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A COLLECTIVE CHOICE AND MICROECONOMIC APPROACH TO MACROECONOMICS

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**A COLLECTIVE-CHOICE AND MICROECONOMIC
APPROACH TO MACROECONOMICS:
From Sticky Prices and Lags to Incentives**

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**A COLLECTIVE-CHOICE AND MICROECONOMIC
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Mancur Olson*

As Don Patinkin¹ has persuasively argued, the most distinctive and fundamental innovation in Keynes's *General Theory* is the idea that the quantity of *real* output of the economy as a whole can change when aggregate demand changes, and in changing move the economy toward an aggregative equilibrium. The argument, explained in even the most elementary textbooks, that the economy as a whole will be in equilibrium when the intention to spend out of income is just equal to income, had not, Patinkin argues, been anticipated by any work published before *The General Theory*. Though some economists before Keynes's *General Theory* had analyzed fluctuations in aggregate demand, they had taken it for granted that these changes in aggregate spending mainly changed the price level rather than aggregate real output and did not argue that movements in the latter could establish a new equilibrium.

In the half century since *The General Theory* was published, there has come to be a virtual consensus among both Keynesian and anti-Keynesian economists that the Keynesian result of widespread involuntary unemployment due to insufficient aggregate demand requires the assumption that at least some prices or wages are "fixed" or at least "sticky." Though the very strong assumption of permanently fixed wages or prices that would be needed for a long-run equilibrium with continuing underutilization of resources is widely regarded as unrealistic, the assumption that there are some sticky or slow-to-change wages or prices that can generate involuntary unemployment and fluctuations in real output remains a staple feature of Keynesian analyses. The centrality and ubiquity of this assumption is best seen from the macroeconomic theory textbooks, almost all of which assume, in the chapters that explain depressions and unemployment, that prices remain stuck at disequilibrium levels even as the level of aggregate output changes. Even the most sophisticated work in the Keynesian tradition, such as the new "disequilibrium macroeconomics" associated with Barry Barro-Grossman and with Edmond Malinvaud, assumes that some prices are stuck at disequilibrium levels, and then goes on to show (in analyses that are in all other respects meticulously grounded in microeconomic general equilibrium theory) how this can generate macroeconomic difficulties for the economy as a whole.

The notion that there is *some* stickiness of at least some prices or wages that can cause temporary fluctuations in employment and real output is also part of monetarism, when monetarism is defined in a strict or narrow sense and thus dis-

* I am thankful to the National Science Foundation, Resources for the Future, and the Thyssen Stiftung for support of my research.

1. Don Patinkin, *Anticipations of the General Theory* (Chicago: University of Chicago Press, 1982).

tinguished from the "new classical" or "new equilibrium" macroeconomics built around the assumptions of rational expectations and continuous market-clearing. Some of the "lags" in monetarism are sticky prices or wages under another name. Monetarists frequently emphasize that an unexpected increase in the quantity of money leads initially to an increase in aggregate real output and later, with variable and unpredictable lags, to an increase in prices. As Milton Friedman puts it, "faster monetary growth tends to be followed after some three to nine months by economic expansion; slower monetary growth by economic contraction... Because prices are sticky, monetary growth initially affects output and employment. But these effects wear off. After about two years, the main effect is on inflation."² Though the foregoing quotation is from a column Friedman wrote for a lay audience, the same view is clearly embodied in several of his professional writings. Consider, for example, his classic 1968 article³ setting out the concept of the "natural rate of unemployment." There he argues that, while no amount of money creation could permanently reduce the rate of unemployment below its natural rate, an initial increase in the price level or an acceleration of the rate of inflation would temporarily reduce unemployment, because "prices and wages have been set for some time" on the basis of the previous policy and it "take time for people to adjust to a new state of demand."⁴ At the same time, it must be said that Friedman and most other monetarists view a market economy as more resilient in responding to fluctuations in demand than most Keynesians do, and to this extent those lags attributable to price and wage stickiness are quantitatively less important in their thinking than in Keynesian macroeconomics.

This paper will argue that the belief that sticky prices or wages are a fundamental part of the explanation of unemployment and idle capacity is in large part flatly false, and that even where this belief is not totally incorrect it misconceives the role and inspiration of price stickiness. When the incentives that give rise to involuntary unemployment and excess capacity are understood, it becomes clear that sticky prices or wages are not in any way necessary for involuntary unemployment and idle capacity. Neither is such stickiness sufficient, even in combination with severe monetary or other demand shocks, to explain involuntary unemployment and idle capacity. Most types of price and wage stickiness have little or nothing to do with unemployment or macroeconomic fluctuations; it is only a subset of a subset of the types of price and wage stickiness that are significantly related to unemployment, idle capacity, or recession. Even this subset of a subset of the set of sticky prices and wages has little or no significance for the average level of unemployment and idle capacity in a society, and is important only for the extent of the deviations of the actual level of utilization of resources from the mean level of resource utilization in the society. Finally, both the Keynesian and the monetarist theories are also unsatisfactory because price or wage stickiness appears in these theories as an ad hoc assumption or implicitly as a lag.

2. Milton Friedman, "Defining Monetarism," *Newsweek* (July 12, 1982), p. 64; I am thankful to Herb Stein for help in finding this quotation.

3. Milton Friedman, "The Role of Monetary Policy," *American Economic Review*, vol. 58 (March 1968), pp. 1-17.

4. *Ibid.*, pp. 9 and 10.

This paper will also argue that the stickiness of the very special subset of sticky prices and wages that is relevant for macroeconomics is a result of certain features of the socio-economic process. Accordingly, its origins should be traced to the incentives faced by the actors in the economy. If the relevant price or wage stickiness had been due to physical, biological, or random factors it could safely be regarded as exogenous. But it is, I shall argue here, due to economic and political considerations that influence and are influenced by the state of the macroeconomy, and therefore should be endogenous to our conceptions of macroeconomics.

Prices Stuck Too Low

If it is a coincidence that prices or wages are in some sense at the "wrong" levels and will (let us say, because they are costly to change) achieve the "right" level for macroeconomic performance only with a lag, then they should, on average, be "too low" as often as they are "too high"; a variable that fluctuates randomly will tend to be below its mean level as often as it is above this level. Similarly, if the lags in prices and wage changes that are significant for macroeconomics are due to physical, technological, or biological causes, it would be reasonable, at least initially, to assume the symmetry that is usually found in nature. We know that our automobiles need bigger engines to give us quick acceleration to overcome inertia when we are going "too slow" than would be needed to maintain a constant speed, but they also need brakes because it takes extra resistance to overcome momentum if we suddenly find we are going "too fast." Similarly, it would seem natural to suppose that prices could be stuck either "too low" or "too high", and that lags in adjustment to monetary or other aggregate demand shocks would tend to be symmetrical upward and downward.

But Keynesians and monetarists alike agree about one feature of the business cycle that, I shall argue, is inconsistent with such symmetry. There tend to be comovements of prices and quantities, with increases in the price level and in real output going together. As one text tersely puts it, "Prices are generally procyclical."⁵ This is, of course, a feature of the business cycle that is also emphasized by the "new classical" or "new equilibrium" macroeconomists, such as Robert Lucas,⁶ who do not, in general, use the concept of sticky prices and wages, but assume continuous market-clearing instead.

To see the inadequacy of the assumption that the business cycle is due partly to prices that are temporarily stuck at inappropriate levels because of natural inertia or coincidence, consider a situation in which certain prices are initially "too low", or become so because they were set in nominal terms and there is an unanticipated increase in demand. Let us consider this situation first in partial equilibrium terms, because that will offer an immediate intuitive insight into the matter, and later consider it in a general equilibrium context. Consider first a perfectly competitive industry in equilibrium, so that all mutually advantageous transactions are consummated and there is full employment of the resources in the industry. Suppose further that this industry is so small in relation to the economy as a whole that the im-

5. Michael Parkin, *Macroeconomics* (Englewood Cliffs, N.J.: Prentice Hall, 1984), p. 90.

6. Robert E. Lucas, "Understanding Business Cycles," in his *Studies in Business Cycle Theory* (Cambridge: MIT Press, 1981), p. 217, and in *Stabilization of the Domestic and International Economy*, eds. Karl Brunner and Allan Meltzer, (Amsterdam: North Holland, 1977), pp. 7-29.

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part of this industry on the economy as a whole and on the price level can be ignored. Suppose now that there is then an increase in the money supply and the price level and that, in the economy as a whole, money is neutral. Then the nominal supply and demand curves will tend to change as in Figure 1. If prices in this industry were perfectly flexible and money is neutral, the new nominal price would be p_2 and the real or relative price of this product would be unchanged. Since we are considering lags in the form of price stickiness, let us assume that the price is stuck for a time at its old level P_1 . Of course, for as long as the price is stuck at the old level, the quantity that is supplied and traded is only OQ' , and there are real losses of income in the triangle given by the new nominal demand and supply curves to the right of OQ' , and employment in the industry will tend to diminish. Obviously, these losses taken by themselves would lead us to expect that unanticipated increases in the money supply and the price level would lead to a reduction in the gains from trade and to recession. But this is the opposite of the procyclical movement of prices that macroeconomists of all schools of thought observe.

The foregoing example may be troubling because it involves the assumption of perfect competition as well as because of its partial equilibrium character. So before turning to the general equilibrium context, let us consider an industry that is monopolized, or which because of government intervention (say, in the form of price, wage, or rent controls) has a price that is too low to maximize the gains from trade in the industry. Retaining the assumptions that this industry is too small significantly to influence the economy as a whole or the price level, and that there is an unanticipated increase in the money supply and price level with money being neutral in the economy as a whole, we get the situation in Figure 2. A sticky or lagged price will make the trade and employment in this industry go down (to OQ_2) as the price level goes up and we again get a contradiction with the consensus observation that prices are procyclical.

To be sure, when only one industry that is small in relation to the economy as a whole has a price that is stuck too low to maximize the trading and employment in the industry, the resources that would have been employed in this industry had there been Pareto-efficient prices at all times would seek employment in other industries. So there need be no involuntary unemployment because of sticky prices in a single industry. But what would happen if prices were for a time stuck too low in a large part of the economy?

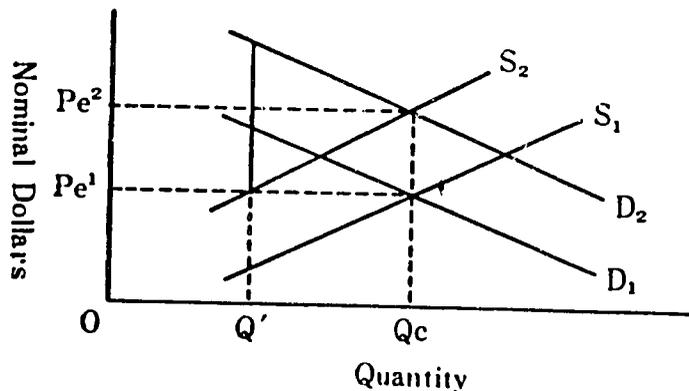


Figure 1

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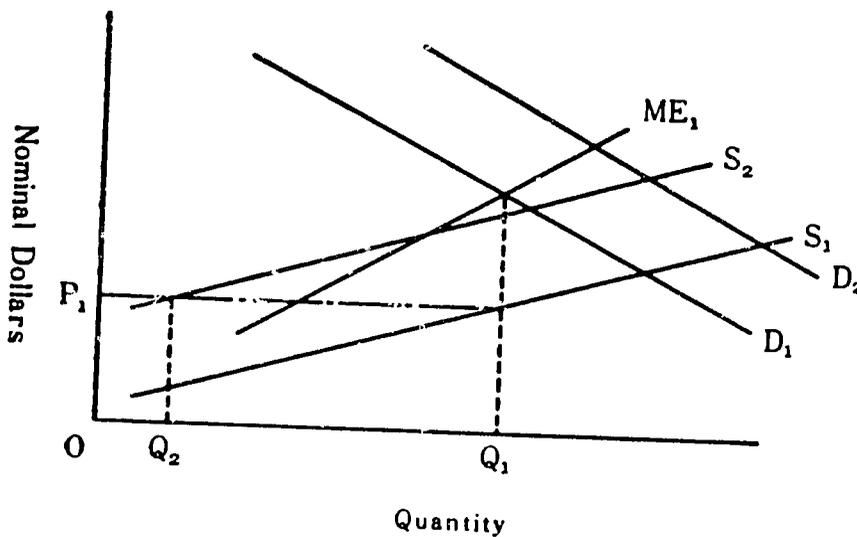


Figure 2

There is no need to offer an original answer to this question, for it has been already answered in a most interesting and compelling fashion by the early Barro and Grossman, by Malinvaud, and by other contributors to the new disequilibrium economics. The answer, just as the intuition prompted by the previous examples suggests, is that when a great many prices and wages are stuck too low an increase in the price level will reduce real income and employment. When prices are stuck too low, an *increase* in demand, such as would result from an increase in the government deficit financed by the printing of new money, would *reduce* real income. There is even a "supply multiplier" that is the obverse of the familiar Keynesian multiplier⁷, and this supply multiplier can be used to show that a *reduction* in the government deficit and the money supply could lead to an *increase* in real income and employment by a *multiple* of the reduction in the deficit.

So prices and wages that are fixed too low, or which rise to the appropriate levels only with a lag, are clearly inconsistent with the virtually universal observation of procyclical movements of prices. The sticky price or wage or monetarist lag approach, when prices are for a time stuck too low, should lead us to expect the opposite of what is normally observed in the upturn of the business cycle. It should lead us to expect that unanticipated increases in aggregate demand due to increases in the money supply or to any other causes, and increases in the price level, would directly bring about recessions or depressions.

It may be objected that the believers in sticky prices and the equivalent monetarist lags always meant that prices or wages were stuck too high and simply took it for granted that they were not stuck too low. Perhaps, but if so, they should have explained this remarkable asymmetry. Prices could hardly always be stuck too high rather than too low because of coincidence or random factors. If inertia or some

7. Robert Barro and Herschel Grossman *Money, Employment, and Inflation* (Cambridge Univ. Press, 1976), especially pages 78-87; and Edmond Malinvaud, *The Theory of Unemployment Reconsidered* (Oxford: Basil Blackwell, 1977).

physical, technological, or biological factors are responsible, it should be surprising if they should always generate this remarkable asymmetry, which should surely then be explained. Similarly, if prices are costly to change, it must surely be costly either to increase or reduce them, so the assumption that prices are costly or slow to change, taken by itself, is also inconsistent with the procyclical movements of prices. If sticky prices of an unsymmetrical kind are responsible for macroeconomic problems, there is even less excuse than there would otherwise be for dealing with them merely through ad hoc assumptions or through mere references to lags.

Prices Stuck Too High

Let us now consider monopoly prices. For reasons that will soon be evident, we must deal separately later with monopolies that result from collective action of firms or workers, such as in a cartel, and first consider only the power that some individual firms have to vary price without losing all sales. For the present purposes, a firm may face a downward sloping demand curve either because one firm controls what might, loosely speaking, be termed an entire "industry," or alternatively because there is Chamberlinian monopolistic competition in the large group. Monopoly power of either of these kinds will be described here as "monolithic monopoly" to distinguish it from monopoly due to collective action to collude, or to lobby the government to establish arrangements that are functionally similar to cartels.

Since monopoly prices will (unless there is "perfect" price discrimination) be too high for a Pareto-efficient allocation of resources, it is obvious that if monopolies set prices in nominal terms, and then face unexpected increases in demand and in the general price level, any lag or stickiness in their prices will tend to increase economic efficiency. If monopolistic firms should lag behind the rest of the economy in adjusting their prices to an increase in the general price level, their prices will not, when there is unexpected inflation, be so much above the marginal cost or competitive price as they normally are, and (if any possible "second best" problems may be set aside) we may then be sure that economic efficiency will increase. Indeed, if the demand curves of firms with monopoly power unexpectedly shift to the right for any reason, and the monopoly firms are slow in adjusting their prices to these shifts, there will, in general, be a period during which the monopoly firms are nearer to marginal-cost pricing and economic efficiency will increase. Of course, an unexpected deflation or disinflation will have the converse effect on any monopolies that are relatively slow in adjusting their nominal prices, and monopoly power will then tend temporarily to increase when there is an unexpected drop in demand.

According, if only monopoly prices are sticky, or if they are stickier than other prices, this stickiness would be consistent with the observed procyclical pattern of price movements. Though I could dismiss sticky competitive or monopsonist prices as inconsistent with the observed co-movements of prices and quantities, I cannot on this ground exclude the possibility that sticky monopolistic prices are significantly implicated in the macroeconomic problems. Thus we should explore the possibility that monolithic monopolies might be a source of involuntary unemployment, idle capacity, and recessions.

Disequilibrium Prices

One difficulty with monolithic monopoly as an explanation of an economy-wide

underutilization of resources is evident from the words that are used in everyday language to describe conditions in depressions and recessions. There are complaints especially at such times that firms "cannot sell" their outputs or "move" their inventories. There are, particularly during recessions and depressions, complaints about "surpluses," "gluts," "buyers' markets," and, of course, "involuntary unemployment," and not simply about "low prices" and "low wages." This terminology and its widespread usage hint that disequilibria, or markets that do not clear, exist or are at least widely thought to exist. Recessions and depressions are, of course, not only or even mainly periods of deflation, but also periods of reduced output and employment, and this too is consistent with the language suggesting that some firms or individuals are unable to trade at going prices. These perceptions appear to be embodied in many monetarist writings as well as in Keynesian macroeconomics (though not, of course, in the new equilibrium macroeconomics); monetarist writers such as Friedman and Schwartz attribute the widespread unemployment during the great depression of the 1930's mainly to unexpected reductions in the money supply, and unemployment on such a scale as this would suggest that perhaps there are disequilibria. In Keynesian models of involuntary unemployment and depression there are certainly disequilibria. The standard textbook formulations of Keynesian theory for an economy with underutilized resources explicitly assume that firms and workers stand ready to supply additional output at the going prices. In Keynes's own theory it is the workers who stand ready, at any time there is involuntary unemployment, to supply additional labor at the existing wage.

What is needed, if the sticky prices approach is to be consistent with the cyclical movements of prices over the cycle and at the same time to rationalize Keynesian models and the foregoing observations, is prices that are not only monopoly prices, but also disequilibrium prices. Thus it is only the subset of sticky prices and wages that are monopoly prices that can be significantly implicated in the macroeconomic problem, and of this subset of prices only the further subset that are also disequilibrium prices or wages that are of concern.

Even brief reflection is sufficient to make clear that monolithic monopoly cannot explain the disequilibria that are required for a Keynesian model or rationalize the language and observations that have just been mentioned. A disequilibrium with gluts, surpluses, or involuntary unemployment entails that there should be mutually advantageous transactions that are not consummated. A monolithic monopolist will of course maximize profits when marginal cost equals marginal revenue and, when it has this level of output, it is in equilibrium and does not find any further trades advantageous. At the monopoly price that is in the interest of the firm with monopoly power the consumer is welcome to buy as much as the consumer wishes at that high price, so the consumer is not in disequilibrium either. The situation is not Pareto-efficient, but the market clears. If the monolithic monopolist is slow to adjust its price to changing demand it obviously foregoes profits it might otherwise have obtained. But these foregone profits give the monolithic monopolist an incentive to change its prices promptly: there is no reason to suppose that the prices of monolithic monopolists are slower to adjust to changing conditions than other prices. If the monolithic monopolist's "menu" is so complicated that it is difficult for it to change its prices, it would have every reason to complain about the

costs of changing prices rather than about "gluts" or "surpluses," but it is complaints about gluts and surpluses and the difficulty of selling output or moving inventories that are recounted rather than complaints about the costs of changing prices.

It is particularly difficult to see how monolithic monopoly could explain the involuntary unemployment of labor; the inefficiency arising from monolithic monopoly will tend to reduce welfare or real income in the economy as a whole and will tend somewhat to reduce the real wage of labor, but it is difficult to see how it could cause a disequilibrium in the labor market that could give rise in involuntary unemployment. Some individual workers could have a differentiated type of labor to sell and face a downward sloping demand curve for their labor and obtain a monopoly wage for this differentiated labor, but at this monopoly wage such a worker would not wish to sell any further hours of labor and would not be involuntarily unemployed.

The most fundamental difficulty with any approach to unemployment, recession, and depression that relies on the assumption of sticky prices and lags is that it does not begin with the incentives and constraints faced by the actors in the economy. We shall see that, if we reconceptualize the macroeconomic problem of underutilization of resources completely, and analyze the problem in terms of the motives of the actors in the economy, the macroeconomic problems arising from price and wage stickiness will also be explained. Thus we turn now to an entirely different, incentive-oriented approach to the underutilization of resources that, it is claimed, will also clear up the problem of price and wage stickiness and the equivalent monetarist lags.

THE INCENTIVES

Keynesian and anti-Keynesian economists agree that Keynesian economics does not have an adequate microeconomic foundation. Interesting as it is in other ways, in this respect Keynesian (and disequilibrium) macroeconomics is as unsatisfying as a murder mystery in which the victim is killed for no reason at all. The main anti-Keynesian macroeconomic and monetary theories are not usually criticized as inconsistent with microeconomics, but I will argue here that these theories also ignore some microeconomic motives that are a source of some fundamental microeconomic problems. Even the "new classical" or "new equilibrium" macroeconomics associated with Lucas, Sargent, Wallace, and Barro's more recent writings suffers from the neglect of a ubiquitous incentive that has been widely understood in microeconomics since at least the time of Adam Smith. This neglected incentive does not have any significant relation to the new equilibrium macroeconomics seminal assumption of rational expectations, and the present paper will assume that all expectations are rational. But the neglected incentive at issue is, I shall argue, fatal to the other pillar of the new classical macroeconomics, the contention that all markets continuously clear.

Most of the narrowly monetarist (as opposed to new classical) writing leaves the impression that if only the quantity of money supply grew at a steady and predictable rate under a non-discretionary monetary rule, there would be no serious

macroeconomic problems. This policy preoccupation with the money supply is not well explained in terms of incentives. Who in the government or the central bank has an incentive, when there is a discretionary monetary policy, to bring about a depression or recession? Experience suggests that incumbent politicians, at least, often lose their jobs in such situations. The appeal at this point to mistakes, ignorance, and repeatedly erroneous predictions is not only inconsistent with rational expectations, but also lacking in microeconomic foundations.

The inadequate explanation of adverse outcomes in Keynesian and even monetarist thinking is best illustrated by comparison with the theory of externalities, public goods, and (more generally) of collective action. Undesirable outcomes, such as excessive pollution or the nonprovision of necessary public goods under *laissez faire*, are properly explained in microeconomic theory in terms of the incentives individual decision-makers face. In a sufficiently large group, it will not be rational for an individual to curtail his pollution, or to make voluntary contributions to finance the cleaning up of the environment, however much he values a pollution-free environment. The individual in a sufficiently large group will get only a minuscule share of the benefits of whatever sacrifice he makes in the interest of a cleaner environment, but will bear the whole costs of that sacrifice, and accordingly has an incentive to cease making any contribution to the public good of a clean environment long before a Pareto-efficient level of environmental quality has been achieved.

The Keynesian and monetarist explanations of undesirable social outcomes such as depressions and involuntary unemployment do not explain how anyone gained from behaving in ways which caused depressions and involuntary unemployment in the way the theory of externalities, public goods, and collective action explains why an individual will often gain from ignoring the losses brought about by his pollution. This paper argues that any really satisfactory macroeconomic theory must explain who gains from behaving in ways that generate involuntary unemployment and underutilization of other resources, and then offers an approach to macroeconomics that explains such evils as the result of incentives confronting participants in economies with certain types of institutions.

Variations in the Natural Rate of Unemployment

There are obviously different patterns of incentives across societies and historical periods. The economic institutions and policies, and therefore the pattern of incentives, that prevailed in Great Britain or the United States, for example, in the 1840's, are different in many obvious ways from those that prevail in these countries today. The character of economic institutions and economic policies in Germany just after national unification was completed in 1871, or in the early 1950's, are different in some conspicuous ways from those in Germany today. The pattern of economic institutions, policies, and incentives in Taiwan or Korea today is greatly different from those that exist in most of Western Europe or North America. There are even substantial differences in economic institutions across the different states of the United States.⁸ The differences in economic institutions and policies, and thus of patterns of incentives, that have just been referred to are, as I claim to

8. Mancur Olson, "The South Will Fall Again: The South as Leader and Laggard in Economic Growth," *Southern Economic Journal*, vol. 49 (April 1983), pp. 917-32.

have shown elsewhere,⁹ associated with significant differences in the success different economies have in taking advantage of the opportunities for economic growth, and also differences in social structure and political life. If, as this paper argues, macroeconomic performance is also explained in large part by the pattern of incentives, then it should not be surprising if macroeconomic problems and performance were also different in different countries, regions, and historical periods.

The approach to macroeconomics outlined in this paper entails that there should be such differences in macroeconomic problems and performance over time and space. It turns out that, if my theory is correct, the extent to which there are actors in the economic system with the capability and the incentive to generate idle capacity and a depressed economy can vary considerably across societies and historical periods. In particular, the number of actors who have the capability and incentive to generate *disequilibrium* situations where markets will not clear, such as involuntary unemployment, can vary considerably from one time and place to another. This implication of the theory offered here suggests tests that discriminate between the approach to macroeconomics that I propose and the established macroeconomic and monetary theories, for the established theories say little or nothing about how macroeconomic problems should differ across states, countries, or historical periods. In the *General Theory*, Keynes had no hesitation in applying his theory to the greatly different societies of Europe in mercantilistic times. Milton Friedman emphasizes that inflation is "always and everywhere" a monetary phenomenon, and the whole tenor of his writings suggests that monetarism as a whole is applicable to every society that uses money.

The Incentive to Trade in Any Disequilibrium

It is instructive to begin the search for the incentive to generate macroeconomic problems with the new equilibrium economics and its conclusion that markets always clear. Though many economists find the notion that markets are always in equilibrium and that all unemployment is voluntary implausible if not bizarre, this idea does have one very powerful argument in its favor. This is the argument made earlier that, if a market is not in equilibrium, parties on both the selling and buying sides of the market must be able to make themselves better off by making transactions with one another. If the parties are aware of the gains they could achieve by making a transaction, they will be motivated by these gains to make a deal. If they should happen for a time to be unaware of these potential gains, then they know of no transactions that they would like to make that they haven't made, and they are accordingly in equilibrium until they obtain information about the unexploited opportunities for mutual gain. This is a most fundamental and powerful argument and any adequate approach to macroeconomics must accommodate it. The Keynesian and disequilibrium theories, and some of the early monetarist writings, do not address this argument and are to that extent fundamentally unsatisfactory.

I have claimed to show elsewhere that this argument makes it possible to define "involuntary unemployment" in a strict and precise way that is also broadly consistent with common language.¹⁰ The essence of this definition is evident when we note that a worker could not be involuntarily unemployed if the worker placed a

9. ———, *The Rise and Decline of Nations* (New Haven and London: Yale Univ. Press, 1982).

10. *STET* Ch. 7, pp. 196-201.

higher value on his or her time, when it is used for leisure or production at home, than that time would be worth to any employer. Such a worker would not agree to take a job at a wage any employer could advantageously pay. Similarly, if a worker will accept work only if he is given a wage in excess of his marginal revenue product to any employer, then the worker is asking for a gift rather than a job and is not involuntarily unemployed. There can be involuntary unemployment only if a worker without a job values his own time at less than that time would be worth to some employer — only in the area above the supply curve of labor, given by the marginal opportunity cost of labor, and the demand curve for labor given by points on the marginal revenue product of labor curves for firms.¹¹

Whenever there is really involuntary unemployment, then, *both* involuntarily unemployed workers and employers will gain from making a deal that puts the unemployed workers to work. It is possible, of course, that it could take some time for the workers and the employers to find each other, and that they would have to invest some time or other resources in search. But note that workers will have an incentive to devote full time to job search only if the discounted present value of the job they expect to find exceeds the opportunity cost of the time spent searching. In the absence of externalities or institutional arrangements that will be dealt with later, workers will tend to use their time searching only if this is also the use of their time that also maximizes social welfare. In these special conditions, investments in search are the most productive use of the worker's time, and thus should not be defined as involuntary unemployment any more than investments in education should.

Though it does not offer any careful definition of involuntary unemployment, or even concede the possibility of involuntary unemployment, the new equilibrium macroeconomics has been built in large part upon the idea that, if there were a disequilibrium in a market, that would imply unrealized gains from trade. This, in combination with the assumption that expectations and investments in information through search are rational, is taken to imply that there can be no markets that are out of equilibrium and no involuntary unemployment. In essence, the new equilibrium macroeconomics, which has had more influence upon macroeconomists in the last decade than any other school of macroeconomic thought, is largely inspired by this question: "How can there be involuntary unemployment or disequilibrium in any market when this implies that all the parties concerned have an incentive to make deals that would end the disequilibrium?"

Reversing the Question

I propose that we should begin to reconstruct macroeconomics by reversing this question.¹² Macroeconomic theory should, I submit, begin with the question, "Are there any actors who have the incentive and the capability to block mutually advantageous transactions among potential buyers and sellers, and thus to prevent mar-

11. When there is more than one variable factor of production or other complications, the demand for labor is not given by the marginal revenue product of labor curve, but it will always consist of points on marginal revenue product of labor curves.

12. I am thankful to Jean-Christian Lambelet of the University of Lausanne for making it clear to me that my argument in Chapter 7 of *RADON* really "reverses the question" posed by the new equilibrium macroeconomists. See Lambelet's paper, "More on Mancur Olson's Recent Book: Some Comments on his Theory of Stagflation."

kets from achieving equilibrium and eliminating involuntary unemployment?" At some times and places there have obviously been recessions, and sometimes even such deep depressions as the great depression in the United States starting in 1929. At this time real income fell very substantially, and there was also virtually a consensus that involuntary unemployment was widespread. There was also, in the United States at this time, obvious dissatisfaction with the incumbent political leadership or political and economic system. The widespread beliefs that involuntary unemployment occurs, at least at some times and places, along with the severity of some depressions and the frequency of recessions, suggests that it would be worthwhile to ask whether there are ever any actors with an incentive to block the mutually advantageous transactions that would eliminate any disequilibria and involuntary unemployment.

There is a growing literature in economics on "the growth of government" Much of this literature, and important political movements as well, claim that the growth of government is perhaps the most serious economic problem of our time. In view of this, it is natural to ask whether politicians and government officials have an incentive to block mutually advantageous transactions. Are incentives to generate unemployment, or poor economic performance generally, inherent in democratic electoral competition? Or in the incentives facing leaders of government in other types of political systems?

There are certainly circumstances in which governmental leaders could have an incentive to pursue inflationary policies. An incumbent politician might find the political costs of financing governmental spending through budget deficits and printing money lower, at least in a short run that might be decisive for the politician, than would explicit taxation. Thus a search for political incentives that would give rise to inflation might well be fruitful.

By contrast, electoral competition *by itself* does not give a politician an incentive to generate a recession or depression. If a politician were to block a mutually advantageous transaction between an involuntarily unemployed worker and a potential employer, he could well lose the votes of both. Even casual observation, moreover, reveals that incumbent political parties and presidents like to run for re-election on "peace and prosperity" records. It is hard to imagine how, if other things were equal, an incumbent party's chances of re-election would not be helped by better economic performance. Even in dictatorial systems the dictator has an incentive to make the economy of the country he controls work better, since this will generate more tax receipts he can use as he pleases and usually also reduce dissent.

If incumbent political parties do not have an inherent incentive to block the mutually advantageous transactions that would insure full employment and equilibrium in all markets, then who does? I argued earlier that, though sticky monopoly prices, unlike other sticky prices, were consistent with the procyclical movement of prices over the business cycle, monolithic monopoly was not consistent with the disequilibria that appear to exist in certain situations and that are certainly needed to rationalize a Keynesian underemployment equilibrium.

Collective Action

Let us now examine monopoly power attained through collective action. It will simplify the exposition if we suppose that the collective action takes the form of

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collusion or cartelization, though the argument also applies to the results of lobbying for those types of government intervention that are functionally equivalent to collusion or cartelization. The conditions that make collective action possible in cases where there are "selective incentives" or small numbers, but not possible in other cases, will not be explained here because they are set out in *The Logic of Collective Action*.¹³ The argument here builds upon the finding that collective action is possible for some groups and not for others. In the example that will be offered, it is assumed that the sellers in the market can organize for collective action but that the buyers cannot.

Though collective action is much more likely if there is a small or oligopolistic number of sellers, let us for ease of exposition suppose that we begin with a perfectly competitive market as shown in Figure 3a below. The supply curve is as always derived from the marginal cost curves of the firms or (if a labor market is at issue) from the opportunity cost at the margin of the workers' time, and indicates, of course, the amount that the firms or workers wish to sell at each price. If the suppliers are able to obtain the monopoly price or wage that maximizes their joint gains, they will obviously sell the amount given by the intersection of the industry marginal revenue curve (shown in Figure 3b) with the marginal cost or supply curve, and charge price P_m .

Note that this supracompetitive price, unlike those that result from monolithic monopoly or monopolistic competition, does not clear the market: it leaves each member of the group that engaged in collective action in disequilibrium. Each separate seller would obtain P_m from selling another unit, and could provide this unit at a cost of only C_m .¹⁴ The groups that engaged in collective action can protect the sup-

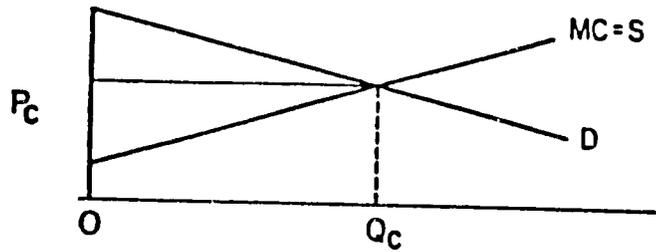


Figure 3a

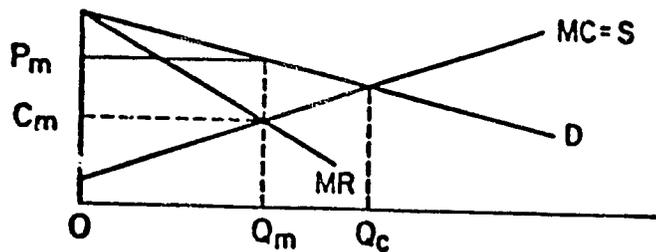


Figure 3b

13. Cambridge, Mass.: The Harvard Economic Series, Harvard University Press, 1965.

14. Some individual members of the coalition could be in equilibrium because their marginal costs rose so rapidly, and their "share" of aggregate coalition output was so large, that they would not wish to offer more even at the supracompetitive price.

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racompetitive price and their above-normal returns only by preventing others from entering the market to undercut the price or replace them as sellers, so potential entrants are also put in a disequilibrium position. We now have found the incentive that brings about the absence of market clearing that is a universal and widely observed attribute of situations where there are involuntarily idle resources. It is the search for supra-competitive returns through collective action.

I believe that this simple and straightforward explanation of the disequilibrium character of depressions has heretofore been overlooked because the study of collective action has never been considered part of macroeconomics. (The foregoing argument requires that collective action be possible for some groups with common interests, but not for others. If all groups with common interests could organize for collective action, bilateral monopoly solutions and "core" allocations with efficient levels of trade and employment could readily occur. But it has been demonstrated logically elsewhere that some groups should be able to organize collective action and that others should not, and a large empirical and experimental literature supports this theoretical presumption.)

The Incentive to Generate Unemployment of Resources

Note also how this argument relates to the new equilibrium economics and my reversal of the question it posed. The new equilibrium economics asked how involuntary unemployment or disequilibrium could possibly occur when this implied that both buyers and sellers could gain by engaging in transactions that ended the involuntary unemployment or disequilibrium. We observed that involuntary unemployment and disequilibrium appeared to be commonplace in some societies and historical periods, and accordingly asked who had an incentive to block the mutually advantageous transactions that would insure equilibrium and full employment.

The incentive that generates the macroeconomic problems of unutilized resources is also now clear. It is the gains from noncompetitive prices and wages obtained by collective action — it is the gains in the rectangular areas such as $P_m \cdot C_m$ times $(Q_m$ in Figure 3b. All of those firms and workers that obtain a supracompetitive price or wage through collective action can obtain their gains if and only if they can block mutually advantageous transactions between buyers and those firms or workers that would profit from offering what they have to sell at prices below P_m . There is an exactly analogous gain in the less common cases where collective action obtains monopsony power, and this gain is also obtainable if and only if mutually advantageous transactions that would have increased output or employment are blocked. There is also an incentive to seek gains through individual or monolithic monopoly, and the achievement of such gains also violates the necessary conditions for Pareto-efficiency. But individual monopoly or monopsony does not generate involuntary unemployment or disequilibrium and thus has no salience for the macroeconomic problems that are under consideration here.

When, as here, we follow the traditional microeconomic approach of finding the incentives that give rise to a problem, we resolve the paradox of simultaneous inflation and unemployment, or stagflation. In a Keynesian model, unemployment is due to too little aggregate demand and inflation is due to too much aggregate demand. The widespread occurrence in recent times of simultaneous inflation and unemployment therefore contradicts a Keynesian model in the most fundamental way.

But the *incentive* to seek noncompetitive prices and wages is obviously not eliminated by inflation, so simultaneous inflation and unemployment is in no way inconsistent with the argument offered here.

Unemployment and Idle Capacity Without Any Lags or Stickiness

It is now possible to deal with the claim, made earlier in this paper, that sticky prices or wages are not necessary for, and are sometimes not in any way implicated in, involuntary unemployment and disequilibrium. This is most obviously evident if we suppose that the collusion or cartel shown in Figure 3b sets quantity rather than price. It will still have to block mutually advantageous transactions that would bring equilibrium and full employment. The gains from collective action to obtain monopoly gains are still there even if there is no price or wage rigidity, and these gains can still be obtained only by blocking mutually advantageous transactions. If the cartel, collusion or lobby stipulated that it would sell quantity (Q_m), and the demand curve shifted randomly up or down, there would be changing and perfectly flexible prices, but there could still be disequilibrium and involuntary unemployment. Thus sticky prices and wages are definitely not necessary for the macroeconomic problem of involuntary unemployment and underutilized capacity.

HOW OPTIMIZATION CAN GENERATE STICKINESS

It was argued at the outset of this paper that those sticky prices and wages that are significantly implicated in macroeconomic problems are not due to random, coincidental, or physical factors, but are the results of the socio-economic process and should accordingly be analyzed as endogenous parts of the macroeconomic problem. I claim to have shown elsewhere¹⁵ that organizations and collusions for collective action will make decisions more slowly than individual firms, workers, or consumers. If the collective action in question is oligopolistic collusion or lobbying by small groups of firms, the group may be able to act collectively by a consensual agreement. The firms in an oligopolistic collusion may be able to bargain until they get unanimous agreement about how much each firm restricts output. But each firm will have an incentive to hold out for a larger share of the sales at the collusive price, which price will tend to assure supra-normal profits. If, say, a small number of large firms in some industry are informally cooperating to lobby the government to get some special-interest legislation, they will again have to agree on exactly what to lobby for and how the costs of this lobbying are to be apportioned, and there will again be conflicts of interests. Thus in general all groups small enough to act collectively by voluntary agreement (the "privileged" and "intermediate" groups analyzed in *The Logic of Collective Action*) will need to bargain until consensus is achieved. This can take a considerable amount of time and delay decisions.

These problems of consensual bargaining can be avoided if by-laws providing for elections that allow decision-making without unanimous consent are adopted. Sufficiently large groups have no alternative to such constitutional procedures. But these by-laws will in turn introduce delays of their own. There may need to be a vote of the whole membership, or of the governing council or all of the local leaders, before a strike can be called or a new collective bargaining agreement made.

15. RADON, pp. 53-58.

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Sufficiently important changes may require waiting for annual meetings or even drawn out political struggles, or possibly even changes of leadership. Thus decision-making according to by-laws is also normally slower than decision-making by unorganized individuals and firms.

The hardest problem for organization or collusion for collective action to deal with is the conflict of interest among members over the costs of the collective action. There are not only the direct costs of organizational dues, lobbying costs, and so on, but often also the burdens and rewards of the noncompetitive prices that collusion, cartelization, or lobbying seek to obtain. There is a serious conflict of interest over who has to restrict output how much and about who gets how much of the sales at the supracompetitive price. In a labor cartel there is normally a conflict of interest about who gets laid off if the supra-competitive wage leads to lay-offs. Though there are reasons that have been explained elsewhere¹⁶ why some organizations for collective action will set quantities rather than prices, the conflicts of interest that have just been mentioned will prompt most organizations to set prices rather than quantities. Though a monopoly price may, of course, be obtained by restricting quantities, this will normally require agreeing on a quota for each seller, and disputes over this threaten the cohesion of organizations for collective action. So in most cases a noncompetitive price will be set, and impersonal rules or impartial buyers will determine how the benefits of this noncompetitive price are shared. A seniority rule will normally determine who gets laid off if there is a cutback in demand, and the customers in industries with differentiated products may determine which firm sells how much at the cartel or collusive price.

In societies where there has been little or no inflation, organizations for collective action will have had no reason to set prices in indexed or real terms. Even in societies that have had significant amounts of inflation but no hyperinflation, it will often be in the interest of such organizations to set at least part of their price or wage in nominal terms. This is partly because indexed contracts can make the participants worse off than nominal contracts when there are real shocks (as Stanley Fischer and others have shown) and partly because of the tardiness and other imperfections of cost-of-living indexes. Thus, except in hyperinflationary societies, organizations for collective action will normally set prices, and set them partly or wholly in nominal terms.

Thus we now have the subset of the subset of the set of sticky prices that are significantly involved in the macroeconomic problem of underutilized resources. It is only the subset of sticky prices that are also monopoly prices that can be significant for macroeconomics, for only these are, as an earlier section of this paper showed, consistent with the observed pattern over the business cycle. Of these, only the further subset that are also disequilibrium prices are significant for involuntary unemployment and the underutilization of other resources, and these prices and wages in turn are only those that result from collective action. When, as is most often the case, the organizations set prices rather than quantities and set prices at least partly in nominal terms, we get the sticky prices or wages that are significant for macroeconomics.

The fact that most sticky prices are stuck too high rather than too low is not a

16. *Ibid.*

coincidence, but a reflection of the far greater prevalence of collective action to achieve monopoly than monopsony. This greater prevalence of collective action to monopolize than to monopsonize is in turn explained by the wider availability of "selective incentives" to sellers than to buyers and by the greater frequency of concentration and small numbers among sellers than buyers. Since these asymmetries have been analyzed elsewhere, they will not be discussed again here.

Yet price and wage stickiness or monetarist lags, it must be emphasized, are by no means necessary for the macroeconomic problem of underutilization of resources. The incentive to seek noncompetitive prices and wages is the real source of the problem, and it will lead to blocked transactions even when quantities rather than prices are set, and when there is monopsony no less than when there is monopoly. And when collective action does take the form of generating sticky prices and wages that give rise to the familiar business cycle pattern, this stickiness is essentially an incidental side effect of the incentive that gave rise to the problem. Theories of macroeconomics should accordingly begin with the motive or incentive that is the heart of the problem rather than with one of the side effects it has in certain commonplace cases.

THE GENERAL EQUILIBRIUM CONTEXT

When the foregoing argument is put in a general equilibrium framework, it becomes clear that the macroeconomic problems of involuntary unemployment and underutilized resources can vary greatly from one society and historical period to another. If only a tiny part of the society is subject to coalitions that engage in collective action, the resources that are blocked from making transactions in the few sectors under the control of coalitions can move to the larger unorganized sector and obtain returns that are only slightly lower than they would have earned had there been no distributional coalitions. But when, as is true now in some societies such as Great Britain and the older and long-stable Northeastern and older Middlewestern parts of the United States, the diversity of organizations and coalitions for collective action is so great that large proportions of the economy are covered by them, then such a large quantity of resources are blocked from making transactions in the organized sectors that they greatly depress rates of return in the unorganized sectors. This leads to what I have elsewhere called the "selling apples on street corners syndrome"; that is, to serious involuntary underemployment and to extra unemployment in queuing and searching for positions in the organized sector. This searching and queuing is not a socially optimal investment in information, as job search is in an economy free of organizations from collective action would be, but a competition for monopoly rents and governmental subsidies.

In the interest of brevity, I shall not here set out the additional material needed to make the argument logically complete. I shall instead simply apologize to those readers who have not read my books on *The Rise and Decline of Nations* and *The Logic of Collective Action*, and are therefore confronted here with a paper that cannot be fully comprehensible to them.

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When Natural Rates of Unemployment are Unnaturally High

It may already be intuitively evident, though, why the theory in question predicts that, in societies like the United States and Great Britain in the middle of the nineteenth century, or Germany at about the time of national unification, or in Taiwan and Korea since the 1960's, very little involuntary unemployment or idle capacity has been evident, even in periods of deflationary or disinflationary shocks. In countries like Britain and the United States today, by contrast, the density of organizations for collective action and the microeconomic policies they have lobbied from government is so great that there are serious problems of unemployment and underutilized capacity even when these economies are in aggregative equilibrium, and very serious problems when there are even modest disinflationary shocks.

One moral of the present argument, then, is that if the coalitional structure and microeconomic policies are bad enough, there is no macroeconomic or monetary policy than can put things right. Another moral is that macroeconomics, like microeconomics, must go beyond Keynesian and monetarist formulas and analyze the structure of the incentives. Macroeconomic evils, like other social and economic phenomena, would not persist unless they brought gains to some.

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