted. A strong monetary and fiscal policy at such a time, reversing the recent adaptation, might be imagined to have relatively mild effects on market structure. (It is to be observed that, as a result of the movement in demand, unliquidated monopoly gains would be large in the oligopolistic sector.) At a later stage, after factor cost adjustment had proceeded, it is easy to imagine that the same policy would be much more severe and painful in the competitive sector. The lesson is that generalization on both the effectiveness and the consequences of macroeconomic policy can only proceed with a close regard for a changing context.²³

V

This analysis does not disprove the efficacy of monetary or fiscal policy. Nothing here casts doubt on their restrictive impact on the

²³ In comments on an earlier draft of this paper, it was suggested that the presence of unliquidated monopoly gains is the product of a policy of deliberate and foresighted restraint. In being unaffected by monetary and fiscal policy the firms that have shown this restraint are thus reaping the reward for an economically meritorious policy. All would be much worse had they followed a policy of short-run maximization.

There is discrimination when a firm, for reasons however

competitive sector of the economy. And if this is sufficiently severe, the oligopolistic sector will also be affected. How severe it must be will depend, among other things, on the way economic activity is distributed between the competitive and the oligopolistic sectors.

The important thing is that the impact of these policies is unequally distributed. Especially in the case of monetary policy the discrimination can be profound. Inflation is controlled by denying credit to what are, in a general way, the least powerful firms. At the same time more powerful firms are effectively exempted from the policy. This being so, it is quite possible that they will absorb some or all of the funds denied to the smaller firms. For a considerable period (as this is written in late 1956) there has been a serious and growing volume of complaint from farmers and smaller businessmen over the growing pressure of the credit squeeze. As earlier noted, so far as observation suffices for judgment there has been no similar complaint from larger firms. The available data on the distribution of bank loans between firms of different size is far from conclusive, for they compare a sampling of member bank loans for 1946 with another for the autumn of 1955. At the latter date the current credit squeeze was still in a fairly early stage; numerous influences, including the general increase in the value of corporation assets and shifts to non-bank sources of funds, impair the value of the comparison. For their limited worth, the figures show that where firms with assets of less than \$50,000 had 9.2 per cent of member bank business loans in 1946, by 1955 they had only 5.5 per cent. Firms with assets of from \$50,000 to \$250,000 had 16.4 per cent in 1946 and 14.5 per cent in 1955. Firms with assets of from \$250,000 to \$5,000,000 increased their share of the total from 29.0 to 34.3 per cent, and firms with assets in excess of \$5 million, which have the best access to non-bank funds, increased their share slightly.²⁴

meritorious, can contract out of the effects of monetary and fiscal policy. But as the text now makes clear, the price policy which leaves these firms with unliquidated monopoly gains is inherent in the different process of adaptation and in part in inescapable differences between long- and short-run maximization. The preferred position of the oligopolistic firms is the product of circumstance, not decision. So accordingly is the discrimination.

²⁴ *Federal Reserve Bulletin*, April 1956, 331. A very large proportion of all loans — nearly half — are to firms

During 1956 there was a continuing rise in bank loans. There was also a record investment in producer's durable goods. At the same time, farmers and smaller firms complained bitterly of their deprivation. Accordingly, while the case cannot be proven, there is a strong probability that in the last couple of years the effect of monetary policy has been to ration credit from all sources away from smaller firms in the competitive sector and to larger firms in the oligopolistic sector. This would be in accordance with the present analysis.

Apart from the question of technical effectiveness, there is the question of the political feasibility of a severe application of measures which are discriminatory in their effect. In the past the willingness of the community to tolerate unemployment has been thought one of the conditioning factors in the use of monetary and fiscal restraints; the policy was recognized as falling with discriminatory force on those who were thrown out of their jobs. This we now see is only part of a more general problem. There is also the question of how much pressure can be applied to the competitive part of the economy, and *pari passu* to the smaller and more numerous firms, at a time when far less restraint is being applied to larger firms.

Finally, there is the question of the wisdom of such discrimination. On this we are plagued by the evident gap between what is professed and what is believed. The small businessman and the competitive sector of the economy are deeply beloved in principle; their fate, however, inspires no particular concern in practice except, perhaps, as it may be tied to historic symbols such as the antitrust laws. In considerable measure the liturgy in praise of small business serves as a substitute for action.

Still, the policy should be understood. By monetary policy we seek to control inflation by denying to the small business *cum* competition sector the credit on which growth depends. By

with assets of less than \$50,000. This has been seized upon by at least one leading banker to prove that the banks are caring adequately for small firms. ("Changing Times for Banking," J. Stewart Baker, President, The Chase Manhattan Bank. Speech before the National Association of Supervisors of State Banks, 19 October 1956.) As will be immediately evident, the figure proves only that small borrowers are individually numerous. All public-relations-conscious men should be warned on the strategic unwisdom of such usage. Those who are persuaded by the figures soon forget. Those who observe the misuse remember forever.

sufficiently repressing growth in this sector we may eventually hope to limit growth in the big business *cum* oligopoly sector. By both monetary and fiscal policy we reduce prices and profits in the competitive sector by methods which leave them unaffected in the oligopolistic sector. As a centralizing influence in the economy it is possible to imagine that an active and continuing monetary policy is not less effective than, say, the repeal of the antitrust laws.

VI

I would not suppose that the analysis here offered will be completely palatable. Monetary policy is profoundly popular with larger business firms and appropriately so. It represents an intelligent manifestation of self-interest; it merits the defense of any large firm that reacts to its own competitive interest.

I would imagine that there would also be some resistance by economists to these ideas. Apart from such objection as may be merited, we need to recognize that as economists we have a deep vested interest in monetary and fiscal policy. The conviction, or rather the assumption, that these controls are effective is vital for the present comfortably uncontroversial state of economic policy. Both are widely accepted; the assumption that they work bars the need to explore new or uncomfortable remedies over which passions might easily be aroused. Under these circumstances, any questioning of our present rites can hardly be welcome.

Yet if it be assumed that the goal of the economist, unlike the monopolist, is not merely a comfortable life, then some questioning is evidently in order. To doubt the efficacy of our present weapons for attacking inflation is not to predict continued inflation. Public policy is not the only determinant of aggregate demand, and this can still be subject to large autonomous movement. But if the future, immediately or later, is like the recent past, we shall be increasingly faced with the choice between inflation or highly discriminatory (and perhaps socially unacceptable) measures for contending with it. Events, as on occasion before, may reveal a most unsanguine nakedness in our profession, all the worse for its contrast with the present confidence.