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The Invisible Handshake and the Inflationary Process

Implicit contracts between employers and workers are an important component of the wage-price spiral. They help to explain inflation when conditions of excess supply prevail.

Inflation has plagued the American economy and the economics profession throughout the decade of the seventies. Although the prospects for the economy over the near term are grim, I believe that developments within the profession are encouraging. and that they provide significant new insights into the inflationary process.

The new experience of chronic inflation

The economy's problems with persistent inflation date back to the mid sixties. But economists had no trouble explaining the inflation of the Vietnam period, which was clearly associated with excess demand. That experience fitted all our models, whether we were Keynesian, monetarist, eclectic, or erratic. We explained simply and succinctly that the price level rose because demand in the aggregate exceeded overall supply, just as the price of apples rose when the demand for apples exceeded their supply. The problems for economists emerged in 1970-71 when inflation persisted in the face of excess supply and survived a recession for the first time in the annals of U.S. business-cycle history. And they intensified with a vengeance in 1975-77, when after a severe recession, prices rose at a rate of nearly 6 percent a year while supply in the aggregate exceeded demand by all recognized criteria.

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Chronic inflation that persisted in the face of excess supply confronted economists with many problems of interpretation and explanation. Let me focus on one particular puzzle, which I regard as the critical observation of behavior in the inflationary era of the seventies. In millions of instances, we have observed nonunion employers with no contractual obligations granting general pay increases when they had abundant applicants, no vacancies, and negligible quit rates. Profit-seeking employers presumably try to minimize the payroll costs of obtaining the quantity and quality of workers they wish to hire. Why would those employers raise pay when their wage and salary scales were already evoking an excess supply of labor? How can that action at such a time make sense-regardless of how employers perceived monetary and fiscal policy or what rates of unemployment or inflation they expected for the future?

I submit that their behavior is sensible. The employers are in fact striving to minimize payroll costs, reckoned over a substantial time-horizon. They know that experienced workers deciding whether to stick with or quit their jobs in periods of prosperity evaluate those jobs in terms of the way the employer has treated them during periods of both tight and weak labor markets. Any management that holds down the wages it pays when most wages are rising must expect to be penalized when opportunities for good jobs become abundant. And so the calculations of firms are sensibly focused on quit rates and hiring requirements, not merely for today or tomorrow, but over a longer period, including intervals of prosperity and boom.

The firm finds it worthwhile to make an investment in personnel relationships; it seeks a reputation as a good employer to maintain an experienced and reliable work force for the long run. Thus the employer opts to treat the worker "fairly," invoking standards of relative wages (how other employers are adjusting pay) and real wages (how the cost of living is affecting the purchasing power of workers' incomes). And once the employer adopts and announces such a personnel policy, the workers are led to expect that their pay will reflect those criteria.

Implicit contracts

This line of reasoning is called the theory of "im-

plicit contracts": firms with no explicit contractual obligations nonetheless act, in the pursuit of long-term profitability, to fulfill certain general commitments to their employees. They are guided by an invisible handshake, as well as by Adam Smith's invisible hand.

This theory, which provides important insights that I will discuss, has had many fathers within the economics profession during the seventies. Had I been asked a decade ago to account for general wage increases in recession, I am not certain exactly how I would have responded. But I am quite certain that my answer would have deserved a failing grade. Of course, all economists recognized that overall pay increases in a very weak economy had occurred in the United States in the mid-thirties and in Brazil on many occasions. But such episodes were explained by special factors rather than by an appeal to sensible strategies of employers and workers.

In retrospect, I can see the theory of implicit contracts foreshadowed in some earlier writingsmainly by labor economists but also by some macroeconomists. But I must confess that I first became impressed with the phenomenon in 1970-71 as a result of some informal conversations with a number of owners and executives of small businesses. I remember one who had experienced declines in sales and profits, had cut back employment, and yet had raised the pay of his workers by 7 percent. He faced no union, saw no threat of unionization, had no need to recruit employees, and was not concerned about current quits. In response to my probing, he explained articulately that, as a conscious policy, he did not "take advantage" of his workers while he had the "upper hand" in the labor market and that he could count on their remembering his actions when the job market tightened. Others echoed the same theme. Some managers mentioned current morale and productivity as well as future labor supply. Whenever I have discussed these issues with business executives, I have been struck by their straightforward, matterof-fact emphasis on their reputations as employers. Economic theorists have taken a little longer to recognize these considerations. But, after all, we have never met a payroll.

The implicit contract view embraces as a special case the Keynesian assumption of a floor under money wages. Clearly the firm that hires a worker with a career job in mind must lead him to believe

that his position will gradually improve, not worsen. Once the firm paints a bright future in order to recruit the worker, any subsequent cut in wages would be a disappointment and a source of antagonism. Hence the firm is inhibited from reducing wages, as Keynes posited. In fact, in an economy where wages normally rise over time, the same inhibitions can also apply to hold-downs or even slowdowns in wages for employees who had been led to expect fairly steady raises.

The same insights also help to resolve puzzles about behavior in many product markets. In periods of boom, many firms that experience excess demand lengthen their backlogs of unfilled orders and some even place their customers on allocation quotas, clearly eschewing price increases that would enhance their current profitability. Their decisions not to exploit fully the potential short-term benefits of tight markets are the understandable result of a longer-run view of their relationships with customers. By foregoing king-size markups in tight markets, the sellers build a clientele and establish a reputation that helps to retain customers when markets ease.

In many industries, firms feel obliged to justify price increases to their customers in terms of cost increases; they want to convince their customers that they are not exploiting a tight market to capture a larger share of the benefits from continuing relationships. And as the mirror image of that behavior in tight markets, these firms adjust prices in line with costs during periods of recession and slack, allowing percentage markups over standard costs to narrow only slightly. During recent recessions, prices in customer markets have not fallen; nor have they even been rigid or sticky. Rather they have kept rising, responding to the push of higher costs but resisting the pull of lower demands.

The cost-oriented pricing in product markets geared to customer relationships offers a dramatic contrast with the behavior of prices for products traded on auction markets. For the latter group, the traditional supply-demand model is confirmed beautifully. The prices of industrial raw materials, which are generally traded in organized commodity markets, fall in periods of recession. For example, they declined on average by 15 percent from a peak in May 1974 to a trough in March 1975. During that same ten-month interval, producers' prices of finished consumer goods other than food and

fuel rose by 10 percent. Sellers in nonauction and auction markets alike experienced weak demand; they had essentially the same information about their costs and markets; the two groups presumably had similar expectations about the future course of the general price level and economic activity. Their prices behaved differently because they are set differently—one by an impersonal mechanism that equates supply and demand continuously and the other by a managerial strategy oriented strongly toward long-term customer relationships.

The microeconomic aspects

The theory of implicit contracts was developed by macroeconomists investigating various aspects of unemployment and inflation in the overall economy. But the theory has important microeconomic aspects, amending many traditional concepts of market efficiency. To be an effective mechanism, an auction market must have a large number of buyers and sellers competing for a standardized product that can be readily defined in terms of quantity and quality. Those requirements are met by products like soybeans, cotton, hides, and lumber, as well as by many financial instruments ranging from common stocks to foreign exchange. And those items are indeed traded through brokers or auctioneers who find the price that equates demand and supply. But that mechanism for making transactions would be abysmally inefficient for neckties, restaurant meals, haircuts, machine tools to produce bicycles, or blue Chevrolets with standard transmission and stereo but without air conditioning. Most important, the labor market cannot rely on an impersonal auction system, because jobs are specialized and the quality of workers cannot be objectively graded. The isolated cases in which hiring decisions are, in effect, made through brokersfor example, for office temporaries and snow shov--underline the nearly universal preference for the face-to-face, personalized transaction.

In the absence of the auctioneer, buyers and sellers must make transactions by search and shopping, which are costly activities. Pursuing rational strategies, they will not play at do-it-yourself auctioneering, but will aim to hold down those costs. Because of the high costs of finding a job and of obtaining a productive worker, continuing relationships in career jobs become worthwhile to both

workers and employers in most industries. Because sellers in many product markets depend on sales efforts by employees or on shopping by buyers, the firms promote patterns of recurrent purchases, seeking to convert buyers into regular customers by establishing the reliability, predictability, and generally satisfactory character of pricing and services. Even when purchases are not recurrent, sellers strive to build a reputation whereby the satisfied buyer of the past passes a good word along to the potential buyer of the future. While the sellers are serving their own interests with such a strategy, they also improve the efficiency of the economy by reducing transactions costs. These customer and career relationships are efficient adaptations to the realities of a complex, interdependent economy; they should not be interpreted as evidence of some evil monopoly power.

In some cases, the relationships between buyers and sellers are expressed in written formal contracts that specify the obligations of the two participants to each other. But such explicit contracts have a limited scope because of the expenses of negotiating, formulating, and enforcing them, and because of the rigidity that they can impose on the parties. And thus, in many areas, the efficient way to do business is through understandings and conventions involving fair play and good faith. The participants act to facilitate recurrent transactions, but they do not assume legal contractual obligations. Each has an incentive to satisfy the other in order to maintain the relationship that is mutually beneficial.

The arrangements that people make for such continuing relationships take diverse and sometimes contrasting forms, which cannot be precisely predicted or, at this point, fully explained. For example, under the widely recognized implicit contract between large Japanese firms and their employees, the firm is expected to provide a steady job throughout the careers of the workers, regardless of the state of the business cycle. The employers thereby assume the risk of excessive payrolls during recessions but may obtain compensating benefits through greater loyalty or more moderate wage demands by their workers. In contrast, implicit and explicit contracts in the United States give the employer substantially more discretion over the amount of employment, with the result that mass layoffs are a standard feature of our recessions. Much research lies ahead to explain the rationale and the consequences of different types of implicit contracts.

Another challenging area of investigation concerns the issues of equity that implicit contracts bring into the workings of the private marketplace. Implicit contracts can be effective only in a social atmosphere that incorporates a sense of mutual respect and a consensus on principles of fair play and good faith. Equity is thus not an extraneous irritant imposed upon the market by political institutions, but rather a vital lubricant of market processes.

Implicit contracts and inflation

The implicit contracts governing wages and prices in many areas are a key reason why any sudden change in total spending has only a small initial impact on inflation and a correspondingly large initial impact on output and employment. Thus an overheated economy initially has a rosy glow from low unemployment rates, ebullient capital formation, and strong productivity growth. For example, during the boom of the late sixties, workers and firms in many sectors gladly supplied more labor input and more output with only moderate deviations of wages and markups above the path regarded as customary and satisfactory. The implicit contracts were in effect shaded, but they were not scrapped. And thus inflation was slow-starting in that prolonged period of excess demand. But for the same reasons, inflation was slow-stopping when demand weakened. In the recession as well as in the boom, output and employment were affected a great deal, but wages and prices only a little.

The slow-starting, slow-stopping nature of inflation has been evident to some degree throughout the era since World War II. Wages and industrial prices responded less sensitively to the business cycle than was the case earlier in our history, reflecting in part the growing role of implicit and explicit contracts. Indeed, the mildness of the postwar business cycle encouraged a longer-run emphasis in wage and markup decisions. During the fifties and sixties, most private behavior was adapted to a modest upward creep in the price level that yielded a secular average inflation rate of 1 or 2 percent, with recurrent cyclical bumps and dents around the trend.

In the seventies, that underlying belief in the long-term stability of the price trend was severely



shaken by prolonged experience with rapid inflation. The notion of par-for-the-course on wage increases shifted upward. Thus a pay raise of 4 percent, which seemed decent and fair to a career worker in 1965, was inadequate and insulting in 1970 and has remained so ever since. Similarly, prices in customer markets became depressed relative to prices in auction markets, and have been subject to recurrent upward pressures. Business and labor practices were altered to depend less heavily on the stability of the dollar. Those changes have sped the transmission of cost increases into price increases through the system—with the institution of cost-of-living escalators; the abandonment or shortening of fixed periods for price-setting like the model-year pricing of automobiles; and the erosion of the willingness of sellers to accept orders with guaranteed prices at delivery.

In general, as people adapt to an inflationary world, they make inflation more rapid and more persistent. Any prolonged experience with an inflation rate well above the secular average to which the system has become adapted alters implicit and explicit contracts in ways that make the inflation feed upon itself. And that has been the continuing experience of the seventies in periods of weak demand as well as of strong demand.

Yet even today, Americans continue to depend heavily on the dollar as a yardstick and a standard. Our economy is not adapted to double-digit, or even to 6 percent, rates of increase in prices. If inflation is not brought under control in the near future, the eighties will be marked by even more indexing, further shortening of the lags in transmission of cost increases, and a continuing shift away from dependence on money in implicit and explicit contracts. And such adaptations would further intensify our inflationary woes.

The costs of inflation

Implicit contracts introduce new dimensions in the reckoning of the costs of inflation to society. First, even when added inflation stems from a general, economy-wide cause like an excessively stimulative monetary policy and even when it is reasonably

predictable, various types of wages and prices respond differently. Auction prices outrun customer prices; escalated wages outpace other wages in career jobs; wages of workers in casual jobs are likely to rise more rapidly than most wages and salaries in career jobs. These changes in relative prices and wages serve no useful function as rewards or market signals; yet they reshuffle income among families. The redistribution is not primarily from rich to poor or from poor to rich; rather it takes the form of a lottery that renders prizes and penalties arbitrarily and inequitably.

Second, because inflation can feed on itself, an acceleration of inflation must increase uncertainty about the future course of inflation. The record over time and across nations makes clear that, when and where the average rate of inflation is higher, the rate for any year is more variable and more volatile. And uncertain inflation generates a crawl away from money. In asset markets, deposits, bonds, and other fixed-dollar assets become less attractive relative to the time-honored inflation hedges like real estate, precious metals, and art objects. Yet these investments are inherently less liquid than monetary assets and subject to large transactions costs for buyers and sellers.

Finally, in job and product markets, the crawl away from money impairs the most important yard-stick and means of communication in the economy. A nation that has learned to keep score in dollars on the fairness of implicit contracts, on balance-sheets and income-statements, and in planning for the future, gradually finds that its training has become obsolete. These developments impair significantly the sense of security and well-being of a society, even when they do not show up as a subtraction from real GNP.

The fiscal-monetary arena

This view of the inflationary process highlights the dangers of excessively stimulative fiscal and monetary policies that permit inflation to become established in the system and feed upon itself. Moreover, it suggests the need for a consistent and determined strategy to slow the growth of aggregate spending—that is, the dollar total of GNP. But it also underlines the high cost of a cure for inflation based solely on monetary and budgetary restraint. Unquestionably, such a cure is available: inflation can

be halted by a policy of tight money and tight budgets maintained intensively enough and long enough. But the costs are extremely high. Because of implicit (and explicit) contracts, a restrictive policy will, for a considerable period, push down output and employment drastically in an effort to slow prices and wages. According to past experience, the current recession, or a deepening of that recession engineered by restrictive monetary and fiscal policies, will sacrifice roughly \$200 billion of production for each point that it reduces the basic inflation rate.

A \$1 trillion cure for chronic inflation is unthinkable. It would resurrect the dark days of the thirties and jeopardize the political and social viability of our market institutions. To be sure, some economists argue persuasively that a credible and consistent policy of demand restraint would reduce that cost. But it is impossible to predict with any confidence whether the resulting "discount" from the trillion-dollar figure would be 20 percent or 80 percent. If an anti-inflationary strategy relying solely on demand restraint is adopted on the basis of exceedingly optimistic estimates of its costs, subsequent disappointments could readily discredit and reverse the effort. An undiversified anti-inflationary program is an inefficient, high-risk strategy. Fortunately, there are ample opportunities for diversification.

Prices and the price level

In an economy with a significant network of implicit contracts, a jump in the price of any major product raises the price level, and indeed the inflation rate. That connection between particular prices and the price level does not exist in a world of universal auction markets, and that may be the most fundamental difference between the two worlds.

The jump in petroleum prices imposed by the Organization of Petroleum Exporting Countries this year offers a timely example of this distinction. Suppose that the budgetary and monetary dials are controlled in such a way that the dollar total of GNP is not altered by the OPEC action. In an auction world, the consequence of higher fuel prices would then be lower prices for most other things. In particular, the auctioneer in the labor market would ensure that money wages fell enough to keep supply and demand in balance, thus preventing the emergence

of unemployment.

It can be true as well in the real world that, if more dollars are spent on petroleum, fewer will be spent on most other items. But the reduced spending on those other items, and particularly on labor, will reduce output and employment—not merely hold down wages and prices. At a given unemployment rate, there is no mechanism to slow wages. Indeed, they will speed up via the chain reaction from fuel prices to the consumer price index to cost-of-living escalators. Given a jump in fuel prices, a policy strategy of stabilizing dollar GNP must put people out of work, waste productive capacity, and discourage investment—including even investment in energy-saving projects and alternative energy sources. It pushes the economy in an inflationary and a recessionary direction at the same time.

The recessionary effects can be avoided if total spending is stimulated by monetary and fiscal policies. But then the inflationary consequences are exacerbated. In addition to the rise in the price level from higher oil prices, the nation is subjected to a prolonged increase in inflation operating through cost-of-living escalation of wages and higher import costs from a likely devaluation of the dollar. The dilemma is genuine. And, incidentally, the more that wages (and other contracts) are indexed to the cost of living, the worse that dilemma is.

The adverse effects of OPEC actions can teach us how to take actions for ourselves with favorable effects. The OPEC price increase is the equivalent of an excise tax imposed on the American consumer, and that quasi-tax can be neutralized by reductions in actual excise taxes—by cuts in state sales taxes or in federal payroll taxes on employers, which act in part as hidden sales taxes on consumers. Although it cannot repeal the higher real cost of oil, that neutralizing strategy can avoid the grim alternatives of accepting a recession or adding to inflation.

The lowering of indirect taxes can also help to counter the inflationary inertia that is now built into our implicit contracts. It can push down on consumer prices and have favorable secondary effects on wages. Various other cost-reducing measures can be used similarly to counter inflation without courting recession. For example, subsidies for low-income workers could substitute for the minimum wage; and acreage controls on farm products could be eliminated. In fact, in recent years,

the nation has suffered self-inflicted wounds in the form of higher payroll taxes, much higher minimum wages, and renewed acreage controls. These have inflationary consequences in the real world of the American economy, although not in the hypothetical world of universal auction markets.

The linkage of prices and the price level applies even more broadly. Indeed, the discretionary price and wage decisions made by major American firms (and unions) affect the entire economy. By opting for the top of the relevant range in setting prices or wages, the private decision-maker acts as a mini-OPEC with the same inflationary-recessionary consequence. On the other hand, a decision on the low end of the range bestows upon society the benefit of less inflation and the opportunity for more growth. And so the whole nation is an affected third party when such private decisions are made.

These are macroeconomic examples of what economists have traditionally identified as "externalities"—effects on other parties stemming from a transaction between a buyer and a seller. Wherever important externalities exist, the market can generate an efficient outcome only if the costs or benefits of the bystanders are somehow incorporated into the reckonings of the decision-makers. To reflect the social benefits of certain private actions, we grant tax credits for the purchase of productive machinery and the employment of unskilled workers. The same reasoning establishes the social desirability in principle of tax-based incomes policies, which apply tax penalties or rewards to encourage restraint in wage and price decisions by reflecting the social benefits of such restraint.

Circumstances in the months ahead may provide a neat opportunity to institute a tax-based incentive for price and wage moderation. As one part of a tax reduction, which will probably be appropriate in 1980, investors in plant and equipment are likely to be granted the opportunity to depreciate their assets more rapidly for tax purposes. Such a stimulus to investment would brighten the outlook for productivity growth. But any anti-inflationary benefits it can provide are clearly limited and long delayed. Prompt and substantial anti-inflationary benefits could be obtained by linking major tax benefits of accelerated depreciation to compliance with the price and wage guidelines. Large firms should be required to exercise price and wage restraint as a condition for obtaining the full benefits

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PRAEGER PUBLISHERS, CBS Educational and Professional Publishing 521 Fifth Avenue, New York, N.Y. 10017 of the faster writeoffs. The task of enforcing such a provision could be kept simple by imposing the requirement only on firms obtaining a tax reduction in excess of, say, \$100,000. These large firms would file certificates of compliance with the Council on Wage and Price Stability, and that agency would be authorized to deny the validity of any certificate, subject to appeal in the courts. Such a measure would test in practice the ability of a tax incentive to help curb inflation, and it would couple the nation's urgent short-term need for price and wage restraint with its longer-term need for strengthened capital formation and improved productivity performance.

The invisible handshake

The recognition of the invisible handshake and of its role in the inflationary process highlights the many sources of inflation that go beyond excess demand and the many costs of inflation that go bevond short-term surprises. It reveals the inflationary consequences of value-added and sales taxes, and the dangers of the emerging general trend toward cost-of-living escalators and indexing. It corrects the fundamental errors of economic policy and economic analysis that stem from the assumption of universal auction markets. The hawks and the doves on inflation policy make the same mistake of modeling the American economy as a giant soybean market. The hawks then prove that price stability can be achieved readily by monetary policy alone; and, based on the same "soybean illusion," the doves proclaim that inflation, once it becomes anticipated, is not costly.

Implicit contracts help to explain why inflation is costly and why it is difficult to eliminate once it has become entrenched. But those institutions also create the opportunity for cost-reducing measures and tax-based incomes policies to help curb inflation, along with a consistent fiscal-monetary strategy to slow the growth of total dollar spending. Fundamentally, our economy is more efficient because it is guided by the invisible handshake as well as the invisible hand. And it will work even better when policy-makers and theorists recognize the implications for the cure of chronic inflation—in short, when they choose to act as wise owls rather than fierce hawks or passive doves.